



July 31, 2009

**881.060.03.007**

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

Attention: Mr. Jerry Wickham

**Transmittal  
Second Quarter 2009  
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 second quarter 2009 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,

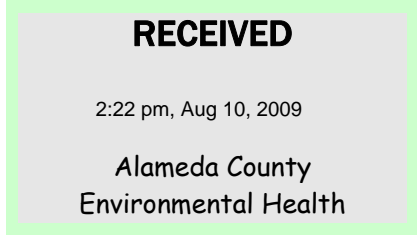
**PES ENVIRONMENTAL, INC.**

William W. Mast, P.G.  
Associate Engineer



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

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A Report Prepared for:

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

Attention: Mr. Jerry Wickham

**SECOND QUARTER 2009  
GROUNDWATER MONITORING REPORT  
SPARKLE CLEANERS  
EASTMONT TOWN CENTER  
7000 BANCROFT AVENUE  
OAKLAND, CALIFORNIA**

**JULY 31, 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

**881.060.03.007**

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## 1.0 INTRODUCTION

This report presents the results of groundwater monitoring activities conducted during the second quarter 2009 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. Until December 2008, tetrachloroethene (PCE) was used as the dry-cleaning solvent. At that time the PCE-based equipment was decommissioned, removed from the property, and replaced with new clothes cleaning equipment that utilizes “wet-cleaning” technology with a soy-based cleaner (i.e., no hazardous chemicals are used or stored on the Site). 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**

Second quarter 2009 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. Field activities were conducted by Blaine Tech Services (BTS) of San Jose, California on May 14, 2009. 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 off-Site 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) using U.S. Environmental Protection Agency (EPA) Test Method 8260B.

## **5.0 GROUNDWATER MONITORING RESULTS**

### **5.1 Groundwater Elevation Measurements**

Groundwater elevations measured on May 14, 2009 ranged from 25.59 feet MSL in well MW-01 to 34.86 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 second quarter 2009 monitoring event was approximately 0.016 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 May 14, 2009 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 1.8 micrograms per liter ( $\mu\text{g/L}$ ) in well MW-03 to 160  $\mu\text{g/L}$  in well MW-01 (PCE was also detected at 140  $\mu\text{g/L}$  in the duplicate sample from well MW-01). TCE was detected at concentrations of 5.3 and 0.84  $\mu\text{g/L}$  in wells MW-01 and MW-02. 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 13.3 and 7.8 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 second quarter 2009 groundwater monitoring event has been conducted in accordance with approved procedures.

Based on the groundwater elevation data from wells MW-01, MW-03, and MW-04, groundwater flow at the Site during the second quarter 2009 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 160  $\mu\text{g/L}$  and 5.3  $\mu\text{g/L}$ , respectively. These concentrations are slightly higher than those observed during fourth quarter 2008 monitoring event, but are similar to those observed first and second quarters of 2008. However, groundwater monitoring data collected since removal of the vadose zone source area in 2007 indicate that VOC concentrations are fairly stable in downgradient monitoring wells MW-01 and MW-02.

As discussed in the second quarter 2008 groundwater monitoring report (PES, 2008), the lack of a decreasing trend in VOC concentrations in downgradient groundwater almost two year following source removal is not inconsistent with the estimated minimum groundwater travel times (approximately 0.3 to 1.9 years) for the Site. When retardation of the plume is considered, VOC travel times may be longer than the estimated groundwater travel times (PES, 2008).

Monitoring of the four wells will continue for one additional year on a semi-annual basis to assess whether concentrations of VOCs in groundwater decrease as a result of the Site remediation activities. The fourth quarter 2009 groundwater monitoring event will be conducted in early November 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**

| Well ID | Date Completed | Top of Casing Elevation (feet MSL) | Borehole Diameter (inches) | Borehole Depth (feet bgs) | Well Depth (feet bgs) | Casing Diameter (inches) | Screen Interval (feet bgs) | Sand Filter Interval (feet bgs) | Screen Slot Size (inches) |
|---------|----------------|------------------------------------|----------------------------|---------------------------|-----------------------|--------------------------|----------------------------|---------------------------------|---------------------------|
| 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-01          | 5/14/2009            | 49.51                                     | 23.92                                   | 25.59                                   |
| 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-02          | 5/14/2009            | 49.07                                     | 14.21                                   | 34.86                                   |
| 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-03          | 5/14/2009            | 50.43                                     | 22.37                                   | 28.06                                   |
| 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                                   |
| MW-04          | 5/14/2009            | 49.81                                     | 23.50                                   | 26.31                                   |

**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-01                | 5/14/2009   | NA                     | NA          | 160                        | 5.3        | ND (1.0)           | NA                 | NA          | NA          | NA         | NA          | NA          | ND                |
| MW-01 <sup>(D)</sup> | 5/14/2009   | NA                     | NA          | 140                        | 4.9        | ND (2.0)           | NA                 | 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-02                | 5/14/2009   | NA                     | NA          | 31                         | 0.84       | ND (0.50)          | NA                 | 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-03                | 5/14/2009   | NA                     | NA          | 1.8                        | ND (0.50)  | ND (0.50)          | NA                 | 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                |
| MW-04                | 5/14/2009   | NA                     | NA          | ND (0.50)                  | ND (0.50)  | ND (0.50)          | NA                 | 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

µg/L - Micrograms per liter

NA - Not Analyzed

ND (0.50) - 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.

MTBE - Methyl tert-butyl ether

TAME - Tert-amyl methyl ether

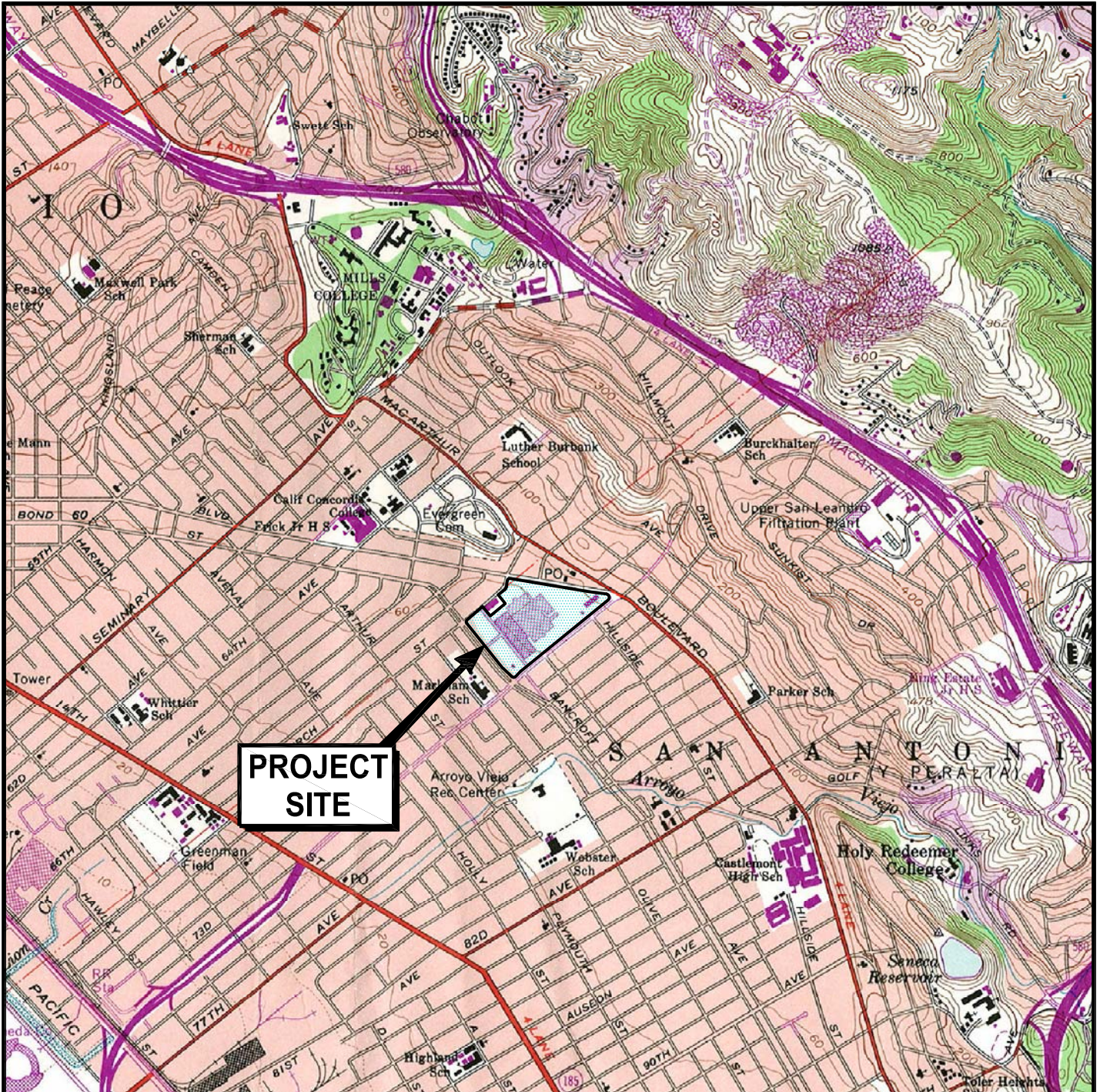
TBA - Tert-butyl alcohol

DIPE - Diisopropyl ether

ETBE - Ethyl tert-butyl ether

## **ILLUSTRATIONS**





**PROJECT SITE**



Scale In Feet



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

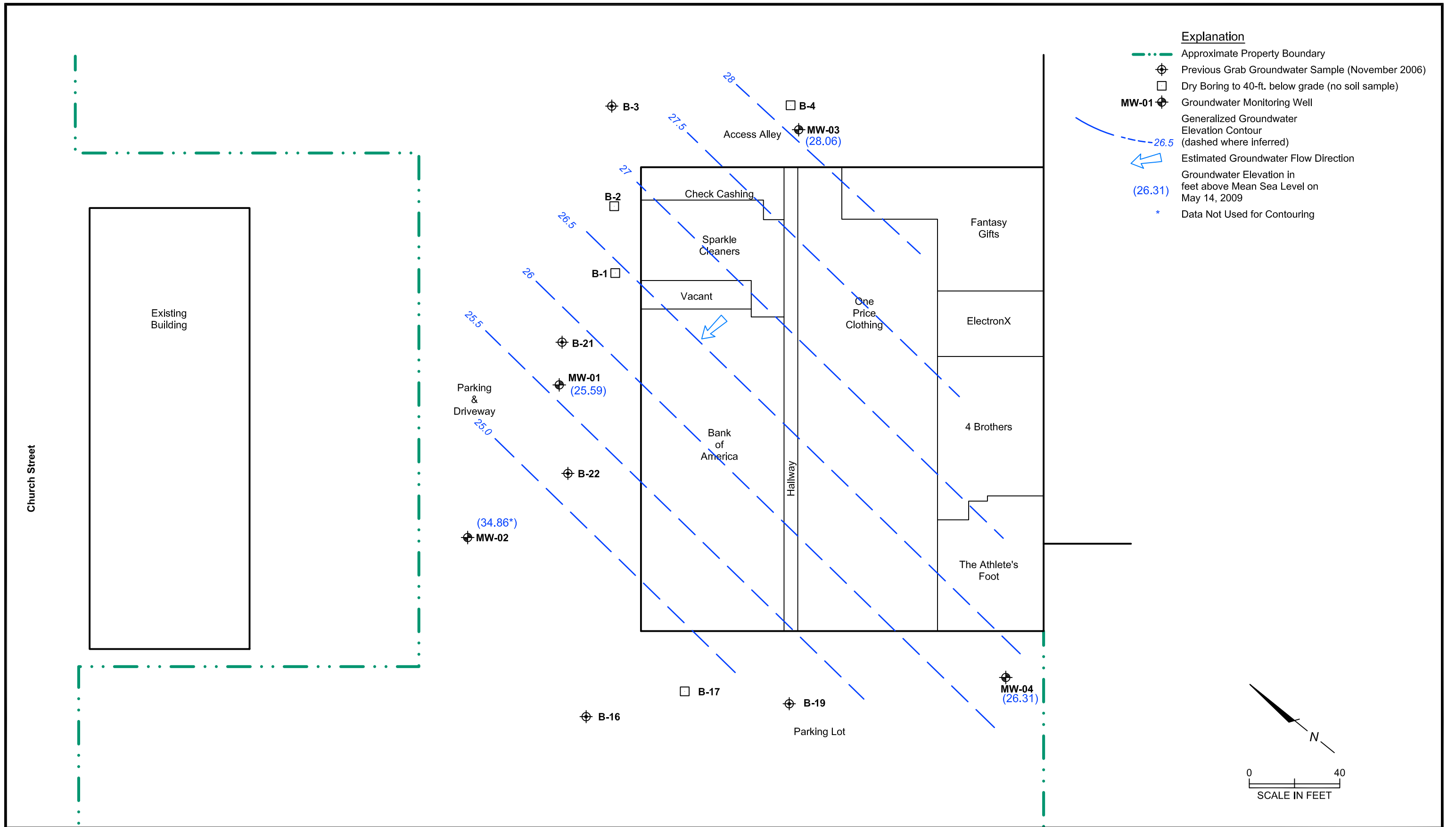


**PES Environmental, Inc.**  
Engineering & Environmental Services

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

PLATE  
**1**





**Explanation**

- · - · - Approximate Property Boundary
- Previous Grab Groundwater Sample (November 2006)
- Dry Boring to 40-ft. below grade (no soil sample)
- Groundwater Monitoring Well
- Generalized Groundwater Elevation Contour (dashed where inferred)
- Estimated Groundwater Flow Direction
- (26.31) Groundwater Elevation in feet above Mean Sea Level on May 14, 2009
- \* Data Not Used for Contouring



**APPENDIX A**

**MONITORING WELL SAMPLING FORMS**

















**APPENDIX B**

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

## ANALYTICAL REPORT

Job Number: 720-19977-1

Job Description: Eastmont Town Center

For:

PES Environmental, Inc.

1682 Novato Boulevard

Suite 100

Novato, CA 94947-7021

Attention: Mr. Miguel Rizo



Approved for release,  
Afsaneh Salimpour  
Project Manager I  
5/26/2009 4:47 PM

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Afsaneh Salimpour  
Project Manager I  
afsaneh.salimpour@testamericainc.com  
05/26/2009

**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)

## EXECUTIVE SUMMARY - Detections

Client: PES Environmental, Inc.

Job Number: 720-19977-1

| Lab Sample ID<br>Analyte | Client Sample ID | Result / Qualifier | Reporting<br>Limit | Units | Method |
|--------------------------|------------------|--------------------|--------------------|-------|--------|
| <b>720-19977-1</b>       | <b>MW-01</b>     |                    |                    |       |        |
| Trichloroethene          |                  | 5.3                | 1.0                | ug/L  | 8260B  |
| Tetrachloroethene        |                  | 160                | 1.0                | ug/L  | 8260B  |
| <b>720-19977-2</b>       | <b>MW-02</b>     |                    |                    |       |        |
| Trichloroethene          |                  | 0.84               | 0.50               | ug/L  | 8260B  |
| Tetrachloroethene        |                  | 31                 | 0.50               | ug/L  | 8260B  |
| <b>720-19977-3</b>       | <b>MW-03</b>     |                    |                    |       |        |
| Tetrachloroethene        |                  | 1.8                | 0.50               | ug/L  | 8260B  |
| <b>720-19977-5</b>       | <b>DUP</b>       |                    |                    |       |        |
| Trichloroethene          |                  | 4.9                | 2.0                | ug/L  | 8260B  |
| Tetrachloroethene        |                  | 140                | 2.0                | ug/L  | 8260B  |

## METHOD SUMMARY

Client: PES Environmental, Inc.

Job Number: 720-19977-1

| 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.

## METHOD / ANALYST SUMMARY

Client: PES Environmental, Inc.

Job Number: 720-19977-1

| <b>Method</b> | <b>Analyst</b> | <b>Analyst ID</b> |
|---------------|----------------|-------------------|
| SW846 8260B   | Chen, Amy      | AC                |
| SW846 8260B   | Le, Lien       | LL                |

## SAMPLE SUMMARY

Client: PES Environmental, Inc.

Job Number: 720-19977-1

| <b>Lab Sample ID</b> | <b>Client Sample ID</b> | <b>Client Matrix</b> | <b>Date/Time<br/>Sampled</b> | <b>Date/Time<br/>Received</b> |
|----------------------|-------------------------|----------------------|------------------------------|-------------------------------|
| 720-19977-1          | MW-01                   | Water                | 05/14/2009 1135              | 05/15/2009 1710               |
| 720-19977-2          | MW-02                   | Water                | 05/14/2009 1105              | 05/15/2009 1710               |
| 720-19977-3          | MW-03                   | Water                | 05/14/2009 1040              | 05/15/2009 1710               |
| 720-19977-4          | MW-04                   | Water                | 05/14/2009 1005              | 05/15/2009 1710               |
| 720-19977-5          | DUP                     | Water                | 05/14/2009 0000              | 05/15/2009 1710               |
| 720-19977-6TB        | TB-1                    | Water                | 05/14/2009 0850              | 05/15/2009 1710               |

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Client Sample ID: MW-01**

Lab Sample ID: 720-19977-1

Date Sampled: 05/14/2009 1135

Client Matrix: Water

Date Received: 05/15/2009 1710

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

|                |                 |                           |  |
|----------------|-----------------|---------------------------|--|
| Method:        | 8260B           | Analysis Batch: 720-50759 | Instrument ID: Saturn 2K3              |
| Preparation:   | 5030B           |                           | Lab File ID: d:\data\200905\052009\SA- |
| Dilution:      | 2.0             |                           | Initial Weight/Volume: 40 mL           |
| Date Analyzed: | 05/20/2009 1950 |                           | Final Weight/Volume: 40 mL             |
| Date Prepared: | 05/20/2009 1950 |                           |  |

| 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                       | 5.3           |                   | 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                     | 160           |                   | 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 |
| <hr/>                                 |               |                   |     |
| Surrogate                             | %Rec          | Acceptance Limits |     |
| Toluene-d8 (Surr)                     | 113           | 70 - 130          |     |
| 4-Bromofluorobenzene                  | 101           | 67 - 130          |     |
| 1,2-Dichloroethane-d4 (Surr)          | 122           | 67 - 130          |     |

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Client Sample ID: MW-02**

Lab Sample ID: 720-19977-2

Date Sampled: 05/14/2009 1105

Client Matrix: Water

Date Received: 05/15/2009 1710

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

|                |                 |                           |  |
|----------------|-----------------|---------------------------|--|
| Method:        | 8260B           | Analysis Batch: 720-50759 | Instrument ID: Saturn 2K3              |
| Preparation:   | 5030B           |                           | Lab File ID: d:\data\200905\052009\SA- |
| Dilution:      | 1.0             |                           | Initial Weight/Volume: 40 mL           |
| Date Analyzed: | 05/20/2009 2022 |                           | Final Weight/Volume: 40 mL             |
| Date Prepared: | 05/20/2009 2022 |                           |  |

| 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                       | 0.84          |           | 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                     | 31            |           | 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                      |
| <b>Surrogate</b>                      | <b>%Rec</b>   |           | <b>Acceptance Limits</b> |
| Toluene-d8 (Surr)                     | 114           |           | 70 - 130                 |
| 4-Bromofluorobenzene                  | 101           |           | 67 - 130                 |
| 1,2-Dichloroethane-d4 (Surr)          | 119           |           | 67 - 130                 |



## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Client Sample ID: MW-03**

Lab Sample ID: 720-19977-3

Date Sampled: 05/14/2009 1040

Client Matrix: Water

Date Received: 05/15/2009 1710

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

|                |                 |                           |  |
|----------------|-----------------|---------------------------|--|
| Method:        | 8260B           | Analysis Batch: 720-50759 | Instrument ID: Saturn 2K3              |
| Preparation:   | 5030B           |                           | Lab File ID: d:\data\200905\052009\SA- |
| Dilution:      | 1.0             |                           | Initial Weight/Volume: 40 mL           |
| Date Analyzed: | 05/20/2009 2302 |                           | Final Weight/Volume: 40 mL             |
| Date Prepared: | 05/20/2009 2302 |                           |  |

| 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                     | 1.8           |           | 0.50              |
| Chlorodibromomethane                  | ND            |           | 0.50              |
| Chlorobenzene                         | ND            |           | 0.50              |
| Bromoform                             | ND            |           | 1.0               |
| 1,1,1,2-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               |
| Surrogate                             | %Rec          |           | Acceptance Limits |
| Toluene-d8 (Surr)                     | 115           |           | 70 - 130          |
| 4-Bromofluorobenzene                  | 94            |           | 67 - 130          |
| 1,2-Dichloroethane-d4 (Surr)          | 113           |           | 67 - 130          |

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-19977-1

Client Sample ID: **MW-04**

Lab Sample ID: 720-19977-4

Date Sampled: 05/14/2009 1005

Client Matrix: Water

Date Received: 05/15/2009 1710

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

|                |                 |                           |  |
|----------------|-----------------|---------------------------|--|
| Method:        | 8260B           | Analysis Batch: 720-50759 | Instrument ID: Saturn 2K3              |
| Preparation:   | 5030B           |                           | Lab File ID: d:\data\200905\052009\SA- |
| Dilution:      | 1.0             |                           | Initial Weight/Volume: 40 mL           |
| Date Analyzed: | 05/20/2009 2334 |                           | Final Weight/Volume: 40 mL             |
| Date Prepared: | 05/20/2009 2334 |                           |  |

| 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               |
| Surrogate                             | %Rec          |           | Acceptance Limits |
| Toluene-d8 (Surr)                     | 118           |           | 70 - 130          |
| 4-Bromofluorobenzene                  | 97            |           | 67 - 130          |
| 1,2-Dichloroethane-d4 (Surr)          | 112           |           | 67 - 130          |

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Client Sample ID:** DUP

Lab Sample ID: 720-19977-5

Date Sampled: 05/14/2009 0000

Client Matrix: Water

Date Received: 05/15/2009 1710

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

|                |                 |                           |  |
|----------------|-----------------|---------------------------|--|
| Method:        | 8260B           | Analysis Batch: 720-50794 | Instrument ID: Varian 3900G            |
| Preparation:   | 5030B           |                           | Lab File ID: e:\data\200905\052109\SA- |
| Dilution:      | 4.0             |                           | Initial Weight/Volume: 40 mL           |
| Date Analyzed: | 05/22/2009 0121 |                           | Final Weight/Volume: 40 mL             |
| Date Prepared: | 05/22/2009 0121 |                           |  |

| Analyte                               | Result (ug/L) | Qualifier | RL                |
|---------------------------------------|---------------|-----------|-------------------|
| 1,1-Dichloroethene                    | ND            |           | 2.0               |
| 1,1-Dichloroethane                    | ND            |           | 2.0               |
| Dichlorodifluoromethane               | ND            |           | 2.0               |
| Vinyl chloride                        | ND            |           | 2.0               |
| Chloroethane                          | ND            |           | 4.0               |
| Trichlorofluoromethane                | ND            |           | 4.0               |
| Methylene Chloride                    | ND            |           | 20                |
| trans-1,2-Dichloroethene              | ND            |           | 2.0               |
| cis-1,2-Dichloroethene                | ND            |           | 2.0               |
| Chloroform                            | ND            |           | 4.0               |
| 1,1,1-Trichloroethane                 | ND            |           | 2.0               |
| Carbon tetrachloride                  | ND            |           | 2.0               |
| 1,2-Dichloroethane                    | ND            |           | 2.0               |
| Trichloroethene                       | 4.9           |           | 2.0               |
| 1,2-Dichloropropane                   | ND            |           | 2.0               |
| Dichlorobromomethane                  | ND            |           | 2.0               |
| trans-1,3-Dichloropropene             | ND            |           | 2.0               |
| cis-1,3-Dichloropropene               | ND            |           | 2.0               |
| 1,1,2-Trichloroethane                 | ND            |           | 2.0               |
| Tetrachloroethene                     | 140           |           | 2.0               |
| Chlorodibromomethane                  | ND            |           | 2.0               |
| Chlorobenzene                         | ND            |           | 2.0               |
| Bromoform                             | ND            |           | 4.0               |
| 1,1,2,2-Tetrachloroethane             | ND            |           | 2.0               |
| 1,3-Dichlorobenzene                   | ND            |           | 2.0               |
| 1,4-Dichlorobenzene                   | ND            |           | 2.0               |
| 1,2-Dichlorobenzene                   | ND            |           | 2.0               |
| Chloromethane                         | ND            |           | 4.0               |
| Bromomethane                          | ND            |           | 4.0               |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND            |           | 2.0               |
| EDB                                   | ND            |           | 2.0               |
| 1,2,4-Trichlorobenzene                | ND            |           | 4.0               |
| Surrogate                             | %Rec          |           | Acceptance Limits |
| Toluene-d8 (Surr)                     | 91            |           | 70 - 130          |
| 4-Bromofluorobenzene                  | 93            |           | 67 - 130          |
| 1,2-Dichloroethane-d4 (Surr)          | 101           |           | 67 - 130          |

## Analytical Data

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Client Sample ID:** TB-1

Lab Sample ID: 720-19977-6TB

Date Sampled: 05/14/2009 0850

Client Matrix: Water

Date Received: 05/15/2009 1710

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

|                |                 |                           |  |
|----------------|-----------------|---------------------------|--|
| Method:        | 8260B           | Analysis Batch: 720-50759 | Instrument ID: Saturn 2K3              |
| Preparation:   | 5030B           |                           | Lab File ID: d:\data\200905\052009\SA- |
| Dilution:      | 1.0             |                           | Initial Weight/Volume: 40 mL           |
| Date Analyzed: | 05/20/2009 2230 |                           | Final Weight/Volume: 40 mL             |
| Date Prepared: | 05/20/2009 2230 |                           |  |

| 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               |
| Surrogate                             | %Rec          |           | Acceptance Limits |
| Toluene-d8 (Surr)                     | 121           |           | 70 - 130          |
| 4-Bromofluorobenzene                  | 95            |           | 67 - 130          |
| 1,2-Dichloroethane-d4 (Surr)          | 113           |           | 67 - 130          |

## DATA REPORTING QUALIFIERS

Client: PES Environmental, Inc.

Job Number: 720-19977-1

| Lab Section | Qualifier | Description   |
|-------------|-----------|---|
| GC/MS VOA   | 4         | MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable. |

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-19977-1

### QC Association Summary

| Lab Sample ID                   | Client Sample ID             | Report Basis | Client Matrix | Method | Prep Batch |
|---------------------------------|------------------------------|--------------|---------------|--------|------------|
| <b>GC/MS VOA</b>                |                              |              |               |        |            |
| <b>Analysis Batch:720-50759</b> |                              |              |               |        |            |
| LCS 720-50759/3                 | Lab Control Sample           | T            | Water         | 8260B  |            |
| LCSD 720-50759/2                | Lab Control Sample Duplicate | T            | Water         | 8260B  |            |
| MB 720-50759/6                  | Method Blank                 | T            | Water         | 8260B  |            |
| 720-19977-1                     | MW-01                        | T            | Water         | 8260B  |            |
| 720-19977-1MS                   | Matrix Spike                 | T            | Water         | 8260B  |            |
| 720-19977-1MSD                  | Matrix Spike Duplicate       | T            | Water         | 8260B  |            |
| 720-19977-2                     | MW-02                        | T            | Water         | 8260B  |            |
| 720-19977-3                     | MW-03                        | T            | Water         | 8260B  |            |
| 720-19977-4                     | MW-04                        | T            | Water         | 8260B  |            |
| 720-19977-6TB                   | TB-1                         | T            | Water         | 8260B  |            |
| <b>Analysis Batch:720-50794</b> |                              |              |               |        |            |
| LCS 720-50794/4                 | Lab Control Sample           | T            | Water         | 8260B  |            |
| LCSD 720-50794/2                | Lab Control Sample Duplicate | T            | Water         | 8260B  |            |
| MB 720-50794/7                  | Method Blank                 | T            | Water         | 8260B  |            |
| 720-19977-5                     | DUP                          | T            | Water         | 8260B  |            |
| 720-19977-5MS                   | Matrix Spike                 | T            | Water         | 8260B  |            |
| 720-19977-5MSD                  | Matrix Spike Duplicate       | T            | Water         | 8260B  |            |

**Report Basis**

T = Total

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Method Blank - Batch: 720-50759**

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

Lab Sample ID: MB 720-50759/6  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 05/20/2009 1709  
 Date Prepared: 05/20/2009 1709

Analysis Batch: 720-50759  
 Prep Batch: N/A  
 Units: ug/L

Instrument ID: Saturn 2K3  
 Lab File ID: d:\data\200905\052009\MB  
 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  |
| Surrogate                             | % Rec  | Acceptance Limits |      |
| Toluene-d8 (Surr)                     | 95     | 70 - 130          |      |
| 4-Bromofluorobenzene                  | 87     | 67 - 130          |      |
| 1,2-Dichloroethane-d4 (Surr)          | 106    | 67 - 130          |      |

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

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 720-50759**

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

LCS Lab Sample ID: LCS 720-50759/3  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 05/20/2009 1741  
Date Prepared: 05/20/2009 1741

Analysis Batch: 720-50759  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Saturn 2K3  
Lab File ID: d:\data\200905\052009\LS-  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-50759/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 05/20/2009 1813  
Date Prepared: 05/20/2009 1813

Analysis Batch: 720-50759  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Saturn 2K3  
Lab File ID: d:\data\200905\052009\LD-V  
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        | 99   | 70 - 130   | 2   | 20                |          |           |
| Trichloroethene              | 110       | 115  | 70 - 130   | 4   | 20                |          |           |
| Chlorobenzene                | 110       | 112  | 70 - 130   | 2   | 20                |          |           |
| Surrogate                    | LCS % Rec |      | LCSD % Rec |     | Acceptance Limits |          |           |
| Toluene-d8 (Surr)            | 103       |      | 108        |     | 70 - 130          |          |           |
| 4-Bromofluorobenzene         | 99        |      | 97         |     | 67 - 130          |          |           |
| 1,2-Dichloroethane-d4 (Surr) | 119       |      | 119        |     | 67 - 130          |          |           |

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



## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 720-50759**

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

MS Lab Sample ID: 720-19977-1  
Client Matrix: Water  
Dilution: 2.0  
Date Analyzed: 05/20/2009 2054  
Date Prepared: 05/20/2009 2054

Analysis Batch: 720-50759  
Prep Batch: N/A

Instrument ID: Saturn 2K3  
Lab File ID: d:\data\200905\052009\SA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

MSD Lab Sample ID: 720-19977-1  
Client Matrix: Water  
Dilution: 2.0  
Date Analyzed: 05/20/2009 2126  
Date Prepared: 05/20/2009 2126

Analysis Batch: 720-50759  
Prep Batch: N/A

Instrument ID: Saturn 2K3  
Lab File ID: d:\data\200905\052009\SA  
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           | 103      | 96  | 70 - 130  | 6   | 20                |         |          |
| Trichloroethene              | 97       | 104 | 70 - 130  | 5   | 20                |         |          |
| Chlorobenzene                | 105      | 99  | 70 - 130  | 6   | 20                |         |          |
| Surrogate                    | MS % Rec |     | MSD % Rec |     | Acceptance Limits |         |          |
| Toluene-d8 (Surr)            | 110      |     | 97        |     | 70 - 130          |         |          |
| 4-Bromofluorobenzene         | 100      |     | 94        |     | 67 - 130          |         |          |
| 1,2-Dichloroethane-d4 (Surr) | 118      |     | 112       |     | 67 - 130          |         |          |

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

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Method Blank - Batch: 720-50794**

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

Lab Sample ID: MB 720-50794/7  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 05/21/2009 1944  
 Date Prepared: 05/21/2009 1944

Analysis Batch: 720-50794  
 Prep Batch: N/A  
 Units: ug/L

Instrument ID: Varian 3900G  
 Lab File ID: e:\data\200905\052109\MB  
 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  |
| Surrogate                             | % Rec  | Acceptance Limits |      |
| Toluene-d8 (Surr)                     | 96     | 70 - 130          |      |
| 4-Bromofluorobenzene                  | 100    | 67 - 130          |      |
| 1,2-Dichloroethane-d4 (Surr)          | 103    | 67 - 130          |      |

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

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 720-50794**

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

LCS Lab Sample ID: LCS 720-50794/4  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 05/21/2009 2018  
Date Prepared: 05/21/2009 2018

Analysis Batch: 720-50794  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 3900G  
Lab File ID: e:\data\200905\052109\LS-  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-50794/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 05/21/2009 2052  
Date Prepared: 05/21/2009 2052

Analysis Batch: 720-50794  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 3900G  
Lab File ID: e:\data\200905\052109\LD-V  
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           | 100       | 100  | 70 - 130   | 0   | 20                |          |           |
| Trichloroethene              | 82        | 89   | 70 - 130   | 9   | 20                |          |           |
| Chlorobenzene                | 102       | 105  | 70 - 130   | 4   | 20                |          |           |
| Surrogate                    | LCS % Rec |      | LCSD % Rec |     | Acceptance Limits |          |           |
| Toluene-d8 (Surr)            | 90        |      | 82         |     | 70 - 130          |          |           |
| 4-Bromofluorobenzene         | 91        |      | 89         |     | 67 - 130          |          |           |
| 1,2-Dichloroethane-d4 (Surr) | 100       |      | 97         |     | 67 - 130          |          |           |

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

## Quality Control Results

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 720-50794**

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

MS Lab Sample ID: 720-19977-5  
Client Matrix: Water  
Dilution: 4.0  
Date Analyzed: 05/22/2009 0154  
Date Prepared: 05/22/2009 0154

Analysis Batch: 720-50794  
Prep Batch: N/A

Instrument ID: Varian 3900G  
Lab File ID: e:\data\200905\052109\SA-  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

MSD Lab Sample ID: 720-19977-5  
Client Matrix: Water  
Dilution: 4.0  
Date Analyzed: 05/22/2009 0228  
Date Prepared: 05/22/2009 0228

Analysis Batch: 720-50794  
Prep Batch: N/A

Instrument ID: Varian 3900G  
Lab File ID: e:\data\200905\052109\SA-  
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           | 96       | 102 | 70 - 130  | 6   | 20                |         |          |
| Trichloroethene              | 85       | 81  | 70 - 130  | 4   | 20                |         |          |
| Chlorobenzene                | 105      | 106 | 70 - 130  | 1   | 20                |         |          |
| Surrogate                    | MS % Rec |     | MSD % Rec |     | Acceptance Limits |         |          |
| Toluene-d8 (Surr)            | 94       |     | 97        |     | 70 - 130          |         |          |
| 4-Bromofluorobenzene         | 94       |     | 100       |     | 67 - 130          |         |          |
| 1,2-Dichloroethane-d4 (Surr) | 97       |     | 105       |     | 67 - 130          |         |          |

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



## Login Sample Receipt Check List

Client: PES Environmental, Inc.

Job Number: 720-19977-1

**Login Number: 19977**

**Creator: Hoang, Julie**

**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. | True       |         |
| 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**

**SECOND QUARTER 2009  
GROUNDWATER MONITORING REPORT  
SPARKLE CLEANERS  
EASTMONT TOWN CENTER  
7000 BANCROFT AVENUE  
OAKLAND, CALIFORNIA**

**JULY 31, 2009**

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