



January 13, 2009

**881.060.03.004**

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

Attention: Mr. Jerry Wickham

**Transmittal  
Fourth Quarter 2008  
Groundwater Monitoring Report  
Sparkle Cleaners  
Eastmont Town Center  
7000 Bancroft Avenue  
Oakland, California  
SLIC Case RO0002942**

Dear Mr. Wickham:

On behalf of SKB-Eastmont Oakland Associates, LLC, attached please find our report documenting the results of the fourth quarter 2008 groundwater monitoring event at the Sparkle Cleaners facility. 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.

We trust that this is the information that you require at this time. Please contact us with any further questions.

Yours very truly,

**PES ENVIRONMENTAL, INC.**

William W. Mast, P.G.  
Associate Engineer



cc: Ms. Kathleen Schulz - SKB - Eastmont Oakland Associates, LLC

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9:56 am, Feb 27, 2009  
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A Report Prepared for:

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

Attention: Mr. Jerry Wickham

**FOURTH QUARTER 2008  
GROUNDWATER MONITORING REPORT  
SPARKLE CLEANERS  
EASTMONT TOWN CENTER  
7000 BANCROFT AVENUE  
OAKLAND, CALIFORNIA**

**JANUARY 13, 2009**

By:

A handwritten signature in blue ink, appearing to read "Gary Thomas", is written over a horizontal line.

Gary Thomas, P.G.  
Senior Geologist

A handwritten signature in blue ink, appearing to read "William W. Mast", is written over a horizontal line.

William W. Mast, P.G.  
Associate Engineer

**881.060.03.004**

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## 1.0 INTRODUCTION

This report presents the results of groundwater monitoring activities conducted during the fourth quarter 2008 monitoring event at the Sparkle Cleaners facility (Site). The Site is located at 7000 Bancroft Avenue, Oakland, California and is situated in the northwest portion of Eastmont Town Center (Plates 1 and 2). Sparkle Cleaners is an active dry-cleaning facility that uses tetrachloroethene (PCE) as a dry-cleaning solvent. This report has been prepared for the Alameda County Environmental Health Department (ACEH) by PES Environmental, Inc. (PES) on behalf of SKB – Eastmont Oakland Associates, LLC (SKBEOA), the property owner.

## 2.0 BACKGROUND INFORMATION

The groundwater monitoring activities were conducted in accordance with PES' Remedial Action Workplan (RAW) that was approved by ACEH in a letter dated February 27, 2007 (PES, 2007a; ACEH, 2007a). The RAW's scope of work also included removing the source of PCE soil contamination beneath Sparkle Cleaners and installing four groundwater monitoring wells. Excavation activities to remove the source of PCE in soil were successfully completed in July 2007 and documented in the report titled *Post-Remediation Report, Voluntary Soil Remediation, Sparkle Cleaners, Eastmont Town Center, 7000 Bancroft Avenue, Oakland, California* (PES, 2007b) that was previously submitted to ACEH. The groundwater monitoring wells were installed in July 2007 and the baseline groundwater sampling event was conducted in August 2007. The details of the well installations and the results of the baseline sampling event are presented in the *Third Quarter 2007 Groundwater Monitoring Report* (PES, 2007c). In a letter dated October 4, 2007, ACEH provided comments on the *Post-Remediation Report* and requested additional analytical testing during two quarters of groundwater monitoring (ACEH, 2007b). After four quarters of groundwater monitoring were completed in June 2008, PES recommended that the frequency of monitoring be reduced to a semi-annual basis (PES, 2008). ACEH agreed with this recommendation in a letter dated October 23, 2008 (ACEH, 2008).

As described in the RAW, the purpose of the groundwater monitoring is to: (1) document the initial concentrations of volatile organic compounds (VOCs) in the newly installed wells at the Site; (2) monitor groundwater flow directions(s), gradient, and seasonal fluctuations; (3) evaluate the groundwater chemical response to the removal of the source of contamination; and (4) verify that groundwater quality down gradient of Sparkle Cleaners are not declining.

## 3.0 SITE DESCRIPTION

The Sparkle Cleaners tenant space (Suite 11) covers approximately 1,800 square feet in the northwest portion of Eastmont Town Center (Plate 2). The area in front (north) of Sparkle Cleaners includes storefront parking and a mall driveway. The rear (south) of the tenant space

opens into a common hallway that traverses the width of the building from east to west. An alleyway is located approximately 20 feet to the east.

The ground surface elevation at Sparkle Cleaners is approximately 60 feet above mean seal level (MSL). The site topography slopes gently to the southwest. To the east and northeast of the site, the topography steepens and continues to rise to approximately 360 feet MSL (Plate 1).

#### **4.0 GROUNDWATER MONITORING WELL SAMPLING ACTIVITIES**

Fourth quarter 2008 groundwater monitoring activities consisted of: (1) collection of depth to groundwater measurements and calculation of groundwater elevations; (2) groundwater sample collection; and (3) laboratory analysis of the samples for halogenated VOCs and naphthalene. Field activities were conducted by Blaine Tech Services (BTS) of San Jose, California on November 19, 2008. Construction details for the four monitoring wells are provided in Table 1.

##### **4.1 Depth to Groundwater Measurements**

Depth-to-groundwater measurements were obtained for the monitoring wells using an electronic water-level indicator and recorded to the nearest 0.01-foot. The portion of the water-level indicator that was submerged in the wells was cleaned with a solution of Alconox and deionized (DI) water, and then rinsed with DI water between measurements. Decontamination fluids were stored temporarily on the site in a DOT-approved 55-gallon drum pending offsite disposal. Depth-to-groundwater data were converted to groundwater elevations referenced to mean sea level and are presented in Table 2. Groundwater elevation contours are presented on Plate 2.

##### **4.2 Monitoring Well Sampling**

After collecting water-level data, BTS sampled the four monitoring wells. Three casing volumes of groundwater were purged from each well prior to collecting the samples. The wells were purged using a new disposable bailer for each well. Samples were collected using a disposable bailer and decanted into laboratory-provided sample containers. Groundwater temperature, pH, conductivity, and turbidity were monitored during purging. The BTS monitoring well sampling forms are presented in Appendix A.

The samples were transported to TestAmerica Laboratories, Inc. (TestAmerica) under chain-of-custody protocol and analyzed for halogenated VOCs (8010 list) and naphthalene using U.S. Environmental Protection Agency (EPA) Test Method 8260B.

## **5.0 GROUNDWATER MONITORING RESULTS**

### **5.1 Groundwater Elevation Measurements**

Groundwater elevations measured on November 19, 2008 ranged from 22.71 feet MSL in well MW-01 to 31.50 feet MSL in well MW-02 (see Table 2 and Plate 2). As indicated on Plate 2, the elevation data from well MW-02 is not used for contouring because the groundwater elevation in this well is significantly higher than the elevations in the other wells. As described in the previous monitoring reports, the cause of the higher water-level elevation at well MW-02 appears to be from a screen interval that is at least 9 feet shallower (i.e., relative to the ground surface) than the other three wells. Well MW-2 was constructed in this manner because groundwater was detected at a shallower depth while drilling the borehole for this well.

Based on the groundwater elevation data from wells MW-01, MW-03, and MW-04, the hydraulic gradient during the fourth quarter 2008 monitoring event was approximately 0.027 foot per foot to the west (see Plate 2). In addition, the analytical results discussed below suggest a westerly to northwesterly direction for groundwater flow.

### **5.2 Groundwater Sample Analytical Results**

The analytical results for the groundwater samples collected on November 19, 2008 are summarized below and presented in Table 3. The laboratory analytical report and chain-of-custody documentation are provided in Appendix B.

PCE was detected in three of the four monitoring wells at concentrations ranging from 2.0  $\mu\text{g/L}$  in well MW-03 to 110  $\mu\text{g/L}$  in well MW-01 (PCE was also detected at 110  $\mu\text{g/L}$  in the duplicate sample from well MW-01). TCE was detected at concentrations of 4.4 and 0.88  $\mu\text{g/L}$  in wells MW-01 and MW-02, and cis-1,2-dichloroethene (DCE) was not detected at or above the laboratory reporting limit in the four wells. No other VOCs were detected at concentrations exceeding laboratory reporting limits in the samples from wells MW-01 through MW-03, and no VOCs were detected in well MW-04 (Table 3).

The distribution of PCE and TCE in groundwater is consistent with the observed westerly groundwater flow direction, and with prior monitoring data.

### **5.3 Quality Assurance/Quality Control Assessment of Chemical Data**

The quality of the chemical data reported by TestAmerica was assessed from the results of internal laboratory spike and method blank. The data are within acceptable recovery limits. The results for the duplicate sample collected at MW-01 indicate good reproducibility with PCE and TCE detected in both the regular and duplicate sample. The relative percent differences for the PCE and TCE concentrations detected in this sample are 0 and 2.3 percent,

respectively. The water samples were analyzed within acceptable EPA holding times. The data from TestAmerica are considered to be representative and of good quality.

## 6.0 SUMMARY

The fourth quarter 2008 groundwater monitoring event has been conducted in accordance with the RAW.

Based on the groundwater elevation data from wells MW-01, MW-03, and MW-04, groundwater flow at the Site during the fourth quarter 2008 sampling event is westerly (see Plate 2). The only VOC constituents detected above laboratory reporting limits in groundwater during this monitoring event were PCE and TCE. The maximum concentrations of PCE and TCE were detected in well MW-01 at 110  $\mu\text{g/L}$  and 4.4  $\mu\text{g/L}$ , respectively. These concentrations are slightly lower than those observed during first and second quarter 2008 monitoring.

Monitoring of the four wells will continue for another semi-annual event to assess whether concentrations of VOCs in groundwater decrease as a result of the Site remediation activities. The second quarter 2009 groundwater monitoring event will be conducted in early May 2009.

## 7.0 REFERENCES

- Alameda County Environmental Health (ACEH), 2007a. *SLIC Case RO0002942 and Geotracker Global ID SLT19735483, Sparkle Cleaners, 7000 Bancroft Avenue, Oakland, CA 94605 – Work Plan Approval*. February 27.
- ACEH, 2007b. *SLIC Case RO0002942 and Geotracker Global ID SLT19735483, Sparkle Cleaners, 7000 Bancroft Avenue, Oakland, CA 94605 – Post-Remediation Report Review*. October 4.
- ACEH, 2008. *SLIC Case RO0002942 and Geotracker Global ID SLT19735483, Sparkle Cleaners, 7000 Bancroft Avenue, Oakland, CA 94605 – Post-Remediation Report Review*. October 23.
- PES Environmental, Inc. (PES), 2007a. *Remedial Action Workplan, Voluntary Soil Remediation, Sparkle Cleaner, Eastmont Town Center, 7000 Bancroft Avenue, Oakland, California*. January 5.
- PES, 2007b. *Post-Remediation Report, Voluntary Soil Remediation, Sparkle Cleaners, Eastmont Town Center, 7000 Bancroft Avenue, Oakland, California*. September 9.



PES, 2007c. *Third Quarter 2007 Groundwater Monitoring Report, Sparkle Cleaners, Eastmont Town Center, 7000 Bancroft Avenue, Oakland, California.* October 8.

PES, 2008. *Second Quarter 2008 Groundwater Monitoring Report, Sparkle Cleaners, Eastmont Town Center, 7000 Bancroft Avenue, Oakland, California.* September 29.

**TABLES**

**Table 1**  
**Groundwater Monitoring Well Construction Details**  
**Sparkle Cleaners**  
**Eastmont Town Center**  
**7000 Bancroft Avenue**  
**Oakland, California**

<b>Well ID</b>	<b>Date Completed</b>	<b>Top of Casing Elevation (feet MSL)</b>	<b>Borehole Diameter (inches)</b>	<b>Borehole Depth (feet bgs)</b>	<b>Well Depth (feet bgs)</b>	<b>Casing Diameter (inches)</b>	<b>Screen Interval (feet bgs)</b>	<b>Sand Filter Interval (feet bgs)</b>	<b>Screen Slot Size (inches)</b>
MW-01	7/23/2007	49.51	8	47	47	2	31.5 to 46.5	29.5 to 47	0.020
MW-02	7/24/2007	49.07	8	36.5	35	2	19.5 to 34.5	17.5 to 36.5	0.020
MW-03	7/24/2007	50.43	8	44	44	2	28.5 to 43.5	26.5 to 44	0.020
MW-04	7/23/2007	49.81	8	48.5	48.5	2	33 to 48	31 to 48.5	0.020

**Note:**

bgs - Below ground surface

MSL - Mean sea level

**Table 2**  
**Groundwater Elevation Data**  
**Sparkle Cleaners**  
**Eastmont Town Center**  
**7000 Bancroft Avenue**  
**Oakland, California**

<b>Well ID</b>	<b>Date Measured</b>	<b>Top of Casing Elevation (feet MSL)</b>	<b>Depth to Groundwater (feet BTOC)</b>	<b>Groundwater Elevation (feet MSL)</b>
MW-01	8/7/2007	49.51	23.62	25.89
MW-01	11/19/2007	49.51	24.85	24.66
MW-01	2/6/2008	49.51	22.93	26.58
MW-01	5/15/2008	49.51	23.52	25.99
MW-01	11/19/2008	49.51	26.80	22.71
MW-02	8/7/2007	49.07	14.30	34.77
MW-02	11/19/2007	49.07	14.83	34.24
MW-02	2/6/2008	49.07	14.11	34.96
MW-02	5/15/2008	49.07	13.07	36.00
MW-02	11/19/2008	49.07	17.57	31.50
MW-03	8/7/2007	50.43	17.82	32.61
MW-03	11/19/2007	50.43	24.70	25.73
MW-03	2/6/2008	50.43	22.86	27.57
MW-03	5/15/2008	50.43	22.27	28.16
MW-03	11/19/2008	50.43	23.64	26.79
MW-04	8/7/2007	49.81	22.43	27.38
MW-04	11/19/2007	49.81	23.81	26.00
MW-04	2/6/2008	49.81	22.80	27.01
MW-04	5/15/2008	49.81	22.32	27.49
MW-04	11/19/2008	49.81	25.60	24.21

**Note:**

MSL - Mean sea level

BTOC - Below top of casing

**Table 3**  
**Summary of Analytical Results for Groundwater Monitoring Well Samples**  
**Sparkle Cleaners**  
**Eastmont Town Center**  
**7000 Bancroft Avenue**  
**Oakland, California**

Sample Location	Sample Date	Petroleum Hydrocarbons		Volatile Organic Compounds									
		TPHg (µg/L)	TPHd (µg/L)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Naphthalene (µg/L)	MTBE (µg/L)	TAME (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	Other VOCs (µg/L)
MW-01	8/7/2007	NA	NA	60	3.1	ND (0.50)	NA	NA	NA	NA	NA	NA	ND
MW-01 <sup>(D)</sup>	8/7/2007	NA	NA	71	3.1	ND (0.50)	NA	NA	NA	NA	NA	NA	ND
MW-01	11/19/2007	110 <sup>(1)</sup>	52	110	5.2	ND (1.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-01 <sup>(D)</sup>	11/19/2007	110 <sup>(1)</sup>	79	100	5.0	ND (1.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-01	2/6/2008	140 <sup>(1)</sup>	57	130	5.8	0.58	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-01 <sup>(D)</sup>	2/6/2008	140 <sup>(1)</sup>	65	130	5.7	0.60	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-01	5/15/2008	NA	NA	130	5.5	0.53	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-01 <sup>(D)</sup>	5/15/2008	NA	NA	140	5.4	0.54	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-01	11/19/2008	NA	NA	110	4.4	ND (1.0)	ND (2.0)	NA	NA	NA	NA	NA	ND
MW-01 <sup>(D)</sup>	11/19/2008	NA	NA	110	4.3	ND (1.0)	ND (2.0)	NA	NA	NA	NA	NA	ND
MW-02	8/7/2007	NA	NA	25	1.2	ND (0.50)	NA	NA	NA	NA	NA	NA	ND
MW-02	11/19/2007	ND (50)	120	26	0.93	ND (0.50)	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-02	2/6/2008	ND (50)	200	25	0.90	ND (0.50)	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-02	5/15/2008	NA	NA	20	0.91	ND (0.50)	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-02	11/19/2008	NA	NA	23	0.88	ND (0.50)	ND (1.0)	NA	NA	NA	NA	NA	ND
MW-03	8/7/2007	NA	NA	1.6	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	ND
MW-03	11/19/2007	ND (50)	79	2.1	ND (0.50)	ND (0.50)	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-03	2/6/2008	ND (50)	70	2.0	ND (0.50)	ND (0.50)	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-03	5/15/2008	NA	NA	1.5	ND (0.50)	0.50	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-03	11/19/2008	NA	NA	2.0	ND (0.50)	ND (0.50)	ND (1.0)	NA	NA	NA	NA	NA	ND
MW-04	8/7/2007	NA	NA	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	ND
MW-04	11/19/2007	ND (50)	69	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-04	2/6/2008	ND (50)	ND (50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-04	5/15/2008	NA	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (1.0)	ND (0.50)	ND
MW-04	11/19/2008	NA	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.0)	NA	NA	NA	NA	NA	ND

**Notes:**

TPHg - Gasoline range organics (C5-C12)

TPHd - Diesel range organics (C10-C28)

DCE - Dichloroethene

PCE - Tetrachloroethene

TCE - Trichloroethene

MTBE - Methyl tert-butyl ether

TAME - Tert-amyl methyl ether

TBA - Tert-butyl alcohol

DIPE - Diisopropyl ether

ETBE - Ethyl tert-butyl ether

µg/L - Micrograms per liter

NA - Not Analyzed

ND (0.5) - Not detected at or above indicated laboratory reporting limit

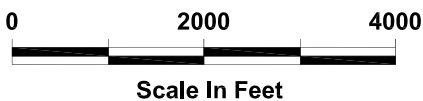
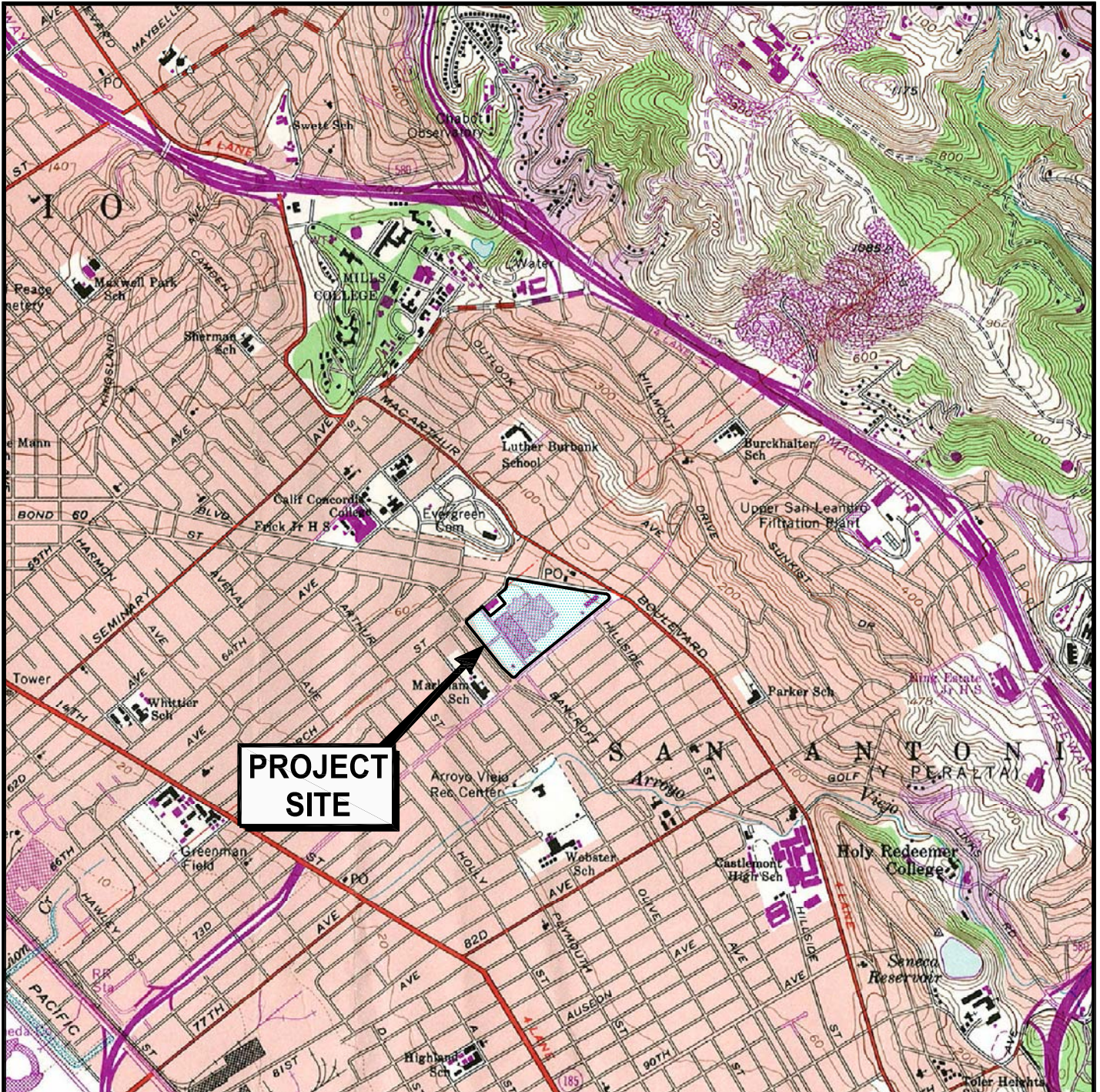
ND - Not detected at or above the laboratory reporting limit (varies by analyte)

<sup>(D)</sup> - Field duplicate sample

<sup>(1)</sup> - The analytical laboratory narrative states that the reported gasoline range organics concentration is due to the presence of PCE.

## **ILLUSTRATIONS**





U.S.G.S. Topo Map - Oakland East, California, 7.5-minute quadrangle. Map version 1959; current as of 1980.

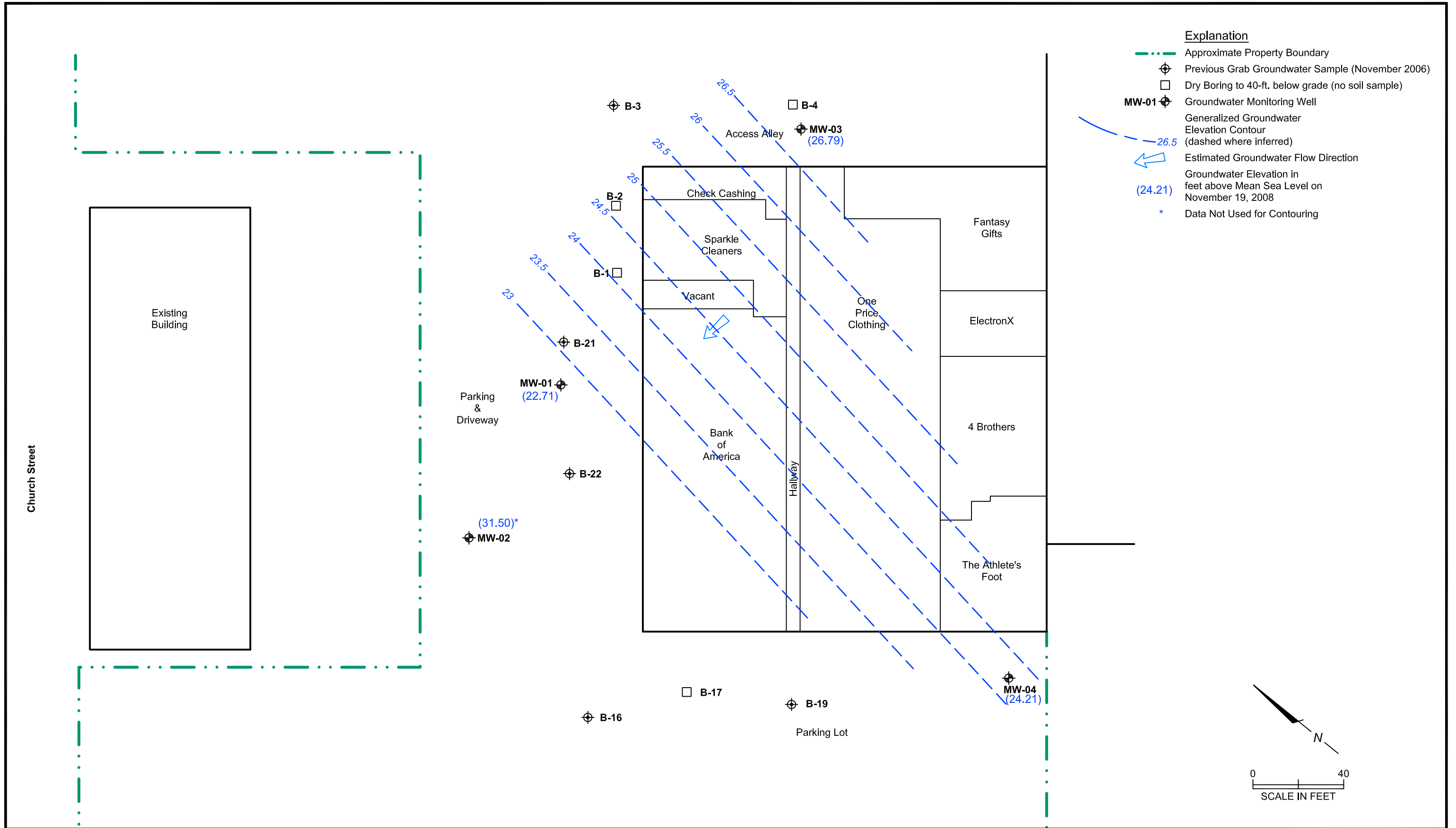


**PES Environmental, Inc.**  
 Engineering & Environmental Services

**Site Location Map**  
 Sparkle Cleaners  
 Eastmont Town Center  
 Oakland, California

PLATE  
**1**







**APPENDIX A**

**MONITORING WELL SAMPLING FORMS**





## WELL MONITORING DATA SHEET

Project #: 081119-101	Client: PES
Sampler: SO	Date: 11/19/08
Well I.D.: MW-02	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 34.63	Depth to Water (DTW): 17.57
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other: _____	Sampling Method: (2) Bailer <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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$2.7 \text{ (Gals.)} \times 3 = 8.1 \text{ Gals.}$ 1 Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1200	66.1	6.97	1260	537	8.27	Brown
1204	67.8	6.77	1268	900	5.4	
1208	67.9	6.73	1259	1000 L	8.1	†

Did well dewater? Yes (No)	Gallons actually evacuated: 8.1	
Sampling Date: 11/19/08	Sampling Time: 1215	Depth to Water:
Sample I.D.: MW-07	Laboratory: Kiff CalScience	Other: TA-SF
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5)	Other: see COL	
EB I.D. (if applicable): @ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5)	Other:	
D.O. (if req'd): Pre-purge:	mg/L	Post-purge: mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 081119-J01	Client: PES
Sampler: JO	Date: 11/19/08
Well I.D.: MW-03	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 43.72	Depth to Water (DTW): 23.64
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible	Water: <input type="checkbox"/> Peristaltic <input type="checkbox"/> Extraction Pump Other: _____	Sampling Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing Other: _____
---	---	--

$\underline{3.2} \text{ (Gals.)} \times \underline{3} = \underline{9.6} \text{ Gals.}$ I Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
11:45	65.3	7.41	549	218	3.2	Brown
11:50	65.2	7.28	561	311	6.9	↓
11:55	66.1	7.23	582	326	9.2	↓

Did well dewater?    Yes     No    Gallons actually evacuated: 9.6

Sampling Date: 11/19/08    Sampling Time: 11:00    Depth to Water: 25.63

Sample I.D.: MW-03    Laboratory: Kiff    CalScience    Other: TA-8E

Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: see WC

EB I.D. (if applicable): @ Time    Duplicate I.D. (if applicable):

Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## WELL MONITORING DATA SHEET

Project #: <u>08/119-001</u>	Client: <u>PES</u>
Sampler: <u>SO</u>	Date: <u>11/19/08</u>
Well I.D.: <u>MW-04</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth (TD): <u>48.20</u>	Depth to Water (DTW): <u>25.60</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>30.12</u>	

Purge Method:  Bailer       Watera      Sampling Method:       Bailer  
 Disposable Bailer       Peristaltic       Disposable Bailer  
 Positive Air Displacement       Extraction Pump       Extraction Port  
 Electric Submersible      Other \_\_\_\_\_       Dedicated Tubing  
 Other: \_\_\_\_\_

$\frac{3.6 \text{ (Gals.)} \times 3}{1 \text{ Case Volume Specified Volumes}} = \frac{10.8 \text{ Gals.}}{\text{Calculated Volume}}$	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F) or °C	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
955	66.6	5.71	540	1000 L	3.6	Brown
1000	66.8	6.41	543	1000 L	7.2	Brown
1005	67.5	6.45	575	1000 L	10.8	Brown

Did well dewater?    Yes <u>No</u>	Gallons actually evacuated: <u>10.8</u>
Sampling Date: <u>11/19/08</u>	Sampling Time: <u>1010</u> Depth to Water: <u>25.78</u>
Sample I.D.: <u>MW-04</u>	Laboratory: Kiff CalScience    Other: <u>TA-SF</u>
Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: <u>see w/e</u>	
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):
Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other:	
D.O. (if req'd):    Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd):    Pre-purge: _____ mV	Post-purge: _____ mV

## SPH or Purge Water Drum Log

Client: PES  
 Site Address: 7200 Bancroft Ave Oakland

STATUS OF DRUM(S) UPON ARRIVAL						
Date	8-1-07	8/7/07	11/19/07	02/06/08	05/15/08	05/14/08
Number of drum(s) empty:	3	1	2	2	2	1
Number of drum(s) 1/4 full:	1				1-soil	
Number of drum(s) 1/2 full:					1	
Number of drum(s) 3/4 full:		1				
Number of drum(s) full:	2	1/4	5	0		1
Total drum(s) on site:	6	6	7	2	3	4
Are the drum(s) properly labeled?		Y	Y	N	N	N
Drum ID & Contents:		Purge water Soil cuttings	Purge H <sub>2</sub> O		purge H <sub>2</sub> O	Purge H <sub>2</sub> O
If any drum(s) are partially or totally filled, what is the first use date:	-	-	-		NA	05/15/08

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purge water or DI Water.
- If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.
- All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE						
Date	8-1-07	8/7/07	11/19/07	02/06/08	05/15/08	05/14/08
Number of drums empty:	1	2	2	2	1	1
Number of drum(s) 1/4 full:					1-soil	
Number of drum(s) 1/2 full:				1		1
Number of drum(s) 3/4 full:		1	0		0	
Number of drum(s) full:	5	4	6	3	0	1
Total drum(s) on site:	6	7	8	3	2	3
Are the drum(s) properly labeled?	Y	Y	Y	Y	Yes	yes
Drum ID & Contents:	Soil/purge water		Purge water	purge H <sub>2</sub> O	purge H <sub>2</sub> O	Purge H <sub>2</sub> O

**LOCATION OF DRUM(S)**  
 Describe location of drum(s): In storage area next to cleaners / Rm # 15

FINAL STATUS						
Number of new drum(s) left on site this event	0	1	1	1	0	1
Date of inspection:	8-1-07	8/7/07	11/19/07	02/06/08	05/15/08	05/19/08
Drum(s) labelled properly:	Y	Y	Y	Y	Y	Y
Logged by BTS Field Tech:	DW	PC	MR	MD	WW	OS
Office reviewed by:	N	N	PC	PC	PC	N







**APPENDIX B**

**LABORATORY ANALYTICAL RESULTS AND  
CHAIN-OF-CUSTODY DOCUMENTATION**

## ANALYTICAL REPORT

Job Number: 720-17009-1

Job Description: Eastmont Town Center

For:

PES Environmental, Inc.

1682 Novato Boulevard

Suite 100

Novato, CA 94947-7021

Attention: Mr. Gary Thomas

*Surinder Sidhu*

Approved for release:  
Surinder Sidhu  
Customer Service Manager  
11/26/2008 4:48 PM

---

Designee for  
Afsaneh Salimpour  
Project Manager I  
afsaneh.salimpour@testamericainc.com  
11/26/2008

cc: Mr. Miguel Rizo

**TestAmerica Laboratories, Inc.**

TestAmerica San Francisco 1220 Quarry Lane, Pleasanton, CA 94566

Tel (925) 484-1919 Fax (925) 600-3002 [www.testamericainc.com](http://www.testamericainc.com)

**Job Narrative**  
**720-J17009-1**

**Comments**

No additional comments.

**Receipt**

Received 2 samples with the ID MW-02. No sample with ID MW-01. One of the MW-02 time matches MW-01 11:50. Labeled as MW-01.

All other samples were received in good condition within temperature requirements.

**GC/MS VOA**

No analytical or quality issues were noted.

### EXECUTIVE SUMMARY - Detections

Client: PES Environmental, Inc.

Job Number: 720-17009-1

Lab Sample ID	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
<b>720-17009-1</b>	<b>MW-01</b>				
Trichloroethene		4.4	1.0	ug/L	8260B
Tetrachloroethene		110	1.0	ug/L	8260B
<b>720-17009-2</b>	<b>MW-02</b>				
Trichloroethene		0.88	0.50	ug/L	8260B
Tetrachloroethene		23	0.50	ug/L	8260B
<b>720-17009-3</b>	<b>MW-03</b>				
Tetrachloroethene		2.0	0.50	ug/L	8260B
<b>720-17009-6</b>	<b>DUP</b>				
Trichloroethene		4.3	1.0	ug/L	8260B
Tetrachloroethene		110	1.0	ug/L	8260B

## METHOD SUMMARY

Client: PES Environmental, Inc.

Job Number: 720-17009-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Volatile Organic Compounds (GC/MS)	TAL SF	SW846 8260B	
Purge and Trap	TAL SF		SW846 5030B

### Lab References:

TAL SF = TestAmerica San Francisco

### Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## SAMPLE SUMMARY

Client: PES Environmental, Inc.

Job Number: 720-17009-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
720-17009-1	MW-01	Water	11/19/2008 1150	11/20/2008 1545
720-17009-2	MW-02	Water	11/19/2008 1215	11/20/2008 1545
720-17009-3	MW-03	Water	11/19/2008 1100	11/20/2008 1545
720-17009-4	MW-04	Water	11/19/2008 1010	11/20/2008 1545
720-17009-5TB	TB	Water	11/19/2008 1220	11/20/2008 1545
720-17009-6	DUP	Water	11/19/2008 0000	11/20/2008 1545

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Client Sample ID: MW-01**

Lab Sample ID: 720-17009-1

Date Sampled: 11/19/2008 1150

Client Matrix: Water

Date Received: 11/20/2008 1545

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 720-44382

Instrument ID: Varian 3900G

Preparation: 5030B

Lab File ID: e:\data\200811\112608\SA-

Dilution: 2.0

Initial Weight/Volume: 40 mL

Date Analyzed: 11/26/2008 1236

Final Weight/Volume: 40 mL

Date Prepared: 11/26/2008 1236

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		1.0
1,1-Dichloroethane	ND		1.0
Dichlorodifluoromethane	ND		1.0
Vinyl chloride	ND		1.0
Chloroethane	ND		2.0
Trichlorofluoromethane	ND		2.0
Methylene Chloride	ND		10
trans-1,2-Dichloroethene	ND		1.0
cis-1,2-Dichloroethene	ND		1.0
Chloroform	ND		2.0
1,1,1-Trichloroethane	ND		1.0
Carbon tetrachloride	ND		1.0
1,2-Dichloroethane	ND		1.0
Trichloroethene	4.4		1.0
1,2-Dichloropropane	ND		1.0
Dichlorobromomethane	ND		1.0
trans-1,3-Dichloropropene	ND		1.0
cis-1,3-Dichloropropene	ND		1.0
1,1,2-Trichloroethane	ND		1.0
Tetrachloroethene	110		1.0
Chlorodibromomethane	ND		1.0
Chlorobenzene	ND		1.0
Bromoform	ND		2.0
1,1,2,2-Tetrachloroethane	ND		1.0
1,3-Dichlorobenzene	ND		1.0
1,4-Dichlorobenzene	ND		1.0
1,2-Dichlorobenzene	ND		1.0
Chloromethane	ND		2.0
Bromomethane	ND		2.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0
EDB	ND		1.0
1,2,4-Trichlorobenzene	ND		2.0
Naphthalene	ND		2.0
Surrogate	%Rec		Acceptance Limits
Toluene-d8 (Surr)	99		82 - 120
4-Bromofluorobenzene	97		74 - 131
1,2-Dichloroethane-d4 (Surr)	125		76 - 132



## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Client Sample ID: MW-02**

Lab Sample ID: 720-17009-2

Date Sampled: 11/19/2008 1215

Client Matrix: Water

Date Received: 11/20/2008 1545

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 720-44267

Instrument ID: Varian 3900F

Preparation: 5030B

Lab File ID: e:\200811\112508\SA-WA

Dilution: 1.0

Initial Weight/Volume: 40 mL

Date Analyzed: 11/25/2008 1238

Final Weight/Volume: 40 mL

Date Prepared: 11/25/2008 1238

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	0.88		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	23		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Naphthalene	ND		1.0
<b>Surrogate</b>	<b>%Rec</b>		<b>Acceptance Limits</b>
Toluene-d8 (Surr)	101		82 - 120
4-Bromofluorobenzene	95		74 - 131
1,2-Dichloroethane-d4 (Surr)	101		76 - 132

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Client Sample ID: MW-03**

Lab Sample ID: 720-17009-3

Date Sampled: 11/19/2008 1100

Client Matrix: Water

Date Received: 11/20/2008 1545

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 720-44267

Instrument ID: Varian 3900F

Preparation: 5030B

Lab File ID: e:\200811\112508\SA-WA

Dilution: 1.0

Initial Weight/Volume: 40 mL

Date Analyzed: 11/25/2008 1311

Final Weight/Volume: 40 mL

Date Prepared: 11/25/2008 1311

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	2.0		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Naphthalene	ND		1.0
Surrogate	%Rec		Acceptance Limits
Toluene-d8 (Surr)	98		82 - 120
4-Bromofluorobenzene	98		74 - 131
1,2-Dichloroethane-d4 (Surr)	99		76 - 132

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Client Sample ID: MW-04**

Lab Sample ID: 720-17009-4

Date Sampled: 11/19/2008 1010

Client Matrix: Water

Date Received: 11/20/2008 1545

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44267	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200811\112508\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	11/25/2008 1345		Final Weight/Volume: 40 mL
Date Prepared:	11/25/2008 1345		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Naphthalene	ND		1.0
Surrogate	%Rec		Acceptance Limits
Toluene-d8 (Surr)	97		82 - 120
4-Bromofluorobenzene	94		74 - 131
1,2-Dichloroethane-d4 (Surr)	94		76 - 132

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Client Sample ID:** TB

Lab Sample ID: 720-17009-5TB

Date Sampled: 11/19/2008 1220

Client Matrix: Water

Date Received: 11/20/2008 1545

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 720-44267

Instrument ID: Varian 3900F

Preparation: 5030B

Lab File ID: e:\200811\112508\SA-WA

Dilution: 1.0

Initial Weight/Volume: 40 mL

Date Analyzed: 11/25/2008 1525

Final Weight/Volume: 40 mL

Date Prepared: 11/25/2008 1525

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Naphthalene	ND		1.0
<b>Surrogate</b>	<b>%Rec</b>		<b>Acceptance Limits</b>
Toluene-d8 (Surr)	100		82 - 120
4-Bromofluorobenzene	97		74 - 131
1,2-Dichloroethane-d4 (Surr)	100		76 - 132

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Client Sample ID:** DUP

Lab Sample ID: 720-17009-6

Date Sampled: 11/19/2008 0000

Client Matrix: Water

Date Received: 11/20/2008 1545

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 720-44382

Instrument ID: Varian 3900G

Preparation: 5030B

Lab File ID: e:\data\200811\112608\SA-

Dilution: 2.0

Initial Weight/Volume: 40 mL

Date Analyzed: 11/26/2008 1310

Final Weight/Volume: 40 mL

Date Prepared: 11/26/2008 1310

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		1.0
1,1-Dichloroethane	ND		1.0
Dichlorodifluoromethane	ND		1.0
Vinyl chloride	ND		1.0
Chloroethane	ND		2.0
Trichlorofluoromethane	ND		2.0
Methylene Chloride	ND		10
trans-1,2-Dichloroethene	ND		1.0
cis-1,2-Dichloroethene	ND		1.0
Chloroform	ND		2.0
1,1,1-Trichloroethane	ND		1.0
Carbon tetrachloride	ND		1.0
1,2-Dichloroethane	ND		1.0
Trichloroethene	4.3		1.0
1,2-Dichloropropane	ND		1.0
Dichlorobromomethane	ND		1.0
trans-1,3-Dichloropropene	ND		1.0
cis-1,3-Dichloropropene	ND		1.0
1,1,2-Trichloroethane	ND		1.0
Tetrachloroethene	110		1.0
Chlorodibromomethane	ND		1.0
Chlorobenzene	ND		1.0
Bromoform	ND		2.0
1,1,2,2-Tetrachloroethane	ND		1.0
1,3-Dichlorobenzene	ND		1.0
1,4-Dichlorobenzene	ND		1.0
1,2-Dichlorobenzene	ND		1.0
Chloromethane	ND		2.0
Bromomethane	ND		2.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0
EDB	ND		1.0
1,2,4-Trichlorobenzene	ND		2.0
Naphthalene	ND		2.0
Surrogate	%Rec		Acceptance Limits
Toluene-d8 (Surr)	99		82 - 120
4-Bromofluorobenzene	102		74 - 131
1,2-Dichloroethane-d4 (Surr)	119		76 - 132

## DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description
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## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-17009-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>GC/MS VOA</b>					
<b>Analysis Batch:720-44267</b>					
LCS 720-44267/2	Lab Control Spike	T	Water	8260B	
LCSD 720-44267/1	Lab Control Spike Duplicate	T	Water	8260B	
MB 720-44267/3	Method Blank	T	Water	8260B	
720-17009-2	MW-02	T	Water	8260B	
720-17009-3	MW-03	T	Water	8260B	
720-17009-3MS	Matrix Spike	T	Water	8260B	
720-17009-3MSD	Matrix Spike Duplicate	T	Water	8260B	
720-17009-4	MW-04	T	Water	8260B	
720-17009-5TB	TB	T	Water	8260B	
<b>Analysis Batch:720-44382</b>					
LCS 720-44382/2	Lab Control Spike	T	Water	8260B	
LCSD 720-44382/1	Lab Control Spike Duplicate	T	Water	8260B	
MB 720-44382/3	Method Blank	T	Water	8260B	
720-17009-1	MW-01	T	Water	8260B	
720-17009-1MS	Matrix Spike	T	Water	8260B	
720-17009-1MSD	Matrix Spike Duplicate	T	Water	8260B	
720-17009-6	DUP	T	Water	8260B	

**Report Basis**

T = Total

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Method Blank - Batch: 720-44267**

**Method: 8260B**

**Preparation: 5030B**

Lab Sample ID: MB 720-44267/3  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 11/25/2008 0915  
 Date Prepared: 11/25/2008 0915

Analysis Batch: 720-44267  
 Prep Batch: N/A  
 Units: ug/L

Instrument ID: Varian 3900F  
 Lab File ID: e:\200811\112508\MB-WA  
 Initial Weight/Volume: 40 mL  
 Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Naphthalene	ND		1.0
Surrogate	% Rec	Acceptance Limits	
Toluene-d8 (Surr)	103	82 - 120	
4-Bromofluorobenzene	98	74 - 131	
1,2-Dichloroethane-d4 (Surr)	101	76 - 132	

Calculations are performed before rounding to avoid round-off errors in calculated results.



## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Lab Control Spike/**

**Lab Control Spike Duplicate Recovery Report - Batch: 720-44267**

**Method: 8260B**

**Preparation: 5030B**

LCS Lab Sample ID: LCS 720-44267/2  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 11/25/2008 0809  
 Date Prepared: 11/25/2008 0809

Analysis Batch: 720-44267  
 Prep Batch: N/A  
 Units: ug/L

Instrument ID: Varian 3900F  
 Lab File ID: e:\200811\112508\LS-WA  
 Initial Weight/Volume: 40 mL  
 Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-44267/1  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 11/25/2008 0842  
 Date Prepared: 11/25/2008 0842

Analysis Batch: 720-44267  
 Prep Batch: N/A  
 Units: ug/L

Instrument ID: Varian 3900F  
 Lab File ID: e:\200811\112508\LD-WA  
 Initial Weight/Volume: 40 mL  
 Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,1-Dichloroethene	94	94	70 - 130	0	20		
Trichloroethene	96	93	70 - 130	3	20		
Chlorobenzene	104	108	70 - 130	4	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	98		102		82 - 120		
4-Bromofluorobenzene	97		97		74 - 131		
1,2-Dichloroethane-d4 (Surr)	95		96		76 - 132		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 720-44267**

**Method: 8260B  
Preparation: 5030B**

MS Lab Sample ID: 720-17009-3  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 11/25/2008 1418  
Date Prepared: 11/25/2008 1418

Analysis Batch: 720-44267  
Prep Batch: N/A

Instrument ID: Varian 3900F  
Lab File ID: e:\200811\112508\SA-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

MSD Lab Sample ID: 720-17009-3  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 11/25/2008 1451  
Date Prepared: 11/25/2008 1451

Analysis Batch: 720-44267  
Prep Batch: N/A

Instrument ID: Varian 3900F  
Lab File ID: e:\200811\112508\SA-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
1,1-Dichloroethene	91	91	70 - 130	0	20		
Trichloroethene	92	92	70 - 130	0	20		
Chlorobenzene	103	107	70 - 130	4	20		
Surrogate	MS % Rec		MSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	99		97		82 - 120		
4-Bromofluorobenzene	102		97		74 - 131		
1,2-Dichloroethane-d4 (Surr)	98		95		76 - 132		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Method Blank - Batch: 720-44382**

**Method: 8260B**

**Preparation: 5030B**

Lab Sample ID: MB 720-44382/3  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 11/26/2008 0904  
 Date Prepared: 11/26/2008 0904

Analysis Batch: 720-44382  
 Prep Batch: N/A  
 Units: ug/L

Instrument ID: Varian 3900G  
 Lab File ID: e:\data\200811\112608\MB-W  
 Initial Weight/Volume: 40 mL  
 Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Naphthalene	ND		1.0
Surrogate	% Rec	Acceptance Limits	
Toluene-d8 (Surr)	103	82 - 120	
4-Bromofluorobenzene	107	74 - 131	
1,2-Dichloroethane-d4 (Surr)	120	76 - 132	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Lab Control Spike/**

**Lab Control Spike Duplicate Recovery Report - Batch: 720-44382**

**Method: 8260B**

**Preparation: 5030B**

LCS Lab Sample ID: LCS 720-44382/2  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 11/26/2008 0757  
 Date Prepared: 11/26/2008 0757

Analysis Batch: 720-44382  
 Prep Batch: N/A  
 Units: ug/L

Instrument ID: Varian 3900G  
 Lab File ID: e:\data\200811\112608\LS-W/  
 Initial Weight/Volume: 40 mL  
 Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-44382/1  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 11/26/2008 0831  
 Date Prepared: 11/26/2008 0831

Analysis Batch: 720-44382  
 Prep Batch: N/A  
 Units: ug/L

Instrument ID: Varian 3900G  
 Lab File ID: e:\data\200811\112608\LD-WA  
 Initial Weight/Volume: 40 mL  
 Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,1-Dichloroethene	97	90	70 - 130	8	20		
Trichloroethene	79	77	70 - 130	2	20		
Chlorobenzene	106	104	70 - 130	2	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	94		91		82 - 120		
4-Bromofluorobenzene	95		100		74 - 131		
1,2-Dichloroethane-d4 (Surr)	124		121		76 - 132		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Matrix Spike/**

**Matrix Spike Duplicate Recovery Report - Batch: 720-44382**

**Method: 8260B**

**Preparation: 5030B**

MS Lab Sample ID: 720-17009-1  
 Client Matrix: Water  
 Dilution: 2.0  
 Date Analyzed: 11/26/2008 1129  
 Date Prepared: 11/26/2008 1129

Analysis Batch: 720-44382  
 Prep Batch: N/A

Instrument ID: Varian 3900G  
 Lab File ID: e:\data\200811\112608\SA-v  
 Initial Weight/Volume: 40 mL  
 Final Weight/Volume: 40 mL

MSD Lab Sample ID: 720-17009-1  
 Client Matrix: Water  
 Dilution: 2.0  
 Date Analyzed: 11/26/2008 1202  
 Date Prepared: 11/26/2008 1202

Analysis Batch: 720-44382  
 Prep Batch: N/A

Instrument ID: Varian 3900G  
 Lab File ID: e:\data\200811\112608\SA-W  
 Initial Weight/Volume: 40 mL  
 Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
1,1-Dichloroethene	97	88	70 - 130	9	20		
Trichloroethene	78	79	70 - 130	1	20		
Chlorobenzene	99	105	70 - 130	6	20		
Surrogate	MS % Rec		MSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	99		100		82 - 120		
4-Bromofluorobenzene	104		104		74 - 131		
1,2-Dichloroethane-d4 (Surr)	127		112		76 - 132		

Calculations are performed before rounding to avoid round-off errors in calculated results.



## Login Sample Receipt Check List

Client: PES Environmental, Inc.

Job Number: 720-17009-1

**Login Number: 17009**  
**Creator: Bullock, Tracy**  
**List Number: 1**

**List Source: TestAmerica San Francisco**

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	NCM
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

**DISTRIBUTION**

**FOURTH QUARTER 2008  
GROUNDWATER MONITORING REPORT  
SPARKLE CLEANERS  
EASTMONT TOWN CENTER  
7000 BANCROFT AVENUE  
OAKLAND, CALIFORNIA**

**JANUARY 13, 2009**

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