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By Alameda County Environmental Health 3:30 pm, Aug 04, 2015

July 29, 2015

Ms. Karel Detterman  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

SUBJECT: SUBSURFACE INVESTIGATION REPORT CERTIFICATION  
County File # RO 2991  
Acts Full Gospel Church & Industrial Properties  
8410 Amelia Street  
Oakland, California

Dear Ms. Detterman:

You will find attached one copy of the following document prepared by P&D Environmental, Inc. for the subject site:

- Subsurface Investigation Report (SS1 Through SS21, SB7 Through SB30, T1, T2) dated July 29, 2015 (document 0453.R3).

I declare, under penalty of perjury, that the information and/or recommendations contained in the above-mentioned document for the subject site is true and correct to the best of my knowledge.

Should you have any questions, please do not hesitate to contact me at 510-652-4950.

Sincerely,

Amelia Street Partners, LLC

Kevin Perkins

Attachment

0453.L6

# **P&D ENVIRONMENTAL, INC.**

**55 Santa Clara Avenue, Suite 240**

**Oakland, CA 94610**

**(510) 658-6916**

July 29, 2015  
Report 0453.R3

Mr. Kevin Perkins  
Amelia Street Partners, LLC  
1475 Powell Street, Suite 201  
Emeryville, California 94608

RE: SUBSURFACE INVESTIGATION REPORT  
(SS1 Through SS21, SB7 Through SB30, T1, T2)  
County File # RO 2991  
Acts Full Gospel Church & Industrial Properties  
8410 Amelia Street  
Oakland, California

Dear Mr. Perkins:

P&D Environmental, Inc. (P&D) has prepared this report documenting investigation of soil, groundwater, and sub-slab soil gas at the subject site. Investigation activities were performed to evaluate potential vapor intrusion of trichloroethene (TCE) associated with a groundwater plume that originates from an offsite source. The work was performed in accordance with a letter from the Alameda County Department of Environmental Health (ACDEH) dated January 26, 2012, P&D's Conduit Study and Work Plan Addendum (document 0453.W2) dated October 12, 2011, and verbal communications with ACEH personnel. During the initial sub-slab soil gas investigation, elevated concentrations of tetrachloroethene (PCE) sub-slab soil gas were encountered, and the investigation scope was expanded to evaluate the source and extent of the detected PCE.

The investigation scope included the following:

- Twenty one Vapor Pins, designated as SS1 through SS21, were installed and sampled to evaluate sub-slab soil gas concentrations at the subject site,
- Nine shallow boreholes, designated as SB9 through SB14, SB16, T1, and T2 were hand augered to collect soil samples,
- Three boreholes, designated as SB7, SB8, and SB30 were hand augered to collect groundwater samples, and
- Thirteen shallow boreholes designated as SB17 through SB29 were cored and hand augered to evaluate the presence and extent of multiple concrete slabs and fill layers.

Field activities were performed between October 23, 2013 and March 12, 2014. A Site Location Map is attached with this report as Figure 1, and sample collection locations and the locations of underground utilities identified at the site during an underground utility survey are shown on Figure 2. All work was performed under the direct supervision of a California Professional Geologist.

## BACKGROUND

The site is currently used as an active warehouse that has been subdivided into multiple tenant spaces. A detailed discussion of the site background and documentation of site investigations are provided in the following documents.

- Basic Environmental, Inc. (Basics) February 29, 2008 Phase I Environmental Site Assessment Report identified Recognized Environmental Conditions (RECs) at the site.
- Basics May 7, 2008 Limited Phase II Environmental Site Sampling Report documented the drilling of six boreholes for collection of soil and groundwater samples to investigate RECs identified in the February 29, 2008 report.
- P&D October 12, 2011 Conduit Study and Work Plan documented a magnetometer survey associated with a former fuel dispenser pedestal and exploratory excavation in September 2011 which identified a former gasoline UST on the east side of the property adjacent to G Street. P&D's October 12, 2011 Conduit Study and Work Plan also documents a TCE groundwater plume that originates at an offsite source that has extended beneath the east side of the subject site. Based on the orientation of the TCE plume, the groundwater flow direction in the vicinity of the site is to the southwest.
- P&D July 15, 2013 UST In-Place Closure Report (document 0453.R1). At the time of in-place UST closure in 2013 it was determined that the UST was oriented perpendicular to the orientation identified in the September 2011 investigation. The report recommended that no further action be performed based on the absence of petroleum hydrocarbons in soil at concentrations of concern for commercial/industrial land use and based on the limited extent of petroleum hydrocarbons in groundwater at the UST pit.

## FIELD ACTIVITIES

Prior to performing field activities, drilling permits W2013-0893 and W2014-0045 were obtained from the Alameda County Public Works Agency (ACPWA), P&D personnel marked the proposed drilling locations with white paint and notified Underground Service Alert for underground utility identification, and P&D prepared a health and safety plan. Permits for Vapor Pin installation were not required.

### Vapor Pin Installation

Recessed Vapor Pins with secure covers were installed at the subject site in accordance with recommended manufacturer methods in the following manner. A rotohammer was used to drill a 1.5-inch diameter hole to a depth of 1.75 inches into the concrete floor slab. A smaller 5/8-inch diameter hole was then drilled through the remainder of the slab to two inches below the bottom of the concrete slab. Once the desired depth was reached the hole was cleaned with a vacuum and a bottle brush prior to installation of the Vapor Pin. A plastic cap was placed on the barb fitting and the hole was covered with a threaded stainless steel cover secured to the Vapor Pin. The Vapor Pin locations at the site are shown on Figure 2.

Vapor Pins with the designation of SS were installed at the subject site on the following dates.

- SS1 through SS5 on October 23, 2013,
- SS6 through SS9 on October 31, 2013,
- SS10 through SS12 on November 21, 2013,
- SS13 through SS15 on March 4, 2014,
- SS16 through SS18 on March 6, 2014, and
- SS19 through SS21 on March 12, 2014.

All of the holes were drilled to a depth of two inches below the bottom of the concrete floor slab. The depth to the bottom of the floor slab identified for SS7 and SS8 on October 31, 2013 was 5 inches for each location on October 31, 2013. Based on the Vapor Pin sample results and the identification of multiple floor slabs and fill layers, the air extraction flow rates were measured at Vapor Pins SS7 and SS8 on February 19, 2014 and it was determined that the concrete floor slab was not fully penetrated at these locations. On February 26, 2014 the boreholes for these two Vapor Pins were subsequently drilled to deeper depths of 12.0 and 16.0 inches for SS7 and SS8, respectively, to fully penetrate the floor slabs (the boreholes were then extended to 2.0 inches below the floor slabs) and the Vapor Pins were reinstalled in preparation for re-sampling.

The total concrete slab thickness for the different Vapor Pin locations (with the February 26, 2014 increased depths for SS7 and SS8) is as follows:

- 5.0 inches at SS6, SS9,
- 6.0 inches at SS1, SS3, SS4, SS5, SS10, SS12, SS16, and SS20,
- 7.5 inches at SS2,
- 12.0 inches at SS7, SS14, and SS18,
- 13.0 inches at SS21,
- 14.0 inches at SS11, SS15,
- 15.0 inches at SS13, SS17,
- 16.0 inches at SS8,
- 18.0 inches at SS19.

#### Vapor Pin Sub-Slab Soil Gas Sample Collection

On October 24, 2013 soil gas samples SS1 through SS5 were collected by Jones Environmental, Inc of Fullerton, California personnel using glass syringes and analyzed on site using their mobile laboratory. A purge test was performed at Vapor Pin SS2 for 1, 5 and 10 purge volumes (samples SS2 1P, SS2 5P, and SS2 10P, respectively), and based on the absence of detectable concentrations of analytes also at Vapor Pin SS3 for 1, 5 and 10 purge volumes (samples SS3 1P, SS3 5P, and SS3 10P, respectively). Based on the purge testing sample results at Vapor Pin SS3, the laboratory identified 10 purge volumes as resulting in the highest PCE result. However, review of the different purge volume results also showed that 5 purge volumes resulted in a higher detected value for 1,1,1-TCA. Based on the available different purge volume results, and the limited time available for the mobile laboratory, 5 and 10 purge volume samples were analyzed from Vapor Pins SS1 and SS5, and one 10 purge volume sample was analyzed from Vapor Pin SS4. The sample collection

procedures used by the mobile laboratory are identified on page 1 of their laboratory report which is attached in Appendix E.

Based on the detected presence of PCE during the SS1 through SS5 sub-slab soil gas investigation, additional Vapor Pins SS6 through SS21 were installed on the dates identified above. Following discussions with Department of Toxic Substances Control (DTSC) professional geologist Dan Gallagher regarding a 1-liter sub-slab soil gas sample volume exceeding 10 Vapor Pin purge volumes for a purge volume test, Mr. Gallagher agreed that purge testing for Vapor Pin sub-slab soil gas sample collection was not appropriate for Vapor Pin sample volumes of 1 liter based on the small purge volumes associated with Vapor Pins. Following Vapor Pin installation, a minimum of 2 hours elapsed prior to sub-slab soil gas sample collection at all Vapor Pin locations.

From October 31, 2013 through March 12, 2014 each of Vapor Pins SS6 through SS21 were sampled on the following dates.

- SS6 through SS9 on October 31, 2013 (on the same day as installation, with SS7 and SS8 sampled again on February 27, 2014),
- SS10 through SS12 on November 25, 2013 (4 days after installation),
- SS13 through SS15 on March 4, 2014 (on the same day as installation),
- SS16 through SS18 on March 6, 2014 (on the same day as installation),
- SS19 through SS21 on March 12, 2014 (on the same day as installation).

The Vapor Pins were sampled in the following manner. Following removal of the Vapor Pin secure cover and the cap from the Vapor Pin barb, one end of a new 6-inch length of ¼-inch outside diameter polyethylene tubing was connected to the top of the Vapor Pin barb using a new piece of silicone tubing. A valved tee was connected to the other end of the polyethylene tubing, with one side of the tee connected to a rotometer and a vacuum pump, and the other side of the tee connected to a new 1-liter Tedlar bag that was located inside of a vacuum chamber. The valve at the tee to the Tedlar bag was closed and the valve to the rotometer was opened and 10 Vapor Pin volumes were purged using the vacuum pump at a flow rate of 100 cubic centimeters per minute as measured on the rotometer. Once the purging was completed the valve at the tee to the rotometer was closed and the valve to the Tedlar bag was opened, and the vacuum pump was used to apply a vacuum to the vacuum chamber which resulted in the Vapor Pin soil gas sample being drawn into the Tedlar bag. Once the Tedlar bag soil gas sample was collected the valve at the tee to the Tedlar bag was closed, the vacuum chamber was opened, the valve on the Tedlar bag was closed, the Tedlar bag was removed from the vacuum chamber, labeled, and stored in a cooler with the lid closed pending delivery to the laboratory. Chain of custody procedures were observed for all sample handling.

Following completion of soil gas sample collection at each location a photoionization detector (PID) equipped with a 10.6 eV bulb and calibrated with a 100 ppm isobutylene standard was connected to the Vapor Pin to evaluate organic vapor concentrations. Vapor Pin purge volume calculation sheets for the different concrete floor slab thicknesses are provided with this report in Appendix A. Vapor Pin installation completion times, purge times, purge rates, sample collection times, post-sampling PID monitoring times, and post-sampling PID values were recorded on Soil Gas Sampling Data Sheets that are attached with this report in Appendix A. No duplicate samples

were collected and no tracer gas was used because the purpose of the sampling was to use the soil gas samples as a screening tool to identify source areas and the extent of elevated sub-slab PCE soil gas concentrations.

Low flow conditions were initially encountered at locations SS7 and SS8 during the October 31, 2013 sampling event, however following additional drilling at these locations on February 26, 2014 sub-slab soil gas samples were successfully collected at these locations on February 26, 2014 without encountering low flow conditions using methods described above.

#### Exploratory Boring, Exploratory Trenching, and Soil Sample Collection

To evaluate the extent and depth of multiple layers of floor slabs and fill layers, and to evaluate the depth and configuration of the sanitary sewer drain pipes associated with the bathroom in the Wyatt Technologies space, a plumber identified the sanitary sewer pipe locations and exploratory boreholes were drilled and exploratory trenches were excavated as follows.

- On January 24 and 27, 2014 concrete coring was performed and exploratory boreholes SB9 through SB16 were hand augered to determine the depth to native material beneath the concrete floor slabs. In addition, exploratory trenches T1 and T2 were excavated to expose portions of the sanitary sewer drain pipe associated with the Wyatt Technologies space bathroom.
- On February 10 through 12, 2014 concrete coring was performed and exploratory boreholes SB17 through SB27 were hand augered to determine the depth to native material beneath the concrete floor slabs. At location SB26, an initial borehole designated as SB26A was cored in concrete to a depth of 3.5 feet before the concrete coring was discontinued at that location and the concrete coring was moved to location SB26B, where the concrete floor slab thickness was 0.5 feet.
- On February 26, 2014 concrete coring was performed and exploratory boreholes SB28 and SB29 were hand augered to augment the available information regarding the depth to native material beneath the concrete floor slabs.

Additionally, on March 30, 2014 borehole SB30 was concrete cored and hand augered as described above for groundwater sample collection, and on March 25, 2014 boreholes SB31 through SB34 were hand augered in preparation for a soil vapor extraction (SVE) pilot test that was not performed. Because the initial SB32 borehole did not encounter fill material beneath the concrete, the borehole location was moved and an additional borehole designated as SB32A was cored and hand augered near SB32.

With the exception of selected boreholes where soil or groundwater samples were collected, all of the boreholes extended through the concrete floor slab or slabs and underlying fill material until clay was encountered, at which depth the boreholes were terminated. Most of the exploratory boreholes extended to a depth of approximately 2.0 to 2.5 feet bgs. The locations of the exploratory borings and trenches are shown in Figure 6. The locations of geologic cross section locations A-A' through F-F' are shown on Figures 5 and 9, and geologic cross sections A-A' through F-F' are shown on Figures 10 through 15. The materials encountered in the exploratory boreholes and

trenches are shown in the geologic cross sections in Figures 10 through 15. The vertical scale is exaggerated to make the sub-slab fill layers more clearly visible.

All fill and soil from the exploratory boreholes and trenches was evaluated with a PID equipped with a 10.6 eV bulb and calibrated using a 100 ppm isobutylene standard. No elevated PID values were measured and no odors, staining, or discoloration were observed in the fill or soil from any of the boreholes with the exception of a PID value of 2.3 ppm in borehole SB14 in fill material between the depths of 0.5 and 1.5 feet bgs.

On January 27, 2014 soil samples were collected from boreholes SB9 through SB14, SB16, and from exploratory trenches T1 and T2 by hand augering to a depth of approximately 1.0 feet below the bottom of the fill material, and collecting a soil sample into a 2-inch diameter 6-inch long stainless steel tube that was placed in a stainless steel sampler and driven into the bottom of the borehole using a slide hammer. Following collection of the sample from the bottom of the hand augered borehole, the tube was removed from the sampler and the ends of the tube were evaluated with the PID. The ends of the tube were then sequentially covered with aluminum foil and plastic endcaps, and the tube was then labeled, and stored in a cooler with ice pending delivery to the laboratory. In addition, a fill material sample was collected in borehole SB14 at a depth of 1.0 feet bgs during hand augering in the interval where elevated PID values were encountered using the methods described above for soil sample collection. The sample collection intervals are shown on the geologic cross sections A-A' through F'F' attached with this report.

Upon completion of sample collection, the boreholes were filled with neat cement, and the exploratory trenches were filled with sand and resurfaced with concrete. Soil generated during exploratory digging and hand augering was stored in drums pending appropriate disposal.

#### Exploratory Boring and Groundwater Sample Collection

To evaluate the presence of PCE in groundwater in the vicinity of locations where elevated sub-slab PCE soil gas concentrations were encountered, groundwater grab samples were collected from boreholes SB7 and SB8 on November 5 and 25, 2013, respectively, and from borehole SB30 on March 7, 2014. Boreholes SB7 and SB30 were hand augered to a total depth of 10.0 feet, and borehole SB8 was hand augered to a total depth of 11.0 feet below the ground surface (bgs) by IMX, Inc. (IMX) of Oakland, California using a 3.0-inch outside diameter hand auger. Soil generated during hand augering was stored in 55- gallon drums pending characterization and disposal.

The soil from each of the boreholes was logged in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. All soil from the boreholes was evaluated with a Photoionization Detector (PID) equipped with a 10.6 eV bulb and calibrated using a 100 ppm isobutylene standard. No elevated PID values were measured and no odors, staining, or discoloration were observed in the soil from any of the boreholes. Field observations of the soil from each borehole related to lithology, discoloration, moisture, density, odor and PID readings were recorded on boring logs that are attached with this report as Appendix B.

Groundwater was encountered during hand augering in all three of boreholes SB7, SB8, and SB30 at a depth of 9.5 feet bgs. The measured depth to water in boreholes SB7, SB8, and SB30 prior to

groundwater sample collection was 8.6, 9.4, and 7.1 feet, respectively, and the measured depth to water after sample collection was 8.2, 8.3, and 7.1 feet, respectively.

One groundwater grab sample was collected from first-encountered groundwater from each of boreholes SB7, SB8, and SB30 by placing a temporary 1-inch diameter slotted PVC pipe into the borehole and inserting a polyethylene tube into the PVC and using a peristaltic pump to withdraw water from the temporary pipe. Prior to groundwater sample collection, approximately 0.2-gallon was purged from boreholes SB7 and SB30, and approximately 0.1-gallon was purged from borehole SB8 using the peristaltic pump and polyethylene tubing. After purging, the groundwater samples were pumped directly into 40-milliliter VOA vials that were supplied by the laboratory containing hydrochloric acid preservative. Following sample collection the VOA vials were sealed with Teflon-lined threaded caps, and were overturned and tapped to ensure that air bubbles were not present inside the VOA vials. The sample bottles were then labeled and placed in a cooler with ice pending delivery to the laboratory. Chain of custody procedures were observed for all sample handling. No odor or sheen were detected or observed for any of the groundwater grab samples.

Upon completion of groundwater sample collection, the boreholes were filled with neat cement grout using the temporary PVC casing as a tremie pipe. Inspector Steve Miller of ACPWA was onsite to observe and document the grouting of the borehole SB7, inspector James Yoo of ACPWA was onsite to observe and document the grouting of the borehole SB8, and inspector Steve Miller of ACPWA provided verbal authorization to grout borehole SB30 without his presence. Soil generated during exploratory digging and hand augering was stored in drums pending appropriate disposal.

#### Waste Disposal

On March 12, 2014 two 55-Gallon drums and one 5-Gallon bucket of soil were hauled from the site by Icon Environmental Services of Union City, CA. The soil was hauled as non-hazardous waste using non-hazardous waste manifest number 10677, which is attached as Appendix C.

#### GEOLOGY AND HYDROGEOLOGY

Based on review of regional geologic maps from U. S. Geological Survey Professional Paper 943, "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by E. J. Helley and K. R. Lajoie, 1979, the subject site is underlain by Fine-Grained Alluvium (Qhaf). The Fine-Grained Alluvium is described as unconsolidated plastic moderately to poorly sorted carbonaceous silt and clay.

Review of the City of Oakland Museum East Creek Watershed Map shows that a tributary to the Elmhurst Creek is located in an underground culvert located beneath 83<sup>rd</sup> Avenue and also beneath G Street immediately to the north and south of the subject site, respectively. The tributary connects to an underground channelized reach of the Elmhurst Creek at a location that is approximately 650 feet to the west of subject site, and the Elmhurst Creek daylights approximately 2,100 feet to the west of the subject site, continues west-southwest, and drains to San Leandro Bay which is located approximately 6,400 feet to the southwest of the subject site.



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Based on review of the boring logs for continuously cored boreholes SB1 through SB6 in the Basics May 7, 2008 Limited Phase II Environmental Site Sampling Report, the subsurface materials at the site consist of clay and silty clay to a depth of approximately 10.0 to 13.5 feet bgs, which is underlain by clayey sand or silty sand to the total depths explored of 15.0 to 20.0 feet bgs. At locations SB2 and SB4 sand and gravel were encountered between the depths of approximately 18.5 and 20.0 feet bgs. The locations of boreholes SB1 through SB6 are shown in Figures 2 through 5.

Review of boring logs SB1 through SB6 shows that groundwater was initially encountered during continuous coring at depths ranging from approximately 14.0 to 16.0 feet bgs, and was subsequently measured in the boreholes at depths ranging from approximately 4.3 to 7.6 feet bgs. Boreholes SB1 through SB6 were drilled using Geoprobe direct push technology.

Review of P&D's Conduit Study and Work Plan Addendum dated October 12, 2011 (document 0453.W2) shows that water was encountered in an excavation at the UST at a depth of 4.5 feet bgs, and review of P&D's UST In-place Closure Report dated July 15, 2013 (document 0453.R1) shows that water was encountered in the UST pit during closure activities at a depth of approximately 6.0 feet bgs.

Review of P&D's UST In-place Closure Report dated July 15, 2013 (document 0453.R1) also shows that groundwater was initially encountered in hand augered borehole T1 at a depth of approximately 7.5 feet bgs approximately one hour after the borehole was hand augered to a depth of 8.0 feet bgs. After the borehole was extended to a depth of 10.0 feet bgs, the measured depth to groundwater prior to groundwater sample collection was 7.3 feet bgs.

Building B at the subject site is located immediately downgradient of the former gasoline UST, and the floor slab elevation for the building is approximately two feet higher than the ground surface in the vicinity of the former gasoline UST. Groundwater was encountered during hand augering in boreholes SB7, SB8, and SB30 (all located inside of Building B) at a depth of 9.5 feet bgs. The measured depth to water in boreholes SB7, SB8, and SB30 prior to groundwater sample collection was 8.6, 9.4, and 7.1 feet, respectively, and the measured depth to water after sample collection was 8.2, 8.3, and 7.1 feet, respectively.

Documentation of the origins of an offsite TCE groundwater plume provided in P&D's October 12, 2011 Conduit Study and Work Plan Addendum (document 0453.W2) shows that the TCE groundwater plume flows in a southwesterly direction. Review of available information from case closure documents at the Alameda County Department of Environmental Health's website for groundwater flow direction information in the vicinity of the subject site identified several nearby sites which state that groundwater flow direction is westerly to southwesterly, which is towards San Leandro Bay.

#### WEATHER INFORMATION

The Vapor Pins were sampled on the following dates.

- SS1 through SS5 on October 24, 2013,

- SS6 through SS9 on October 31, 2013,
- SS10 through SS12 on November 25, 2013,
- SS7 and SS8 (second time) on February 27, 2014,
- SS13 through SS15 on March 4, 2014,
- SS16 through SS18 on March 6, 2014,
- SS19 through SS21 on March 12, 2014.

The total precipitation was less than 0.5 inches for the 5 days preceding each Vapor Pin sampling event, and no precipitation occurred on the day of any of the Vapor Pin sampling events with the following exceptions.

- Approximately 1.36 inches of precipitation occurred on November 18 through 22, 2013 which was during the week preceding the soil gas sampling event of November 25, 2013,
- Approximately 0.11 inches of precipitation occurred on the sampling date of February 27, 2014,
- Approximately 1.35 inches of precipitation occurred on February 28 through March 3, 2014 which was during the week preceding the soil gas sampling event of March 4, 2014,
- Approximately 0.01 inches of precipitation occurred on the sampling date of March 4, 2014,
- Approximately 0.43 inches of precipitation occurred on March 5, 2014 which is the day before the March 6, 2014 sampling event,
- Approximately 0.01 inches of precipitation occurred on the sampling date of March 6, 2014, and
- Approximately 0.1 inches of precipitation occurred on March 7 through 11, 2014 which was during the week prior to the March 12, 2014 sampling event.

Weather data, including precipitation and barometric pressure for the week preceding each Vapor Pin sampling event is provided with this report as Appendix D. The weather station for this weather information is located on the southeast corner of the intersection of High Street and Fernside Boulevard in Alameda at an elevation of 16 feet, approximately 2.4 miles to the west-northwest of the subject site. The subject site is located at an elevation of approximately 16 feet above sea level. An internet link to the weather station information is provided with this report as Appendix D.

#### LABORATORY ANALYSIS AND RESULTS

All of the sub-slab soil gas samples collected on October 24, 2013 from Vapor Pin locations SS1 through SS5 were analyzed in the mobile laboratory provided by Jones Environmental, Inc. (Jones) of Fullerton, California for Volatile Organic Compounds (VOCs) using EPA Method 8260B.

All of the sub-slab soil gas samples collected from Vapor Pins SS6 through SS21 were analyzed at McCampbell Analytical, Inc. (McCampbell) of Pittsburg, California for VOCs including methyl tertiary-butyl ether (MTBE), benzene, toluene, ethylbenzene, total xylenes (BTEX), and halogenated VOCs (HVOCs) including PCE, TCE, cis-1,2-Dichloroethene (cis-1,2-DCE), trans-1,2-

Dichloroethene (trans-1,2-DCE), and vinyl chloride using EPA Method 5030B in conjunction with EPA Method 8260B. All of the soil samples collected from boreholes SB9 through SB14, SB16, and exploratory trenches T1 and T2, the all of the groundwater samples collected from boreholes SB7, SB8, and SB30 were also analyzed for VOCs and HVOCs using EPA Method 5030B in conjunction with EPA Method 8260B.

The Vapor Pin sub-slab soil gas sample results are summarized in Table 1, the soil sample results are summarized in Table 2, and the groundwater sample results are summarized in Table 3. Copies of the laboratory analytical reports (including the Jones laboratory report) are attached as Appendix E.

## DISCUSSION AND RECOMMENDATIONS

Initial investigation of potential vapor intrusion of TCE from a groundwater plume that originates from an offsite source and extends beneath the subject site was performed on October 24, 2013 using a mobile laboratory to evaluate sub-slab soil gas at five locations designated as SS1 through SS5. The results of the investigation did not identify vapor intrusion from TCE as a concern, but did identify elevated PCE sub-slab soil gas concentrations at one location (SS3). The results of subsequent investigation of the extent of the elevated sub-slab PCE soil gas concentrations identified the presence of multiple concrete floor slabs and fill layers in the central portion of the affected subject site building. Review of Table 1 and Figures 7 and 16 shows that the highest detected PCE sub-slab soil gas concentrations are at locations SS3 and SS8. The distribution of sub-slab soil gas concentrations in the vicinity of these two locations suggests that PCE at location SS3 is associated with historical disposal of PCE to a drain in the bathroom that is located in the WAYT Technologies tenant space, and that the PCE at location SS8 is associated with a different release. Review of PCE soil gas concentrations at location SS4 in Table 1 and Figure 3 indicates that an additional source may be located in the vicinity of location SS4.

To evaluate the presence or extent of PCE in soil in the vicinity of sub-slab soil gas location SS3, multiple soil samples were collected from native soil and also from fill material. Review of Table 2 shows that PCE and associated decomposition products were not detected in native soil at a depth of approximately 1 foot below the bottom of the fill layer that is located beneath the concrete floor slabs at locations SB9 and SB11. PCE was also detected in the sub-slab fill material at location SB14 (see Figure 8). Review of Table 2 shows that none of the detected PCE concentrations exceed their respective Regional Water Quality Control Board December 2013 Environmental Screening Level (ESL) for soil in Table A-1 for residential land use or in Table A-2 for commercial/industrial land use. Based on the sample results, no source areas in soil were identified for the PCE detected in sub-slab soil gas.

To evaluate the presence of PCE in groundwater in the vicinity of the two locations where the highest detected PCE sub-slab soil gas concentrations were detected (SS3 and SS8), groundwater grab samples were collected from boreholes at locations SB7, SB8 and SB30. The groundwater samples were collected at locations downgradient of locations SS3 and SS8 based on the southwesterly groundwater flow direction identified for the TCE groundwater plume that originates from an offsite source. Review of Table 3 shows that PCE and associated decomposition products were not detected in any of the groundwater samples. Figure 4 shows groundwater sample results

associated with the current investigation and the Basics May 7, 2008 Limited Phase II Environmental Site Sampling Report. Review of Figure 4 shows that PCE has not been detected in any of the groundwater samples collected at the site to date. Based on the groundwater sample results, it appears that PCE has not impacted groundwater at the subject site.

At the time that the PCE sub-slab soil gas concentrations were investigated, the investigation objective was to identify PCE source areas if possible and the extent of sub-slab soil gas concentrations exceeding 2,100 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The PCE detection limit for the sub-slab soil gas samples analyzed with the mobile laboratory for locations SS1 through SS5 was  $20 \mu\text{g}/\text{m}^3$ , and for subsequent sub-slab soil gas samples analyzed at the stationary laboratory (McC Campbell) was  $250 \mu\text{g}/\text{m}^3$ .

Review of Table 1 shows that RWQCB December 2013 ESLs for indoor air for commercial land use and also values that are 20 times greater than these ESL values are included in the table. The value of 20 times the indoor air ESL value allows comparison of the sub-slab soil gas concentrations with indoor air ESLs with an assumed default floor slab attenuation factor of 0.05. Comparison of the PCE and TCE sub-slab soil gas sample results in Table 1 with the detection limit of  $250 \mu\text{g}/\text{m}^3$  shows that the detection limit exceeds the value of 20 times the commercial land use indoor air PCE and TCE ESL values.

Based on the investigation sample results, P&D recommends the following:

- Install additional Vapor Pins at locations between existing Vapor Pins SS10 and SS20, and between existing Vapor Pins SS20 and SS21.
- Collect sub-slab soil gas samples using methods described above from interior locations SS3 and SS8 to determine if changes have occurred at these locations when compared to 2013 and 2014 results.
- Collect sub-slab soil gas samples using methods described above at plume perimeter locations SS2, SS10, SS11, SS12, SS13, SS20 and SS21 (see Figure 16) to verify that the extent of the detected HVOC sub-slab soil gas concentrations have been defined to below concentrations that are 20 times greater than their respective indoor air commercial land use ESL values.
- Re-sample location SS4 to verify the presence of PCE at this location.

## DISTRIBUTION

A pdf copy of this report will be uploaded to the County and GeoTracker ftp sites.

## LIMITATIONS

This report was prepared solely for the use of Amelia Street Partners, LLC. The content and conclusions provided by P&D in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgment based on said information at the time of

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preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between boreholes and may not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly revealed conditions must be evaluated and may invalidate the findings of this report.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals or entities which is used in this report. This report presents our professional judgment based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

July 29, 2015  
Report 0453.R3

Should you have any questions, please do not hesitate to contact us at (510) 658-6916.

Sincerely,  
P&D Environmental, Inc.



Paul H. King  
Professional Geologist # 5901  
Expires: 12/31/15



Attachments:

Table 1 - Summary of Sub-Slab Soil Gas Sample Analytical Results  
Table 2 - Summary of Soil Sample Analytical Results  
Table 3 - Summary of Borehole Groundwater Sample Analytical Results

Figure 1 - Site Location Map  
Figure 2 - Site Map Showing Underground Utilities and Sample Collection Locations  
Figure 3 - Site Map Showing PCE Concentrations in Sub-Slab Soil Gas  
Figure 4 - Site Map Showing Underground Utilities and HVOC Concentrations in Groundwater  
Figure 5 - Site Map Showing Geologic Cross Section Locations  
Figure 6 - Site Map Detail Showing Sample Collection Locations  
Figure 7 - Site Map Detail Showing PCE Concentrations in Sub-Slab Soil Gas  
Figure 8 - Site Map Detail Showing PCE Concentrations in Soil  
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Appendix A - Purge Volume Calculations and Soil Gas Sampling Field Data Sheets  
Appendix B - Soil Boring Logs  
Appendix C - Soil Disposal Manifest  
Appendix D - Weather Information  
Appendix E - Laboratory Analytical Results and Chain of Custody Documentation

PHK/mlbd/sjc  
0453.R3

# **TABLES**

Table 1  
Summary of Sub-Slab Soil Gas Sample Analytical Results

Sample ID	Sample Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs by EPA Method 8260B
Mobile Lab							
SS1 (5P)	10/24/2013	ND<20.0	30.0	ND<20.0	ND<20.0	ND<20.0	ND
SS1 (10P)	10/24/2013	ND<20.0	33.0	ND<20.0	ND<20.0	ND<20.0	ND
SS2 1P	10/24/2013	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND
SS2 5P	10/24/2013	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND
SS2 10P	10/24/2013	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND
SS3 1P	10/24/2013	<b>6,080</b>	63.5	ND<20.0	ND<20.0	ND<20.0	ND, except 1,1,1-TCA = 18.5
SS3 5P	10/24/2013	<b>6,500</b>	61.0	ND<20.0	ND<20.0	ND<20.0	ND, except 1,1,1-TCA = 38.0
SS3 10P	10/24/2013	<b>6,780</b>	62.5	ND<20.0	ND<20.0	ND<20.0	ND, except 1,1,1-TCA = 31.0
SS4 (10P)	10/24/2013	52.5	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND
SS5 (5P)	10/24/2013	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND
SS5 10P	10/25/2013	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND
Stationary Lab							
SS6	10/31/2013	300	ND<250	ND<250	ND<250	ND<250	ND, except TBA = 9,100
SS7	2/26/2014	330	ND<250	ND<250	ND<250	ND<250	ND
SS7	10/31/2013	ND<250	ND<250	ND<250	ND<250	ND<250	ND
SS8	2/27/2014	<b>8,900</b>	<b>1,700</b>	280	ND<250	ND<250	ND
SS8	10/31/2013	ND<250	ND<250	ND<250	ND<250	ND<250	ND
SS9	10/31/2013	<b>2,800</b>	ND<250	ND<250	ND<250	ND<250	ND
SS10	11/25/2013	ND<250	ND<250	ND<250	ND<250	ND<250	ND
SS11	11/25/2013	ND<250	ND<250	ND<250	ND<250	ND<250	ND
SS12	11/25/2013	ND<250	ND<250	ND<250	ND<250	ND<250	ND
SS13	3/4/2014	ND<250	ND<250	ND<250	ND<250	ND<250	ND
SS14	3/4/2014	1,400	ND<250	ND<250	ND<250	ND<250	ND
SS15	3/4/2014	<b>4,000</b>	ND<250	ND<250	ND<250	ND<250	ND
SS16	3/6/2014	380	ND<250	ND<250	ND<250	ND<250	ND, except TBA = 32,000
SS17	3/6/2014	1,400	ND<250	ND<250	ND<250	ND<250	ND



Table 1  
Summary of Sub-Slab Soil Gas Sample Analytical Results

Sample ID	Sample Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs by EPA Method 8260B
SS18	3/6/2014	710	ND<250	ND<250	ND<250	ND<250	ND
SS19	3/12/2014	760	ND<250	ND<250	ND<250	ND<250	ND
SS20	3/12/2014	ND<250	ND<250	ND<250	ND<250	ND<250	ND, except TBA = 6,700
SS21	3/12/2014	ND<250	ND<250	ND<250	ND<250	ND<250	ND
ESL <sup>1</sup>		2,100	3,000	31,000	260,000	160	1,1,1-TCA = 22,000,000 TBA = No Value
ESL <sup>2</sup>		2.1	3.0	31	260	0.16	1,1,1-TCA = 22,000 TBA = No Value
20 X ESL <sup>2</sup>		42	60	620	5,200	3	1,1,1-TCA = 440,000 TBA = No Value
<b>NOTES:</b>							
PCE = Tetrachloroethene.							
TCE = Trichloroethene.							
TAME = tert-Amyl methyl ether							
cis-1,2-DCE = cis-1,2-Dichloroethene							
trans-1,2-DCE = trans-1,2-Dichloroethene							
VOCs = Volatile Organic Compounds							
1,1,1-TCA = 1,1,1-Trichloroethane							
TBA = tert-Butyl alcohol							
ND = Not detected.							
ESL <sup>1</sup> = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board updated December 2013, from Table E-2 - Soil Gas (Vapor Intrusion Concerns). Commercial/Industrial Land Use.							
ESL <sup>2</sup> = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, Updated December 2013, from Table E-3 – Ambient and Indoor Air Screening Levels for Commercial/Industrial Land Use.							
<b>Values in BOLD exceed their respective ESL<sup>1</sup> values.</b>							
Results and ESLs reported in micrograms per cubic meter (µg/m <sup>3</sup> ) unless otherwise specified.							

Table 2  
Summary of Soil Sample Analytical Results

Sample ID	Sample Depth (Feet)	Sample Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs by EPA Method 8260B
SB9-3.0	3.0	1/27/2014	0.019	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
SB10-2.5	2.5	1/27/2014	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND, except Acetone = 0.14, MEK = 0.022
SB11-2.5	2.5	1/27/2014	0.022	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
SB12-3.0	3.0	1/27/2014	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
SB13-2.5	2.5	1/27/2014	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND, except Acetone = 0.15, MEK = 0.026
SB14-1.0	1.0	1/27/2014	0.0066	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
SB14-2.5	2.5	1/27/2014	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
SB16-2.5	2.5	1/27/2014	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
T1-2.5	2.5	1/27/2014	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
T2-2.5	2.5	1/27/2014	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
ESL <sup>1</sup>			0.55	0.46	0.19	0.67	0.032	Acetone = 0.5, MEK = 4.5
ESL <sup>2</sup>			0.70	0.46	0.19	0.67	0.085	Acetone = 0.5, MEK = 4.5
<b>NOTES:</b>								
PCE = Tetrachloroethylene								
TCE = Trichloroethylene								
cis-1,2-DCE = cis-1,2-Dichloroethylene								
trans-1,2-DCE = trans-1,2-Dichloroethylene								
VOCs = Volatile Organic Compounds.								
MEK = Methyl Ethyl Ketone (2-Butanone)								
ND = Not Detected.								
ESL <sup>1</sup> = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, Updated December 2013, from Table A-1–Shallow Soil Screening Levels, Groundwater is a Current or Potential Drinking Water Resource, Residential Land Use.								
ESL <sup>2</sup> = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, Updated December 2013, from Table A-2–Shallow Soil Screening Levels, Groundwater is a Current or Potential Drinking Water Resource, Commercial/Industrial Land Use.								
<b>Values in BOLD exceed their respective ESL values.</b>								
Results and ESLs reported in milligrams per kilogram (mg/kg) unless otherwise indicated.								

Table 3  
Summary of Borehole Groundwater Sample Analytical Results

Sample ID	Sample Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs by EPA Method 8260B
SB7-W	11/5/2013	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND, except sec-Butyl benzene = 0.66, tert-Butyl benzene = 1.4, Carbon Disulfide = 4.3, Isopropylbenzene = 0.64, n-Propyl benzene = 0.80
SB8-W	11/25/2013	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND
SB30-W	3/7/2014	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND
ESL <sup>1</sup>		5.0	5.0	6.0	10	0.5	sec-Butyl benzene = None, tert-Butyl benzene = None, Carbon Disulfide = None, Isopropylbenzene = None, n-Propyl benzene = None,
ESL <sup>2</sup>		640	1,300	26,000	120,000	18	sec-Butyl benzene = None, tert-Butyl benzene = None, Carbon Disulfide = None, Isopropylbenzene = None, n-Propyl benzene = None,
NOTES:							
PCE = Tetrachloroethene.							
TCE = Trichloroethene.							
TAME = tert-Amyl methyl ether							
cis-1,2-DCE = cis-1,2-Dichloroethene							
trans-1,2-DCE = trans-1,2-Dichloroethene							
VOCs = Volatile Organic Compounds							
ND = Not Detected.							
ESL <sup>1</sup> = Environmental Screening Level, by San Francisco Bay- Regional Water Quality Control Board Updated December 2013, from Table F-1a - Groundwater Screening Levels, Groundwater is a Current or Potential Source of Drinking Water.							
ESL <sup>2</sup> = Environmental Screening Level, by San Francisco Bay- Regional Water Quality Control Board Updated December 2013, from Table E-1 - Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Fine-Coarse Mix. Commercial/Industrial Land Use.							
<b>Values in BOLD exceed their respective ESL values.</b>							
Results and ESLs reported in micrograms per Liter (µg/L) unless otherwise noted.							

# FIGURES

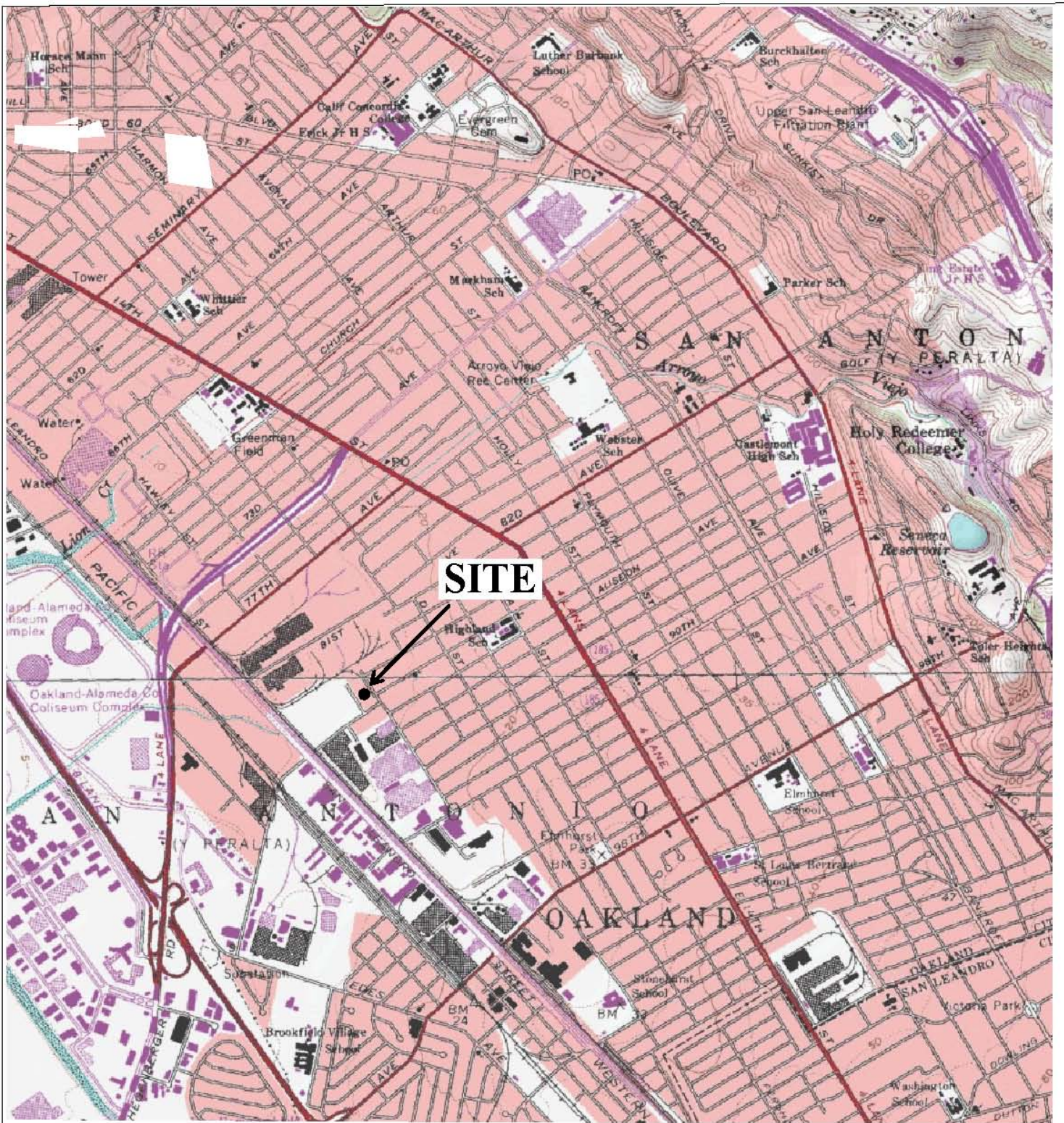
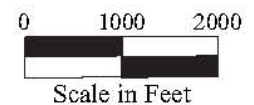


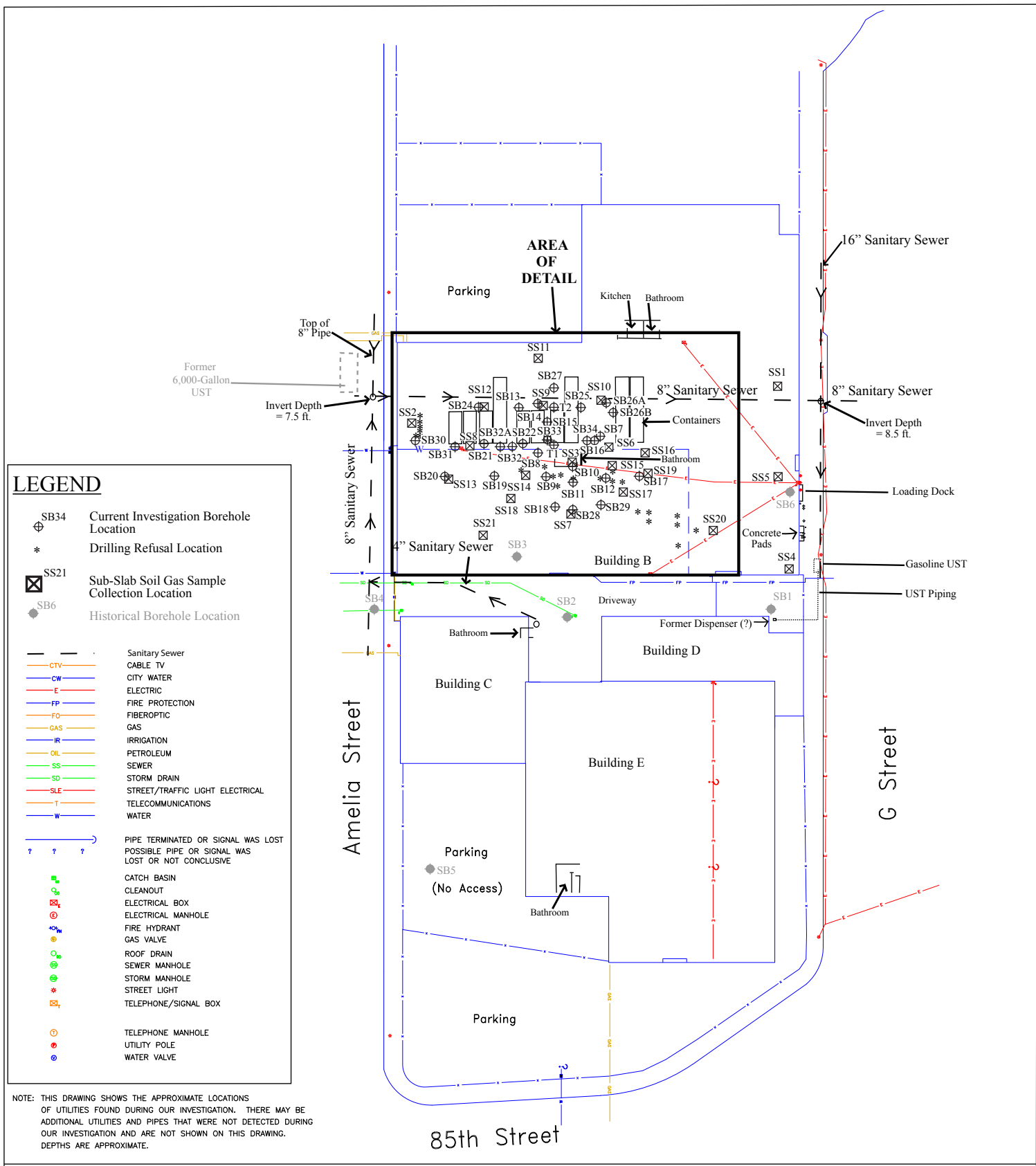
Figure 1  
 Site Location Map  
 8410 Amelia Street  
 Oakland, California



Base Map From:  
 US Geological Survey Oakland East,  
 California, and San Leandro, California  
 7.5-Minute Quadrangles  
 Photorevised 1980

P&D Environmental, Inc.  
 55 Santa Clara Avenue  
 Oakland, CA 94610

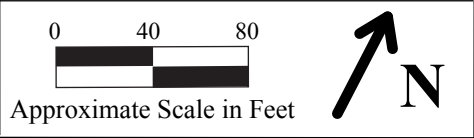


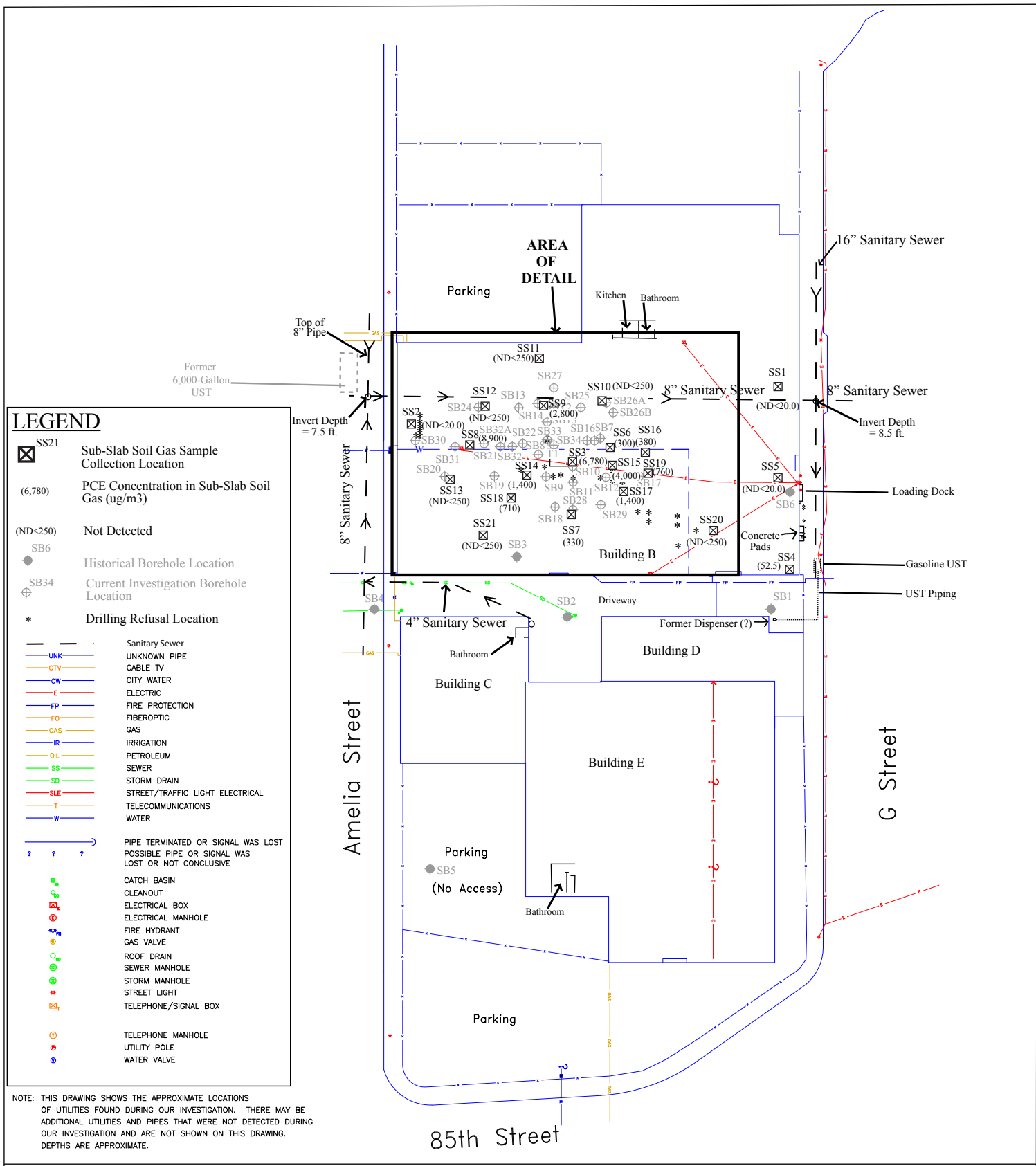


**Figure 2**  
**Site Map Showing Underground Utilities and Sample Collection Locations**  
**8410 Amelia Street**  
**Oakland, California**

Base Map From:  
 Basics Environmental, Inc., May 2008,  
 JR Associates, September 2011,  
 The Plumbing Ministry, October 2011,  
 P&D Environmental, Inc., October 2011

P&D Environmental, Inc.  
 55 Santa Clara Avenue  
 Oakland, CA 94610

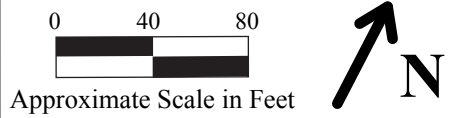


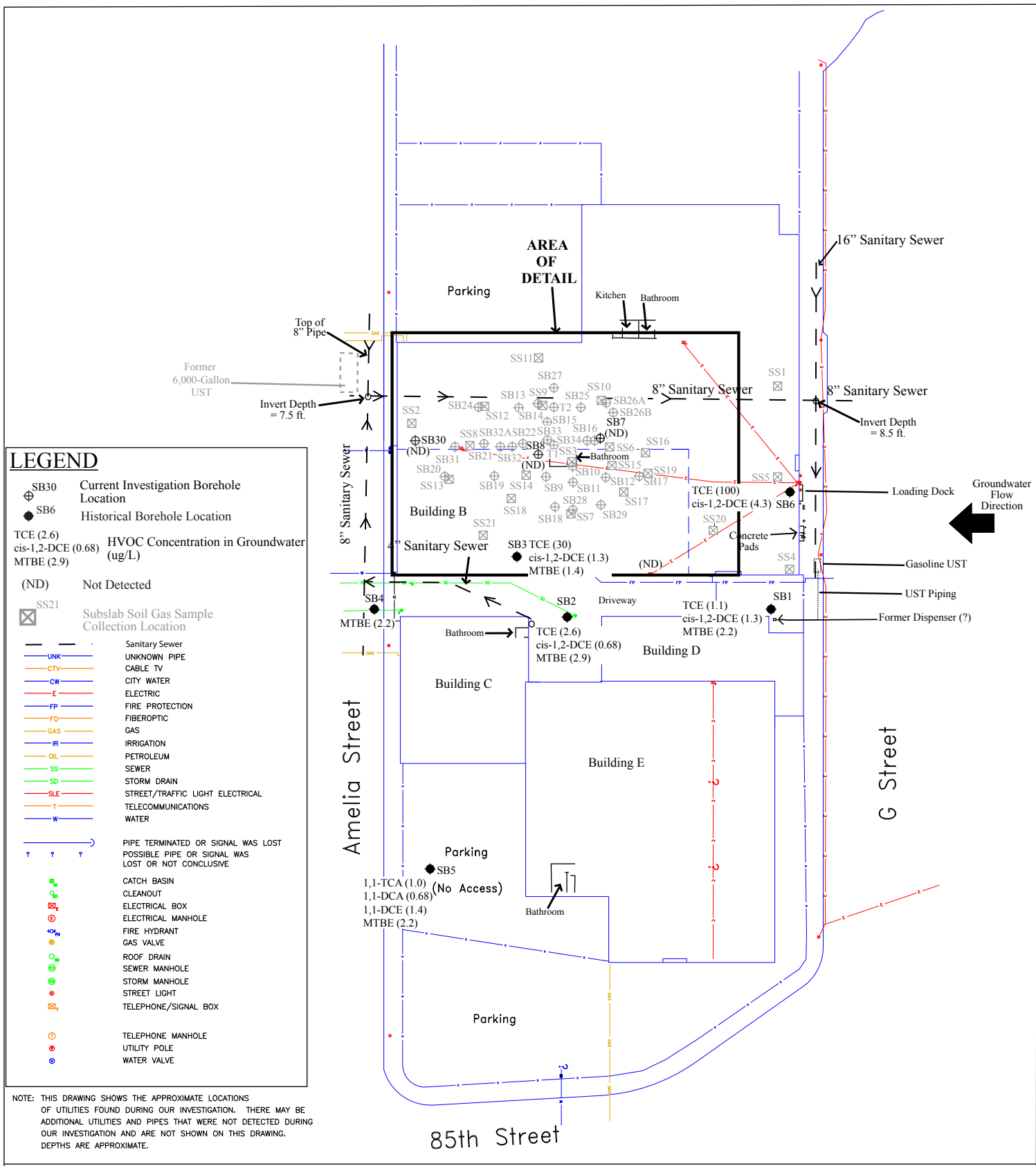


**Figure 3**  
**Site Map Showing PCE Concentrations in Sub-Slab Soil Gas**  
**8410 Amelia Street**  
**Oakland, California**

Base Map From:  
 Basics Environmental, Inc., May 2008,  
 JR Associates, September 2011,  
 The Plumbing Ministry, October 2011,  
 P&D Environmental, Inc., October 2011

P&D Environmental, Inc.  
 55 Santa Clara Avenue  
 Oakland, CA 94610

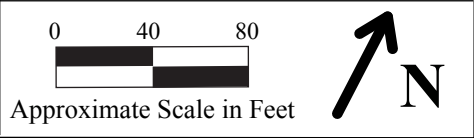




**Figure 4**  
**Site Map Showing Underground Utilities and HVOC Concentrations in Groundwater**  
**8410 Amelia Street**  
**Oakland, California**

Base Map From:  
 Basics Environmental, Inc., May 2008,  
 JR Associates, September 2011,  
 The Plumbing Ministry, October 2011,  
 P&D Environmental, Inc., October 2011

P&D Environmental, Inc.  
 55 Santa Clara Avenue  
 Oakland, CA 94610





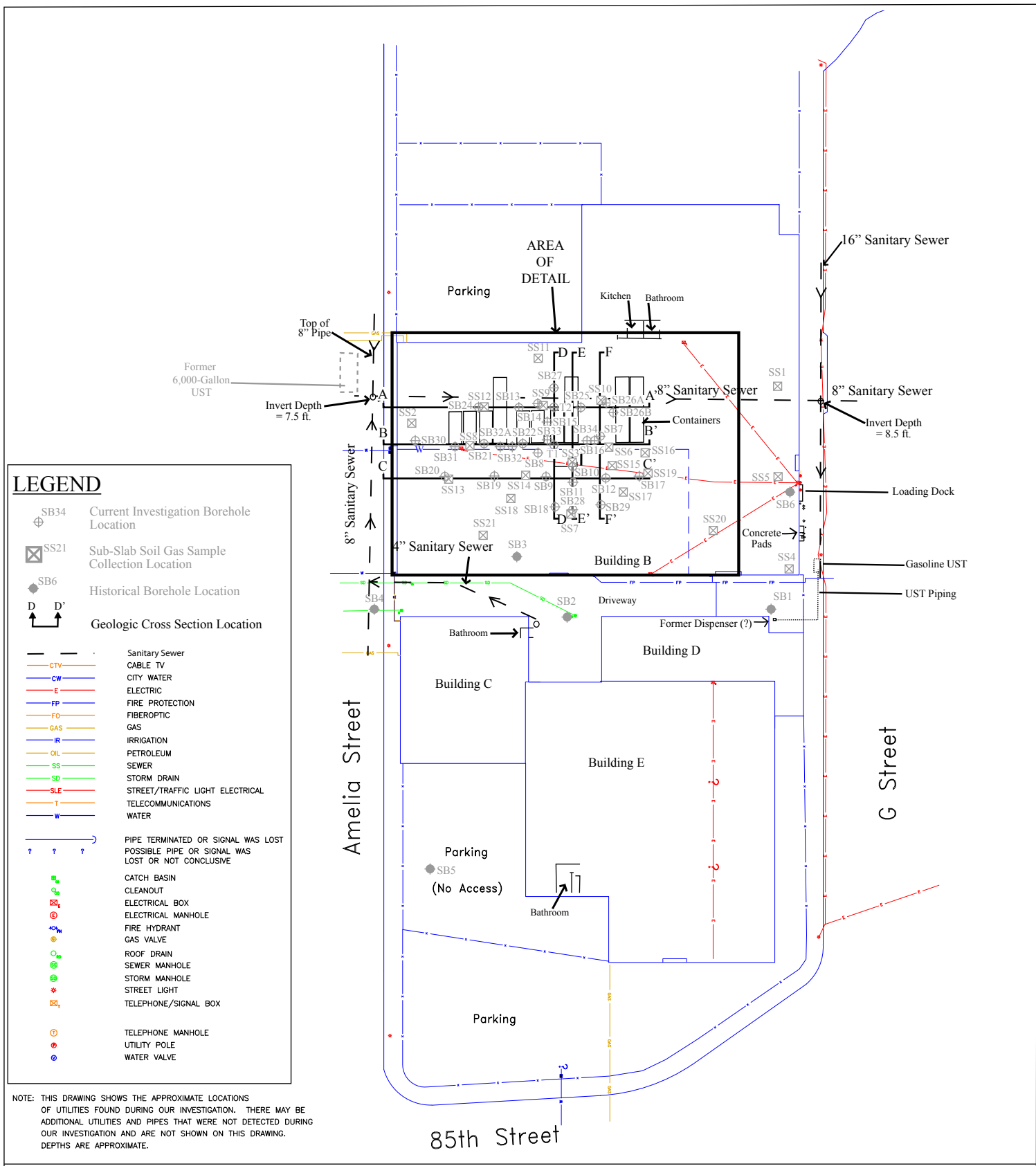
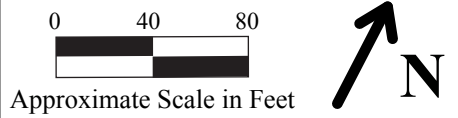
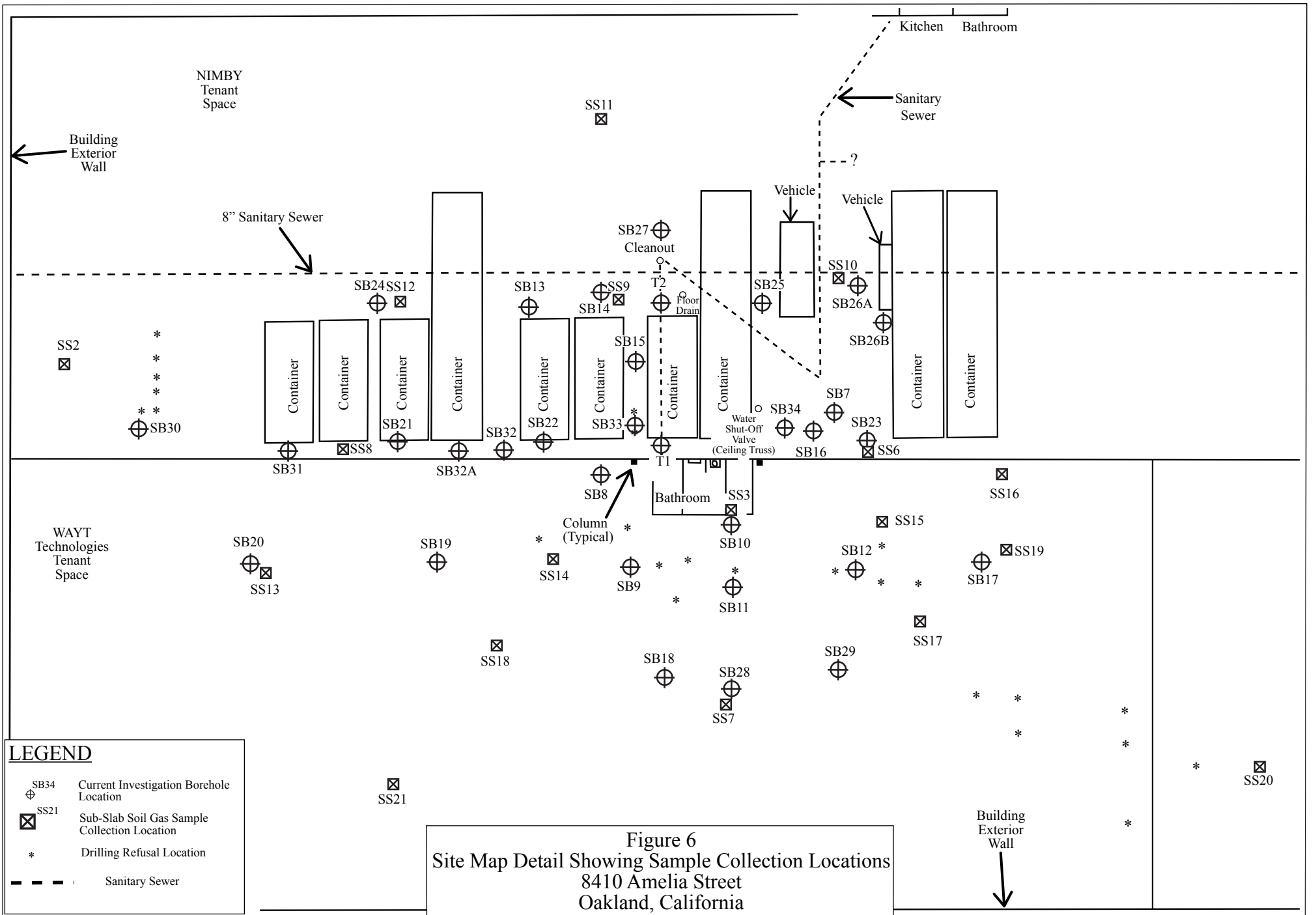


Figure 5  
 Site Map Showing Geologic Cross Section Locations  
 8410 Amelia Street  
 Oakland, California

Base Map From:  
 Basics Environmental, Inc., May 2008,  
 JR Associates, September 2011,  
 The Plumbing Ministry, October 2011,  
 P&D Environmental, Inc., October 2011

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 Oakland, CA 94610





**LEGEND**

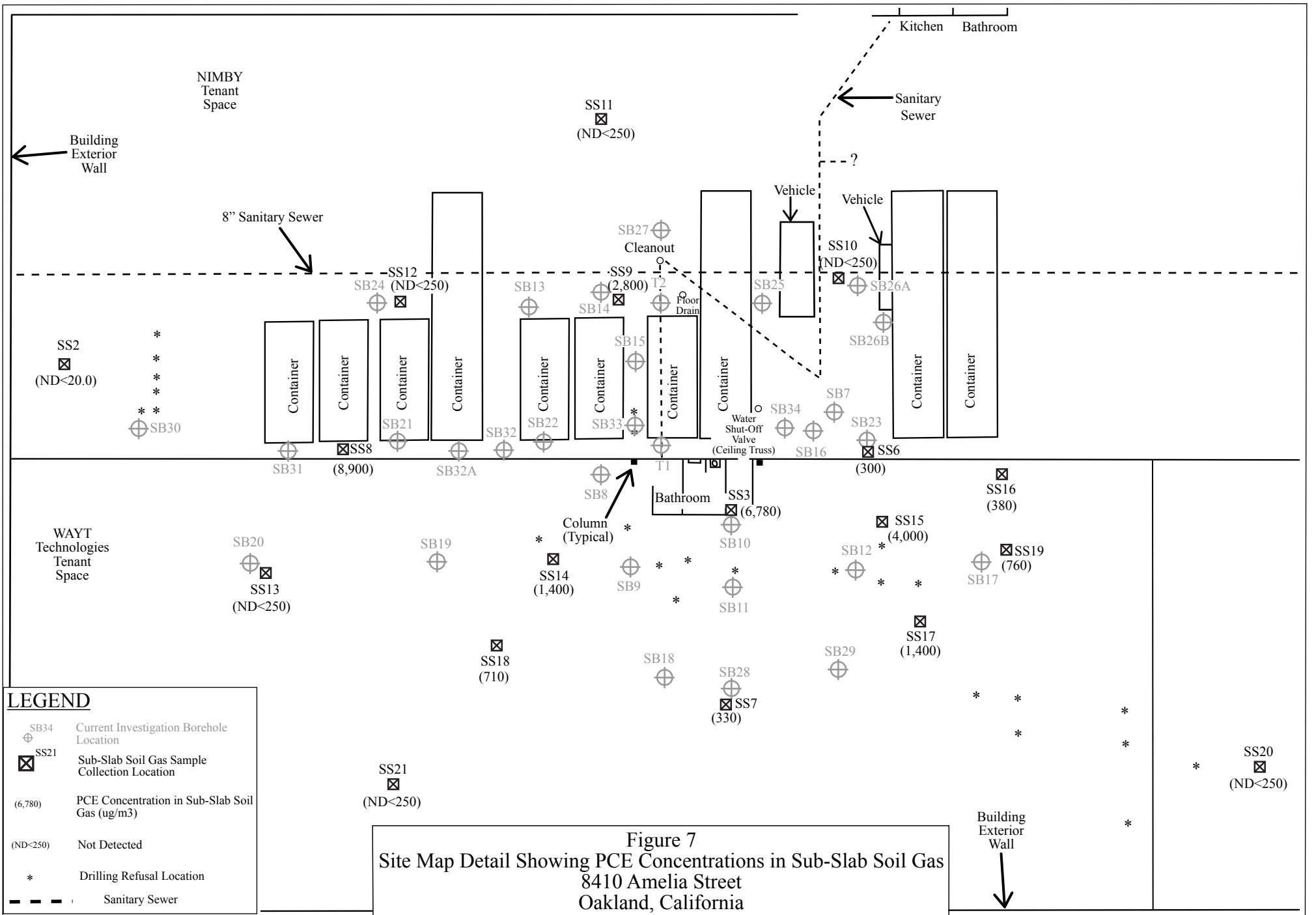
- ⊕ SB34 Current Investigation Borehole Location
- ⊗ SS21 Sub-Slab Soil Gas Sample Collection Location
- \* Drilling Refusal Location
- - - Sanitary Sewer

**Figure 6**  
 Site Map Detail Showing Sample Collection Locations  
 8410 Amelia Street  
 Oakland, California

Base Map from:  
 The Plumbing Ministry, October 2011,  
 P&D Environmental, Inc., January 2014

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 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610

0 10 20  
 Approximate Scale in Feet



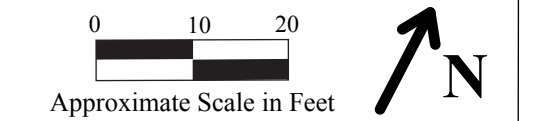
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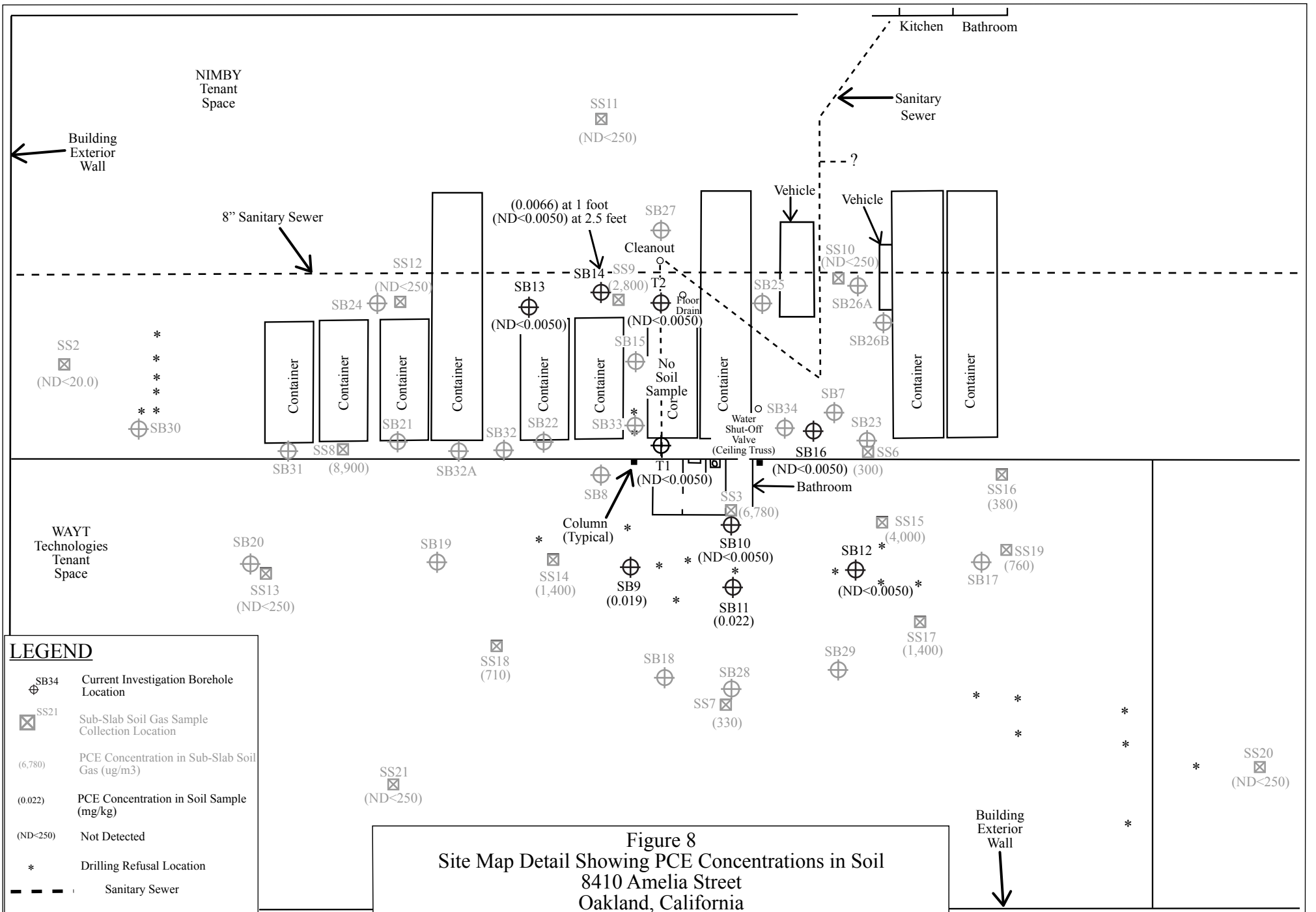
	SB34	Current Investigation Borehole Location
	SS21	Sub-Slab Soil Gas Sample Collection Location
(6,780)		PCE Concentration in Sub-Slab Soil Gas (ug/m3)
(ND<250)		Not Detected
*		Drilling Refusal Location
- - -		Sanitary Sewer

**Figure 7**  
 Site Map Detail Showing PCE Concentrations in Sub-Slab Soil Gas  
 8410 Amelia Street  
 Oakland, California

Base Map from:  
 The Plumbing Ministry, October 2011,  
 P&D Environmental, Inc., January 2014

P&D Environmental, Inc.  
 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610

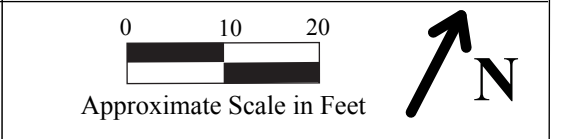




Base Map from:  
 The Plumbing Ministry, October 2011,  
 P&D Environmental, Inc., January 2014

**Figure 8**  
**Site Map Detail Showing PCE Concentrations in Soil**  
**8410 Amelia Street**  
**Oakland, California**

**P&D Environmental, Inc.**  
 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610





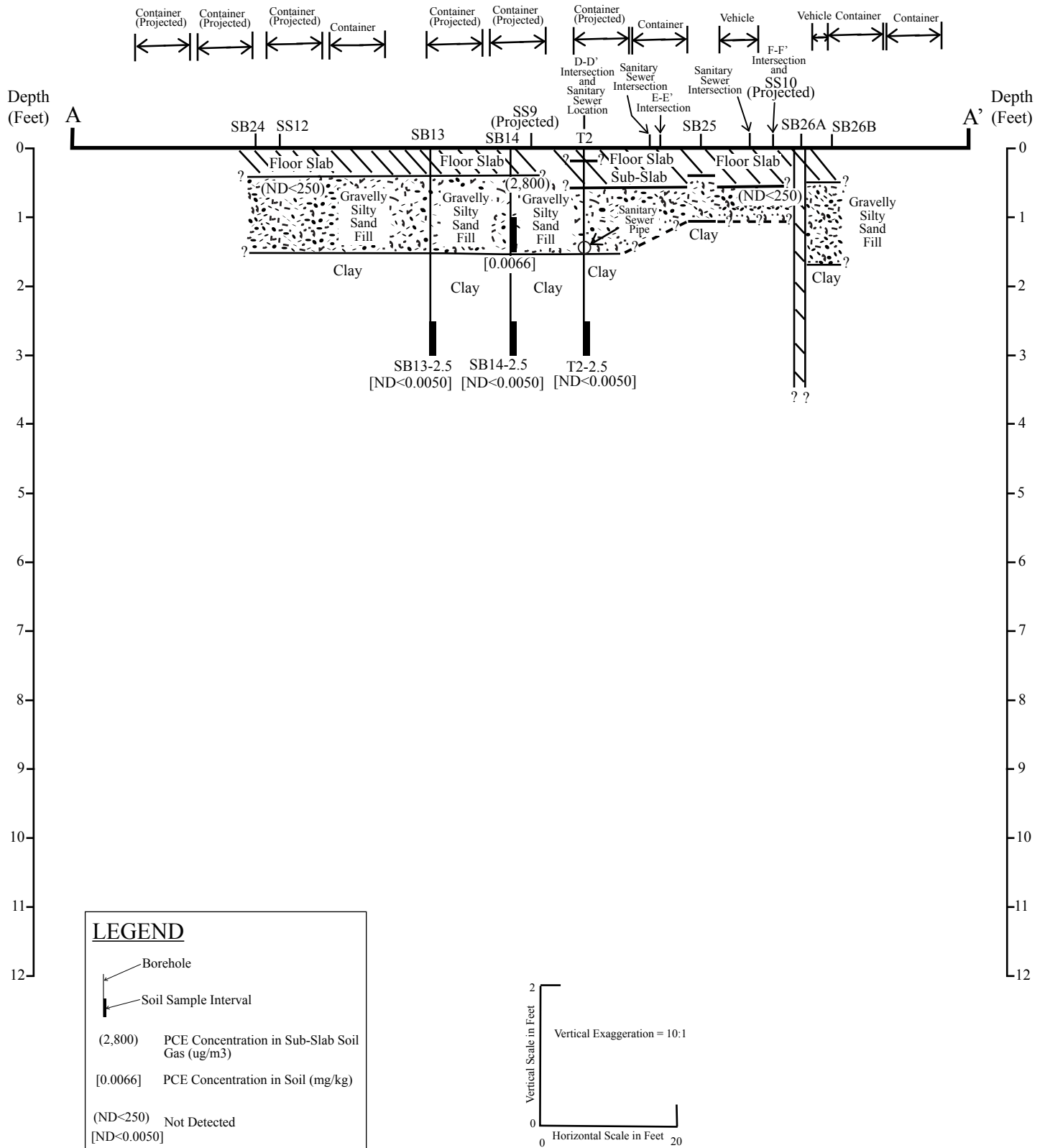
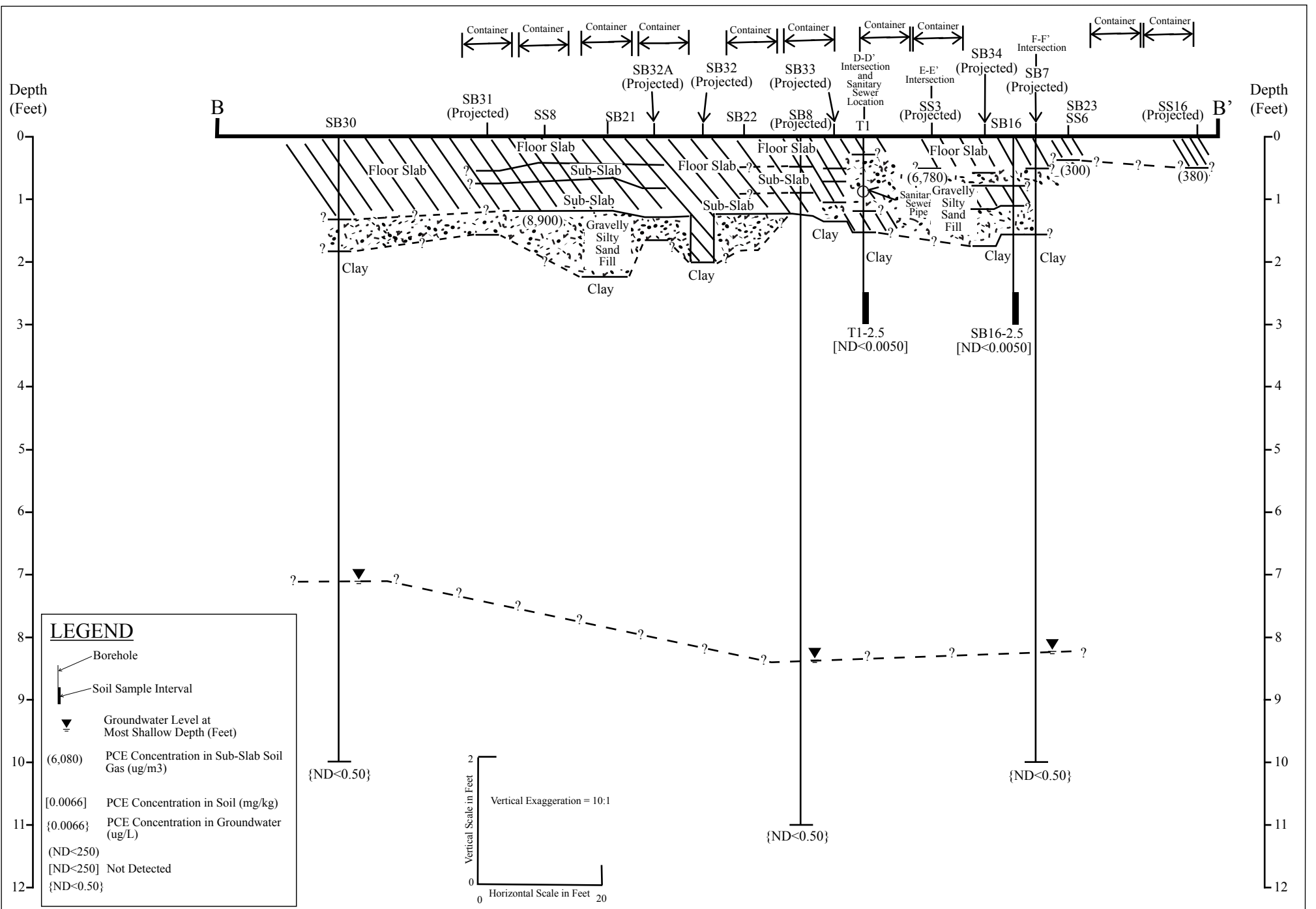


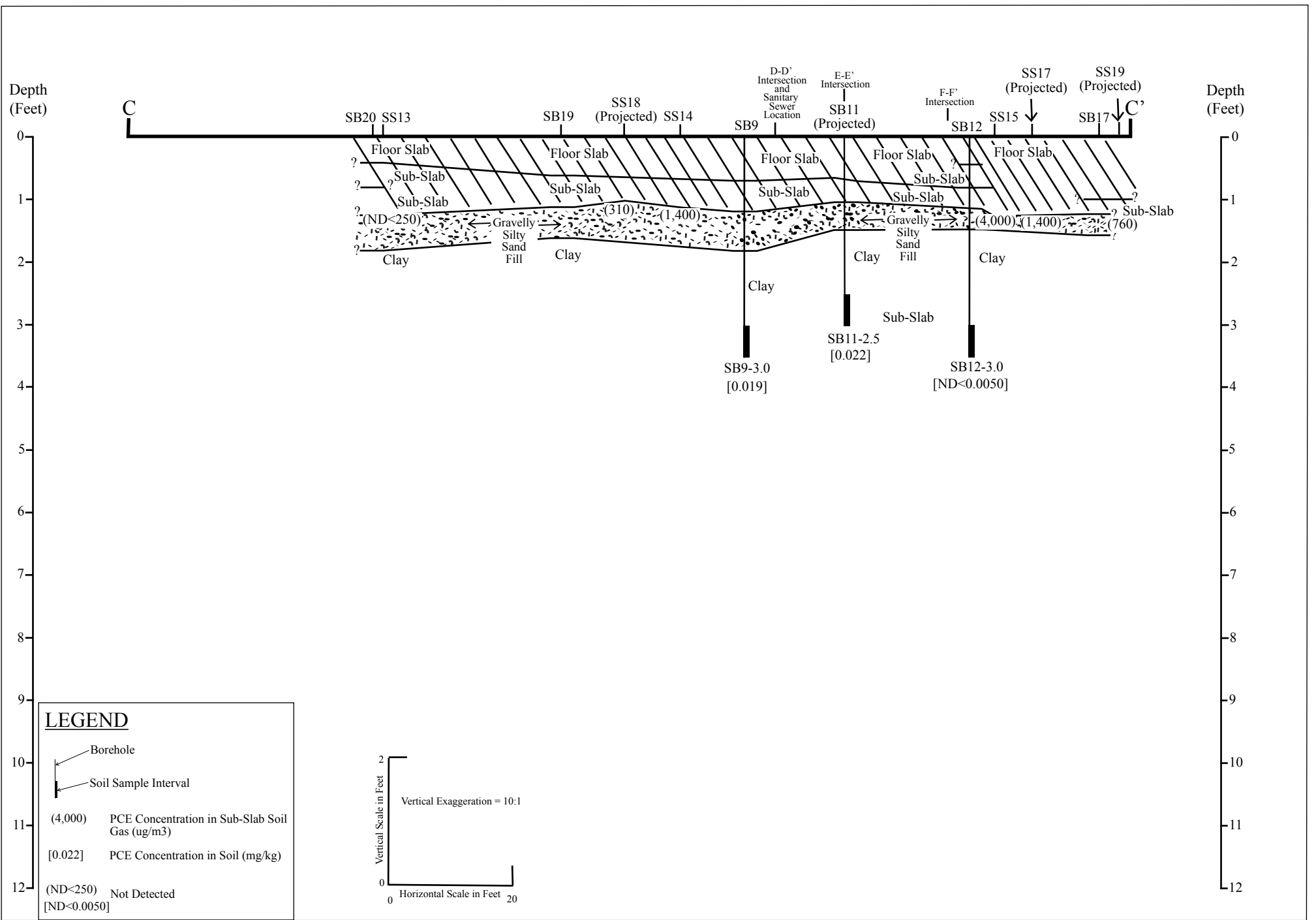
Figure 10  
 Geologic Cross Section A-A'  
 8410 Amelia Street  
 Oakland, California

P&D Environmental, Inc.  
 55 Santa Clara Avenue  
 Oakland, CA 94610



P&D Environmental, Inc.  
55 Santa Clara Ave., Suite 240  
Oakland, CA 94610

Figure 11  
Geologic Cross Section B-B'  
8410 Amelia Street  
Oakland, California



P&D Environmental, Inc.  
55 Santa Clara Ave., Suite 240  
Oakland, CA 94610

Figure 12  
Geologic Cross Section C-C'  
8410 Amelia Street  
Oakland, California



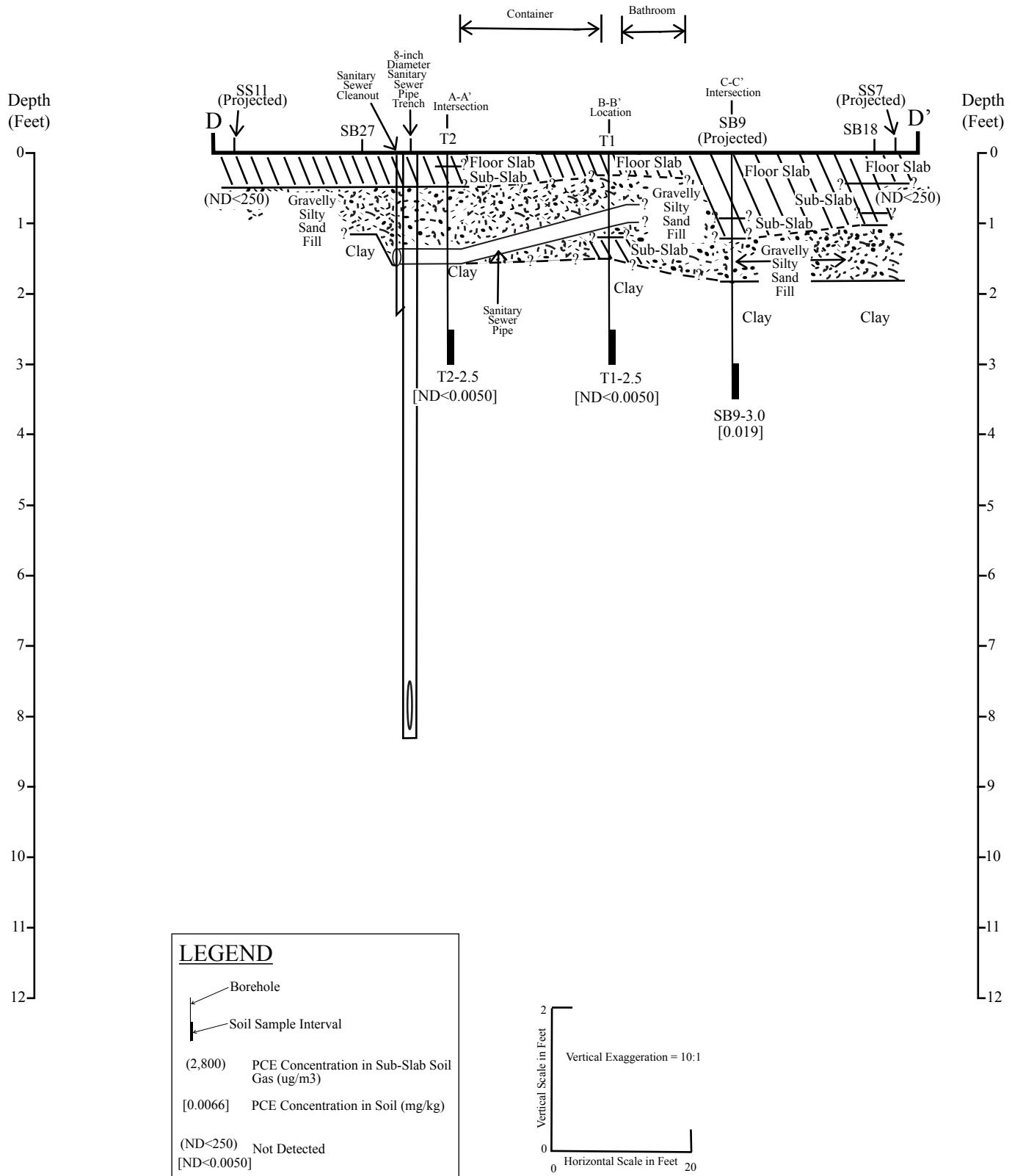


Figure 13  
 Geologic Cross Section D-D'  
 8410 Amelia Street  
 Oakland, California

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 55 Santa Clara Avenue  
 Oakland, CA 94610

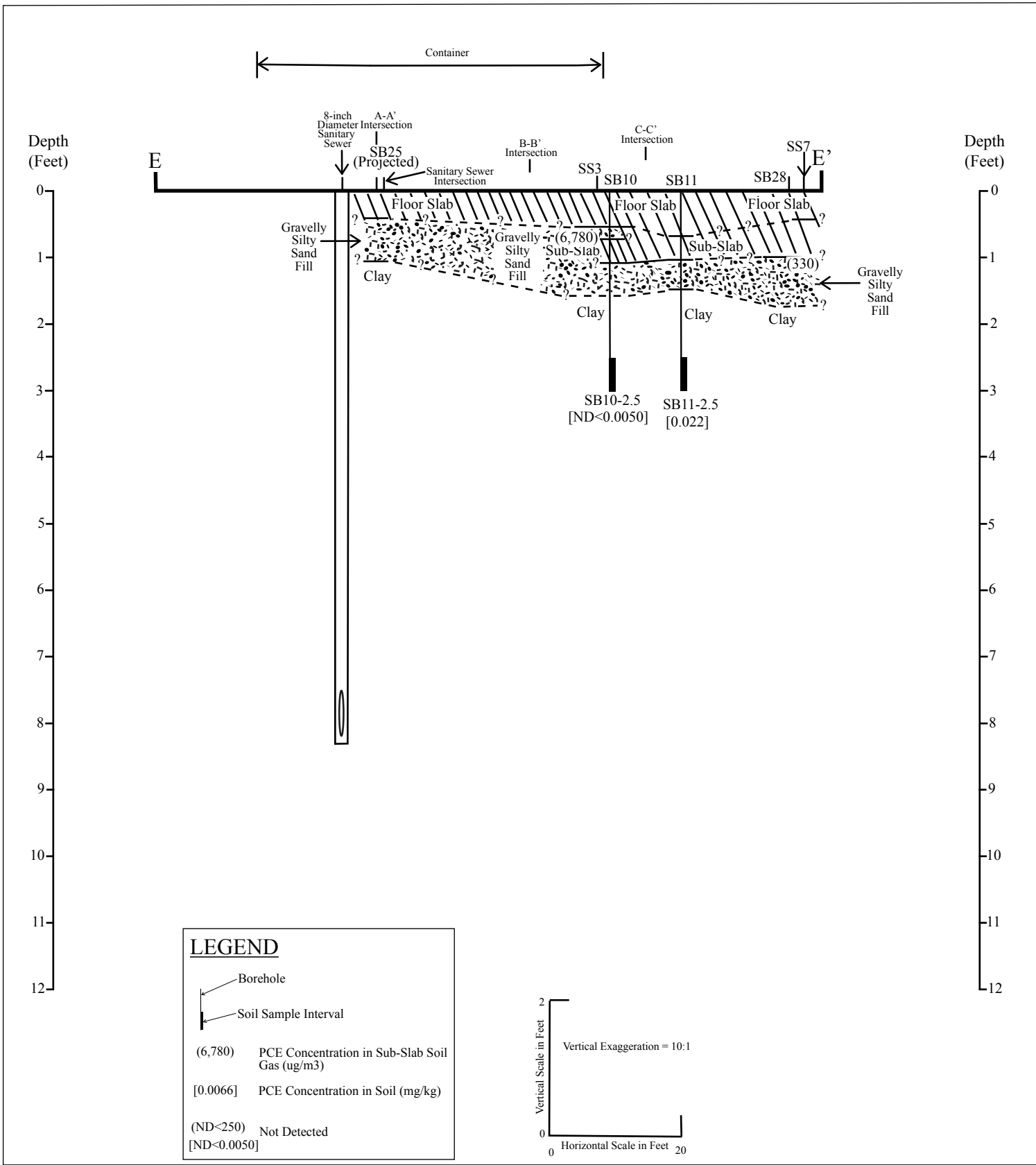


Figure 14  
 Geologic Cross Section E-E'  
 8410 Amelia Street  
 Oakland, California

P&D Environmental, Inc.  
 55 Santa Clara Avenue  
 Oakland, CA 94610

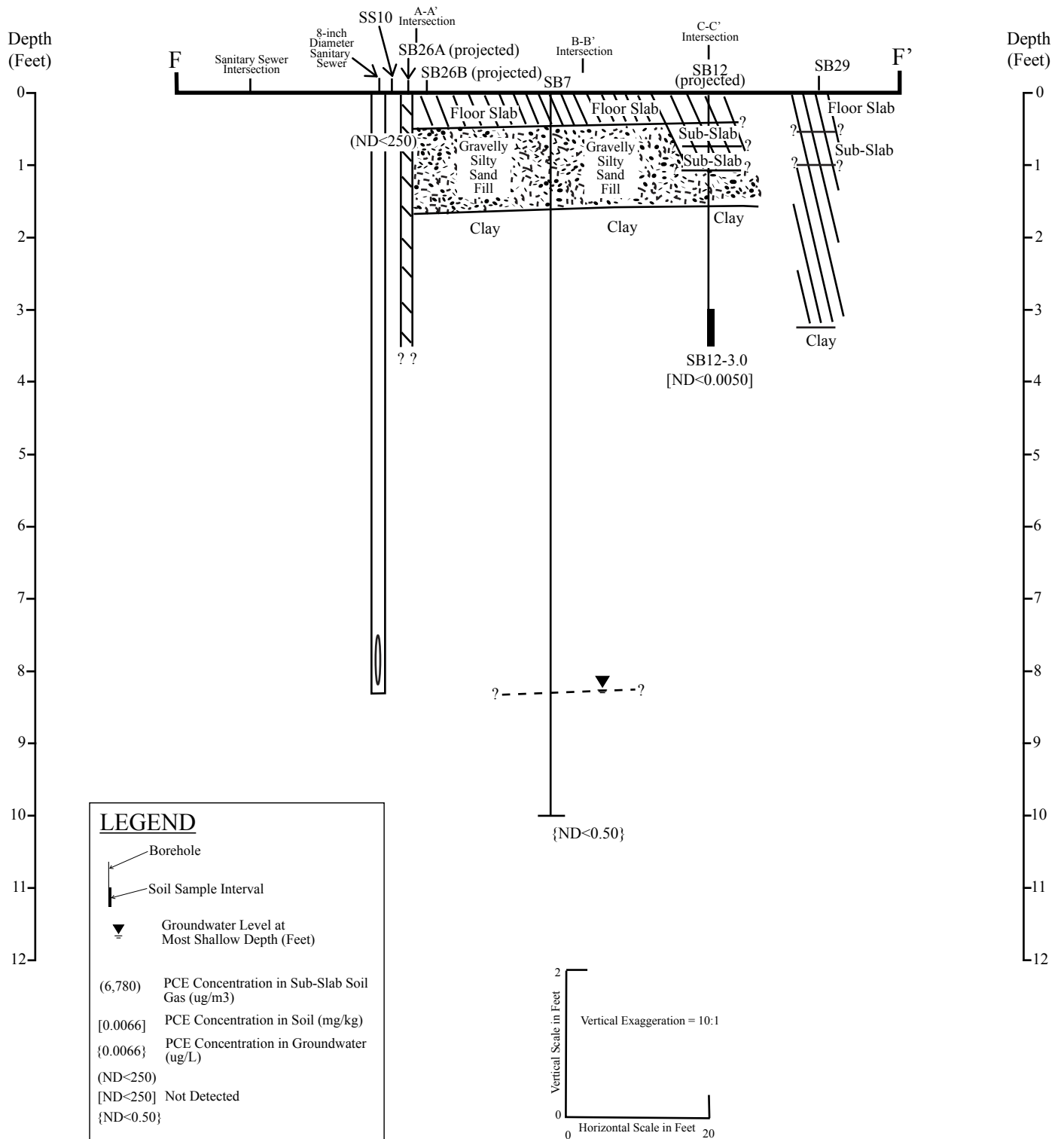
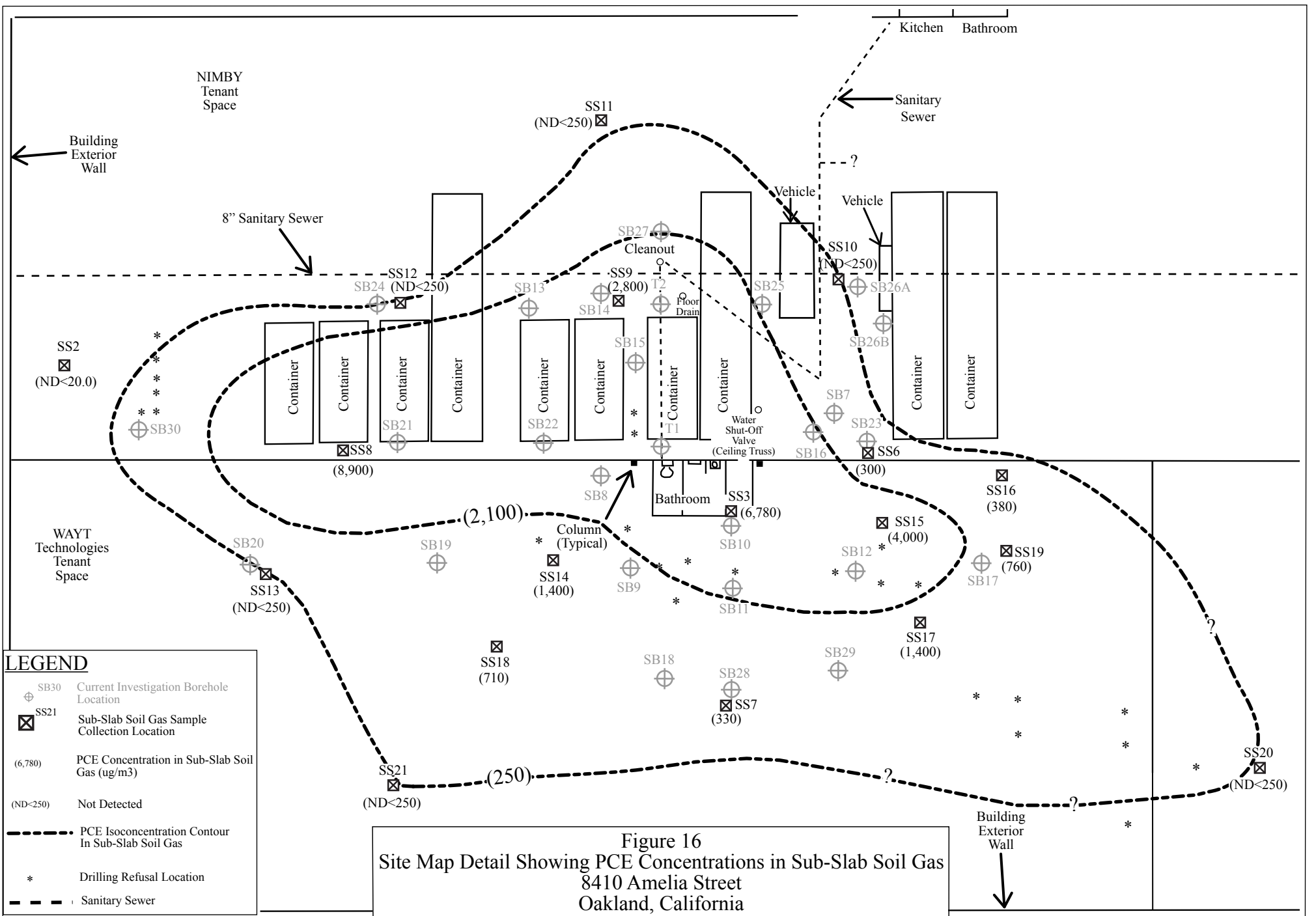


Figure 15  
 Geologic Cross Section F-F'  
 8410 Amelia Street  
 Oakland, California

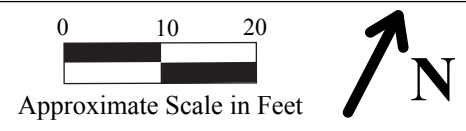
P&D Environmental, Inc.  
 55 Santa Clara Avenue  
 Oakland, CA 94610



**Figure 16**  
 Site Map Detail Showing PCE Concentrations in Sub-Slab Soil Gas  
 8410 Amelia Street  
 Oakland, California

Base Map from:  
 The Plumbing Ministry, October 2011,  
 P&D Environmental, Inc., January 2014

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 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610



## **APPENDIX A**

### **Purge Volume Calculations and Soil Gas Sampling Data Sheets**

Soil Gas Purge Volume Calculations

One Purge Volume is calculated as

- 1 The volume of the hole through the slab,
- 2 Plus the volume of the hole beneath the slab,
- 3 Plus the volume of the tube in the Vapor Pin,
- 4 Plus the volume of the tube connecting the Vapor Pin to the sample container,
- 5 Less the volume of the hole through the slab for any drilling for recessed Vapor Pin placement
- 6 Less the volume of the Vapor Pin

1 The slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 5 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 5.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 5.0 in.) = 1.53 cubic inches.

2 The sub-slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Depth below slab = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

3 The Vapor Pin tube volume is calculated as follows:

Tubing diameter = 0.125 inches

Tubing Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.125 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.0625 x 0.0625 ) x ( 2.0 in.) = 0.02 cubic inches.

4 The tube volume connecting the Vapor Pin to the sample container is calculated as follows:

Tubing diameter = 0.187 inches

Tubing Length = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.187 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.0935 x 0.0935 ) x ( 6.0 in.) = 0.16 cubic inches.

5 The slab borehole volume that is removed for the recessed Vapor Pin is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 1.75 inches (if Vapor Pin is recessed this is 1.75 inches)

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 1.8 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 1.8 in.) = 0.54 cubic inches.

6 The Vapor Pin volume is calculated as follows:

Vapor Pin diameter = 0.625 inches (this is 5/8 inch diameter)

Vapor Pin Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

The total volume for one purge volume is V slab borehole + V sub-slab borehole + V vapor pin tube + V tubing connecting vapor pin to sample container

.- V slab borehole for recessed vapor pin - V vapor pin

V total = 1.53 cubic inches + 0.61 cubic inches + 0.02 cubic inches + 0.16 cubic inches - 0.54 cubic inches - 0.61 cubic inches = 1.19 cubic inches.

To convert to cubic centimeters:

V total = 1.19 cubic inches x 16.39 cubic centimeters/cubic inches = 19.4 cubic centimeters.

The total volume for 10 purge volume(s) is calculated as follows:

V purge total = 19.4 cubic centimeters x 10 = 194.4 cubic centimeters.

The flow controller has a nominal flow rate of 100 cubic centimeters per minute.

The purge time is calculated as follows:

T purge = 194 cubic centimeters/ 100 cubic centimeters per minute = 1.94 minutes.

Converting the purge time to seconds, 1.94 minutes x 60 seconds/ minute = 117 seconds.

Notes:

Yellow hi-lite indicates data entry required.

Blue hi-lite indicates values are calculated or automatically updated.

Soil Gas Purge Volume Calculations

One Purge Volume is calculated as

- 1 The volume of the hole through the slab,
- 2 Plus the volume of the hole beneath the slab,
- 3 Plus the volume of the tube in the Vapor Pin,
- 4 Plus the volume of the tube connecting the Vapor Pin to the sample container,
- 5 Less the volume of the hole through the slab for any drilling for recessed Vapor Pin placement
- 6 Less the volume of the Vapor Pin

1 The slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 6.0 in.) = 1.84 cubic inches.

2 The sub-slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Depth below slab = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

3 The Vapor Pin tube volume is calculated as follows:

Tubing diameter = 0.125 inches

Tubing Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.125 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.0625 x 0.0625 ) x ( 2.0 in.) = 0.02 cubic inches.

4 The tube volume connecting the Vapor Pin to the sample container is calculated as follows:

Tubing diameter = 0.187 inches

Tubing Length = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.187 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.0935 x 0.0935 ) x ( 6.0 in.) = 0.16 cubic inches.

5 The slab borehole volume that is removed for the recessed Vapor Pin is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 1.75 inches (if Vapor Pin is recessed this is 1.75 inches)

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 1.8 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 1.8 in.) = 0.54 cubic inches.

6 The Vapor Pin volume is calculated as follows:

Vapor Pin diameter = 0.625 inches (this is 5/8 inch diameter)

Vapor Pin Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

The total volume for one purge volume is V slab borehole + V sub-slab borehole + V vapor pin tube + V tubing connecting vapor pin to sample container

- V slab borehole for recessed vapor pin - V vapor pin

V total = 1.84 cubic inches + 0.61 cubic inches + 0.02 cubic inches + 0.16 cubic inches - 0.54 cubic inches - 0.61 cubic inches = 1.49 cubic inches.

To convert to cubic centimeters:

V total = 1.49 cubic inches x 16.39 cubic centimeters/cubic inches = 24.5 cubic centimeters.

The total volume for 10 purge volume(s) is calculated as follows:

V purge total = 24.5 cubic centimeters x 10 = 244.6 cubic centimeters.

The flow controller has a nominal flow rate of 100 cubic centimeters per minute.

The purge time is calculated as follows:

T purge = 245 cubic centimeters/ 100 cubic centimeters per minute = 2.45 minutes.

Converting the purge time to seconds, 2.45 minutes x 60 seconds/ minute = 147 seconds.

Notes:

Yellow hi-lite indicates data entry required.

Blue hi-lite indicates values are calculated or automatically updated.

Soil Gas Purge Volume Calculations

One Purge Volume is calculated as

- 1 The volume of the hole through the slab,
- 2 Plus the volume of the hole beneath the slab,
- 3 Plus the volume of the tube in the Vapor Pin,
- 4 Plus the volume of the tube connecting the Vapor Pin to the sample container,
- 5 Less the volume of the hole through the slab for any drilling for recessed Vapor Pin placement
- 6 Less the volume of the Vapor Pin

1 The slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 7.5 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 7.5 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 7.5 in.) = 2.30 cubic inches.

2 The sub-slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Depth below slab = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

3 The Vapor Pin tube volume is calculated as follows:

Tubing diameter = 0.125 inches

Tubing Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.125 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.0625 x 0.0625 ) x ( 2.0 in.) = 0.02 cubic inches.

4 The tube volume connecting the Vapor Pin to the sample container is calculated as follows:

Tubing diameter = 0.187 inches

Tubing Length = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.187 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.0935 x 0.0935 ) x ( 6.0 in.) = 0.16 cubic inches.

5 The slab borehole volume that is removed for the recessed Vapor Pin is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 1.75 inches (if Vapor Pin is recessed this is 1.75 inches)

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 1.8 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 1.8 in.) = 0.54 cubic inches.

6 The Vapor Pin volume is calculated as follows:

Vapor Pin diameter = 0.625 inches (this is 5/8 inch diameter)

Vapor Pin Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

The total volume for one purge volume is V slab borehole + V sub-slab borehole + V vapor pin tube + V tubing connecting vapor pin to sample container

.- V slab borehole for recessed vapor pin - V vapor pin

V total = 2.30 cubic inches + 0.61 cubic inches + 0.02 cubic inches + 0.16 cubic inches - 0.54 cubic inches - 0.61 cubic inches = 1.95 cubic inches.

To convert to cubic centimeters:

V total = 1.95 cubic inches x 16.39 cubic centimeters/cubic inches = 32.0 cubic centimeters.

The total volume for 10 purge volume(s) is calculated as follows:

V purge total = 32.0 cubic centimeters x 10 = 320.0 cubic centimeters.

The flow controller has a nominal flow rate of 100 cubic centimeters per minute.

The purge time is calculated as follows:

T purge = 320 cubic centimeters/ 100 cubic centimeters per minute = 3.20 minutes.

Converting the purge time to seconds, 3.20 minutes x 60 seconds/ minute = 192 seconds.

Notes:

Yellow hi-lite indicates data entry required.

Blue hi-lite indicates values are calculated or automatically updated.



Soil Gas Purge Volume Calculations

One Purge Volume is calculated as

- 1 The volume of the hole through the slab,
- 2 Plus the volume of the hole beneath the slab,
- 3 Plus the volume of the tube in the Vapor Pin,
- 4 Plus the volume of the tube connecting the Vapor Pin to the sample container,
- 5 Less the volume of the hole through the slab for any drilling for recessed Vapor Pin placement
- 6 Less the volume of the Vapor Pin

1 The slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 12 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 12.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 12.0 in.) = 3.68 cubic inches.

2 The sub-slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Depth below slab = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

3 The Vapor Pin tube volume is calculated as follows:

Tubing diameter = 0.125 inches

Tubing Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.125 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.0625 x 0.0625 ) x ( 2.0 in.) = 0.02 cubic inches.

4 The tube volume connecting the Vapor Pin to the sample container is calculated as follows:

Tubing diameter = 0.187 inches

Tubing Length = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.187 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.0935 x 0.0935 ) x ( 6.0 in.) = 0.16 cubic inches.

5 The slab borehole volume that is removed for the recessed Vapor Pin is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 1.75 inches (if Vapor Pin is recessed this is 1.75 inches)

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 1.8 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 1.8 in.) = 0.54 cubic inches.

6 The Vapor Pin volume is calculated as follows:

Vapor Pin diameter = 0.625 inches (this is 5/8 inch diameter)

Vapor Pin Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

**The total volume for one purge volume is V slab borehole + V sub-slab borehole + V vapor pin tube + V tubing connecting vapor pin to sample container**

**- V slab borehole for recessed vapor pin - V vapor pin**

V total = 3.68 cubic inches + 0.61 cubic inches + 0.02 cubic inches + 0.16 cubic inches - 0.54 cubic inches - 0.61 cubic inches = 3.33 cubic inches.

To convert to cubic centimeters:

V total = 3.33 cubic inches x 16.39 cubic centimeters/cubic inches = 54.6 cubic centimeters.

**The total volume for 10 purge volume(s) is calculated as follows:**

V purge total = 54.6 cubic centimeters x 10 = 546.2 cubic centimeters.

The flow controller has a nominal flow rate of 100 cubic centimeters per minute.

**The purge time is calculated as follows:**

T purge = 546 cubic centimeters/ 100 cubic centimeters per minute = 5.46 minutes.

Converting the purge time to seconds, 5.46 minutes x 60 seconds/ minute = 328 seconds.

**Notes:**

Yellow hi-lite indicates data entry required.

Blue hi-lite indicates values are calculated or automatically updated.

Soil Gas Purge Volume Calculations

One Purge Volume is calculated as

- 1 The volume of the hole through the slab,
- 2 Plus the volume of the hole beneath the slab,
- 3 Plus the volume of the tube in the Vapor Pin,
- 4 Plus the volume of the tube connecting the Vapor Pin to the sample container,
- 5 Less the volume of the hole through the slab for any drilling for recessed Vapor Pin placement
- 6 Less the volume of the Vapor Pin

1 The slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 13 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 13.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 13.0 in.) = 3.99 cubic inches.

2 The sub-slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Depth below slab = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

3 The Vapor Pin tube volume is calculated as follows:

Tubing diameter = 0.125 inches

Tubing Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.125 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.0625 x 0.0625 ) x ( 2.0 in.) = 0.02 cubic inches.

4 The tube volume connecting the Vapor Pin to the sample container is calculated as follows:

Tubing diameter = 0.187 inches

Tubing Length = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.187 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.0935 x 0.0935 ) x ( 6.0 in.) = 0.16 cubic inches.

5 The slab borehole volume that is removed for the recessed Vapor Pin is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 1.75 inches (if Vapor Pin is recessed this is 1.75 inches)

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 1.8 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 1.8 in.) = 0.54 cubic inches.

6 The Vapor Pin volume is calculated as follows:

Vapor Pin diameter = 0.625 inches (this is 5/8 inch diameter)

Vapor Pin Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

The total volume for one purge volume is V slab borehole + V sub-slab borehole + V vapor pin tube + V tubing connecting vapor pin to sample container

- V slab borehole for recessed vapor pin - V vapor pin

V total = 3.99 cubic inches + 0.61 cubic inches + 0.02 cubic inches + 0.16 cubic inches - 0.54 cubic inches - 0.61 cubic inches = 3.64 cubic inches.

To convert to cubic centimeters:

V total = 3.64 cubic inches x 16.39 cubic centimeters/cubic inches = 59.6 cubic centimeters.

The total volume for 10 purge volume(s) is calculated as follows:

V purge total = 59.6 cubic centimeters x 10 = 596.4 cubic centimeters.

The flow controller has a nominal flow rate of 100 cubic centimeters per minute.

The purge time is calculated as follows:

T purge = 596 cubic centimeters/ 100 cubic centimeters per minute = 5.96 minutes.

Converting the purge time to seconds, 5.96 minutes x 60 seconds/ minute = 358 seconds.

Notes:

Yellow hi-lite indicates data entry required.

Blue hi-lite indicates values are calculated or automatically updated.

Soil Gas Purge Volume Calculations

One Purge Volume is calculated as

- 1 The volume of the hole through the slab,
- 2 Plus the volume of the hole beneath the slab,
- 3 Plus the volume of the tube in the Vapor Pin,
- 4 Plus the volume of the tube connecting the Vapor Pin to the sample container,
- 5 Less the volume of the hole through the slab for any drilling for recessed Vapor Pin placement
- 6 Less the volume of the Vapor Pin

1 The slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 14 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 14.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 14.0 in.) = 4.29 cubic inches.

2 The sub-slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Depth below slab = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

3 The Vapor Pin tube volume is calculated as follows:

Tubing diameter = 0.125 inches

Tubing Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.125 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.0625 x 0.0625 ) x ( 2.0 in.) = 0.02 cubic inches.

4 The tube volume connecting the Vapor Pin to the sample container is calculated as follows:

Tubing diameter = 0.187 inches

Tubing Length = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.187 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.0935 x 0.0935 ) x ( 6.0 in.) = 0.16 cubic inches.

5 The slab borehole volume that is removed for the recessed Vapor Pin is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 1.75 inches (if Vapor Pin is recessed this is 1.75 inches)

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 1.8 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 1.8 in.) = 0.54 cubic inches.

6 The Vapor Pin volume is calculated as follows:

Vapor Pin diameter = 0.625 inches (this is 5/8 inch diameter)

Vapor Pin Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

**The total volume for one purge volume is V slab borehole + V sub-slab borehole + V vapor pin tube + V tubing connecting vapor pin to sample container**

**- V slab borehole for recessed vapor pin - V vapor pin**

V total = 4.29 cubic inches + 0.61 cubic inches + 0.02 cubic inches + 0.16 cubic inches - 0.54 cubic inches - 0.61 cubic inches = 3.95 cubic inches.

To convert to cubic centimeters:

V total = 3.95 cubic inches x 16.39 cubic centimeters/cubic inches = 64.7 cubic centimeters.

**The total volume for 10 purge volume(s) is calculated as follows:**

V purge total = 64.7 cubic centimeters x 10 = 646.7 cubic centimeters.

The flow controller has a nominal flow rate of 100 cubic centimeters per minute.

**The purge time is calculated as follows:**

T purge = 647 cubic centimeters/ 100 cubic centimeters per minute = 6.47 minutes.

Converting the purge time to seconds, 6.47 minutes x 60 seconds/ minute = 388 seconds.

**Notes:**

Yellow hi-lite indicates data entry required.

Blue hi-lite indicates values are calculated or automatically updated.

Soil Gas Purge Volume Calculations

One Purge Volume is calculated as

- 1 The volume of the hole through the slab,
- 2 Plus the volume of the hole beneath the slab,
- 3 Plus the volume of the tube in the Vapor Pin,
- 4 Plus the volume of the tube connecting the Vapor Pin to the sample container,
- 5 Less the volume of the hole through the slab for any drilling for recessed Vapor Pin placement
- 6 Less the volume of the Vapor Pin

1 The slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 15 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 15.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 15.0 in.) = 4.60 cubic inches.

2 The sub-slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Depth below slab = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

3 The Vapor Pin tube volume is calculated as follows:

Tubing diameter = 0.125 inches

Tubing Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.125 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.0625 x 0.0625 ) x ( 2.0 in.) = 0.02 cubic inches.

4 The tube volume connecting the Vapor Pin to the sample container is calculated as follows:

Tubing diameter = 0.187 inches

Tubing Length = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.187 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.0935 x 0.0935 ) x ( 6.0 in.) = 0.16 cubic inches.

5 The slab borehole volume that is removed for the recessed Vapor Pin is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 1.75 inches (if Vapor Pin is recessed this is 1.75 inches)

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 1.8 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 1.8 in.) = 0.54 cubic inches.

6 The Vapor Pin volume is calculated as follows:

Vapor Pin diameter = 0.625 inches (this is 5/8 inch diameter)

Vapor Pin Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

The total volume for one purge volume is V slab borehole + V sub-slab borehole + V vapor pin tube + V tubing connecting vapor pin to sample container

- V slab borehole for recessed vapor pin - V vapor pin

V total = 4.60 cubic inches + 0.61 cubic inches + 0.02 cubic inches + 0.16 cubic inches - 0.54 cubic inches - 0.61 cubic inches = 4.25 cubic inches.

To convert to cubic centimeters:

V total = 4.25 cubic inches x 16.39 cubic centimeters/cubic inches = 69.7 cubic centimeters.

The total volume for 10 purge volume(s) is calculated as follows:

V purge total = 69.7 cubic centimeters x 10 = 696.9 cubic centimeters.

The flow controller has a nominal flow rate of 100 cubic centimeters per minute.

The purge time is calculated as follows:

T purge = 697 cubic centimeters/ 100 cubic centimeters per minute = 6.97 minutes.

Converting the purge time to seconds, 6.97 minutes x 60 seconds/ minute = 418 seconds.

Notes:

Yellow hi-lite indicates data entry required.

Blue hi-lite indicates values are calculated or automatically updated.

Soil Gas Purge Volume Calculations

One Purge Volume is calculated as

- 1 The volume of the hole through the slab,
- 2 Plus the volume of the hole beneath the slab,
- 3 Plus the volume of the tube in the Vapor Pin,
- 4 Plus the volume of the tube connecting the Vapor Pin to the sample container,
- 5 Less the volume of the hole through the slab for any drilling for recessed Vapor Pin placement
- 6 Less the volume of the Vapor Pin

1 The slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 16 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 16.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 16.0 in.) = 4.91 cubic inches.

2 The sub-slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Depth below slab = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

3 The Vapor Pin tube volume is calculated as follows:

Tubing diameter = 0.125 inches

Tubing Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.125 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.0625 x 0.0625 ) x ( 2.0 in.) = 0.02 cubic inches.

4 The tube volume connecting the Vapor Pin to the sample container is calculated as follows:

Tubing diameter = 0.187 inches

Tubing Length = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.187 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.0935 x 0.0935 ) x ( 6.0 in.) = 0.16 cubic inches.

5 The slab borehole volume that is removed for the recessed Vapor Pin is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 1.75 inches (if Vapor Pin is recessed this is 1.75 inches)

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 1.8 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 1.8 in.) = 0.54 cubic inches.

6 The Vapor Pin volume is calculated as follows:

Vapor Pin diameter = 0.625 inches (this is 5/8 inch diameter)

Vapor Pin Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

The total volume for one purge volume is V slab borehole + V sub-slab borehole + V vapor pin tube + V tubing connecting vapor pin to sample container

- V slab borehole for recessed vapor pin - V vapor pin

V total = 4.91 cubic inches + 0.61 cubic inches + 0.02 cubic inches + 0.16 cubic inches - 0.54 cubic inches - 0.61 cubic inches = 4.56 cubic inches.

To convert to cubic centimeters:

V total = 4.56 cubic inches x 16.39 cubic centimeters/cubic inches = 74.7 cubic centimeters.

The total volume for 10 purge volume(s) is calculated as follows:

V purge total = 74.7 cubic centimeters x 10 = 747.2 cubic centimeters.

The flow controller has a nominal flow rate of 100 cubic centimeters per minute.

The purge time is calculated as follows:

T purge = 747 cubic centimeters / 100 cubic centimeters per minute = 7.47 minutes.

Converting the purge time to seconds, 7.47 minutes x 60 seconds/ minute = 448 seconds.

Notes:

Yellow hi-lite indicates data entry required.

Blue hi-lite indicates values are calculated or automatically updated.

Soil Gas Purge Volume Calculations

One Purge Volume is calculated as

- 1 The volume of the hole through the slab,
- 2 Plus the volume of the hole beneath the slab,
- 3 Plus the volume of the tube in the Vapor Pin,
- 4 Plus the volume of the tube connecting the Vapor Pin to the sample container,
- 5 Less the volume of the hole through the slab for any drilling for recessed Vapor Pin placement
- 6 Less the volume of the Vapor Pin

1 The slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 18 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 18.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 18.0 in.) = 5.52 cubic inches.

2 The sub-slab borehole volume is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Depth below slab = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

3 The Vapor Pin tube volume is calculated as follows:

Tubing diameter = 0.125 inches

Tubing Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.125 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.0625 x 0.0625 ) x ( 2.0 in.) = 0.02 cubic inches.

4 The tube volume connecting the Vapor Pin to the sample container is calculated as follows:

Tubing diameter = 0.187 inches

Tubing Length = 6 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.187 in./2, and h = 6.0 in.

V borehole = 3.14 x ( 0.0935 x 0.0935 ) x ( 6.0 in.) = 0.16 cubic inches.

5 The slab borehole volume that is removed for the recessed Vapor Pin is calculated as follows:

Borehole slab dia. = 0.625 inches (this is 5/8 inch diameter)

Slab Thickness = 1.75 inches (if Vapor Pin is recessed this is 1.75 inches)

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 1.8 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 1.8 in.) = 0.54 cubic inches.

6 The Vapor Pin volume is calculated as follows:

Vapor Pin diameter = 0.625 inches (this is 5/8 inch diameter)

Vapor Pin Length = 2 inches

**V borehole** = pi x (r x r) x h, where pi = 3.14, r = 0.625 in./2, and h = 2.0 in.

V borehole = 3.14 x ( 0.3125 x 0.3125 ) x ( 2.0 in.) = 0.61 cubic inches.

The total volume for one purge volume is V slab borehole + V sub-slab borehole + V vapor pin tube + V tubing connecting vapor pin to sample container

- V slab borehole for recessed vapor pin - V vapor pin

V total = 5.52 cubic inches + 0.61 cubic inches + 0.02 cubic inches + 0.16 cubic inches - 0.54 cubic inches - 0.61 cubic inches = 5.17 cubic inches.

To convert to cubic centimeters:

V total = 5.17 cubic inches x 16.39 cubic centimeters/cubic inches = 84.8 cubic centimeters.

The total volume for 10 purge volume(s) is calculated as follows:

V purge total = 84.8 cubic centimeters x 10 = 847.7 cubic centimeters.

The flow controller has a nominal flow rate of 100 cubic centimeters per minute.

The purge time is calculated as follows:

T purge = 848 cubic centimeters/ 100 cubic centimeters per minute = 8.48 minutes.

Converting the purge time to seconds, 8.48 minutes x 60 seconds/ minute = 509 seconds.

Notes:

Yellow hi-lite indicates data entry required.

Blue hi-lite indicates values are calculated or automatically updated.







SOIL GAS SAMPLING DATA SHEET

Address **8410 AMELIA ST, OAKLAND**  
 Job # **0453**  
 Date **2/30/14**  
 Sampler Name **ALLES**  
 Drilling Company **IMX**

Probe Method (check one)  
 PRT  
 Temp Well  
 Permanent Well  
 Vapor Pin

Soil Gas Location Designation	Probe Depth (Ft.)	Time Probe Installation Completed	Canister #	Sample Canister Initial Vacuum Check (In. Hg) and time	Start leak check vacuum (In. Hg) and time	End leak check vacuum (In. Hg) and time	ADDITIONAL leak check vacuum (In. Hg) and time	Start PURGE time	End PURGE time	Start of tracer gas injection time	Begin sample collection vacuum (In. Hg) and time	End sample collection vacuum (In. Hg) and time	PID value in Teflon tube after sample collection	NOTES
SS 7		1105		vac time	vac time	vac time	vac time	time/141600	time/142128	time	vac time/1422	vac time/1423	ppm time	PURGE RATE: 100 CC/MIN.
SS 8		1125		vac time	vac time	vac time	vac time	time/143300	time/144028	time	vac time/1442	vac time/1443	ppm time	TEDLAR BAG LEAKED
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	

SOIL GAS SAMPLING DATA SHEET

Address **8410 AMELIA ST, OAKLAND**  
 Job # **0453**  
 Date **3/4/14**  
 Sampler Name **MLBD**  
 Drilling Company **TMA**

Probe Method (check one)  
 PRT  
 Temp Well  
 Permanent Well  
 Vapor Pin

Soil Gas Location Designation	Probe Depth (Ft.)	Time Probe Installation Completed	Canister #	Sample Canister Initial Vacuum Check (In. Hg) and time	Start leak check vacuum (In. Hg) and time	End leak check vacuum (In. Hg) and time	ADDITIONAL leak check vacuum (In. Hg) and time	Start PURGE time	End PURGE time	Start of tracer gas injection time	Begin sample collection vacuum (In. Hg) and time	End sample collection vacuum (In. Hg) and time	PID value in Teflon tube after sample collection	NOTES
SS 13		0830		vac time	vac time	vac time	vac time	time 112800	time 113458	time	vac time 114000	vac time 114100	ppm 0 time 1142	PURGE RATE: 100 u/min.
SS 14		0900		vac time	vac time	vac time	vac time	time 115600	time 120128	time	vac time 120300	vac time 120400	ppm 0.3 time 1206	
SS 15		0930		vac time	vac time	vac time	vac time	time 121300	time 121928	time	vac time 122200	vac time 122300	ppm 0.2 time 1225	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	

SOIL GAS SAMPLING DATA SHEET

Address **8410 AMELIA ST, OAKLAND**  
 Job # **0453**  
 Date **3/6/14**  
 Sampler Name **MLBP**  
 Drilling Company **ILX**

Probe Method (check one)  
 PRT  
 Temp Well  
 Permanent Well  
 Vapor Pin

Soil Gas Location Designation	Probe Depth (Fl.)	Time Probe Installation Completed	Canister #	Sample Canister Initial Vacuum Check (In. Hg) and time	Start leak check vacuum (In. Hg) and time	End leak check vacuum (In. Hg) and time	ADDITIONAL leak check vacuum (In. Hg) and time	Start PURGE time	End PURGE time	Start of tracer gas injection time	Begin sample collection vacuum (In. Hg) and time	End sample collection vacuum (In. Hg) and time	PID value in Teflon tube after sample collection	NOTES
SS 16		1146		vac time	vac time	vac time	vac time	time 1451:00	time 1453:00	time	vac time 1454	vac time 1455	ppm 0 time 1456	PURGE RATE: 100cc/min
SS 17		1148		vac time	vac time	vac time	vac time	time 1437:00	time 1443:58	time	vac time 1445:00	vac time 1446	ppm 0.8 time 1447	
SS 18		1150		vac time	vac time	vac time	vac time	time 1342:00	time 1348:28	time	vac time 1349	vac time 1350	ppm 0.4 time 1352	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	

SOIL GAS SAMPLING DATA SHEET

Address **8410 ADELIA ST, OAKLAND**  
 Job # **8453**  
 Date **3/13/14**  
 Sampler Name **MLSD**  
 Drilling Company **JUX**

Probe Method (check one)  
 PRT  
 Temp Well  
 Permanent Well  
 Vapor Pin

Soil Gas Location Designation	Probe Depth (Ft.)	Time Probe Installation Completed	Canister #	Sample Canister Initial Vacuum Check (In. Hg) and time	Start leak check vacuum (In. Hg) and time	End leak check vacuum (In. Hg) and time	ADDITIONAL leak check vacuum (In. Hg) and time	Start PURGE time	End PURGE time	Start of tracer gas injection time	Begin sample collection vacuum (In. Hg) and time	End sample collection vacuum (In. Hg) and time	PID value in Teflon tube after sample collection	NOTES
SS 19		0825		vac time	vac time	vac time	vac time	time 112500	time 113000	time	vac time 1131	vac time 1132	ppm 0.1 time 1133	PURGE RATE 100 CC/MIN
SS 20		1035		vac time	vac time	vac time	vac time	time 123900	time 124150	time	vac time 1242	vac time 1243	ppm 0 time 1244	
SS 21		0840		vac time	vac time	vac time	vac time	time 115500	time 120058	time	vac time 1201	vac time 1202	ppm 0 time 1203	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	
SS				vac time	vac time	vac time	vac time	time	time	time	vac time	vac time	ppm time	


# **APPENDIX B**

## **Soil Boring Logs**

# P&D ENVIRONMENTAL, INC.

BORING NO.: SB7		PROJECT NO.: 0453		PROJECT NAME: 8410 Amelia Street, Oakland		
BORING LOCATION: Approximately 131 ft. east and 8 ft. north of southwest corner of NIMBY Space		ELEVATION AND DATUM: None				
DRILLING AGENCY: IMX, Inc.		DRILLER: Omar		DATE & TIME STARTED:	DATE & TIME FINISHED:	
DRILLING EQUIPMENT: 3.0-inch O.D. Hand Auger				11/5/13 1030	11/5/13 1400	
COMPLETION DEPTH: 10.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY:	CHECKED BY:	
FIRST WATER DEPTH: 9.5 Feet		NO. OF SAMPLES: 1 Water		MLBD		
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete (5-inch).	Concrete				
	0.5 to 1.5 ft. Brown gravelly silty sand (FILL); loose, dry. No Petroleum Hydrocarbon (PHC) or solvent odor.	FILL		No Well Constructed	0	Borehole hand augered from 0.5 to 10.0 ft. using a 3.0-inch O.D. hand auger.
	1.5 to 3.5 ft. Dark brown clay (CL); medium stiff, moist. No PHC or solvent odor. (0,0,100)	CL			0	Water encountered during hand augering at 9.5 ft. at 1140.
5	3.5 to 10.0 ft. Dark brown to black clay (CH); stiff, moist. No PHC or solvent odor. (0,0,100)	CH			0	Temporary 1.0-inch diameter slotted PVC casing placed in borehole. Water level was measured at 9.3 ft. at 1157 and at 8.6 ft. at 1207. Approximately 0.2-gallon purged from borehole prior to groundwater sample collection using new unused disposable polyethylene tubing attached to a peristaltic pump. Water sample SB7-W collected at 1340 directly from the discharge tubing. No odor or sheen on sample. Water level subsequently measured at 8.2 ft. at 1349.
10	7.5 to 10.0 ft. Color change to dark grayish-brown.  Wet at 9.0 ft. Saturated at 9.5 ft.			▼ ▽	0	
15						Borehole grouted on 11/5/13 using neat cement grout and a tremie pipe.  Mr. Steve Miller with Alameda County Public Works Agency onsite to observe and document grouting of the borehole.  <u>Drilling Notes:</u>  1) Field estimates of percent gravel, sand, and fines are shown in parentheses.  2) Density determinations are qualitative and are not based on quantitative evaluation.
20						
25						
30						


# P&D ENVIRONMENTAL, INC.

BORING NO.: SB8		PROJECT NO.: 0453		PROJECT NAME: 8410 Amelia Street, Oakland	
BORING LOCATION: Approx. 8 ft. west and 2 ft. south of northwest corner of bathroom at WAYT Technologies					
ELEVATION AND DATUM: None					
DRILLING AGENCY: IMX, Inc.		DRILLER: Omar		DATE & TIME STARTED:	DATE & TIME FINISHED:
DRILLING EQUIPMENT: 3.0-inch O.D. Hand Auger				11/25/13 1000	11/25/13 1200
COMPLETION DEPTH: 11.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY:	CHECKED BY:
FIRST WATER DEPTH: 9.5 Feet		NO. OF SAMPLES: 1 Water		MLBD	

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
5	0.0 to 1.3 ft. Concrete (15-inch).	Concrete		No Well Constructed	0	Borehole hand augered from 1.5 to 11.0 ft. using a 3.0-inch O.D. hand auger.
	1.3 to 11.0 ft. Dark brown clay (CH); medium stiff, moist. No Petroleum Hydrocarbon (PHC) or solvent odor. (0,0,100)	CH			0	Water encountered during hand augering at 9.5 ft. at 1045.
10	9.0 to 11.0 ft. Color change to light brown. (0,0,100) Wet at 9.0 ft. Saturated at 9.5 ft.			▼ ▽	0	Temporary 1.0-inch diameter slotted PVC casing placed in borehole. Water level was measured at 9.6 ft. at 1105 and at 9.4 ft. at 1115. Approximately 0.1-gallon purged from borehole prior to groundwater sample collection using new unused disposable polyethylene tubing attached to a peristaltic pump. Water sample SB8-W collected at 1130 directly from the discharge tubing. No odor or sheen on sample. Water level subsequently measured at 8.3 ft. at 1140.
15						Borehole grouted on 11/25/13 using neat cement grout and a tremie pipe.
20						Mr. James Yoo with Alameda County Public Works Agency onsite to observe and document grouting of the borehole.
25						<u>Drilling Notes:</u>
30						1) Field estimates of percent gravel, sand, and fines are shown in parentheses. 2) Density determinations are qualitative and are not based on quantitative evaluation.

# P&D ENVIRONMENTAL, INC.

BORING NO.: SB30		PROJECT NO.: 0453		PROJECT NAME: 8410 Amelia Street, Oakland		
BORING LOCATION: Approximately 20 ft. east and 5 ft. north of southwest corner of NIMBY Space		ELEVATION AND DATUM: None				
DRILLING AGENCY: IMX, Inc.		DRILLER: Juan		DATE & TIME STARTED: 3/7/14 0800	DATE & TIME FINISHED: 3/7/14 1100	
DRILLING EQUIPMENT: 3.0-inch O.D. Hand Auger		COMPLETION DEPTH: 10.0 Feet		BEDROCK DEPTH: Not Encountered		
FIRST WATER DEPTH: 9.5 Feet		NO. OF SAMPLES: 1 Water		LOGGED BY: MLBD		
				CHECKED BY: 		
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
5	0.0 to 1.5 ft. Concrete (16-inch).	Concrete		No Well Constructed		Borehole hand augered from 1.5 to 10.0 ft. using a 3.0-inch O.D. hand auger.  Water encountered during hand augering at 9.5 ft. at 0939.  Temporary 1.0-inch diameter slotted PVC casing placed in borehole. Water level was measured at 7.2 ft. at 0950 and at 7.1 ft. at 1000. Approximately 0.2-gallon purged from borehole prior to groundwater sample collection using new unused disposable polyethylene tubing attached to a peristaltic pump. Water sample SB30-W collected at 1020 directly from the discharge tubing. No odor or sheen on sample. Water level subsequently measured at 7.1 ft. at 1035.
	1.5 to 2.0 ft. Brown gravelly silty sand (FILL); medium dense, moist. No Petroleum Hydrocarbon (PHC) or solvent odor.	FILL			0	
	2.0 to 7.5 ft. Dark brown to black clay (CH); stiff, moist. No PHC or solvent odor. (0,0,100)	CH		▼	0	
	7.5 to 10.0 ft. Color change to dark grayish-brown with light gray mottling. (0,0,100) Wet at 9.0 ft. Saturated at 9.5 ft.			▽	0	
10						Borehole grouted on 03/07/14 using neat cement grout and a tremie pipe.  Mr. Steve Miller with Alameda County Public Works Agency gave verbal permission to grout borehole without his presence.  <u>Drilling Notes:</u>  1) Field estimates of percent gravel, sand, and fines are shown in parentheses.  2) Density determinations are qualitative and are not based on quantitative evaluation.
15						
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25						
30						



# **APPENDIX C**

## **Soil Disposal Manifest**

# NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

2. Page 1 of 1

3. Document Number  
Nº 10677

4. Generator's Name and Mailing Address

8410 Amelia Street  
Oakland, CA 94621

Generator's Phone

5. Transporter Company Name

Icon Environmental Services

6.

US EPA ID Number

CAL 000 362 980

7. Transporter Phone

8. Designated Facility Name and Site Address

Icon Environmental Services Inc  
1220 Whipple Road  
Union City, CA 94587

9.

US EPA ID Number

CAL 000 369 026

10. Facility's Phone

510-476-1740

11. Waste Shipping Name and Description

a. Non-Hazardous waste, ~~liquid~~ SOLID

b. 1 BUCKET SOLID

12. Containers

No.

Type

13. Total Quantity

14. Unit Wt/Vol

002

DM

7400

P

001

DF

50

P

15. Special Handling Instructions and Additional Information

Wear PPE  
emergency contact  
510-476-1740  
at the facility

P & D Environmental

Handling Codes for Wastes Listed Above

11a.

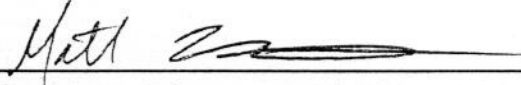
11b.

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to state or federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Signature

MATT GONZALEZ



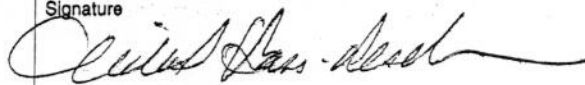
Month Day Year  
3 | 12 | 14

17. Transporter Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

MICHAEL BASS-DESCHENES



Month Day Year  
3 | 12 | 14

18. Discrepancy Indication Space

19. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 18.

Printed/Typed Name

Signature

Charles Seaton



Month Day Year  
03 | 12 | 14

GENERATOR

# **APPENDIX D**

## **Weather Information**

<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME7&graphspan=custom&month=10&day=17&year=2013&monthend=10&dayend=24&yearend=2013>

## Weather History for KCAALAME7

High St Bridge, Alameda, CA

About This Weather Station

**Lat:** N 37 ° 45 ' 48 " ( 37.763 ° )

**Lon:** W 122 ° 13 ' 33 " ( -122.226 ° )

**Elevation (ft):** 16

**Hardware:** Davis Vantage VUE

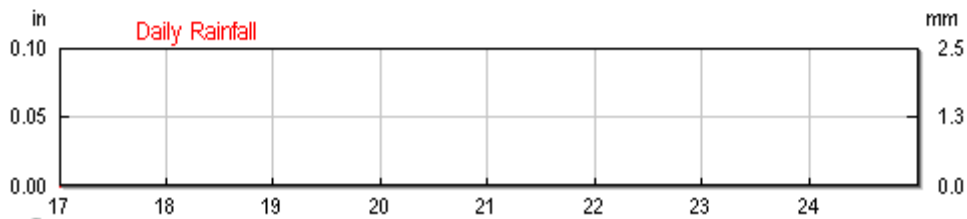
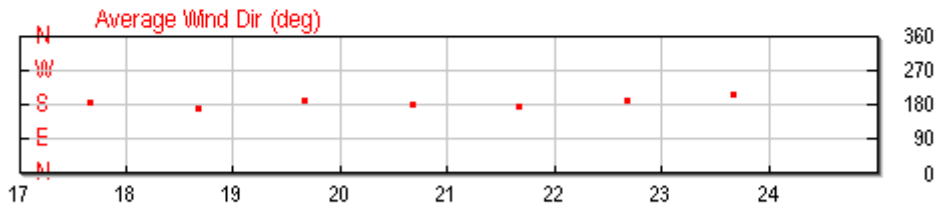
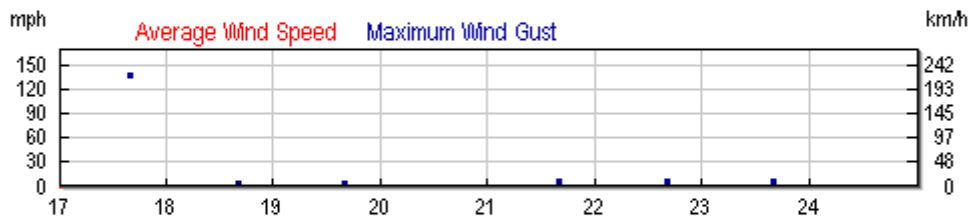
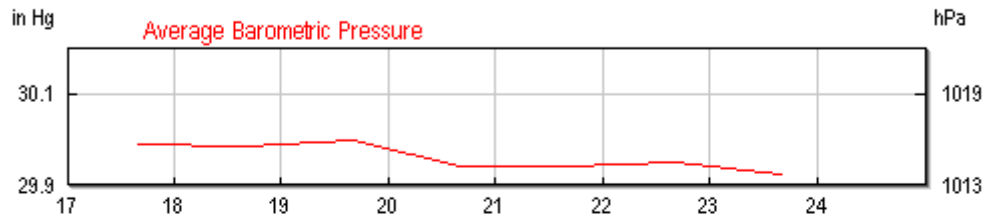
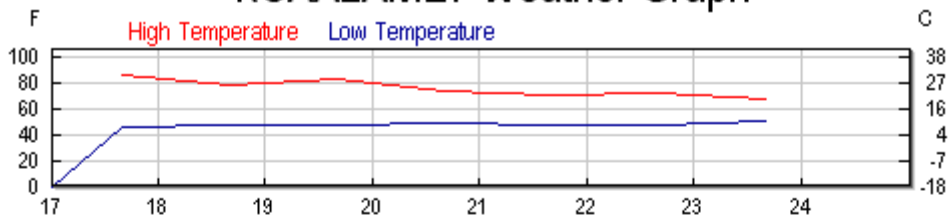
**Weather Station Software:**

October 17 2013 - TO - October 24 2013 Go

[Daily](#) [Weekly](#) [Monthly](#) [Yearly](#) [Custom](#)

	High:	Low:	Average:
Temperature:	85.6 °F	45.2 °F	57.2 °F
Dew Point:	57.3 °F	36.6 °F	50.1 °F
Humidity:	99.0%	18.0%	80.9%
Wind Speed:	2.0mph from the WSW	-	0.1mph
Wind Gust:	139.0mph from the NW	-	-
Wind:	-	-	South
Pressure:	30.09in	29.88in	-
Precipitation:	0.00in		

# KCAALAME7 Weather Graph



<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME7&graphspan=day&month=10&day=24&year=2013>

[« Previous Day](#)






[Next Day »](#)

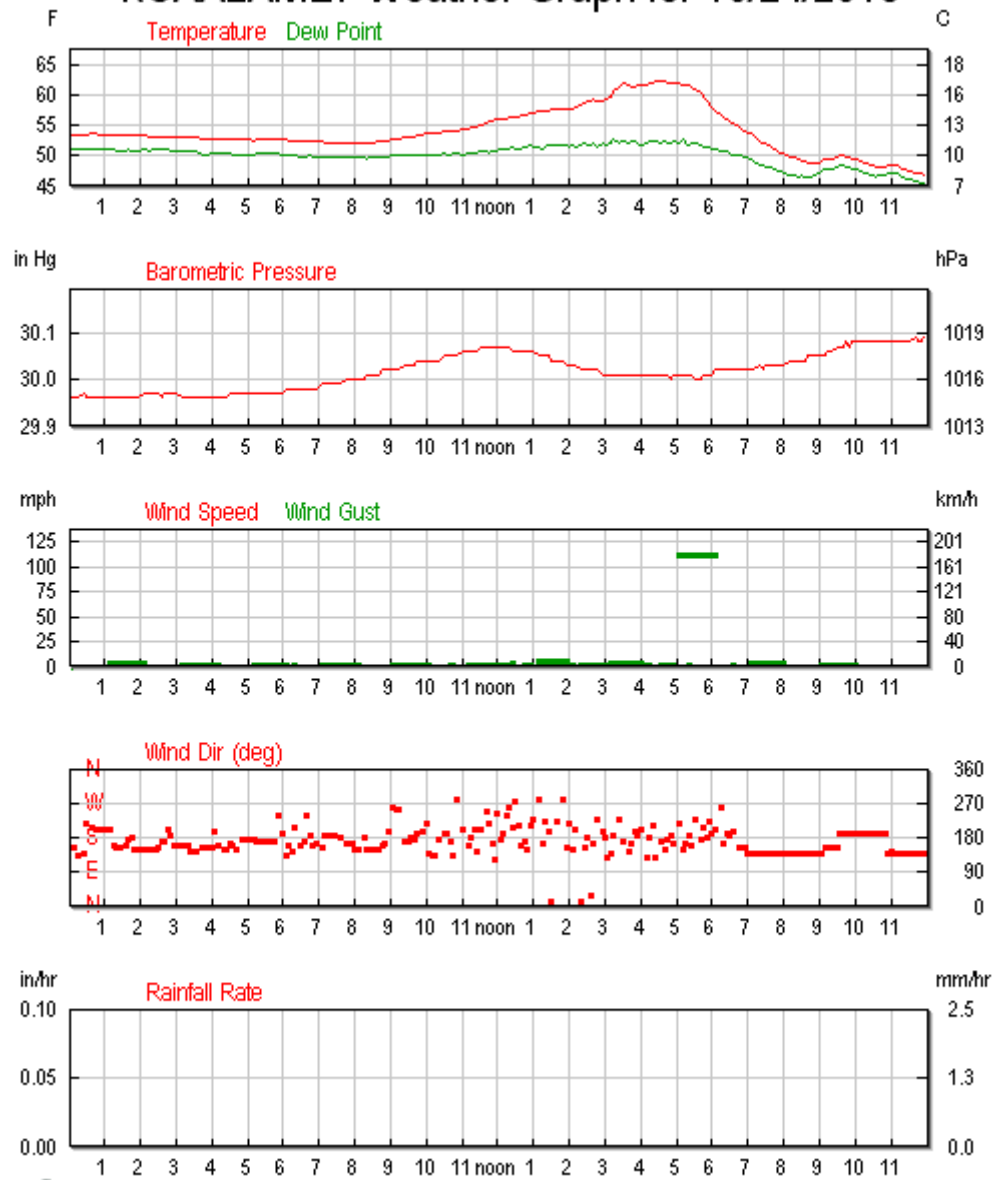
[Daily](#)
[Weekly](#)
[Monthly](#)
[Yearly](#)
[Custom](#)

	Current:	High:	Low:	Average:
Temperature:	55.1 °F	62.6 °F	46.9 °F	54.1 °F
Dew Point:	47.7 °F	52.7 °F	45.5 °F	50.1 °F
Humidity:	76%	96%	69%	87%
Wind Speed:	1.0mph	1.0mph	-	0.1mph
Wind Gust:	2.0mph	112.0mph	-	-
Wind:	South	-	-	South
Pressure:	29.93in	30.09in	29.96in	-
Precipitation:	0.00in			

Weather History for the Rest of This Month

	High:	Low:	Average:
Temperature:	89.6 °F	42.0 °F	58.8 °F
Dew Point:	59.6 °F	26.1 °F	47.9 °F
Humidity:	99.0%	15.0%	73.0%
Wind Speed:	5.0mph from the SSE	-	0.2mph
Wind Gust:	153.0mph from the SSW	-	-
Wind:	-	-	South
Pressure:	30.16in	29.61in	-
Precipitation:	0.00in		

# KCAALAME7 Weather Graph for 10/24/2013



<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME7&graphspan=day&month=10&day=25&year=2013>

« [Previous Day](#)    October    25    2013    View    [Next Day](#) »

[Daily](#)   [Weekly](#)   [Monthly](#)   [Yearly](#)   [Custom](#)

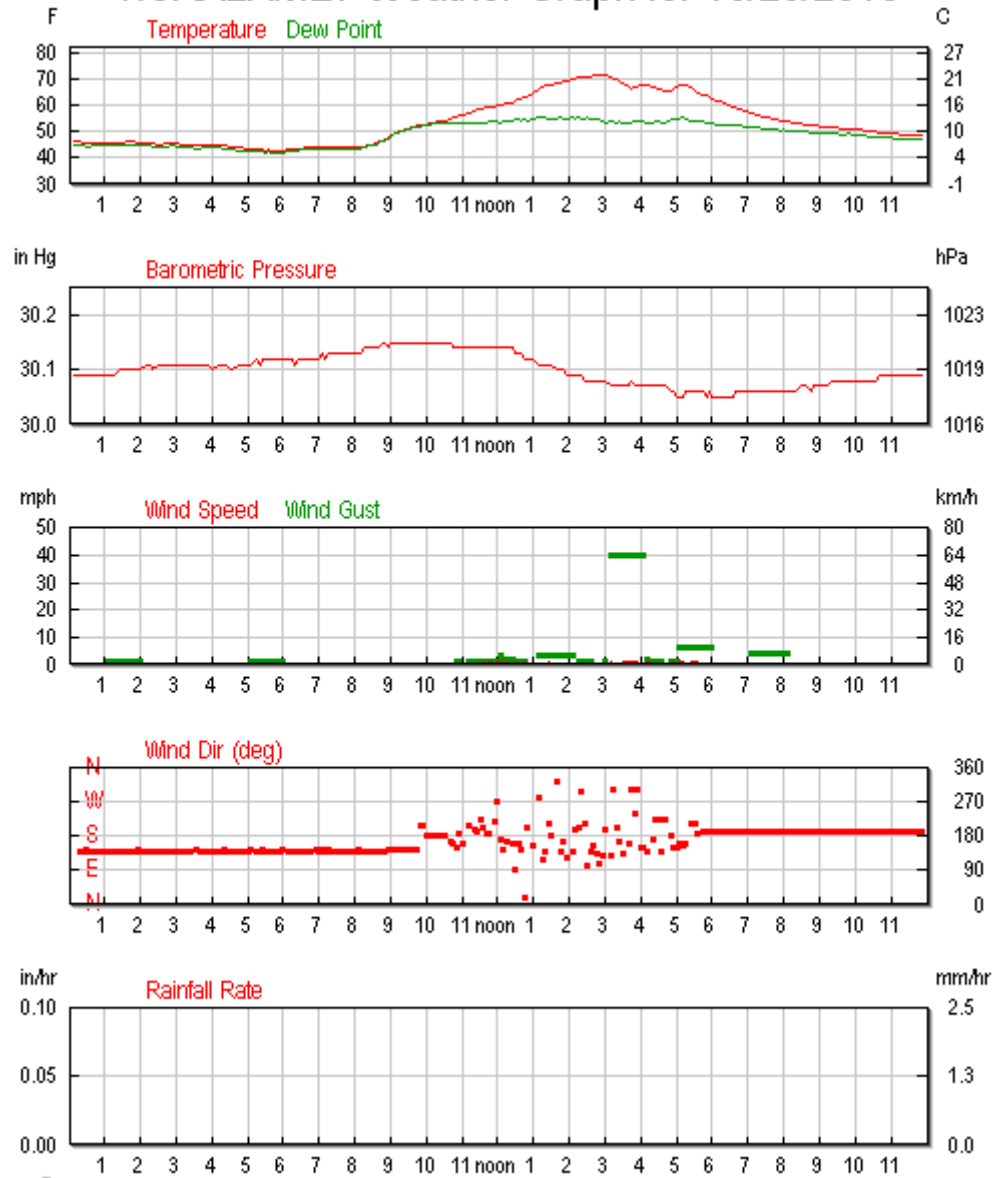
	Current:	High:	Low:	Average:
Temperature:	<b>54.9</b> °F	<b>72.5</b> °F	<b>43.2</b> °F	<b>54.2</b> °F
Dew Point:	<b>47.8</b> °F	<b>56.3</b> °F	<b>42.4</b> °F	<b>49.5</b> °F
Humidity:	77%	99%	53%	86%
Wind Speed:	<b>1.0</b> mph	<b>1.0</b> mph	-	<b>0.1</b> mph
Wind Gust:	<b>2.0</b> mph	<b>40.0</b> mph	-	-
Wind:	SSE	-	-	South
Pressure:	<b>29.93</b> in	<b>30.15</b> in	<b>30.05</b> in	-
Precipitation:	<b>0.00</b> in			

Weather History for the Rest of This Month

	High:	Low:	Average:
Temperature:	<b>89.6</b> °F	<b>42.0</b> °F	<b>58.8</b> °F
Dew Point:	<b>59.6</b> °F	<b>26.1</b> °F	<b>47.9</b> °F
Humidity:	99.0%	15.0%	73.0%
Wind Speed:	<b>5.0</b> mph from the SSE	-	<b>0.2</b> mph
Wind Gust:	<b>153.0</b> mph from the SSW	-	-
Wind:	-	-	South
Pressure:	<b>30.16</b> in	<b>29.61</b> in	-
Precipitation:	<b>0.00</b> in		



# KCAALAME7 Weather Graph for 10/25/2013



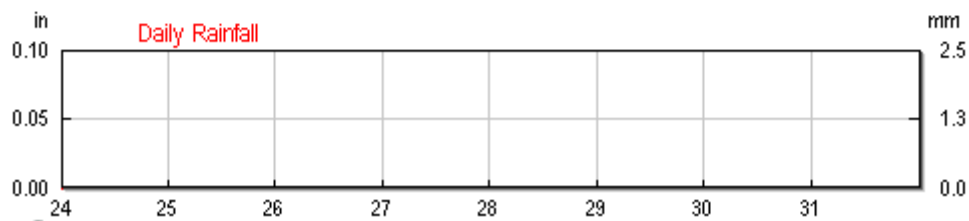
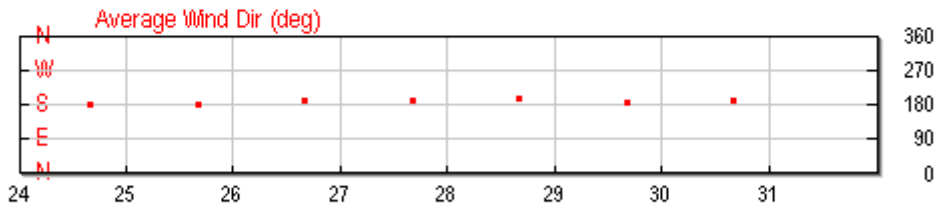
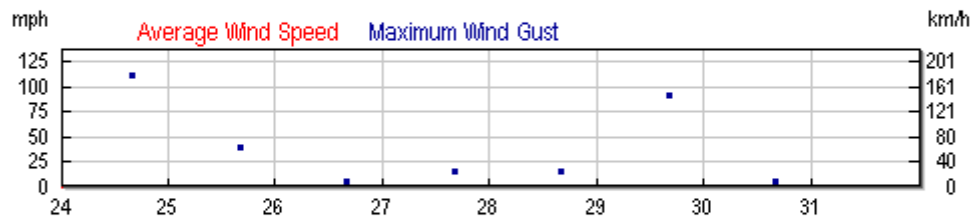
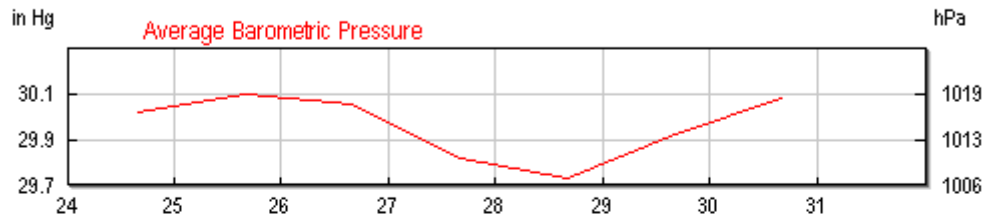
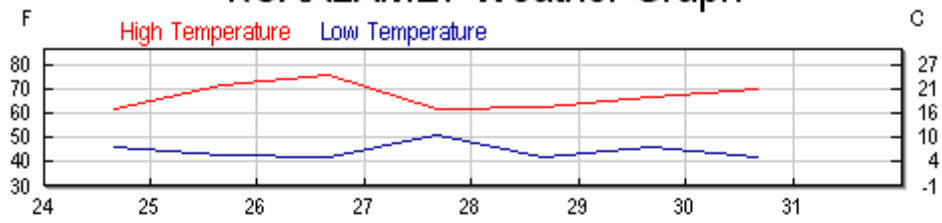
<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME7&graphspan=custom&month=10&day=24&year=2013&monthend=10&dayend=31&yearend=2013>

October 24 2013 - TO - October 31 2013 Go

[Daily](#) [Weekly](#) [Monthly](#) [Yearly](#) [Custom](#)

	High:	Low:	Average:
Temperature:	76.7 °F	42.0 °F	54.8 °F
Dew Point:	57.6 °F	40.9 °F	49.1 °F
Humidity:	99.0%	42.0%	82.9%
Wind Speed:	5.0mph from the SSE	-	0.4mph
Wind Gust:	112.0mph from the SW	-	-
Wind:	-	-	South
Pressure:	30.16in	29.65in	-
Precipitation:	0.00in		

# KCAALAME7 Weather Graph



<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME7&graphspan=day&month=10&day=31&year=2013>

« [Previous Day](#)    October ▼    31 ▼    2013 ▼    View    [Next Day »](#)

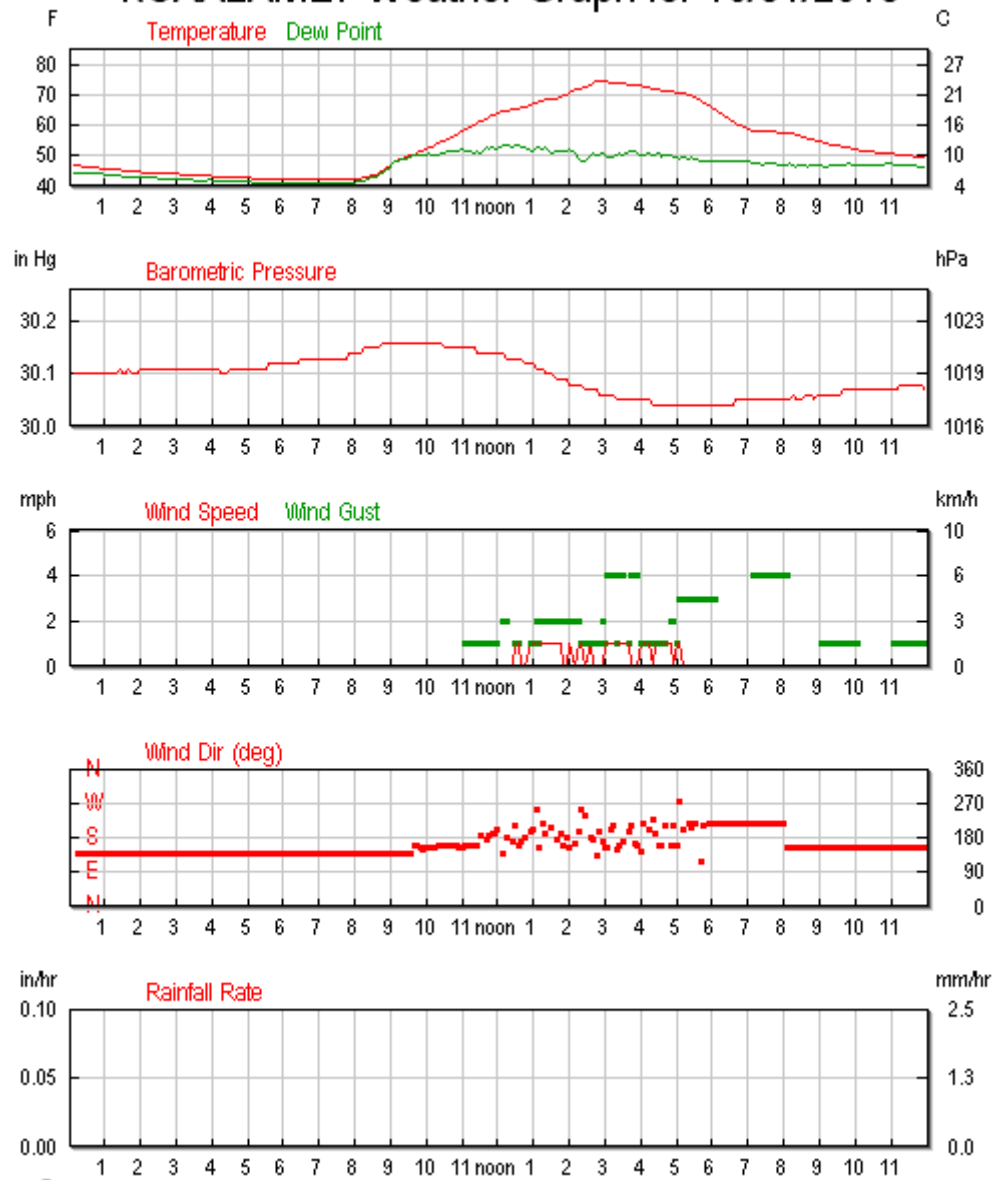
**Daily** [Weekly](#) [Monthly](#) [Yearly](#) [Custom](#)

	Current:	High:	Low:	Average:
Temperature:	<b>54.9</b> °F	<b>74.7</b> °F	<b>42.0</b> °F	<b>54.6</b> °F
Dew Point:	<b>48.2</b> °F	<b>53.5</b> °F	<b>40.9</b> °F	<b>46.6</b> °F
Humidity:	78%	99%	42%	78%
Wind Speed:	<b>1.0</b> mph	<b>1.0</b> mph	-	<b>0.1</b> mph
Wind Gust:	<b>2.0</b> mph	<b>4.0</b> mph	-	-
Wind:	SSE	-	-	South
Pressure:	<b>29.93</b> in	<b>30.16</b> in	<b>30.04</b> in	-
Precipitation:	<b>0.00</b> in			

Weather History for the Rest of This Month

	High:	Low:	Average:
Temperature:	<b>89.6</b> °F	<b>42.0</b> °F	<b>58.8</b> °F
Dew Point:	<b>59.6</b> °F	<b>26.1</b> °F	<b>47.9</b> °F
Humidity:	99.0%	15.0%	73.0%
Wind Speed:	<b>5.0</b> mph from the SSE	-	<b>0.2</b> mph
Wind Gust:	<b>153.0</b> mph from the SSW	-	-
Wind:	-	-	South
Pressure:	<b>30.16</b> in	<b>29.61</b> in	-
Precipitation:	<b>0.00</b> in		

# KCAALAME7 Weather Graph for 10/31/2013



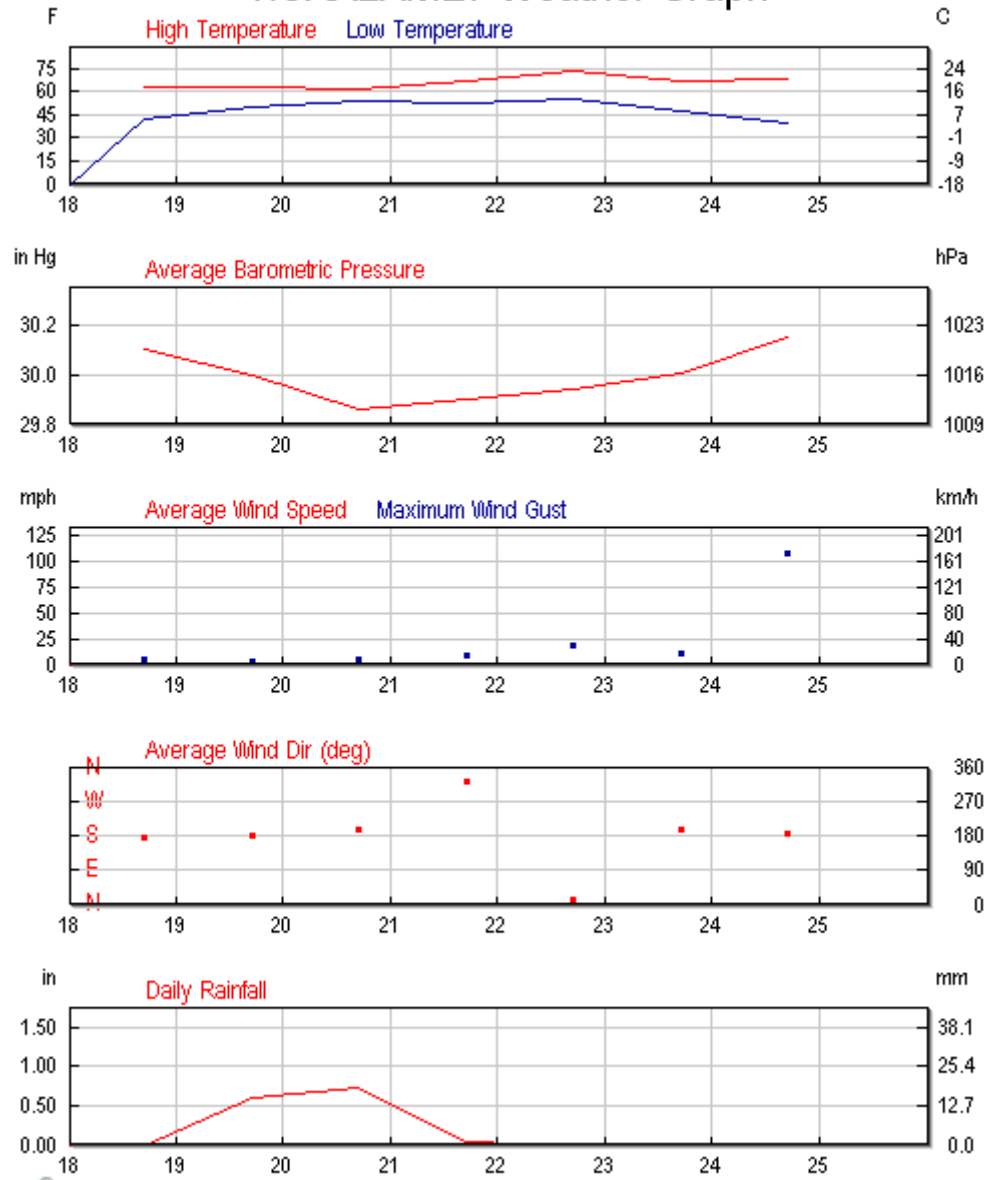
<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME7&graphspan=custom&month=11&day=18&year=2013&monthend=11&dayend=25&yearend=2013>

November 18 2013 - TO - November 25 2013 Go

[Daily](#) [Weekly](#) [Monthly](#) [Yearly](#) [Custom](#)

	High:	Low:	Average:
Temperature:	73.1 °F	37.9 °F	54.7 °F
Dew Point:	60.6 °F	14.6 °F	43.2 °F
Humidity:	99.0%	13.0%	73.0%
Wind Speed:	4.0mph from the SSE	-	0.3mph
Wind Gust:	107.0mph from the SSW	-	-
Wind:	-	-	South
Pressure:	30.30in	29.80in	-
Precipitation:	1.36in		

# KCAALAME7 Weather Graph



<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME7&graphspan=day&month=11&day=25&year=2013>

« [Previous Day](#)    November    25    2013    [View](#)    [Next Day »](#)

[Daily](#)   [Weekly](#)   [Monthly](#)   [Yearly](#)   [Custom](#)

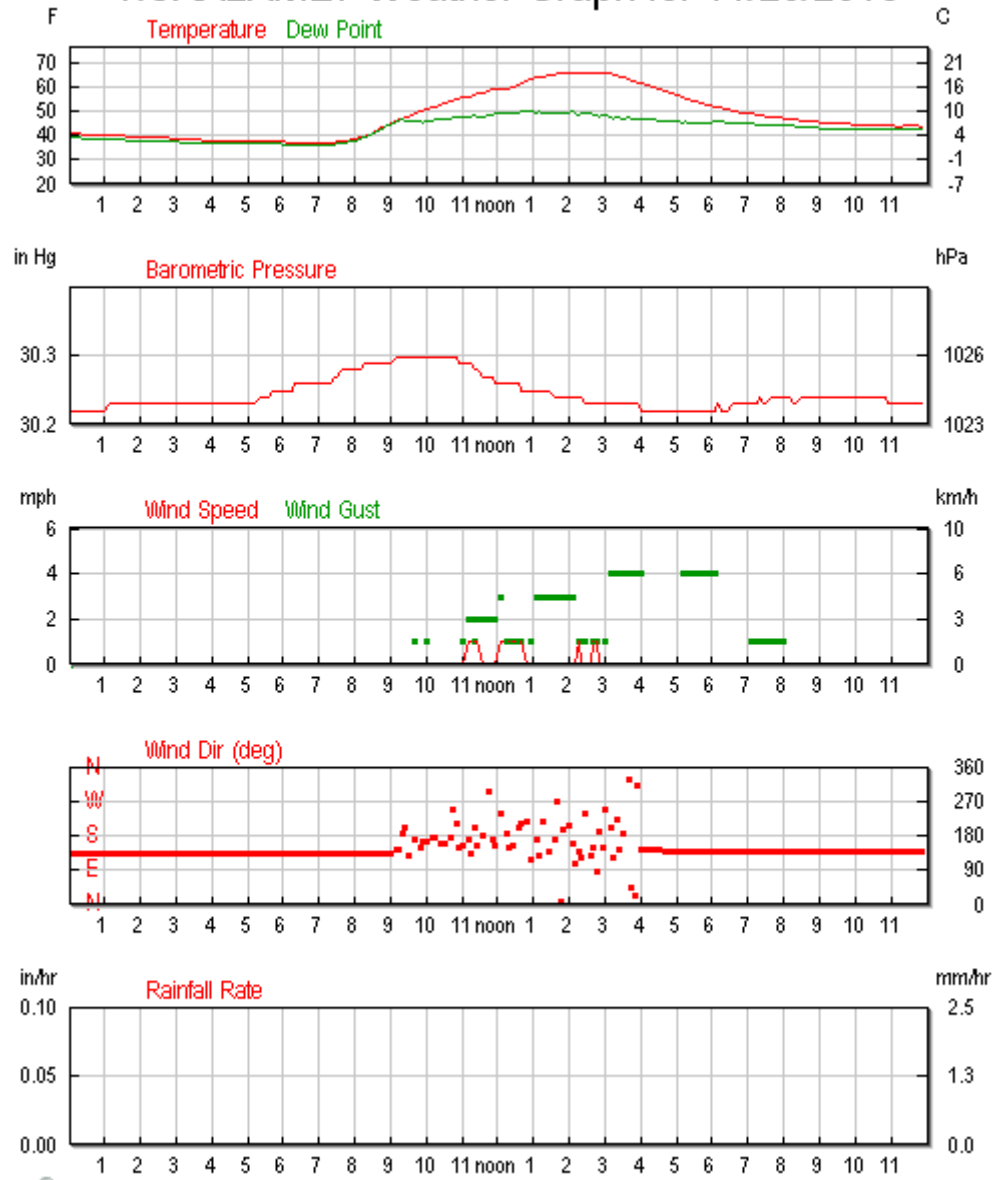
	Current:	High:	Low:	Average:
Temperature:	54.9 °F	67.2 °F	37.9 °F	49.2 °F
Dew Point:	48.2 °F	51.5 °F	36.9 °F	43.8 °F
Humidity:	78%	99%	52%	84%
Wind Speed:	1.0mph	1.0mph	-	0.1mph
Wind Gust:	2.0mph	4.0mph	-	-
Wind:	SSE	-	-	South
Pressure:	29.93in	30.30in	30.22in	-
Precipitation:	0.00in			

Weather History for the Rest of This Month

	High:	Low:	Average:
Temperature:	78.2 °F	37.9 °F	54.6 °F
Dew Point:	60.6 °F	14.6 °F	46.3 °F
Humidity:	100.0%	13.0%	77.9%
Wind Speed:	4.0mph from the SSE	-	0.2mph
Wind Gust:	224.0mph from the SSE	-	-
Wind:	-	-	South
Pressure:	30.30in	29.71in	-
Precipitation:	1.36in		



# KCAALAME7 Weather Graph for 11/25/2013



## **APPENDIX E**

### **Laboratory Analytical Reports and Chain of Custody Documentation**

- **McC Campbell Work Order # 1401766 : Soil Samples from Boreholes SB9 through SB14, and SB16 Collected 01/27/14: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1401765: Soil Samples from Boreholes T1 and T2 Collected 01/27/14: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1311138: Water Sample SB7-W Collected 11/05/13: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1311896: Water Sample SB8-W Collected 11/25/13: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1403284: Water Sample SB30-W Collected 03/07/14: VOCs by EPA 8260B**
- **Jones Work Order # E-0003 : Soil Gas Samples SS1 through SS5 Collected 11/05/13 Collected 10/24-25/13: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1310A36: Soil Gas Samples SS6 through SS9 Collected 10/31/13: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1402984: Soil Gas Samples SS7 and SS8 Collected 02/26-27/14: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1311895 : Soil Gas Samples SS10 through SS12 Collected 11/25/13: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1403080: Soil Gas Samples SS13 through SS15 Collected 03/4/14: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1403186: Soil Gas Samples SS16 through SS18 Collected 03/6/14: VOCs by EPA 8260B**
- **McC Campbell Work Order # 1403390: Soil Gas Samples SS19 through SS21 Collected 03/12/14: VOCs by EPA 8260B**



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1401766

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Paul King  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St. Oakland CA

**Project Received:** 01/28/2014

Analytical Report reviewed & approved for release on 01/30/2014 by:

Question about  
your data?

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**WorkOrder:** 1401766

<u>Glossary Abbreviation</u>	<u>Description</u>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB9-3.0	1401766-001A	Soil	01/27/2014 13:10	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		0.10	1	01/29/2014 02:06
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/29/2014 02:06
Benzene	ND		0.0050	1	01/29/2014 02:06
Bromobenzene	ND		0.0050	1	01/29/2014 02:06
Bromochloromethane	ND		0.0050	1	01/29/2014 02:06
Bromodichloromethane	ND		0.0050	1	01/29/2014 02:06
Bromoform	ND		0.0050	1	01/29/2014 02:06
Bromomethane	ND		0.0050	1	01/29/2014 02:06
2-Butanone (MEK)	ND		0.020	1	01/29/2014 02:06
t-Butyl alcohol (TBA)	ND		0.050	1	01/29/2014 02:06
n-Butyl benzene	ND		0.0050	1	01/29/2014 02:06
sec-Butyl benzene	ND		0.0050	1	01/29/2014 02:06
tert-Butyl benzene	ND		0.0050	1	01/29/2014 02:06
Carbon Disulfide	ND		0.0050	1	01/29/2014 02:06
Carbon Tetrachloride	ND		0.0050	1	01/29/2014 02:06
Chlorobenzene	ND		0.0050	1	01/29/2014 02:06
Chloroethane	ND		0.0050	1	01/29/2014 02:06
Chloroform	ND		0.0050	1	01/29/2014 02:06
Chloromethane	ND		0.0050	1	01/29/2014 02:06
2-Chlorotoluene	ND		0.0050	1	01/29/2014 02:06
4-Chlorotoluene	ND		0.0050	1	01/29/2014 02:06
Dibromochloromethane	ND		0.0050	1	01/29/2014 02:06
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/29/2014 02:06
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/29/2014 02:06
Dibromomethane	ND		0.0050	1	01/29/2014 02:06
1,2-Dichlorobenzene	ND		0.0050	1	01/29/2014 02:06
1,3-Dichlorobenzene	ND		0.0050	1	01/29/2014 02:06
1,4-Dichlorobenzene	ND		0.0050	1	01/29/2014 02:06
Dichlorodifluoromethane	ND		0.0050	1	01/29/2014 02:06
1,1-Dichloroethane	ND		0.0050	1	01/29/2014 02:06
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/29/2014 02:06
1,1-Dichloroethene	ND		0.0050	1	01/29/2014 02:06
cis-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 02:06
trans-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 02:06
1,2-Dichloropropane	ND		0.0050	1	01/29/2014 02:06
1,3-Dichloropropane	ND		0.0050	1	01/29/2014 02:06
2,2-Dichloropropane	ND		0.0050	1	01/29/2014 02:06
1,1-Dichloropropene	ND		0.0050	1	01/29/2014 02:06

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB9-3.0	1401766-001A	Soil	01/27/2014 13:10	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 02:06
trans-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 02:06
Diisopropyl ether (DIPE)	ND		0.0050	1	01/29/2014 02:06
Ethylbenzene	ND		0.0050	1	01/29/2014 02:06
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/29/2014 02:06
Freon 113	ND		0.10	1	01/29/2014 02:06
Hexachlorobutadiene	ND		0.0050	1	01/29/2014 02:06
Hexachloroethane	ND		0.0050	1	01/29/2014 02:06
2-Hexanone	ND		0.0050	1	01/29/2014 02:06
Isopropylbenzene	ND		0.0050	1	01/29/2014 02:06
4-Isopropyl toluene	ND		0.0050	1	01/29/2014 02:06
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/29/2014 02:06
Methylene chloride	ND		0.0050	1	01/29/2014 02:06
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/29/2014 02:06
Naphthalene	ND		0.0050	1	01/29/2014 02:06
n-Propyl benzene	ND		0.0050	1	01/29/2014 02:06
Styrene	ND		0.0050	1	01/29/2014 02:06
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 02:06
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 02:06
Tetrachloroethene	<b>0.019</b>		0.0050	1	01/29/2014 02:06
Toluene	ND		0.0050	1	01/29/2014 02:06
1,2,3-Trichlorobenzene	ND		0.0050	1	01/29/2014 02:06
1,2,4-Trichlorobenzene	ND		0.0050	1	01/29/2014 02:06
1,1,1-Trichloroethane	ND		0.0050	1	01/29/2014 02:06
1,1,2-Trichloroethane	ND		0.0050	1	01/29/2014 02:06
Trichloroethene	ND		0.0050	1	01/29/2014 02:06
Trichlorofluoromethane	ND		0.0050	1	01/29/2014 02:06
1,2,3-Trichloropropane	ND		0.0050	1	01/29/2014 02:06
1,2,4-Trimethylbenzene	ND		0.0050	1	01/29/2014 02:06
1,3,5-Trimethylbenzene	ND		0.0050	1	01/29/2014 02:06
Vinyl Chloride	ND		0.0050	1	01/29/2014 02:06
Xylenes, Total	ND		0.0050	1	01/29/2014 02:06
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	100		70-130		01/29/2014 02:06
Toluene-d8	96		70-130		01/29/2014 02:06
4-BFB	94		70-130		01/29/2014 02:06

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB10-2.5	1401766-002A	Soil	01/27/2014 13:30	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	0.14		0.10	1	01/29/2014 02:49
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/29/2014 02:49
Benzene	ND		0.0050	1	01/29/2014 02:49
Bromobenzene	ND		0.0050	1	01/29/2014 02:49
Bromochloromethane	ND		0.0050	1	01/29/2014 02:49
Bromodichloromethane	ND		0.0050	1	01/29/2014 02:49
Bromoform	ND		0.0050	1	01/29/2014 02:49
Bromomethane	ND		0.0050	1	01/29/2014 02:49
2-Butanone (MEK)	0.022		0.020	1	01/29/2014 02:49
t-Butyl alcohol (TBA)	ND		0.050	1	01/29/2014 02:49
n-Butyl benzene	ND		0.0050	1	01/29/2014 02:49
sec-Butyl benzene	ND		0.0050	1	01/29/2014 02:49
tert-Butyl benzene	ND		0.0050	1	01/29/2014 02:49
Carbon Disulfide	ND		0.0050	1	01/29/2014 02:49
Carbon Tetrachloride	ND		0.0050	1	01/29/2014 02:49
Chlorobenzene	ND		0.0050	1	01/29/2014 02:49
Chloroethane	ND		0.0050	1	01/29/2014 02:49
Chloroform	ND		0.0050	1	01/29/2014 02:49
Chloromethane	ND		0.0050	1	01/29/2014 02:49
2-Chlorotoluene	ND		0.0050	1	01/29/2014 02:49
4-Chlorotoluene	ND		0.0050	1	01/29/2014 02:49
Dibromochloromethane	ND		0.0050	1	01/29/2014 02:49
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/29/2014 02:49
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/29/2014 02:49
Dibromomethane	ND		0.0050	1	01/29/2014 02:49
1,2-Dichlorobenzene	ND		0.0050	1	01/29/2014 02:49
1,3-Dichlorobenzene	ND		0.0050	1	01/29/2014 02:49
1,4-Dichlorobenzene	ND		0.0050	1	01/29/2014 02:49
Dichlorodifluoromethane	ND		0.0050	1	01/29/2014 02:49
1,1-Dichloroethane	ND		0.0050	1	01/29/2014 02:49
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/29/2014 02:49
1,1-Dichloroethene	ND		0.0050	1	01/29/2014 02:49
cis-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 02:49
trans-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 02:49
1,2-Dichloropropane	ND		0.0050	1	01/29/2014 02:49
1,3-Dichloropropane	ND		0.0050	1	01/29/2014 02:49
2,2-Dichloropropane	ND		0.0050	1	01/29/2014 02:49
1,1-Dichloropropene	ND		0.0050	1	01/29/2014 02:49

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB10-2.5	1401766-002A	Soil	01/27/2014 13:30	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 02:49
trans-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 02:49
Diisopropyl ether (DIPE)	ND		0.0050	1	01/29/2014 02:49
Ethylbenzene	ND		0.0050	1	01/29/2014 02:49
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/29/2014 02:49
Freon 113	ND		0.10	1	01/29/2014 02:49
Hexachlorobutadiene	ND		0.0050	1	01/29/2014 02:49
Hexachloroethane	ND		0.0050	1	01/29/2014 02:49
2-Hexanone	ND		0.0050	1	01/29/2014 02:49
Isopropylbenzene	ND		0.0050	1	01/29/2014 02:49
4-Isopropyl toluene	ND		0.0050	1	01/29/2014 02:49
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/29/2014 02:49
Methylene chloride	ND		0.0050	1	01/29/2014 02:49
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/29/2014 02:49
Naphthalene	ND		0.0050	1	01/29/2014 02:49
n-Propyl benzene	ND		0.0050	1	01/29/2014 02:49
Styrene	ND		0.0050	1	01/29/2014 02:49
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 02:49
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 02:49
Tetrachloroethene	ND		0.0050	1	01/29/2014 02:49
Toluene	ND		0.0050	1	01/29/2014 02:49
1,2,3-Trichlorobenzene	ND		0.0050	1	01/29/2014 02:49
1,2,4-Trichlorobenzene	ND		0.0050	1	01/29/2014 02:49
1,1,1-Trichloroethane	ND		0.0050	1	01/29/2014 02:49
1,1,2-Trichloroethane	ND		0.0050	1	01/29/2014 02:49
Trichloroethene	ND		0.0050	1	01/29/2014 02:49
Trichlorofluoromethane	ND		0.0050	1	01/29/2014 02:49
1,2,3-Trichloropropane	ND		0.0050	1	01/29/2014 02:49
1,2,4-Trimethylbenzene	ND		0.0050	1	01/29/2014 02:49
1,3,5-Trimethylbenzene	ND		0.0050	1	01/29/2014 02:49
Vinyl Chloride	ND		0.0050	1	01/29/2014 02:49
Xylenes, Total	ND		0.0050	1	01/29/2014 02:49
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	100		70-130		01/29/2014 02:49
Toluene-d8	97		70-130		01/29/2014 02:49
4-BFB	92		70-130		01/29/2014 02:49

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB11-2.5	1401766-003A	Soil	01/27/2014 13:45	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		0.10	1	01/29/2014 03:31
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/29/2014 03:31
Benzene	ND		0.0050	1	01/29/2014 03:31
Bromobenzene	ND		0.0050	1	01/29/2014 03:31
Bromochloromethane	ND		0.0050	1	01/29/2014 03:31
Bromodichloromethane	ND		0.0050	1	01/29/2014 03:31
Bromoform	ND		0.0050	1	01/29/2014 03:31
Bromomethane	ND		0.0050	1	01/29/2014 03:31
2-Butanone (MEK)	ND		0.020	1	01/29/2014 03:31
t-Butyl alcohol (TBA)	ND		0.050	1	01/29/2014 03:31
n-Butyl benzene	ND		0.0050	1	01/29/2014 03:31
sec-Butyl benzene	ND		0.0050	1	01/29/2014 03:31
tert-Butyl benzene	ND		0.0050	1	01/29/2014 03:31
Carbon Disulfide	ND		0.0050	1	01/29/2014 03:31
Carbon Tetrachloride	ND		0.0050	1	01/29/2014 03:31
Chlorobenzene	ND		0.0050	1	01/29/2014 03:31
Chloroethane	ND		0.0050	1	01/29/2014 03:31
Chloroform	ND		0.0050	1	01/29/2014 03:31
Chloromethane	ND		0.0050	1	01/29/2014 03:31
2-Chlorotoluene	ND		0.0050	1	01/29/2014 03:31
4-Chlorotoluene	ND		0.0050	1	01/29/2014 03:31
Dibromochloromethane	ND		0.0050	1	01/29/2014 03:31
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/29/2014 03:31
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/29/2014 03:31
Dibromomethane	ND		0.0050	1	01/29/2014 03:31
1,2-Dichlorobenzene	ND		0.0050	1	01/29/2014 03:31
1,3-Dichlorobenzene	ND		0.0050	1	01/29/2014 03:31
1,4-Dichlorobenzene	ND		0.0050	1	01/29/2014 03:31
Dichlorodifluoromethane	ND		0.0050	1	01/29/2014 03:31
1,1-Dichloroethane	ND		0.0050	1	01/29/2014 03:31
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/29/2014 03:31
1,1-Dichloroethene	ND		0.0050	1	01/29/2014 03:31
cis-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 03:31
trans-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 03:31
1,2-Dichloropropane	ND		0.0050	1	01/29/2014 03:31
1,3-Dichloropropane	ND		0.0050	1	01/29/2014 03:31
2,2-Dichloropropane	ND		0.0050	1	01/29/2014 03:31
1,1-Dichloropropene	ND		0.0050	1	01/29/2014 03:31

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB11-2.5	1401766-003A	Soil	01/27/2014 13:45	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 03:31
trans-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 03:31
Diisopropyl ether (DIPE)	ND		0.0050	1	01/29/2014 03:31
Ethylbenzene	ND		0.0050	1	01/29/2014 03:31
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/29/2014 03:31
Freon 113	ND		0.10	1	01/29/2014 03:31
Hexachlorobutadiene	ND		0.0050	1	01/29/2014 03:31
Hexachloroethane	ND		0.0050	1	01/29/2014 03:31
2-Hexanone	ND		0.0050	1	01/29/2014 03:31
Isopropylbenzene	ND		0.0050	1	01/29/2014 03:31
4-Isopropyl toluene	ND		0.0050	1	01/29/2014 03:31
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/29/2014 03:31
Methylene chloride	ND		0.0050	1	01/29/2014 03:31
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/29/2014 03:31
Naphthalene	ND		0.0050	1	01/29/2014 03:31
n-Propyl benzene	ND		0.0050	1	01/29/2014 03:31
Styrene	ND		0.0050	1	01/29/2014 03:31
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 03:31
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 03:31
Tetrachloroethene	<b>0.022</b>		0.0050	1	01/29/2014 03:31
Toluene	ND		0.0050	1	01/29/2014 03:31
1,2,3-Trichlorobenzene	ND		0.0050	1	01/29/2014 03:31
1,2,4-Trichlorobenzene	ND		0.0050	1	01/29/2014 03:31
1,1,1-Trichloroethane	ND		0.0050	1	01/29/2014 03:31
1,1,2-Trichloroethane	ND		0.0050	1	01/29/2014 03:31
Trichloroethene	ND		0.0050	1	01/29/2014 03:31
Trichlorofluoromethane	ND		0.0050	1	01/29/2014 03:31
1,2,3-Trichloropropane	ND		0.0050	1	01/29/2014 03:31
1,2,4-Trimethylbenzene	ND		0.0050	1	01/29/2014 03:31
1,3,5-Trimethylbenzene	ND		0.0050	1	01/29/2014 03:31
Vinyl Chloride	ND		0.0050	1	01/29/2014 03:31
Xylenes, Total	ND		0.0050	1	01/29/2014 03:31
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	99		70-130		01/29/2014 03:31
Toluene-d8	97		70-130		01/29/2014 03:31
4-BFB	93		70-130		01/29/2014 03:31

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB12-3.0	1401766-004A	Soil	01/27/2014 14:10	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		0.10	1	01/29/2014 04:14
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/29/2014 04:14
Benzene	ND		0.0050	1	01/29/2014 04:14
Bromobenzene	ND		0.0050	1	01/29/2014 04:14
Bromochloromethane	ND		0.0050	1	01/29/2014 04:14
Bromodichloromethane	ND		0.0050	1	01/29/2014 04:14
Bromoform	ND		0.0050	1	01/29/2014 04:14
Bromomethane	ND		0.0050	1	01/29/2014 04:14
2-Butanone (MEK)	ND		0.020	1	01/29/2014 04:14
t-Butyl alcohol (TBA)	ND		0.050	1	01/29/2014 04:14
n-Butyl benzene	ND		0.0050	1	01/29/2014 04:14
sec-Butyl benzene	ND		0.0050	1	01/29/2014 04:14
tert-Butyl benzene	ND		0.0050	1	01/29/2014 04:14
Carbon Disulfide	ND		0.0050	1	01/29/2014 04:14
Carbon Tetrachloride	ND		0.0050	1	01/29/2014 04:14
Chlorobenzene	ND		0.0050	1	01/29/2014 04:14
Chloroethane	ND		0.0050	1	01/29/2014 04:14
Chloroform	ND		0.0050	1	01/29/2014 04:14
Chloromethane	ND		0.0050	1	01/29/2014 04:14
2-Chlorotoluene	ND		0.0050	1	01/29/2014 04:14
4-Chlorotoluene	ND		0.0050	1	01/29/2014 04:14
Dibromochloromethane	ND		0.0050	1	01/29/2014 04:14
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/29/2014 04:14
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/29/2014 04:14
Dibromomethane	ND		0.0050	1	01/29/2014 04:14
1,2-Dichlorobenzene	ND		0.0050	1	01/29/2014 04:14
1,3-Dichlorobenzene	ND		0.0050	1	01/29/2014 04:14
1,4-Dichlorobenzene	ND		0.0050	1	01/29/2014 04:14
Dichlorodifluoromethane	ND		0.0050	1	01/29/2014 04:14
1,1-Dichloroethane	ND		0.0050	1	01/29/2014 04:14
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/29/2014 04:14
1,1-Dichloroethene	ND		0.0050	1	01/29/2014 04:14
cis-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 04:14
trans-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 04:14
1,2-Dichloropropane	ND		0.0050	1	01/29/2014 04:14
1,3-Dichloropropane	ND		0.0050	1	01/29/2014 04:14
2,2-Dichloropropane	ND		0.0050	1	01/29/2014 04:14
1,1-Dichloropropene	ND		0.0050	1	01/29/2014 04:14

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB12-3.0	1401766-004A	Soil	01/27/2014 14:10	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 04:14
trans-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 04:14
Diisopropyl ether (DIPE)	ND		0.0050	1	01/29/2014 04:14
Ethylbenzene	ND		0.0050	1	01/29/2014 04:14
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/29/2014 04:14
Freon 113	ND		0.10	1	01/29/2014 04:14
Hexachlorobutadiene	ND		0.0050	1	01/29/2014 04:14
Hexachloroethane	ND		0.0050	1	01/29/2014 04:14
2-Hexanone	ND		0.0050	1	01/29/2014 04:14
Isopropylbenzene	ND		0.0050	1	01/29/2014 04:14
4-Isopropyl toluene	ND		0.0050	1	01/29/2014 04:14
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/29/2014 04:14
Methylene chloride	ND		0.0050	1	01/29/2014 04:14
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/29/2014 04:14
Naphthalene	ND		0.0050	1	01/29/2014 04:14
n-Propyl benzene	ND		0.0050	1	01/29/2014 04:14
Styrene	ND		0.0050	1	01/29/2014 04:14
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 04:14
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 04:14
Tetrachloroethene	ND		0.0050	1	01/29/2014 04:14
Toluene	ND		0.0050	1	01/29/2014 04:14
1,2,3-Trichlorobenzene	ND		0.0050	1	01/29/2014 04:14
1,2,4-Trichlorobenzene	ND		0.0050	1	01/29/2014 04:14
1,1,1-Trichloroethane	ND		0.0050	1	01/29/2014 04:14
1,1,2-Trichloroethane	ND		0.0050	1	01/29/2014 04:14
Trichloroethene	ND		0.0050	1	01/29/2014 04:14
Trichlorofluoromethane	ND		0.0050	1	01/29/2014 04:14
1,2,3-Trichloropropane	ND		0.0050	1	01/29/2014 04:14
1,2,4-Trimethylbenzene	ND		0.0050	1	01/29/2014 04:14
1,3,5-Trimethylbenzene	ND		0.0050	1	01/29/2014 04:14
Vinyl Chloride	ND		0.0050	1	01/29/2014 04:14
Xylenes, Total	ND		0.0050	1	01/29/2014 04:14
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	99		70-130		01/29/2014 04:14
Toluene-d8	97		70-130		01/29/2014 04:14
4-BFB	93		70-130		01/29/2014 04:14

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB13-2.5	1401766-005A	Soil	01/27/2014 15:10	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	0.15		0.10	1	01/29/2014 04:57
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/29/2014 04:57
Benzene	ND		0.0050	1	01/29/2014 04:57
Bromobenzene	ND		0.0050	1	01/29/2014 04:57
Bromochloromethane	ND		0.0050	1	01/29/2014 04:57
Bromodichloromethane	ND		0.0050	1	01/29/2014 04:57
Bromoform	ND		0.0050	1	01/29/2014 04:57
Bromomethane	ND		0.0050	1	01/29/2014 04:57
2-Butanone (MEK)	0.026		0.020	1	01/29/2014 04:57
t-Butyl alcohol (TBA)	ND		0.050	1	01/29/2014 04:57
n-Butyl benzene	ND		0.0050	1	01/29/2014 04:57
sec-Butyl benzene	ND		0.0050	1	01/29/2014 04:57
tert-Butyl benzene	ND		0.0050	1	01/29/2014 04:57
Carbon Disulfide	ND		0.0050	1	01/29/2014 04:57
Carbon Tetrachloride	ND		0.0050	1	01/29/2014 04:57
Chlorobenzene	ND		0.0050	1	01/29/2014 04:57
Chloroethane	ND		0.0050	1	01/29/2014 04:57
Chloroform	ND		0.0050	1	01/29/2014 04:57
Chloromethane	ND		0.0050	1	01/29/2014 04:57
2-Chlorotoluene	ND		0.0050	1	01/29/2014 04:57
4-Chlorotoluene	ND		0.0050	1	01/29/2014 04:57
Dibromochloromethane	ND		0.0050	1	01/29/2014 04:57
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/29/2014 04:57
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/29/2014 04:57
Dibromomethane	ND		0.0050	1	01/29/2014 04:57
1,2-Dichlorobenzene	ND		0.0050	1	01/29/2014 04:57
1,3-Dichlorobenzene	ND		0.0050	1	01/29/2014 04:57
1,4-Dichlorobenzene	ND		0.0050	1	01/29/2014 04:57
Dichlorodifluoromethane	ND		0.0050	1	01/29/2014 04:57
1,1-Dichloroethane	ND		0.0050	1	01/29/2014 04:57
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/29/2014 04:57
1,1-Dichloroethene	ND		0.0050	1	01/29/2014 04:57
cis-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 04:57
trans-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 04:57
1,2-Dichloropropane	ND		0.0050	1	01/29/2014 04:57
1,3-Dichloropropane	ND		0.0050	1	01/29/2014 04:57
2,2-Dichloropropane	ND		0.0050	1	01/29/2014 04:57
1,1-Dichloropropene	ND		0.0050	1	01/29/2014 04:57

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB13-2.5	1401766-005A	Soil	01/27/2014 15:10	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 04:57
trans-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 04:57
Diisopropyl ether (DIPE)	ND		0.0050	1	01/29/2014 04:57
Ethylbenzene	ND		0.0050	1	01/29/2014 04:57
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/29/2014 04:57
Freon 113	ND		0.10	1	01/29/2014 04:57
Hexachlorobutadiene	ND		0.0050	1	01/29/2014 04:57
Hexachloroethane	ND		0.0050	1	01/29/2014 04:57
2-Hexanone	ND		0.0050	1	01/29/2014 04:57
Isopropylbenzene	ND		0.0050	1	01/29/2014 04:57
4-Isopropyl toluene	ND		0.0050	1	01/29/2014 04:57
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/29/2014 04:57
Methylene chloride	ND		0.0050	1	01/29/2014 04:57
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/29/2014 04:57
Naphthalene	ND		0.0050	1	01/29/2014 04:57
n-Propyl benzene	ND		0.0050	1	01/29/2014 04:57
Styrene	ND		0.0050	1	01/29/2014 04:57
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 04:57
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 04:57
Tetrachloroethene	ND		0.0050	1	01/29/2014 04:57
Toluene	ND		0.0050	1	01/29/2014 04:57
1,2,3-Trichlorobenzene	ND		0.0050	1	01/29/2014 04:57
1,2,4-Trichlorobenzene	ND		0.0050	1	01/29/2014 04:57
1,1,1-Trichloroethane	ND		0.0050	1	01/29/2014 04:57
1,1,2-Trichloroethane	ND		0.0050	1	01/29/2014 04:57
Trichloroethene	ND		0.0050	1	01/29/2014 04:57
Trichlorofluoromethane	ND		0.0050	1	01/29/2014 04:57
1,2,3-Trichloropropane	ND		0.0050	1	01/29/2014 04:57
1,2,4-Trimethylbenzene	ND		0.0050	1	01/29/2014 04:57
1,3,5-Trimethylbenzene	ND		0.0050	1	01/29/2014 04:57
Vinyl Chloride	ND		0.0050	1	01/29/2014 04:57
Xylenes, Total	ND		0.0050	1	01/29/2014 04:57
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	100		70-130		01/29/2014 04:57
Toluene-d8	97		70-130		01/29/2014 04:57
4-BFB	93		70-130		01/29/2014 04:57

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB14-1.0	1401766-006A	Soil	01/27/2014 14:50	GC10	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		0.10	1	01/29/2014 00:03
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/29/2014 00:03
Benzene	ND		0.0050	1	01/29/2014 00:03
Bromobenzene	ND		0.0050	1	01/29/2014 00:03
Bromochloromethane	ND		0.0050	1	01/29/2014 00:03
Bromodichloromethane	ND		0.0050	1	01/29/2014 00:03
Bromoform	ND		0.0050	1	01/29/2014 00:03
Bromomethane	ND		0.0050	1	01/29/2014 00:03
2-Butanone (MEK)	ND		0.020	1	01/29/2014 00:03
t-Butyl alcohol (TBA)	ND		0.050	1	01/29/2014 00:03
n-Butyl benzene	ND		0.0050	1	01/29/2014 00:03
sec-Butyl benzene	ND		0.0050	1	01/29/2014 00:03
tert-Butyl benzene	ND		0.0050	1	01/29/2014 00:03
Carbon Disulfide	ND		0.0050	1	01/29/2014 00:03
Carbon Tetrachloride	ND		0.0050	1	01/29/2014 00:03
Chlorobenzene	ND		0.0050	1	01/29/2014 00:03
Chloroethane	ND		0.0050	1	01/29/2014 00:03
Chloroform	ND		0.0050	1	01/29/2014 00:03
Chloromethane	ND		0.0050	1	01/29/2014 00:03
2-Chlorotoluene	ND		0.0050	1	01/29/2014 00:03
4-Chlorotoluene	ND		0.0050	1	01/29/2014 00:03
Dibromochloromethane	ND		0.0050	1	01/29/2014 00:03
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/29/2014 00:03
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/29/2014 00:03
Dibromomethane	ND		0.0050	1	01/29/2014 00:03
1,2-Dichlorobenzene	ND		0.0050	1	01/29/2014 00:03
1,3-Dichlorobenzene	ND		0.0050	1	01/29/2014 00:03
1,4-Dichlorobenzene	ND		0.0050	1	01/29/2014 00:03
Dichlorodifluoromethane	ND		0.0050	1	01/29/2014 00:03
1,1-Dichloroethane	ND		0.0050	1	01/29/2014 00:03
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/29/2014 00:03
1,1-Dichloroethene	ND		0.0050	1	01/29/2014 00:03
cis-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 00:03
trans-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 00:03
1,2-Dichloropropane	ND		0.0050	1	01/29/2014 00:03
1,3-Dichloropropane	ND		0.0050	1	01/29/2014 00:03
2,2-Dichloropropane	ND		0.0050	1	01/29/2014 00:03
1,1-Dichloropropene	ND		0.0050	1	01/29/2014 00:03

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB14-1.0	1401766-006A	Soil	01/27/2014 14:50	GC10	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 00:03
trans-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 00:03
Diisopropyl ether (DIPE)	ND		0.0050	1	01/29/2014 00:03
Ethylbenzene	ND		0.0050	1	01/29/2014 00:03
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/29/2014 00:03
Freon 113	ND		0.10	1	01/29/2014 00:03
Hexachlorobutadiene	ND		0.0050	1	01/29/2014 00:03
Hexachloroethane	ND		0.0050	1	01/29/2014 00:03
2-Hexanone	ND		0.0050	1	01/29/2014 00:03
Isopropylbenzene	ND		0.0050	1	01/29/2014 00:03
4-Isopropyl toluene	ND		0.0050	1	01/29/2014 00:03
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/29/2014 00:03
Methylene chloride	ND		0.0050	1	01/29/2014 00:03
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/29/2014 00:03
Naphthalene	ND		0.0050	1	01/29/2014 00:03
n-Propyl benzene	ND		0.0050	1	01/29/2014 00:03
Styrene	ND		0.0050	1	01/29/2014 00:03
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 00:03
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 00:03
Tetrachloroethene	ND		0.0050	1	01/29/2014 00:03
Toluene	ND		0.0050	1	01/29/2014 00:03
1,2,3-Trichlorobenzene	ND		0.0050	1	01/29/2014 00:03
1,2,4-Trichlorobenzene	ND		0.0050	1	01/29/2014 00:03
1,1,1-Trichloroethane	ND		0.0050	1	01/29/2014 00:03
1,1,2-Trichloroethane	ND		0.0050	1	01/29/2014 00:03
Trichloroethene	ND		0.0050	1	01/29/2014 00:03
Trichlorofluoromethane	ND		0.0050	1	01/29/2014 00:03
1,2,3-Trichloropropane	ND		0.0050	1	01/29/2014 00:03
1,2,4-Trimethylbenzene	<b>0.0066</b>		0.0050	1	01/29/2014 00:03
1,3,5-Trimethylbenzene	ND		0.0050	1	01/29/2014 00:03
Vinyl Chloride	ND		0.0050	1	01/29/2014 00:03
Xylenes, Total	ND		0.0050	1	01/29/2014 00:03
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	119		70-130		01/29/2014 00:03
Toluene-d8	109		70-130		01/29/2014 00:03
4-BFB	98		70-130		01/29/2014 00:03

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB14-2.5	1401766-007A	Soil	01/27/2014 14:55	GC10	86492
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		0.10	1	01/29/2014 00:45
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/29/2014 00:45
Benzene	ND		0.0050	1	01/29/2014 00:45
Bromobenzene	ND		0.0050	1	01/29/2014 00:45
Bromochloromethane	ND		0.0050	1	01/29/2014 00:45
Bromodichloromethane	ND		0.0050	1	01/29/2014 00:45
Bromoform	ND		0.0050	1	01/29/2014 00:45
Bromomethane	ND		0.0050	1	01/29/2014 00:45
2-Butanone (MEK)	ND		0.020	1	01/29/2014 00:45
t-Butyl alcohol (TBA)	ND		0.050	1	01/29/2014 00:45
n-Butyl benzene	ND		0.0050	1	01/29/2014 00:45
sec-Butyl benzene	ND		0.0050	1	01/29/2014 00:45
tert-Butyl benzene	ND		0.0050	1	01/29/2014 00:45
Carbon Disulfide	ND		0.0050	1	01/29/2014 00:45
Carbon Tetrachloride	ND		0.0050	1	01/29/2014 00:45
Chlorobenzene	ND		0.0050	1	01/29/2014 00:45
Chloroethane	ND		0.0050	1	01/29/2014 00:45
Chloroform	ND		0.0050	1	01/29/2014 00:45
Chloromethane	ND		0.0050	1	01/29/2014 00:45
2-Chlorotoluene	ND		0.0050	1	01/29/2014 00:45
4-Chlorotoluene	ND		0.0050	1	01/29/2014 00:45
Dibromochloromethane	ND		0.0050	1	01/29/2014 00:45
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/29/2014 00:45
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/29/2014 00:45
Dibromomethane	ND		0.0050	1	01/29/2014 00:45
1,2-Dichlorobenzene	ND		0.0050	1	01/29/2014 00:45
1,3-Dichlorobenzene	ND		0.0050	1	01/29/2014 00:45
1,4-Dichlorobenzene	ND		0.0050	1	01/29/2014 00:45
Dichlorodifluoromethane	ND		0.0050	1	01/29/2014 00:45
1,1-Dichloroethane	ND		0.0050	1	01/29/2014 00:45
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/29/2014 00:45
1,1-Dichloroethene	ND		0.0050	1	01/29/2014 00:45
cis-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 00:45
trans-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 00:45
1,2-Dichloropropane	ND		0.0050	1	01/29/2014 00:45
1,3-Dichloropropane	ND		0.0050	1	01/29/2014 00:45
2,2-Dichloropropane	ND		0.0050	1	01/29/2014 00:45
1,1-Dichloropropene	ND		0.0050	1	01/29/2014 00:45

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB14-2.5	1401766-007A	Soil	01/27/2014 14:55	GC10	86492
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 00:45
trans-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 00:45
Diisopropyl ether (DIPE)	ND		0.0050	1	01/29/2014 00:45
Ethylbenzene	ND		0.0050	1	01/29/2014 00:45
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/29/2014 00:45
Freon 113	ND		0.10	1	01/29/2014 00:45
Hexachlorobutadiene	ND		0.0050	1	01/29/2014 00:45
Hexachloroethane	ND		0.0050	1	01/29/2014 00:45
2-Hexanone	ND		0.0050	1	01/29/2014 00:45
Isopropylbenzene	ND		0.0050	1	01/29/2014 00:45
4-Isopropyl toluene	ND		0.0050	1	01/29/2014 00:45
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/29/2014 00:45
Methylene chloride	ND		0.0050	1	01/29/2014 00:45
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/29/2014 00:45
Naphthalene	ND		0.0050	1	01/29/2014 00:45
n-Propyl benzene	ND		0.0050	1	01/29/2014 00:45
Styrene	ND		0.0050	1	01/29/2014 00:45
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 00:45
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 00:45
Tetrachloroethene	ND		0.0050	1	01/29/2014 00:45
Toluene	ND		0.0050	1	01/29/2014 00:45
1,2,3-Trichlorobenzene	ND		0.0050	1	01/29/2014 00:45
1,2,4-Trichlorobenzene	ND		0.0050	1	01/29/2014 00:45
1,1,1-Trichloroethane	ND		0.0050	1	01/29/2014 00:45
1,1,2-Trichloroethane	ND		0.0050	1	01/29/2014 00:45
Trichloroethene	ND		0.0050	1	01/29/2014 00:45
Trichlorofluoromethane	ND		0.0050	1	01/29/2014 00:45
1,2,3-Trichloropropane	ND		0.0050	1	01/29/2014 00:45
1,2,4-Trimethylbenzene	ND		0.0050	1	01/29/2014 00:45
1,3,5-Trimethylbenzene	ND		0.0050	1	01/29/2014 00:45
Vinyl Chloride	ND		0.0050	1	01/29/2014 00:45
Xylenes, Total	ND		0.0050	1	01/29/2014 00:45
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	119		70-130		01/29/2014 00:45
Toluene-d8	108		70-130		01/29/2014 00:45
4-BFB	99		70-130		01/29/2014 00:45

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB16-2.5	1401766-008A	Soil	01/27/2014 14:30	GC28	86492
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		0.10	1	01/28/2014 22:51
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/28/2014 22:51
Benzene	ND		0.0050	1	01/28/2014 22:51
Bromobenzene	ND		0.0050	1	01/28/2014 22:51
Bromochloromethane	ND		0.0050	1	01/28/2014 22:51
Bromodichloromethane	ND		0.0050	1	01/28/2014 22:51
Bromoform	ND		0.0050	1	01/28/2014 22:51
Bromomethane	ND		0.0050	1	01/28/2014 22:51
2-Butanone (MEK)	ND		0.020	1	01/28/2014 22:51
t-Butyl alcohol (TBA)	ND		0.050	1	01/28/2014 22:51
n-Butyl benzene	ND		0.0050	1	01/28/2014 22:51
sec-Butyl benzene	ND		0.0050	1	01/28/2014 22:51
tert-Butyl benzene	ND		0.0050	1	01/28/2014 22:51
Carbon Disulfide	ND		0.0050	1	01/28/2014 22:51
Carbon Tetrachloride	ND		0.0050	1	01/28/2014 22:51
Chlorobenzene	ND		0.0050	1	01/28/2014 22:51
Chloroethane	ND		0.0050	1	01/28/2014 22:51
Chloroform	ND		0.0050	1	01/28/2014 22:51
Chloromethane	ND		0.0050	1	01/28/2014 22:51
2-Chlorotoluene	ND		0.0050	1	01/28/2014 22:51
4-Chlorotoluene	ND		0.0050	1	01/28/2014 22:51
Dibromochloromethane	ND		0.0050	1	01/28/2014 22:51
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/28/2014 22:51
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/28/2014 22:51
Dibromomethane	ND		0.0050	1	01/28/2014 22:51
1,2-Dichlorobenzene	ND		0.0050	1	01/28/2014 22:51
1,3-Dichlorobenzene	ND		0.0050	1	01/28/2014 22:51
1,4-Dichlorobenzene	ND		0.0050	1	01/28/2014 22:51
Dichlorodifluoromethane	ND		0.0050	1	01/28/2014 22:51
1,1-Dichloroethane	ND		0.0050	1	01/28/2014 22:51
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/28/2014 22:51
1,1-Dichloroethene	ND		0.0050	1	01/28/2014 22:51
cis-1,2-Dichloroethene	ND		0.0050	1	01/28/2014 22:51
trans-1,2-Dichloroethene	ND		0.0050	1	01/28/2014 22:51
1,2-Dichloropropane	ND		0.0050	1	01/28/2014 22:51
1,3-Dichloropropane	ND		0.0050	1	01/28/2014 22:51
2,2-Dichloropropane	ND		0.0050	1	01/28/2014 22:51
1,1-Dichloropropene	ND		0.0050	1	01/28/2014 22:51

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:30  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401766  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB16-2.5	1401766-008A	Soil	01/27/2014 14:30	GC28	86492
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/28/2014 22:51
trans-1,3-Dichloropropene	ND		0.0050	1	01/28/2014 22:51
Diisopropyl ether (DIPE)	ND		0.0050	1	01/28/2014 22:51
Ethylbenzene	ND		0.0050	1	01/28/2014 22:51
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/28/2014 22:51
Freon 113	ND		0.10	1	01/28/2014 22:51
Hexachlorobutadiene	ND		0.0050	1	01/28/2014 22:51
Hexachloroethane	ND		0.0050	1	01/28/2014 22:51
2-Hexanone	ND		0.0050	1	01/28/2014 22:51
Isopropylbenzene	ND		0.0050	1	01/28/2014 22:51
4-Isopropyl toluene	ND		0.0050	1	01/28/2014 22:51
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/28/2014 22:51
Methylene chloride	ND		0.0050	1	01/28/2014 22:51
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/28/2014 22:51
Naphthalene	ND		0.0050	1	01/28/2014 22:51
n-Propyl benzene	ND		0.0050	1	01/28/2014 22:51
Styrene	ND		0.0050	1	01/28/2014 22:51
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/28/2014 22:51
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/28/2014 22:51
Tetrachloroethene	ND		0.0050	1	01/28/2014 22:51
Toluene	ND		0.0050	1	01/28/2014 22:51
1,2,3-Trichlorobenzene	ND		0.0050	1	01/28/2014 22:51
1,2,4-Trichlorobenzene	ND		0.0050	1	01/28/2014 22:51
1,1,1-Trichloroethane	ND		0.0050	1	01/28/2014 22:51
1,1,2-Trichloroethane	ND		0.0050	1	01/28/2014 22:51
Trichloroethene	ND		0.0050	1	01/28/2014 22:51
Trichlorofluoromethane	ND		0.0050	1	01/28/2014 22:51
1,2,3-Trichloropropane	ND		0.0050	1	01/28/2014 22:51
1,2,4-Trimethylbenzene	ND		0.0050	1	01/28/2014 22:51
1,3,5-Trimethylbenzene	ND		0.0050	1	01/28/2014 22:51
Vinyl Chloride	ND		0.0050	1	01/28/2014 22:51
Xylenes, Total	ND		0.0050	1	01/28/2014 22:51
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	103		70-130		01/28/2014 22:51
Toluene-d8	112		70-130		01/28/2014 22:51
4-BFB	121		70-130		01/28/2014 22:51



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 1/27/14  
**Date Analyzed:** 1/28/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1401766  
**BatchID:** 86471  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-86471  
 1401736-011AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.03938	0.0050	0.050	-	78.8	70-130
Benzene	ND	0.04832	0.0050	0.050	-	96.6	70-130
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.1642	0.050	0.20	-	82.1	70-130
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.04951	0.0050	0.050	-	99	70-130
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.04423	0.0040	0.050	-	88.5	70-130
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.04524	0.0040	0.050	-	90.5	70-130
1,1-Dichloroethene	ND	0.05032	0.0050	0.050	-	101	70-130
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 1/27/14  
**Date Analyzed:** 1/28/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1401766  
**BatchID:** 86471  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-86471  
 1401736-011AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	0.04231	0.0050	0.050	-	84.6	70-130
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.04195	0.0050	0.050	-	83.9	70-130
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.04289	0.0050	0.050	-	85.8	70-130
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.05238	0.0050	0.050	-	105	70-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.05139	0.0050	0.050	-	103	70-130
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

#### Surrogate Recovery

Dibromofluoromethane	0.1577	0.2008		0.18	126	115	70-130
Toluene-d8	0.1307	0.1935		0.18	105	111	70-130
4-BFB	0.01239	0.01805		0.018	99	103	70-130

(Cont.)



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 1/27/14  
**Date Analyzed:** 1/28/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1401766  
**BatchID:** 86471  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-86471  
 1401736-011AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.03798	0.03925	0.050	ND	76	78.5	70-130	3.27	30
Benzene	0.0457	0.04681	0.050	ND	91.4	93.6	70-130	2.40	30
t-Butyl alcohol (TBA)	0.1585	0.1577	0.20	ND	79.3	78.9	70-130	0.483	30
Chlorobenzene	0.04708	0.04843	0.050	ND	94.2	96.9	70-130	2.82	30
1,2-Dibromoethane (EDB)	0.04197	0.0439	0.050	ND	83.9	87.8	70-130	4.49	30
1,2-Dichloroethane (1,2-DCA)	0.04289	0.04332	0.050	ND	85.8	86.6	70-130	0.997	30
1,1-Dichloroethene	0.04719	0.04993	0.050	ND	94.4	99.9	70-130	5.64	30
Diisopropyl ether (DIPE)	0.03963	0.04136	0.050	ND	79.3	82.7	70-130	4.29	30
Ethyl tert-butyl ether (ETBE)	0.04011	0.0418	0.050	ND	80.2	83.6	70-130	4.14	30
Methyl-t-butyl ether (MTBE)	0.04088	0.04227	0.050	ND	81.8	84.5	70-130	3.35	30
Toluene	0.04807	0.05033	0.050	ND	96.1	101	70-130	4.58	30
Trichloroethene	0.0474	0.04917	0.050	ND	94.8	98.3	70-130	3.68	30
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.1973	0.1997	0.18		113	114	70-130	1.24	30
Toluene-d8	0.1883	0.1926	0.18		108	110	70-130	2.23	30
4-BFB	0.01741	0.01801	0.018		99	103	70-130	3.41	30

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 1/28/14  
**Date Analyzed:** 1/28/14  
**Instrument:** GC28  
**Matrix:** Soil  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1401766  
**BatchID:** 86492  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-86492  
 1401766-008AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.04287	0.0050	0.050	-	85.7	70-130
Benzene	ND	0.04637	0.0050	0.050	-	92.7	70-130
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.209	0.050	0.20	-	104	70-130
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.04748	0.0050	0.050	-	95	70-130
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.04695	0.0040	0.050	-	93.9	70-130
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.04664	0.0040	0.050	-	93.3	70-130
1,1-Dichloroethene	ND	0.04624	0.0050	0.050	-	92.5	70-130
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)





## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 1/28/14  
**Date Analyzed:** 1/28/14  
**Instrument:** GC28  
**Matrix:** Soil  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1401766  
**BatchID:** 86492  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-86492  
 1401766-008AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	0.0451	0.0050	0.050	-	90.2	70-130
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.04527	0.0050	0.050	-	90.5	70-130
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.04519	0.0050	0.050	-	90.4	70-130
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.05315	0.0050	0.050	-	106	70-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.05152	0.0050	0.050	-	103	70-130
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

#### Surrogate Recovery

Dibromofluoromethane	0.13	0.1758		0.18	104	100	70-130
Toluene-d8	0.145	0.2031		0.18	116	116	70-130
4-BFB	0.01491	0.0194		0.018	119	111	70-130

(Cont.)



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 1/28/14  
**Date Analyzed:** 1/28/14  
**Instrument:** GC28  
**Matrix:** Soil  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1401766  
**BatchID:** 86492  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-86492  
 1401766-008AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.04076	0.04163	0.050	ND	81.5	83.3	70-130	2.12	30
Benzene	0.04193	0.04243	0.050	ND	83.9	84.9	70-130	1.19	30
t-Butyl alcohol (TBA)	0.1936	0.1988	0.20	ND	96.8	99.4	70-130	2.67	30
Chlorobenzene	0.04221	0.04337	0.050	ND	84.4	86.7	70-130	2.70	30
1,2-Dibromoethane (EDB)	0.04144	0.04266	0.050	ND	82.9	85.3	70-130	2.90	30
1,2-Dichloroethane (1,2-DCA)	0.04288	0.04425	0.050	ND	85.8	88.5	70-130	3.14	30
1,1-Dichloroethene	0.04223	0.04299	0.050	ND	84.5	86	70-130	1.78	30
Diisopropyl ether (DIPE)	0.04185	0.04261	0.050	ND	83.7	85.2	70-130	1.82	30
Ethyl tert-butyl ether (ETBE)	0.04228	0.04341	0.050	ND	84.6	86.8	70-130	2.66	30
Methyl-t-butyl ether (MTBE)	0.04258	0.04418	0.050	ND	85.2	88.4	70-130	3.70	30
Toluene	0.04458	0.04604	0.050	ND	89.2	92.1	70-130	3.22	30
Trichloroethene	0.04548	0.04633	0.050	ND	91	92.7	70-130	1.85	30
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.1753	0.1757	0.18		100	100	70-130	0	30
Toluene-d8	0.1891	0.1912	0.18		108	109	70-130	1.09	30
4-BFB	0.01911	0.01869	0.018		109	107	70-130	2.25	30



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1401766

ClientCode: PDEO

WaterTrax  
  WriteOn  
  EDF  
  Excel  
  EQuIS  
 Email  
  HardCopy  
  ThirdParty  
  J-flag

**Report to:**

Paul King  
P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610  
(510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
cc:  
PO:  
ProjectNo: #0453; 8410 Amelia St. Oakland CA

**Bill to:**

Accounts Payable  
P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Requested TAT:**

**3 days**

*Date Received:*    **01/28/2014**

*Date Printed:*    **01/28/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1401766-001	SB9-3.0	Soil	1/27/2014 13:10	<input type="checkbox"/>	A												
1401766-002	SB10-2.5	Soil	1/27/2014 13:30	<input type="checkbox"/>	A												
1401766-003	SB11-2.5	Soil	1/27/2014 13:45	<input type="checkbox"/>	A												
1401766-004	SB12-3.0	Soil	1/27/2014 14:10	<input type="checkbox"/>	A												
1401766-005	SB13-2.5	Soil	1/27/2014 15:10	<input type="checkbox"/>	A												
1401766-006	SB14-1.0	Soil	1/27/2014 14:50	<input type="checkbox"/>	A												
1401766-007	SB14-2.5	Soil	1/27/2014 14:55	<input type="checkbox"/>	A												
1401766-008	SB16-2.5	Soil	1/27/2014 14:30	<input type="checkbox"/>	A												

**Test Legend:**

1	8260B_S	2		3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Maria Venegas**

**Comments:**    3 Day TAT

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Comments:** 3 Day TAT

**QC Level:** LEVEL 2  
**Client Contact:** Paul King  
**Contact's Email:** lab@pdenviro.com

**Work Order:** 1401766  
**Date Received:** 1/28/2014

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1401766-001A	SB9-3.0	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 13:10	3 days		<input type="checkbox"/>	
1401766-002A	SB10-2.5	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 13:30	3 days		<input type="checkbox"/>	
1401766-003A	SB11-2.5	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 13:45	3 days		<input type="checkbox"/>	
1401766-004A	SB12-3.0	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 14:10	3 days		<input type="checkbox"/>	
1401766-005A	SB13-2.5	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 15:10	3 days		<input type="checkbox"/>	
1401766-006A	SB14-1.0	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 14:50	3 days		<input type="checkbox"/>	
1401766-007A	SB14-2.5	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 14:55	3 days		<input type="checkbox"/>	
1401766-008A	SB16-2.5	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 14:30	3 days		<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

Brass/Stainless Tube = Brass or Stainless Steel Tube

1401766

# CHAIN OF CUSTODY RECORD

**P&D ENVIRONMENTAL, INC.**  
55 Santa Clara Ave., Suite 240  
Oakland, CA 94610  
(510) 658-6916

# RUSH

PROJECT NUMBER:  
**0453**

PROJECT NAME:  
**8410 AUELLA ST.  
OAKLAND, CA**

SAMPLED BY: (PRINTED & SIGNATURE)

**MICHAEL BASS-DESCHENES** *Michael Bass-Deschenes*

NUMBER OF CONTAINERS

ANALYSIS(ES):  
**EPA 8260.B**

PRESERVATIVE

REMARKS

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES)	PRESERVATIVE	REMARKS
SB9-3.0	1/27/14	1310	SOIL		1	X	ICE	72-Hour RUSH
SB10-2.5	"	1330	"		1	X	"	"
SB11-2.5	"	1345	"		1	X	"	"
SB12-3.0	"	1410	"		1	X	"	"
SB13-2.5	"	1510	"		1	X	"	"
SB14-1.0	"	1450	"		1	X	"	"
SB14-2.5	"	1455	"		1	X	"	"
SB16-2.5	"	1430	"		1	X	"	"

RELINQUISHED BY: (SIGNATURE)

*Michael Bass-Deschenes*

DATE

1/28/14

TIME

1315

RECEIVED BY: (SIGNATURE)

*Angela Rydelius*

Total No. of Samples (This Shipment)

9

Total No. of Containers (This Shipment)

9

LABORATORY:

**MCCAMPBELL ANALYTICAL, INC.**

RELINQUISHED BY: (SIGNATURE)

*Michael Bass-Deschenes*

DATE

1/28/14

TIME

1500

RECEIVED BY: (SIGNATURE)

*Angela Rydelius*

LABORATORY CONTACT:

**ANGELA RYDELIUS (877) 252-9262**

LABORATORY PHONE NUMBER:

RELINQUISHED BY: (SIGNATURE)

*Michael Bass-Deschenes*

DATE

TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)

*Angela Rydelius*

SAMPLE ANALYSIS REQUEST SHEET

ATTACHED: ( ) YES (X) NO

Results and billing to:  
P&D Environmental, Inc.  
lab@pdenviro.com

REMARKS:

ICE# **0.9**

GOOD CONDITION \_\_\_\_\_ APPROPRIATE CONTAINERS \_\_\_\_\_

HEAD SPACE ABSENT \_\_\_\_\_ PRESERVED IN LAB \_\_\_\_\_

DECLORINATED IN LAB \_\_\_\_\_

PRESERVATION: VOAS | O&G | METALS | OTHER



### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **1/28/2014 3:30:03 PM**  
 Project Name: **#0453; 8410 Amelia St. Oakland CA** Login Reviewed by: **Maria Venegas**  
 WorkOrder N°: **1401766** Matrix: Soil Carrier: Rob Pringle (MAI Courier)

**Chain of Custody (COC) Information**

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: 0.9°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1401765

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Paul King  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St. Oakland CA

**Project Received:** 01/28/2014

Analytical Report reviewed & approved for release on 01/31/2014 by:

*Question about  
your data?*

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**WorkOrder:** 1401765

<b><u>Glossary</u></b> <b><u>Abbreviation</u></b>	<b><u>Description</u></b>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence





## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:28  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401765  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
T1-2.5	1401765-001A	Soil	01/27/2014 15:45	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		0.10	1	01/29/2014 00:41
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/29/2014 00:41
Benzene	ND		0.0050	1	01/29/2014 00:41
Bromobenzene	ND		0.0050	1	01/29/2014 00:41
Bromochloromethane	ND		0.0050	1	01/29/2014 00:41
Bromodichloromethane	ND		0.0050	1	01/29/2014 00:41
Bromoform	ND		0.0050	1	01/29/2014 00:41
Bromomethane	ND		0.0050	1	01/29/2014 00:41
2-Butanone (MEK)	ND		0.020	1	01/29/2014 00:41
t-Butyl alcohol (TBA)	ND		0.050	1	01/29/2014 00:41
n-Butyl benzene	ND		0.0050	1	01/29/2014 00:41
sec-Butyl benzene	ND		0.0050	1	01/29/2014 00:41
tert-Butyl benzene	ND		0.0050	1	01/29/2014 00:41
Carbon Disulfide	ND		0.0050	1	01/29/2014 00:41
Carbon Tetrachloride	ND		0.0050	1	01/29/2014 00:41
Chlorobenzene	ND		0.0050	1	01/29/2014 00:41
Chloroethane	ND		0.0050	1	01/29/2014 00:41
Chloroform	ND		0.0050	1	01/29/2014 00:41
Chloromethane	ND		0.0050	1	01/29/2014 00:41
2-Chlorotoluene	ND		0.0050	1	01/29/2014 00:41
4-Chlorotoluene	ND		0.0050	1	01/29/2014 00:41
Dibromochloromethane	ND		0.0050	1	01/29/2014 00:41
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/29/2014 00:41
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/29/2014 00:41
Dibromomethane	ND		0.0050	1	01/29/2014 00:41
1,2-Dichlorobenzene	ND		0.0050	1	01/29/2014 00:41
1,3-Dichlorobenzene	ND		0.0050	1	01/29/2014 00:41
1,4-Dichlorobenzene	ND		0.0050	1	01/29/2014 00:41
Dichlorodifluoromethane	ND		0.0050	1	01/29/2014 00:41
1,1-Dichloroethane	ND		0.0050	1	01/29/2014 00:41
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/29/2014 00:41
1,1-Dichloroethene	ND		0.0050	1	01/29/2014 00:41
cis-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 00:41
trans-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 00:41
1,2-Dichloropropane	ND		0.0050	1	01/29/2014 00:41
1,3-Dichloropropane	ND		0.0050	1	01/29/2014 00:41
2,2-Dichloropropane	ND		0.0050	1	01/29/2014 00:41
1,1-Dichloropropene	ND		0.0050	1	01/29/2014 00:41

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:28  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401765  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
T1-2.5	1401765-001A	Soil	01/27/2014 15:45	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 00:41
trans-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 00:41
Diisopropyl ether (DIPE)	ND		0.0050	1	01/29/2014 00:41
Ethylbenzene	ND		0.0050	1	01/29/2014 00:41
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/29/2014 00:41
Freon 113	ND		0.10	1	01/29/2014 00:41
Hexachlorobutadiene	ND		0.0050	1	01/29/2014 00:41
Hexachloroethane	ND		0.0050	1	01/29/2014 00:41
2-Hexanone	ND		0.0050	1	01/29/2014 00:41
Isopropylbenzene	ND		0.0050	1	01/29/2014 00:41
4-Isopropyl toluene	ND		0.0050	1	01/29/2014 00:41
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/29/2014 00:41
Methylene chloride	ND		0.0050	1	01/29/2014 00:41
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/29/2014 00:41
Naphthalene	ND		0.0050	1	01/29/2014 00:41
n-Propyl benzene	ND		0.0050	1	01/29/2014 00:41
Styrene	ND		0.0050	1	01/29/2014 00:41
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 00:41
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 00:41
Tetrachloroethene	ND		0.0050	1	01/29/2014 00:41
Toluene	ND		0.0050	1	01/29/2014 00:41
1,2,3-Trichlorobenzene	ND		0.0050	1	01/29/2014 00:41
1,2,4-Trichlorobenzene	ND		0.0050	1	01/29/2014 00:41
1,1,1-Trichloroethane	ND		0.0050	1	01/29/2014 00:41
1,1,2-Trichloroethane	ND		0.0050	1	01/29/2014 00:41
Trichloroethene	ND		0.0050	1	01/29/2014 00:41
Trichlorofluoromethane	ND		0.0050	1	01/29/2014 00:41
1,2,3-Trichloropropane	ND		0.0050	1	01/29/2014 00:41
1,2,4-Trimethylbenzene	ND		0.0050	1	01/29/2014 00:41
1,3,5-Trimethylbenzene	ND		0.0050	1	01/29/2014 00:41
Vinyl Chloride	ND		0.0050	1	01/29/2014 00:41
Xylenes, Total	ND		0.0050	1	01/29/2014 00:41
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	99		70-130		01/29/2014 00:41
Toluene-d8	98		70-130		01/29/2014 00:41
4-BFB	95		70-130		01/29/2014 00:41

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:28  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401765  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
T2-2.5	1401765-002A	Soil	01/27/2014 15:30	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		0.10	1	01/29/2014 01:24
tert-Amyl methyl ether (TAME)	ND		0.0050	1	01/29/2014 01:24
Benzene	ND		0.0050	1	01/29/2014 01:24
Bromobenzene	ND		0.0050	1	01/29/2014 01:24
Bromochloromethane	ND		0.0050	1	01/29/2014 01:24
Bromodichloromethane	ND		0.0050	1	01/29/2014 01:24
Bromoform	ND		0.0050	1	01/29/2014 01:24
Bromomethane	ND		0.0050	1	01/29/2014 01:24
2-Butanone (MEK)	ND		0.020	1	01/29/2014 01:24
t-Butyl alcohol (TBA)	ND		0.050	1	01/29/2014 01:24
n-Butyl benzene	ND		0.0050	1	01/29/2014 01:24
sec-Butyl benzene	ND		0.0050	1	01/29/2014 01:24
tert-Butyl benzene	ND		0.0050	1	01/29/2014 01:24
Carbon Disulfide	ND		0.0050	1	01/29/2014 01:24
Carbon Tetrachloride	ND		0.0050	1	01/29/2014 01:24
Chlorobenzene	ND		0.0050	1	01/29/2014 01:24
Chloroethane	ND		0.0050	1	01/29/2014 01:24
Chloroform	ND		0.0050	1	01/29/2014 01:24
Chloromethane	ND		0.0050	1	01/29/2014 01:24
2-Chlorotoluene	ND		0.0050	1	01/29/2014 01:24
4-Chlorotoluene	ND		0.0050	1	01/29/2014 01:24
Dibromochloromethane	ND		0.0050	1	01/29/2014 01:24
1,2-Dibromo-3-chloropropane	ND		0.0040	1	01/29/2014 01:24
1,2-Dibromoethane (EDB)	ND		0.0040	1	01/29/2014 01:24
Dibromomethane	ND		0.0050	1	01/29/2014 01:24
1,2-Dichlorobenzene	ND		0.0050	1	01/29/2014 01:24
1,3-Dichlorobenzene	ND		0.0050	1	01/29/2014 01:24
1,4-Dichlorobenzene	ND		0.0050	1	01/29/2014 01:24
Dichlorodifluoromethane	ND		0.0050	1	01/29/2014 01:24
1,1-Dichloroethane	ND		0.0050	1	01/29/2014 01:24
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	01/29/2014 01:24
1,1-Dichloroethene	ND		0.0050	1	01/29/2014 01:24
cis-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 01:24
trans-1,2-Dichloroethene	ND		0.0050	1	01/29/2014 01:24
1,2-Dichloropropane	ND		0.0050	1	01/29/2014 01:24
1,3-Dichloropropane	ND		0.0050	1	01/29/2014 01:24
2,2-Dichloropropane	ND		0.0050	1	01/29/2014 01:24
1,1-Dichloropropene	ND		0.0050	1	01/29/2014 01:24

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 1/28/14 15:28  
**Date Prepared:** 1/28/14

**WorkOrder:** 1401765  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
T2-2.5	1401765-002A	Soil	01/27/2014 15:30	GC16	86471
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 01:24
trans-1,3-Dichloropropene	ND		0.0050	1	01/29/2014 01:24
Diisopropyl ether (DIPE)	ND		0.0050	1	01/29/2014 01:24
Ethylbenzene	ND		0.0050	1	01/29/2014 01:24
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	01/29/2014 01:24
Freon 113	ND		0.10	1	01/29/2014 01:24
Hexachlorobutadiene	ND		0.0050	1	01/29/2014 01:24
Hexachloroethane	ND		0.0050	1	01/29/2014 01:24
2-Hexanone	ND		0.0050	1	01/29/2014 01:24
Isopropylbenzene	ND		0.0050	1	01/29/2014 01:24
4-Isopropyl toluene	ND		0.0050	1	01/29/2014 01:24
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	01/29/2014 01:24
Methylene chloride	ND		0.0050	1	01/29/2014 01:24
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	01/29/2014 01:24
Naphthalene	ND		0.0050	1	01/29/2014 01:24
n-Propyl benzene	ND		0.0050	1	01/29/2014 01:24
Styrene	ND		0.0050	1	01/29/2014 01:24
1,1,1,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 01:24
1,1,2,2-Tetrachloroethane	ND		0.0050	1	01/29/2014 01:24
Tetrachloroethene	ND		0.0050	1	01/29/2014 01:24
Toluene	ND		0.0050	1	01/29/2014 01:24
1,2,3-Trichlorobenzene	ND		0.0050	1	01/29/2014 01:24
1,2,4-Trichlorobenzene	ND		0.0050	1	01/29/2014 01:24
1,1,1-Trichloroethane	ND		0.0050	1	01/29/2014 01:24
1,1,2-Trichloroethane	ND		0.0050	1	01/29/2014 01:24
Trichloroethene	ND		0.0050	1	01/29/2014 01:24
Trichlorofluoromethane	ND		0.0050	1	01/29/2014 01:24
1,2,3-Trichloropropane	ND		0.0050	1	01/29/2014 01:24
1,2,4-Trimethylbenzene	ND		0.0050	1	01/29/2014 01:24
1,3,5-Trimethylbenzene	ND		0.0050	1	01/29/2014 01:24
Vinyl Chloride	ND		0.0050	1	01/29/2014 01:24
Xylenes, Total	ND		0.0050	1	01/29/2014 01:24
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	99		70-130		01/29/2014 01:24
Toluene-d8	97		70-130		01/29/2014 01:24
4-BFB	92		70-130		01/29/2014 01:24



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 1/27/14  
**Date Analyzed:** 1/28/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1401765  
**BatchID:** 86471  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-86471  
 1401736-011AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.03938	0.0050	0.050	-	78.8	70-130
Benzene	ND	0.04832	0.0050	0.050	-	96.6	70-130
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.1642	0.050	0.20	-	82.1	70-130
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.04951	0.0050	0.050	-	99	70-130
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.04423	0.0040	0.050	-	88.5	70-130
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.04524	0.0040	0.050	-	90.5	70-130
1,1-Dichloroethene	ND	0.05032	0.0050	0.050	-	101	70-130
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 1/27/14  
**Date Analyzed:** 1/28/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1401765  
**BatchID:** 86471  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-86471  
 1401736-011AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	0.04231	0.0050	0.050	-	84.6	70-130
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.04195	0.0050	0.050	-	83.9	70-130
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.04289	0.0050	0.050	-	85.8	70-130
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.05238	0.0050	0.050	-	105	70-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.05139	0.0050	0.050	-	103	70-130
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

#### Surrogate Recovery

Dibromofluoromethane	0.1577	0.2008		0.18	126	115	70-130
Toluene-d8	0.1307	0.1935		0.18	105	111	70-130
4-BFB	0.01239	0.01805		0.018	99	103	70-130

(Cont.)



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 1/27/14  
**Date Analyzed:** 1/28/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1401765  
**BatchID:** 86471  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-86471  
 1401736-011AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.03798	0.03925	0.050	ND	76	78.5	70-130	3.27	30
Benzene	0.0457	0.04681	0.050	ND	91.4	93.6	70-130	2.40	30
t-Butyl alcohol (TBA)	0.1585	0.1577	0.20	ND	79.3	78.9	70-130	0.483	30
Chlorobenzene	0.04708	0.04843	0.050	ND	94.2	96.9	70-130	2.82	30
1,2-Dibromoethane (EDB)	0.04197	0.0439	0.050	ND	83.9	87.8	70-130	4.49	30
1,2-Dichloroethane (1,2-DCA)	0.04289	0.04332	0.050	ND	85.8	86.6	70-130	0.997	30
1,1-Dichloroethene	0.04719	0.04993	0.050	ND	94.4	99.9	70-130	5.64	30
Diisopropyl ether (DIPE)	0.03963	0.04136	0.050	ND	79.3	82.7	70-130	4.29	30
Ethyl tert-butyl ether (ETBE)	0.04011	0.0418	0.050	ND	80.2	83.6	70-130	4.14	30
Methyl-t-butyl ether (MTBE)	0.04088	0.04227	0.050	ND	81.8	84.5	70-130	3.35	30
Toluene	0.04807	0.05033	0.050	ND	96.1	101	70-130	4.58	30
Trichloroethene	0.0474	0.04917	0.050	ND	94.8	98.3	70-130	3.68	30
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.1973	0.1997	0.18		113	114	70-130	1.24	30
Toluene-d8	0.1883	0.1926	0.18		108	110	70-130	2.23	30
4-BFB	0.01741	0.01801	0.018		99	103	70-130	3.41	30



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1401765

ClientCode: PDEO

WaterTrax  
  WriteOn  
  EDF  
  Excel  
  EQuIS  
 Email  
  HardCopy  
  ThirdParty  
  J-flag

**Report to:**  
 Paul King  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610  
 (510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
 cc:  
 PO:  
 ProjectNo: #0453; 8410 Amelia St. Oakland CA

**Bill to:**  
 Accounts Payable  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610

**Requested TAT: 3 days**

**Date Received: 01/28/2014**

**Date Printed: 01/28/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1401765-001	T1-2.5	Soil	1/27/2014 15:45	<input type="checkbox"/>	A												
1401765-002	T2-2.5	Soil	1/27/2014 15:30	<input type="checkbox"/>	A												

**Test Legend:**

1	8260B_S	2		3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Maria Venegas**

**Comments:**    3 Day TAT

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.





## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Comments:** 3 Day TAT

**QC Level:** LEVEL 2  
**Client Contact:** Paul King  
**Contact's Email:** lab@pdenviro.com

**Work Order:** 1401765  
**Date Received:** 1/28/2014

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1401765-001A	T1-2.5	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 15:45	3 days		<input type="checkbox"/>	
1401765-002A	T2-2.5	Soil	SW8260B (VOCs)	1	Brass/Stainless Tube	<input type="checkbox"/>	1/27/2014 15:30	3 days		<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

Brass/Stainless Tube = Brass or Stainless Steel Tube





### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **1/28/2014 3:28:19 PM**  
 Project Name: **#0453; 8410 Amelia St. Oakland CA** Login Reviewed by: **Maria Venegas**  
 WorkOrder N°: **1401765** Matrix: Soil Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: 0.9°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1311138

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Paul King  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St. Oakland

**Project Received:** 11/05/2013

Analytical Report reviewed & approved for release on 11/08/2013 by:

*Question about  
your data?*

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland  
**WorkOrder:** 1311138

<b><u>Glossary Abbreviation</u></b>	<b><u>Description</u></b>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit
RPD	Relative Percent Deviation
SPK Val	Spike Value
SPKRef Val	Spike Reference Value

### **Quality Control Qualifier**

F1 MS/MSD recovery was out of acceptance criteria; LCS validated the prep batch.



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland  
**Date Received:** 11/5/13 18:00  
**Date Prepared:** 11/6/13

**WorkOrder:** 1311138  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB7-W	1311138-001A	Water	11/05/2013 13:40	GC28	83732
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	11/06/2013 16:04
tert-Amyl methyl ether (TAME)	ND		0.50	1	11/06/2013 16:04
Benzene	ND		0.50	1	11/06/2013 16:04
Bromobenzene	ND		0.50	1	11/06/2013 16:04
Bromochloromethane	ND		0.50	1	11/06/2013 16:04
Bromodichloromethane	ND		0.50	1	11/06/2013 16:04
Bromoform	ND		0.50	1	11/06/2013 16:04
Bromomethane	ND		0.50	1	11/06/2013 16:04
2-Butanone (MEK)	ND		2.0	1	11/06/2013 16:04
t-Butyl alcohol (TBA)	ND		2.0	1	11/06/2013 16:04
n-Butyl benzene	ND		0.50	1	11/06/2013 16:04
sec-Butyl benzene	<b>0.66</b>		0.50	1	11/06/2013 16:04
tert-Butyl benzene	<b>1.4</b>		0.50	1	11/06/2013 16:04
Carbon Disulfide	<b>4.3</b>		0.50	1	11/06/2013 16:04
Carbon Tetrachloride	ND		0.50	1	11/06/2013 16:04
Chlorobenzene	ND		0.50	1	11/06/2013 16:04
Chloroethane	ND		0.50	1	11/06/2013 16:04
Chloroform	ND		0.50	1	11/06/2013 16:04
Chloromethane	ND		0.50	1	11/06/2013 16:04
2-Chlorotoluene	ND		0.50	1	11/06/2013 16:04
4-Chlorotoluene	ND		0.50	1	11/06/2013 16:04
Dibromochloromethane	ND		0.50	1	11/06/2013 16:04
1,2-Dibromo-3-chloropropane	ND		0.20	1	11/06/2013 16:04
1,2-Dibromoethane (EDB)	ND		0.50	1	11/06/2013 16:04
Dibromomethane	ND		0.50	1	11/06/2013 16:04
1,2-Dichlorobenzene	ND		0.50	1	11/06/2013 16:04
1,3-Dichlorobenzene	ND		0.50	1	11/06/2013 16:04
1,4-Dichlorobenzene	ND		0.50	1	11/06/2013 16:04
Dichlorodifluoromethane	ND		0.50	1	11/06/2013 16:04
1,1-Dichloroethane	ND		0.50	1	11/06/2013 16:04
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	11/06/2013 16:04
1,1-Dichloroethene	ND		0.50	1	11/06/2013 16:04
cis-1,2-Dichloroethene	ND		0.50	1	11/06/2013 16:04
trans-1,2-Dichloroethene	ND		0.50	1	11/06/2013 16:04
1,2-Dichloropropane	ND		0.50	1	11/06/2013 16:04
1,3-Dichloropropane	ND		0.50	1	11/06/2013 16:04
2,2-Dichloropropane	ND		0.50	1	11/06/2013 16:04
1,1-Dichloropropene	ND		0.50	1	11/06/2013 16:04

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland  
**Date Received:** 11/5/13 18:00  
**Date Prepared:** 11/6/13

**WorkOrder:** 1311138  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB7-W	1311138-001A	Water	11/05/2013 13:40	GC28	83732
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	11/06/2013 16:04
trans-1,3-Dichloropropene	ND		0.50	1	11/06/2013 16:04
Diisopropyl ether (DIPE)	ND		0.50	1	11/06/2013 16:04
Ethylbenzene	ND		0.50	1	11/06/2013 16:04
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	11/06/2013 16:04
Freon 113	ND		0.50	1	11/06/2013 16:04
Hexachlorobutadiene	ND		0.50	1	11/06/2013 16:04
Hexachloroethane	ND		0.50	1	11/06/2013 16:04
2-Hexanone	ND		0.50	1	11/06/2013 16:04
Isopropylbenzene	<b>0.64</b>		0.50	1	11/06/2013 16:04
4-Isopropyl toluene	ND		0.50	1	11/06/2013 16:04
Methyl-t-butyl ether (MTBE)	ND		0.50	1	11/06/2013 16:04
Methylene chloride	ND		0.50	1	11/06/2013 16:04
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	11/06/2013 16:04
Naphthalene	ND		0.50	1	11/06/2013 16:04
n-Propyl benzene	<b>0.80</b>		0.50	1	11/06/2013 16:04
Styrene	ND		0.50	1	11/06/2013 16:04
1,1,1,2-Tetrachloroethane	ND		0.50	1	11/06/2013 16:04
1,1,2,2-Tetrachloroethane	ND		0.50	1	11/06/2013 16:04
Tetrachloroethene	ND		0.50	1	11/06/2013 16:04
Toluene	ND		0.50	1	11/06/2013 16:04
1,2,3-Trichlorobenzene	ND		0.50	1	11/06/2013 16:04
1,2,4-Trichlorobenzene	ND		0.50	1	11/06/2013 16:04
1,1,1-Trichloroethane	ND		0.50	1	11/06/2013 16:04
1,1,2-Trichloroethane	ND		0.50	1	11/06/2013 16:04
Trichloroethene	ND		0.50	1	11/06/2013 16:04
Trichlorofluoromethane	ND		0.50	1	11/06/2013 16:04
1,2,3-Trichloropropane	ND		0.50	1	11/06/2013 16:04
1,2,4-Trimethylbenzene	ND		0.50	1	11/06/2013 16:04
1,3,5-Trimethylbenzene	ND		0.50	1	11/06/2013 16:04
Vinyl Chloride	ND		0.50	1	11/06/2013 16:04
Xylenes, Total	ND		0.50	1	11/06/2013 16:04
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	104		70-130		11/06/2013 16:04
Toluene-d8	96		70-130		11/06/2013 16:04
4-BFB	86		70-130		11/06/2013 16:04



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/6/13  
**Date Analyzed:** 11/6/13  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St. Oakland

**WorkOrder:** 1311138  
**BatchID:** 83732  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83732  
 1311098-001AMS/MSD

## QC SUMMARY REPORT FOR SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	22.22	0.50	20	-	111	70-130
Benzene	ND	20.24	0.50	20	-	101	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	93.46	2.0	80	-	117	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	20.97	0.50	20	-	105	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	20.71	0.50	20	-	104	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	21.55	0.50	20	-	108	70-130
1,1-Dichloroethene	ND	19.14	0.50	20	-	95.7	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)





# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/6/13  
**Date Analyzed:** 11/6/13  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St. Oakland

**WorkOrder:** 1311138  
**BatchID:** 83732  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83732  
 1311098-001AMS/MSD

## QC SUMMARY REPORT FOR SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	20.88	0.50	20	-	104	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	22.23	0.50	20	-	111	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	21.19	0.50	20	-	106	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	20.23	0.50	20	-	101	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	22.63	0.50	20	-	113	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	25.9	46.6		45	104	104	70-130
Toluene-d8	23.9	43.46		45	96	97	70-130
4-BFB	2.226	4.002		4.5	89	89	70-130

(Cont.)



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/6/13  
**Date Analyzed:** 11/6/13  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St. Oakland

**WorkOrder:** 1311138  
**BatchID:** 83732  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83732  
 1311098-001AMS/MSD

### QC SUMMARY REPORT FOR SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	25.59	25.02	20	ND	128	125	70-130	2.26	20
Benzene	21.33	21.23	20	ND	107	106	70-130	0.497	20
t-Butyl alcohol (TBA)	126.4	113.1	80	ND	158,F1	141,F1	70-130	11.1	20
Chlorobenzene	22	21.56	20	ND	110	108	70-130	2.00	20
1,2-Dibromoethane (EDB)	22.41	21.76	20	ND	112	109	70-130	2.95	20
1,2-Dichloroethane (1,2-DCA)	24.57	23.98	20	ND	123	120	70-130	2.44	20
1,1-Dichloroethene	19.29	19.75	20	ND	96.5	98.7	70-130	2.34	20
Diisopropyl ether (DIPE)	23.21	22.95	20	ND	116	115	70-130	1.13	20
Ethyl tert-butyl ether (ETBE)	25.3	24.77	20	ND	126	124	70-130	2.12	20
Methyl-t-butyl ether (MTBE)	24.89	24.13	20	ND	124	121	70-130	3.09	20
Toluene	20.26	20.37	20	ND	101	102	70-130	0.518	20
Trichloroethene	24.05	23.82	20	ND	120	119	70-130	0.946	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	49.54	49.3	45		110	110	70-130	0	20
Toluene-d8	42.54	43.31	45		95	96	70-130	1.81	20
4-BFB	4.073	4.162	4.5		91	92	70-130	2.17	20



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1311138

ClientCode: PDEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQUIS   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

**Report to:**

Paul King  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610  
 (510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
 cc:  
 PO:  
 ProjectNo: #0453; 8410 Amelia St. Oakland

**Bill to:**

Accounts Payable  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610

**Requested TAT:**

**5 days**

*Date Received:* 11/05/2013

*Date Printed:* 11/06/2013

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)													
					1	2	3	4	5	6	7	8	9	10	11	12		
1311138-001	SB7-W	Water	11/5/2013 13:40	<input type="checkbox"/>	A													

**Test Legend:**

1	8260B_W	2		3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Melissa Valles**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.

# CHAIN OF CUSTODY RECORD

131138

PAGE 1 OF 1

**P&D ENVIRONMENTAL, INC.**  
 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610  
 (510) 658-6916

PROJECT NUMBER:

0453

PROJECT NAME:

8410 AMELIA ST.  
 OAKLAND

SAMPLED BY: (PRINTED & SIGNATURE)

MICHAEL BASS-DESCHENES *Michael Bass-Deschenes*

NUMBER OF CONTAINERS

ANALYSIS(ES):  
 EPA 8260

PRESERVATIVE

REMARKS

SAMPLE NUMBER

DATE

TIME

TYPE

SAMPLE LOCATION

SB7-W

11/5/13

1340

Had

7

X

ICE NORMAL TAT

ICE# 3-8

GOOD CONDITION	<input checked="" type="checkbox"/>	APPROPRIATE CONTAINERS	<input checked="" type="checkbox"/>
HEAD SPACE ABSENT	<input checked="" type="checkbox"/>	PRESERVED IN LAB	<input checked="" type="checkbox"/>
DECHLORINATED IN LAB	<input type="checkbox"/>	VOAS	<input checked="" type="checkbox"/>
PRESERVATION	<input checked="" type="checkbox"/>	O&G	<input type="checkbox"/>
	<input type="checkbox"/>	METALS	<input type="checkbox"/>
	<input type="checkbox"/>	OTHER	<input type="checkbox"/>

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED BY: (SIGNATURE)

Total No. of Samples (This Shipment)

1

LABORATORY:

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED BY: (SIGNATURE)

Total No. of Containers (This Shipment)

7

McCAMPBELL ANALYTICAL

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)

LABORATORY CONTACT:

LABORATORY PHONE NUMBER:

ANGELA RYDELIUS

(877) 252-9262

SAMPLE ANALYSIS REQUEST SHEET

ATTACHED: ( ) YES (X) NO

Results and billing to:  
 P&D Environmental, Inc.  
 lab@pdenviro.com

REMARKS: ALL VOAS PRESERVED WITH HCL



### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **11/5/2013 6:00:00 PM**  
 Project Name: **#0453; 8410 Amelia St. Oakland** Login Reviewed by: **Melissa Valles**  
 WorkOrder N°: **1311138** Matrix: Water Carrier: Rob Pringle (MAI Courier)

**Chain of Custody (COC) Information**

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: 3.8°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1311896

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Paul King  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St.

**Project Received:** 11/25/2013

Analytical Report reviewed & approved for release on 12/03/2013 by:

*Question about  
your data?*

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**WorkOrder:** 1311896

<u>Glossary Abbreviation</u>	<u>Description</u>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit
RPD	Relative Percent Deviation
SPK Val	Spike Value
SPKRef Val	Spike Reference Value



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 11/25/13 18:35  
**Date Prepared:** 11/27/13

**WorkOrder:** 1311896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB8-W	1311896-001A	Water	11/25/2013	GC18	84498
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	11/27/2013 01:53
tert-Amyl methyl ether (TAME)	ND		0.50	1	11/27/2013 01:53
Benzene	ND		0.50	1	11/27/2013 01:53
Bromobenzene	ND		0.50	1	11/27/2013 01:53
Bromochloromethane	ND		0.50	1	11/27/2013 01:53
Bromodichloromethane	ND		0.50	1	11/27/2013 01:53
Bromoform	ND		0.50	1	11/27/2013 01:53
Bromomethane	ND		0.50	1	11/27/2013 01:53
2-Butanone (MEK)	ND		2.0	1	11/27/2013 01:53
t-Butyl alcohol (TBA)	ND		2.0	1	11/27/2013 01:53
n-Butyl benzene	ND		0.50	1	11/27/2013 01:53
sec-Butyl benzene	ND		0.50	1	11/27/2013 01:53
tert-Butyl benzene	ND		0.50	1	11/27/2013 01:53
Carbon Disulfide	ND		0.50	1	11/27/2013 01:53
Carbon Tetrachloride	ND		0.50	1	11/27/2013 01:53
Chlorobenzene	ND		0.50	1	11/27/2013 01:53
Chloroethane	ND		0.50	1	11/27/2013 01:53
Chloroform	ND		0.50	1	11/27/2013 01:53
Chloromethane	ND		0.50	1	11/27/2013 01:53
2-Chlorotoluene	ND		0.50	1	11/27/2013 01:53
4-Chlorotoluene	ND		0.50	1	11/27/2013 01:53
Dibromochloromethane	ND		0.50	1	11/27/2013 01:53
1,2-Dibromo-3-chloropropane	ND		0.20	1	11/27/2013 01:53
1,2-Dibromoethane (EDB)	ND		0.50	1	11/27/2013 01:53
Dibromomethane	ND		0.50	1	11/27/2013 01:53
1,2-Dichlorobenzene	ND		0.50	1	11/27/2013 01:53
1,3-Dichlorobenzene	ND		0.50	1	11/27/2013 01:53
1,4-Dichlorobenzene	ND		0.50	1	11/27/2013 01:53
Dichlorodifluoromethane	ND		0.50	1	11/27/2013 01:53
1,1-Dichloroethane	ND		0.50	1	11/27/2013 01:53
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	11/27/2013 01:53
1,1-Dichloroethene	ND		0.50	1	11/27/2013 01:53
cis-1,2-Dichloroethene	ND		0.50	1	11/27/2013 01:53
trans-1,2-Dichloroethene	ND		0.50	1	11/27/2013 01:53
1,2-Dichloropropane	ND		0.50	1	11/27/2013 01:53
1,3-Dichloropropane	ND		0.50	1	11/27/2013 01:53
2,2-Dichloropropane	ND		0.50	1	11/27/2013 01:53
1,1-Dichloropropene	ND		0.50	1	11/27/2013 01:53

(Cont.)





## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 11/25/13 18:35  
**Date Prepared:** 11/27/13

**WorkOrder:** 1311896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB8-W	1311896-001A	Water	11/25/2013	GC18	84498
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	11/27/2013 01:53
trans-1,3-Dichloropropene	ND		0.50	1	11/27/2013 01:53
Diisopropyl ether (DIPE)	ND		0.50	1	11/27/2013 01:53
Ethylbenzene	ND		0.50	1	11/27/2013 01:53
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	11/27/2013 01:53
Freon 113	ND		0.50	1	11/27/2013 01:53
Hexachlorobutadiene	ND		0.50	1	11/27/2013 01:53
Hexachloroethane	ND		0.50	1	11/27/2013 01:53
2-Hexanone	ND		0.50	1	11/27/2013 01:53
Isopropylbenzene	ND		0.50	1	11/27/2013 01:53
4-Isopropyl toluene	ND		0.50	1	11/27/2013 01:53
Methyl-t-butyl ether (MTBE)	ND		0.50	1	11/27/2013 01:53
Methylene chloride	ND		0.50	1	11/27/2013 01:53
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	11/27/2013 01:53
Naphthalene	ND		0.50	1	11/27/2013 01:53
n-Propyl benzene	ND		0.50	1	11/27/2013 01:53
Styrene	ND		0.50	1	11/27/2013 01:53
1,1,1,2-Tetrachloroethane	ND		0.50	1	11/27/2013 01:53
1,1,2,2-Tetrachloroethane	ND		0.50	1	11/27/2013 01:53
Tetrachloroethene	ND		0.50	1	11/27/2013 01:53
Toluene	ND		0.50	1	11/27/2013 01:53
1,2,3-Trichlorobenzene	ND		0.50	1	11/27/2013 01:53
1,2,4-Trichlorobenzene	ND		0.50	1	11/27/2013 01:53
1,1,1-Trichloroethane	ND		0.50	1	11/27/2013 01:53
1,1,2-Trichloroethane	ND		0.50	1	11/27/2013 01:53
Trichloroethene	ND		0.50	1	11/27/2013 01:53
Trichlorofluoromethane	ND		0.50	1	11/27/2013 01:53
1,2,3-Trichloropropane	ND		0.50	1	11/27/2013 01:53
1,2,4-Trimethylbenzene	ND		0.50	1	11/27/2013 01:53
1,3,5-Trimethylbenzene	ND		0.50	1	11/27/2013 01:53
Vinyl Chloride	ND		0.50	1	11/27/2013 01:53
Xylenes, Total	ND		0.50	1	11/27/2013 01:53
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	105		70-130		11/27/2013 01:53
Toluene-d8	95		70-130		11/27/2013 01:53
4-BFB	89		70-130		11/27/2013 01:53



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/26/13  
**Date Analyzed:** 11/26/13  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1311896  
**BatchID:** 84498  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-84498  
 1311913-001AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	19.69	0.50	20	-	98.5	70-130
Benzene	ND	19.06	0.50	20	-	95.3	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	73.58	2.0	80	-	92	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	18.8	0.50	20	-	94	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	19.35	0.50	20	-	96.7	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	17.39	0.50	20	-	87	70-130
1,1-Dichloroethene	ND	17.87	0.50	20	-	89.3	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/26/13  
**Date Analyzed:** 11/26/13  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1311896  
**BatchID:** 84498  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-84498  
 1311913-001AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	18.7	0.50	20	-	93.5	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	18.85	0.50	20	-	94.3	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	18.76	0.50	20	-	93.8	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	19.36	0.50	20	-	96.8	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	19.33	0.50	20	-	96.7	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	25.39	42.04		45	102	93	70-130
Toluene-d8	24.48	39.39		45	98	88	70-130
4-BFB	2.288	3.999		4.5	92	89	70-130

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/26/13  
**Date Analyzed:** 11/26/13  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1311896  
**BatchID:** 84498  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-84498  
 1311913-001AMS/MSD

## QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	22.86	22.55	20	ND	114	113	70-130	1.37	20
Benzene	20.5	19.81	20	ND	102	99.1	70-130	3.39	20
t-Butyl alcohol (TBA)	94.79	96.03	80	ND	118	120	70-130	1.31	20
Chlorobenzene	19.91	19.54	20	ND	99.6	97.7	70-130	1.89	20
1,2-Dibromoethane (EDB)	22.37	22.29	20	ND	112	111	70-130	0.393	20
1,2-Dichloroethane (1,2-DCA)	20.94	20.66	20	ND	105	103	70-130	1.35	20
1,1-Dichloroethene	18.55	18.51	20	ND	92.7	92.5	70-130	0.225	20
Diisopropyl ether (DIPE)	20.61	20.74	20	ND	103	104	70-130	0.611	20
Ethyl tert-butyl ether (ETBE)	21.26	21.59	20	ND	106	108	70-130	1.53	20
Methyl-t-butyl ether (MTBE)	22.39	22.48	20	ND	112	112	70-130	0	20
Toluene	19.81	19.48	20	ND	99	97.4	70-130	1.67	20
Trichloroethene	20.24	19.79	20	ND	101	99	70-130	2.22	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	44.9	44.73	45		100	99	70-130	0.397	20
Toluene-d8	39.69	39.45	45		88	88	70-130	0	20
4-BFB	3.905	3.926	4.5		87	87	70-130	0	20



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1311896

ClientCode: PDEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQUIS   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

**Report to:**

Paul King  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610  
 (510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
 cc:  
 PO:  
 ProjectNo: #0453; 8410 Amelia St.

**Bill to:**

Accounts Payable  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610

**Requested TAT:**

**5 days**

*Date Received:* 11/25/2013

*Date Printed:* 11/25/2013

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)													
					1	2	3	4	5	6	7	8	9	10	11	12		
1311896-001	SB8-W	Water	11/25/2013	<input type="checkbox"/>	A													

**Test Legend:**

1	8260B_W	2		3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Zoraida Cortez**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL

**QC Level:** LEVEL 2

**Work Order:** 1311896

**Project:** #0453; 8410 Amelia St.

**Client Contact:** Paul King

**Date Received:** 11/25/2013

**Comments:**

**Contact's Email:** lab@pdenviro.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1311896-001A	SB8-W	Water	SW8260B (VOCs)	7	VOA w/ HCl	<input type="checkbox"/>	11/25/2013	5 days		<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

VOA w/ HCl = 43mL VOA w/ HCl





### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **11/25/2013 6:35:16 PM**  
 Project Name: **#0453; 8410 Amelia St.** Login Reviewed by: **Zoraida Cortez**  
 WorkOrder N°: **1311896** Matrix: Water Carrier: Rob Pringle (MAI Courier)

**Chain of Custody (COC) Information**

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: 5.2°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:





# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1403284

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Paul King  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St.

**Project Received:** 03/10/2014

Analytical Report reviewed & approved for release on 03/11/2014 by:

*Question about  
your data?*

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**WorkOrder:** 1403284

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/10/14 16:00  
**Date Prepared:** 3/11/14

**WorkOrder:** 1403284  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB 30-W	1403284-001A	Water	03/07/2014 10:20	GC16	87991
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	03/11/2014 11:57
tert-Amyl methyl ether (TAME)	ND		0.50	1	03/11/2014 11:57
Benzene	ND		0.50	1	03/11/2014 11:57
Bromobenzene	ND		0.50	1	03/11/2014 11:57
Bromochloromethane	ND		0.50	1	03/11/2014 11:57
Bromodichloromethane	ND		0.50	1	03/11/2014 11:57
Bromoform	ND		0.50	1	03/11/2014 11:57
Bromomethane	ND		0.50	1	03/11/2014 11:57
2-Butanone (MEK)	ND		2.0	1	03/11/2014 11:57
t-Butyl alcohol (TBA)	ND		2.0	1	03/11/2014 11:57
n-Butyl benzene	ND		0.50	1	03/11/2014 11:57
sec-Butyl benzene	ND		0.50	1	03/11/2014 11:57
tert-Butyl benzene	ND		0.50	1	03/11/2014 11:57
Carbon Disulfide	ND		0.50	1	03/11/2014 11:57
Carbon Tetrachloride	ND		0.50	1	03/11/2014 11:57
Chlorobenzene	ND		0.50	1	03/11/2014 11:57
Chloroethane	ND		0.50	1	03/11/2014 11:57
Chloroform	ND		0.50	1	03/11/2014 11:57
Chloromethane	ND		0.50	1	03/11/2014 11:57
2-Chlorotoluene	ND		0.50	1	03/11/2014 11:57
4-Chlorotoluene	ND		0.50	1	03/11/2014 11:57
Dibromochloromethane	ND		0.50	1	03/11/2014 11:57
1,2-Dibromo-3-chloropropane	ND		0.20	1	03/11/2014 11:57
1,2-Dibromoethane (EDB)	ND		0.50	1	03/11/2014 11:57
Dibromomethane	ND		0.50	1	03/11/2014 11:57
1,2-Dichlorobenzene	ND		0.50	1	03/11/2014 11:57
1,3-Dichlorobenzene	ND		0.50	1	03/11/2014 11:57
1,4-Dichlorobenzene	ND		0.50	1	03/11/2014 11:57
Dichlorodifluoromethane	ND		0.50	1	03/11/2014 11:57
1,1-Dichloroethane	ND		0.50	1	03/11/2014 11:57
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	03/11/2014 11:57
1,1-Dichloroethene	ND		0.50	1	03/11/2014 11:57
cis-1,2-Dichloroethene	ND		0.50	1	03/11/2014 11:57
trans-1,2-Dichloroethene	ND		0.50	1	03/11/2014 11:57
1,2-Dichloropropane	ND		0.50	1	03/11/2014 11:57
1,3-Dichloropropane	ND		0.50	1	03/11/2014 11:57
2,2-Dichloropropane	ND		0.50	1	03/11/2014 11:57
1,1-Dichloropropene	ND		0.50	1	03/11/2014 11:57

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/10/14 16:00  
**Date Prepared:** 3/11/14

**WorkOrder:** 1403284  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB 30-W	1403284-001A	Water	03/07/2014 10:20	GC16	87991
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	03/11/2014 11:57
trans-1,3-Dichloropropene	ND		0.50	1	03/11/2014 11:57
Diisopropyl ether (DIPE)	ND		0.50	1	03/11/2014 11:57
Ethylbenzene	ND		0.50	1	03/11/2014 11:57
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	03/11/2014 11:57
Freon 113	ND		0.50	1	03/11/2014 11:57
Hexachlorobutadiene	ND		0.50	1	03/11/2014 11:57
Hexachloroethane	ND		0.50	1	03/11/2014 11:57
2-Hexanone	ND		0.50	1	03/11/2014 11:57
Isopropylbenzene	ND		0.50	1	03/11/2014 11:57
4-Isopropyl toluene	ND		0.50	1	03/11/2014 11:57
Methyl-t-butyl ether (MTBE)	ND		0.50	1	03/11/2014 11:57
Methylene chloride	ND		0.50	1	03/11/2014 11:57
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	03/11/2014 11:57
Naphthalene	ND		0.50	1	03/11/2014 11:57
n-Propyl benzene	ND		0.50	1	03/11/2014 11:57
Styrene	ND		0.50	1	03/11/2014 11:57
1,1,1,2-Tetrachloroethane	ND		0.50	1	03/11/2014 11:57
1,1,2,2-Tetrachloroethane	ND		0.50	1	03/11/2014 11:57
Tetrachloroethene	ND		0.50	1	03/11/2014 11:57
Toluene	ND		0.50	1	03/11/2014 11:57
1,2,3-Trichlorobenzene	ND		0.50	1	03/11/2014 11:57
1,2,4-Trichlorobenzene	ND		0.50	1	03/11/2014 11:57
1,1,1-Trichloroethane	ND		0.50	1	03/11/2014 11:57
1,1,2-Trichloroethane	ND		0.50	1	03/11/2014 11:57
Trichloroethene	ND		0.50	1	03/11/2014 11:57
Trichlorofluoromethane	ND		0.50	1	03/11/2014 11:57
1,2,3-Trichloropropane	ND		0.50	1	03/11/2014 11:57
1,2,4-Trimethylbenzene	ND		0.50	1	03/11/2014 11:57
1,3,5-Trimethylbenzene	ND		0.50	1	03/11/2014 11:57
Vinyl Chloride	ND		0.50	1	03/11/2014 11:57
Xylenes, Total	ND		0.50	1	03/11/2014 11:57
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	111		70-130		03/11/2014 11:57
Toluene-d8	100		70-130		03/11/2014 11:57
4-BFB	104		70-130		03/11/2014 11:57



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/11/14  
**Date Analyzed:** 3/10/14  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1403284  
**BatchID:** 87991  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87991

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	18.09	0.50	20	-	90.4	70-130
Benzene	ND	18.89	0.50	20	-	94.4	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	68.35	2.0	80	-	85.4	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	19.5	0.50	20	-	97.5	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	20.14	0.50	20	-	101	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	17.29	0.50	20	-	86.4	70-130
1,1-Dichloroethene	ND	15.73	0.50	20	-	78.6	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/11/14  
**Date Analyzed:** 3/10/14  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1403284  
**BatchID:** 87991  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87991

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	18.03	0.50	20	-	90.2	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	17.54	0.50	20	-	87.7	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	17.86	0.50	20	-	89.3	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	19.42	0.50	20	-	97.1	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	19.83	0.50	20	-	99.2	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	22.51	38.63		45	90	86	70-130
Toluene-d8	28.45	49.61		45	114	110	70-130
4-BFB	2.184	3.835		4.5	87	85	70-130



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1403284

ClientCode: PDEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQulS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Paul King  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610  
 (510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
 cc/3rd Party:  
 PO:  
 ProjectNo: #0453; 8410 Amelia St.

**Bill to:**

Accounts Payable  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610

**Requested TAT:**

**2 days**

**Date Received: 03/10/2014**

**Date Printed: 03/10/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1403284-001	SB 30-W	Water	3/7/2014 10:20	<input type="checkbox"/>	A												

**Test Legend:**

1	8260B_W	2		3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Zoraida Cortez**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL

**QC Level:** LEVEL 2

**Work Order:** 1403284

**Project:** #0453; 8410 Amelia St.

**Client Contact:** Paul King

**Date Received:** 3/10/2014

**Comments:**

**Contact's Email:** lab@pdenviro.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1403284-001A	SB 30-W	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	3/7/2014 10:20	2 days	Present	<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

VOA w/ HCl = 43mL VOA w/ HCl



1403284

CHAIN OF CUSTODY RECORD

RUSH

PAGE 1 OF 1

P&D ENVIRONMENTAL, INC.

55 Santa Clara Ave., Suite 240  
Oakland, CA 94610  
(510) 658-6916

PROJECT NUMBER:

0453

PROJECT NAME:

8410 AMELIA ST  
OAKLAND, CA

SAMPLED BY: (PRINTED & SIGNATURE)

MICHAEL BASS-DESCHENES *[Signature]*

NUMBER OF CONTAINERS

ANALYSIS(ES):  
EPA 8260

PRESERVATIVE

REMARKS

48-HOUR

X

SAMPLE NUMBER DATE TIME TYPE SAMPLE LOCATION

SB 30-W 3/7/14 1030 H2O

6 X

ICE NORMAL TAT

ICE/° 2.0

GOOD CONDITION  APPROPRIATE  
HEAD SPACE ABSENT  CONTAINERS  
DECHLORINATED IN LAB  PRESERVED IN LAB

PRESERVATION VOAS  O&G  METALS  OTHER

RELINQUISHED BY: (SIGNATURE)

*[Signature]*

DATE TIME

3/6/14 1346

RECEIVED BY: (SIGNATURE)

*[Signature]*

Total No. of Samples (This Shipment) 1  
Total No. of Containers (This Shipment) 6

LABORATORY:

McCAMPBELL ANALYTICAL, INC.

RELINQUISHED BY: (SIGNATURE)

*[Signature]*

DATE TIME

3/10/14 1531

RECEIVED BY: (SIGNATURE)

*[Signature]*

LABORATORY CONTACT:

ANGELA RYDELIUS (877) 252-9262

RELINQUISHED BY: (SIGNATURE)

*[Signature]*

DATE TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)

*[Signature]*

SAMPLE ANALYSIS REQUEST SHEET

ATTACHED: ( ) YES (X) NO

Results and billing to:  
P&D Environmental, Inc.  
lab@pdenviro.com

REMARKS: UOAs PRESERVED WITH HCL



### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **3/10/2014 4:00:18 PM**  
 Project Name: **#0453; 8410 Amelia St.** Login Reviewed by: **Zoraida Cortez**  
 WorkOrder N°: **1403284** Matrix: Water Carrier: Daniel (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: 2°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



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(714) 449-9937 | FAX (714) 449-9685

**JONES ENVIRONMENTAL  
LABORATORY RESULTS**

<b>Client:</b>	PD Environmental, Inc.	<b>Report date:</b>	10/25/2013
<b>Client Address:</b>	55 Santa Clara Ave., Suite 240 Oakland, CA 94610	<b>JEL Ref. No.:</b>	E-0003
<b>Attn:</b>	Paul King	<b>Date Sampled:</b>	10/24/2013
		<b>Date Received:</b>	10/24/2013
		<b>Date Analyzed:</b>	10/24/2013
<b>Project Address:</b>	8410 Amelia Street Oakland, CA	<b>Physical State:</b>	Soil Gas

---

**ANALYSES REQUESTED**

1. EPA 8260B - Volatile Organics by GC/MS + Oxygenates

Sampling – Soil Gas samples were collected in glass gas-tight syringes equipped with Teflon plungers. Tubing placed in the ground for soil gas sampling was purged three different times as recommended by DTSC/RWQCB guidance documents. This purge test determined how many purges of the soil gas tubing were needed throughout the project. One, five, and ten purge volumes were analyzed to make this determination.

A tracer gas mixture of n-propanol and n-pentane was placed at the tubing-surface interface before sampling. These compounds were analyzed during the 8260B analytical run to determine if there were surface leaks into the subsurface due to improper installation of the probe. No n-propanol or n-pentane was found in any of the samples reported herein.

The sampling rate was approximately 100 cc/min except when noted differently on the chain of custody record using a gas tight syringe. 10 purge volumes were used since this purging level gave the highest results for the compound(s) of greatest interest.

Prior to purging and sampling of soil gas at each point, a shut-in test was conducted to check for leaks in the above ground fittings. The shut-in test was performed on the above ground apparatus by evacuating the line to a vacuum of 100 inches of water, sealing the entire system and watching the vacuum for at least one minute. A vacuum gauge attached in parallel to the apparatus measured the vacuum. If there was any observable loss of vacuum, the fittings were adjusted as needed until the vacuum did not change noticeably. The soil gas sample was then taken.

No flow conditions occur when a sampling rate greater than 10 mL/min cannot be maintained without applying a vacuum greater than 100 inches of water to the sampling train. The sampling train is left at a vacuum for no less than three minutes. If the vacuum does not subside appreciably after three minutes, the sample location is determined to be a no flow sample.

Analytical – Soil Gas samples were analyzed using EPA Method 8260 that includes extra compounds required by DTSC/RWQCB (such as Freon 113). Instrument Continuing Calibration Verification, QC Reference Standards, Instrument Blanks and Sampling Blanks were analyzed every 12 hours as prescribed by the method. In addition, Matrix Spike (MS) and Matrix Spike Duplicates (MSD) were analyzed with each batch of Soil Gas samples. A duplicate/replicate sample was analyzed each day of the sampling activity. All samples were injected into the GC/MS system within 30 minutes of sampling.

Approval:

Steve Jones, Ph.D.  
Laboratory Manager



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**JONES ENVIRONMENTAL LABORATORY RESULTS**

**Client:** PD Environmental, Inc.  
**Client Address:** 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610

**Report date:** 10/25/2013  
**JEL Ref. No.:** E-0003

**Attn:** Paul King

**Date Sampled:** 10/24/2013  
**Date Received:** 10/24/2013  
**Date Analyzed:** 10/24/2013

**Project Address:** 8410 Amelia Street  
 Oakland, CA

**Physical State:** Soil Gas

**EPA 8260B-Volatile Organics by GC/MS + Oxygenates**

<u>Sample ID:</u>	SS2 1P	SS2 5P	SS2 10P	SS1	SS5	<u>Practical Quantitation Limit</u>	<u>Units</u>
<u>JEL ID:</u>	E-0003-01	E-0003-02	E-0003-03	E-0003-04	E-0003-05		
<b>Analytes:</b>							
Benzene	ND	ND	ND	ND	ND	20.0	µg/m3
Bromobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Bromodichloromethane	ND	ND	ND	ND	ND	20.0	µg/m3
Bromoform	ND	ND	ND	ND	ND	20.0	µg/m3
n-Butylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
sec-Butylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
tert-Butylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Carbon tetrachloride	ND	ND	ND	ND	ND	20.0	µg/m3
Chlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Chloroform	ND	ND	ND	ND	ND	20.0	µg/m3
2-Chlorotoluene	ND	ND	ND	ND	ND	20.0	µg/m3
4-Chlorotoluene	ND	ND	ND	ND	ND	20.0	µg/m3
Dibromochloromethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	20.0	µg/m3
Dibromomethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Dichlorodifluoromethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,1-Dichloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2-Dichloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,1-Dichloroethene	ND	ND	ND	ND	ND	20.0	µg/m3
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	20.0	µg/m3
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	20.0	µg/m3
1,2-Dichloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
1,3-Dichloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
2,2-Dichloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
1,1-Dichloropropene	ND	ND	ND	ND	ND	20.0	µg/m3

ND= Not Detected

## JONES ENVIRONMENTAL LABORATORY RESULTS

### EPA 8260B-Volatile Organics by GC/MS + Oxygenates

<u>Sample ID:</u>	SS2 1P	SS2 5P	SS2 10P	SS1	SS5		
<u>JEL ID:</u>	E-0003-01	E-0003-02	E-0003-03	E-0003-04	E-0003-05	<u>Practical Quantitation</u>	<u>Units</u>
<u>Analytes:</u>						<u>Limit</u>	
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	20.0	µg/m3
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	20.0	µg/m3
Ethylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Freon 113	ND	ND	ND	ND	ND	20.0	µg/m3
Hexachlorobutadiene	ND	ND	ND	ND	ND	20.0	µg/m3
Isopropylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
4-Isopropyltoluene	ND	ND	ND	ND	ND	20.0	µg/m3
Methylene chloride	ND	ND	ND	ND	ND	20.0	µg/m3
Naphthalene	ND	ND	ND	ND	ND	20.0	µg/m3
n-Propylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Styrene	ND	ND	ND	ND	ND	20.0	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
Tetrachloroethylene	ND	ND	ND	ND	ND	20.0	µg/m3
Toluene	ND	ND	ND	ND	ND	20.0	µg/m3
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
Trichloroethylene	ND	ND	ND	30.0	ND	20.0	µg/m3
Trichlorofluoromethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Vinyl chloride	ND	ND	ND	ND	ND	20.0	µg/m3
Xylenes	ND	ND	ND	ND	ND	20.0	µg/m3
MTBE	ND	ND	ND	ND	ND	20.0	µg/m3
Ethyl-tert-butylether	ND	ND	ND	ND	ND	20.0	µg/m3
Di-isopropylether	ND	ND	ND	ND	ND	20.0	µg/m3
tert-amylmethylether	ND	ND	ND	ND	ND	20.0	µg/m3
tert-Butylalcohol	ND	ND	ND	ND	ND	100.0	µg/m3
<b>TIC:</b>							
n-propanol	ND	ND	ND	ND	ND	200.0	µg/m3
n-pentane	ND	ND	ND	ND	ND	20.0	µg/m3
<b>Dilution Factor</b>	1	1	1	1	1		
<b>Surrogate Recoveries:</b>						<b>QC Limits</b>	
Dibromofluoromethane	106%	106%	107%	102%	106%	75 - 125	
Toluene-d <sub>8</sub>	93%	92%	100%	94%	92%	75 - 125	
4-Bromofluorobenzene	113%	113%	109%	111%	113%	75 - 125	
	E1-102413- E-0003	E1-102413- E-0003	E2-102413- E-0003	E1-102413- E-0003	E1-102413- E-0003		

ND= Not Detected



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**JONES ENVIRONMENTAL LABORATORY RESULTS**

**Client:** PD Environmental, Inc.  
**Client Address:** 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610

**Report date:** 10/25/2013  
**JEL Ref. No.:** E-0003

**Attn:** Paul King

**Date Sampled:** 10/24/2013  
**Date Received:** 10/24/2013  
**Date Analyzed:** 10/24/2013

**Project Address:** 8410 Amelia Street  
 Oakland, CA

**Physical State:** Soil Gas

**EPA 8260B-Volatile Organics by GC/MS + Oxygenates**

<u>Sample ID:</u>	SS3 1P	SS3 5P	SS3 10P	SS1	SS4	<u>Practical Quantitation Limit</u>	<u>Units</u>
<u>JEL ID:</u>	E-0003-06	E-0003-07	E-0003-08	E-0003-09	E-0003-10		
<b>Analytes:</b>							
Benzene	ND	ND	ND	ND	ND	20.0	µg/m3
Bromobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Bromodichloromethane	ND	ND	ND	ND	ND	20.0	µg/m3
Bromoform	ND	ND	ND	ND	ND	20.0	µg/m3
n-Butylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
sec-Butylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
tert-Butylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Carbon tetrachloride	ND	ND	ND	ND	ND	20.0	µg/m3
Chlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Chloroform	ND	ND	ND	ND	ND	20.0	µg/m3
2-Chlorotoluene	ND	ND	ND	ND	ND	20.0	µg/m3
4-Chlorotoluene	ND	ND	ND	ND	ND	20.0	µg/m3
Dibromochloromethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	20.0	µg/m3
Dibromomethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Dichlorodifluoromethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,1-Dichloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2-Dichloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,1-Dichloroethene	ND	ND	ND	ND	ND	20.0	µg/m3
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	20.0	µg/m3
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	20.0	µg/m3
1,2-Dichloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
1,3-Dichloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
2,2-Dichloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
1,1-Dichloropropene	ND	ND	ND	ND	ND	20.0	µg/m3

ND= Not Detected

**JONES ENVIRONMENTAL LABORATORY RESULTS**

**EPA 8260B-Volatile Organics by GC/MS + Oxygenates**

<u>Sample ID:</u>	SS3 1P	SS3 5P	SS3 10P	SS1	SS4		
<u>JEL ID:</u>	E-0003-06	E-0003-07	E-0003-08	E-0003-09	E-0003-10	<u>Practical Quantitation</u>	<u>Units</u>
<u>Analytes:</u>						<u>Limit</u>	
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	20.0	µg/m3
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	20.0	µg/m3
Ethylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Freon 113	ND	ND	ND	ND	ND	20.0	µg/m3
Hexachlorobutadiene	ND	ND	ND	ND	ND	20.0	µg/m3
Isopropylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
4-Isopropyltoluene	ND	ND	ND	ND	ND	20.0	µg/m3
Methylene chloride	ND	ND	ND	ND	ND	20.0	µg/m3
Naphthalene	ND	ND	ND	ND	ND	20.0	µg/m3
n-Propylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Styrene	ND	ND	ND	ND	ND	20.0	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
Tetrachloroethylene	<b>6080</b>	<b>6500</b>	<b>6780</b>	ND	<b>52.5</b>	20.0	µg/m3
Toluene	ND	ND	ND	ND	ND	20.0	µg/m3
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,1,1-Trichloroethane	<b>18.5</b>	<b>38.0</b>	<b>31.0</b>	ND	ND	20.0	µg/m3
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	20.0	µg/m3
Trichloroethylene	<b>63.5</b>	<b>61.0</b>	<b>62.5</b>	<b>33.0</b>	ND	20.0	µg/m3
Trichlorofluoromethane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	20.0	µg/m3
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	20.0	µg/m3
Vinyl chloride	ND	ND	ND	ND	ND	20.0	µg/m3
Xylenes	ND	ND	ND	ND	ND	20.0	µg/m3
MTBE	ND	ND	ND	ND	ND	20.0	µg/m3
Ethyl-tert-butylether	ND	ND	ND	ND	ND	20.0	µg/m3
Di-isopropylether	ND	ND	ND	ND	ND	20.0	µg/m3
tert-amylmethylether	ND	ND	ND	ND	ND	20.0	µg/m3
tert-Butylalcohol	ND	ND	ND	ND	ND	100.0	µg/m3
<b>TIC:</b>							
n-propanol	ND	ND	ND	ND	ND	200.0	µg/m3
n-pentane	ND	ND	ND	ND	ND	20.0	µg/m3
<u>Dilution Factor</u>	1	1	1	1	1		
<u>Surrogate Recoveries:</u>						<u>QC Limits</u>	
Dibromofluoromethane	106%	106%	106%	104%	108%	75 - 125	
Toluene-d <sub>8</sub>	91%	94%	93%	94%	93%	75 - 125	
4-Bromofluorobenzene	113%	112%	114%	118%	114%	75 - 125	
	E1-102413- E-0003	E1-102413- E-0003	E1-102413- E-0003	E1-102413- E-0003	E1-102413- E-0003		

ND= Not Detected



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**JONES ENVIRONMENTAL LABORATORY RESULTS**

**Client:** PD Environmental, Inc.  
**Client Address:** 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610

**Report date:** 10/25/2013  
**JEL Ref. No.:** E-0003

**Attn:** Paul King

**Date Sampled:** 10/24/2013  
**Date Received:** 10/24/2013  
**Date Analyzed:** 10/24/2013

**Project Address:** 8410 Amelia Street  
 Oakland, CA

**Physical State:** Soil Gas

**EPA 8260B-Volatile Organics by GC/MS + Oxygenates**

**Sample ID:** SS5 10P

**JEL ID:** E-0003-11

<b>Analytes:</b>		<b>Practical</b>	<b>Units</b>
		<b>Quantitation</b>	
		<b>Limit</b>	
Benzene	ND	20.0	µg/m3
Bromobenzene	ND	20.0	µg/m3
Bromodichloromethane	ND	20.0	µg/m3
Bromoform	ND	20.0	µg/m3
n-Butylbenzene	ND	20.0	µg/m3
sec-Butylbenzene	ND	20.0	µg/m3
tert-Butylbenzene	ND	20.0	µg/m3
Carbon tetrachloride	ND	20.0	µg/m3
Chlorobenzene	ND	20.0	µg/m3
Chloroform	ND	20.0	µg/m3
2-Chlorotoluene	ND	20.0	µg/m3
4-Chlorotoluene	ND	20.0	µg/m3
Dibromochloromethane	ND	20.0	µg/m3
1,2-Dibromo-3-chloropropane	ND	20.0	µg/m3
1,2-Dibromoethane (EDB)	ND	20.0	µg/m3
Dibromomethane	ND	20.0	µg/m3
1,2- Dichlorobenzene	ND	20.0	µg/m3
1,3-Dichlorobenzene	ND	20.0	µg/m3
1,4-Dichlorobenzene	ND	20.0	µg/m3
Dichlorodifluoromethane	ND	20.0	µg/m3
1,1-Dichloroethane	ND	20.0	µg/m3
1,2-Dichloroethane	ND	20.0	µg/m3
1,1-Dichloroethene	ND	20.0	µg/m3
cis-1,2-Dichloroethene	ND	20.0	µg/m3
trans-1,2-Dichloroethene	ND	20.0	µg/m3
1,2-Dichloropropane	ND	20.0	µg/m3
1,3-Dichloropropane	ND	20.0	µg/m3
2,2-Dichloropropane	ND	20.0	µg/m3
1,1-Dichloropropene	ND	20.0	µg/m3

ND= Not Detected



## JONES ENVIRONMENTAL LABORATORY RESULTS

### EPA 8260B-Volatile Organics by GC/MS + Oxygenates

**Sample ID:** SS5 10P

**JEL ID:** E-0003-11

<b>Analytes:</b>		<b>Practical</b>	<b>Units</b>
		<b>Quantitation</b>	
		<b>Limit</b>	
cis-1,3-Dichloropropene	ND	20.0	µg/m3
trans-1,3-Dichloropropene	ND	20.0	µg/m3
Ethylbenzene	ND	20.0	µg/m3
Freon 113	ND	20.0	µg/m3
Hexachlorobutadiene	ND	20.0	µg/m3
Isopropylbenzene	ND	20.0	µg/m3
4-Isopropyltoluene	ND	20.0	µg/m3
Methylene chloride	ND	20.0	µg/m3
Naphthalene	ND	20.0	µg/m3
n-Propylbenzene	ND	20.0	µg/m3
Styrene	ND	20.0	µg/m3
1,1,1,2-Tetrachloroethane	ND	20.0	µg/m3
1,1,2,2-Tetrachloroethane	ND	20.0	µg/m3
Tetrachloroethylene	ND	20.0	µg/m3
Toluene	ND	20.0	µg/m3
1,2,3-Trichlorobenzene	ND	20.0	µg/m3
1,2,4-Trichlorobenzene	ND	20.0	µg/m3
1,1,1-Trichloroethane	ND	20.0	µg/m3
1,1,2-Trichloroethane	ND	20.0	µg/m3
Trichloroethylene	ND	20.0	µg/m3
Trichlorofluoromethane	ND	20.0	µg/m3
1,2,3-Trichloropropane	ND	20.0	µg/m3
1,2,4-Trimethylbenzene	ND	20.0	µg/m3
1,3,5-Trimethylbenzene	ND	20.0	µg/m3
Vinyl chloride	ND	20.0	µg/m3
Xylenes	ND	20.0	µg/m3
MTBE	ND	20.0	µg/m3
Ethyl-tert-butylether	ND	20.0	µg/m3
Di-isopropylether	ND	20.0	µg/m3
tert-amylmethylether	ND	20.0	µg/m3
tert-Butylalcohol	ND	100.0	µg/m3

**TIC:**

n-propanol	ND	200.0	µg/m3
n-pentane	ND	20.0	µg/m3

**Dilution Factor** 1

<b>Surrogate Recoveries:</b>		<b>QC Limits</b>
Dibromofluoromethane	105%	75 - 125
Toluene-d <sub>8</sub>	91%	75 - 125
4-Bromofluorobenzene	111%	75 - 125

E1-102413-  
E-0003

ND= Not Detected



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**JONES ENVIRONMENTAL LABORATORY RESULTS**

**Client:** PD Environmental, Inc.  
**Client Address:** 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610

**Report date:** 10/25/2013  
**JEL Ref. No.:** E-0003

**Attn:** Paul King

**Date Sampled:** 10/24/2013  
**Date Received:** 10/24/2013  
**Date Analyzed:** 10/24/2013

**Project Address:** 8410 Amelia Street  
 Oakland, CA

**Physical State:** Soil Gas

**EPA 8260B-Volatile Organics by GC/MS + Oxygenates**

<u>Sample ID:</u>	<b>METHOD BLANK</b>	<b>METHOD BLANK</b>	<b>SAMPLE BLANK</b>		
<u>JEL ID:</u>	<b>E-0003-12</b>	<b>E-0003-16</b>	<b>E-0003-17</b>		<u>Practical Quantitation Limit</u>
<b>Analytes:</b>					<u>Units</u>
Benzene	ND	ND	ND	20.0	µg/m3
Bromobenzene	ND	ND	ND	20.0	µg/m3
Bromodichloromethane	ND	ND	ND	20.0	µg/m3
Bromoform	ND	ND	ND	20.0	µg/m3
n-Butylbenzene	ND	ND	ND	20.0	µg/m3
sec-Butylbenzene	ND	ND	ND	20.0	µg/m3
tert-Butylbenzene	ND	ND	ND	20.0	µg/m3
Carbon tetrachloride	ND	ND	ND	20.0	µg/m3
Chlorobenzene	ND	ND	ND	20.0	µg/m3
Chloroform	ND	ND	ND	20.0	µg/m3
2-Chlorotoluene	ND	ND	ND	20.0	µg/m3
4-Chlorotoluene	ND	ND	ND	20.0	µg/m3
Dibromochloromethane	ND	ND	ND	20.0	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	ND	20.0	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	ND	20.0	µg/m3
Dibromomethane	ND	ND	ND	20.0	µg/m3
1,2- Dichlorobenzene	ND	ND	ND	20.0	µg/m3
1,3-Dichlorobenzene	ND	ND	ND	20.0	µg/m3
1,4-Dichlorobenzene	ND	ND	ND	20.0	µg/m3
Dichlorodifluoromethane	ND	ND	ND	20.0	µg/m3
1,1-Dichloroethane	ND	ND	ND	20.0	µg/m3
1,2-Dichloroethane	ND	ND	ND	20.0	µg/m3
1,1-Dichloroethene	ND	ND	ND	20.0	µg/m3
cis-1,2-Dichloroethene	ND	ND	ND	20.0	µg/m3
trans-1,2-Dichloroethene	ND	ND	ND	20.0	µg/m3
1,2-Dichloropropane	ND	ND	ND	20.0	µg/m3
1,3-Dichloropropane	ND	ND	ND	20.0	µg/m3
2,2-Dichloropropane	ND	ND	ND	20.0	µg/m3
1,1-Dichloropropene	ND	ND	ND	20.0	µg/m3

ND= Not Detected

**JONES ENVIRONMENTAL LABORATORY RESULTS**

**EPA 8260B-Volatile Organics by GC/MS + Oxygenates**

<u>Sample ID:</u>	<b>METHOD BLANK</b>	<b>METHOD BLANK</b>	<b>SAMPLE BLANK</b>		
<u>JEL ID:</u>	<b>E-0003-12</b>	<b>E-0003-16</b>	<b>E-0003-17</b>	<b><u>Practical Quantitation</u></b>	<b><u>Units</u></b>
<b>Analytes:</b>				<b><u>Limit</u></b>	
cis-1,3-Dichloropropene	ND	ND	ND	20.0	µg/m3
trans-1,3-Dichloropropene	ND	ND	ND	20.0	µg/m3
Ethylbenzene	ND	ND	ND	20.0	µg/m3
Freon 113	ND	ND	ND	20.0	µg/m3
Hexachlorobutadiene	ND	ND	ND	20.0	µg/m3
Isopropylbenzene	ND	ND	ND	20.0	µg/m3
4-Isopropyltoluene	ND	ND	ND	20.0	µg/m3
Methylene chloride	ND	ND	ND	20.0	µg/m3
Naphthalene	ND	ND	ND	20.0	µg/m3
n-Propylbenzene	ND	ND	ND	20.0	µg/m3
Styrene	ND	ND	ND	20.0	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	ND	20.0	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	ND	20.0	µg/m3
Tetrachloroethylene	ND	ND	ND	20.0	µg/m3
Toluene	ND	ND	ND	20.0	µg/m3
1,2,3-Trichlorobenzene	ND	ND	ND	20.0	µg/m3
1,2,4-Trichlorobenzene	ND	ND	ND	20.0	µg/m3
1,1,1-Trichloroethane	ND	ND	ND	20.0	µg/m3
1,1,2-Trichloroethane	ND	ND	ND	20.0	µg/m3
Trichloroethylene	ND	ND	ND	20.0	µg/m3
Trichlorofluoromethane	ND	ND	ND	20.0	µg/m3
1,2,3-Trichloropropane	ND	ND	ND	20.0	µg/m3
1,2,4-Trimethylbenzene	ND	ND	ND	20.0	µg/m3
1,3,5-Trimethylbenzene	ND	ND	ND	20.0	µg/m3
Vinyl chloride	ND	ND	ND	20.0	µg/m3
Xylenes	ND	ND	ND	20.0	µg/m3
MTBE	ND	ND	ND	20.0	µg/m3
Ethyl-tert-butylether	ND	ND	ND	20.0	µg/m3
Di-isopropylether	ND	ND	ND	20.0	µg/m3
tert-amylmethylether	ND	ND	ND	20.0	µg/m3
tert-Butylalcohol	ND	ND	ND	100.0	µg/m3
TPH Gasoline Range	ND	ND	ND	200.0	µg/m3
<b>TIC:</b>					
n-propanol	ND	ND	ND	200.0	µg/m3
n-pentane	ND	ND	ND	20.0	µg/m3
<b><u>Dilution Factor</u></b>	<b>1</b>	<b>1</b>	<b>1</b>		
<b><u>Surrogate Recoveries:</u></b>				<b><u>QC Limits</u></b>	
Dibromofluoromethane	106%	110%	119%	75 - 125	
Toluene-d <sub>8</sub>	92%	96%	97%	75 - 125	
4-Bromofluorobenzene	115%	104%	97%	75 - 125	
	<b>E1-102413- E-0003</b>	<b>E2-102413- E-0003</b>	<b>E2-102413- E-0003</b>		

ND= Not Detected



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**JONES ENVIRONMENTAL  
 QUALITY CONTROL INFORMATION**

**Client:** PD Environmental, Inc.  
**Client Address:** 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610

**Report date:** 10/25/2013  
**JEL Ref. No.:** E-0003

**Attn:** Paul King

**Date Sampled:** 10/24/2013  
**Date Received:** 10/24/2013  
**Date Analyzed:** 10/24/2013

**Project Address:** 8410 Amelia Street  
 Oakland, CA

**Physical State:** Soil Gas

**EPA 8260B-Volatile Organics by GC/MS + Oxygenates**

<b>Sample Spiked:</b>	Ambient Air		GC#: E1-102413-E-0003			
	<b>JEL ID:</b>	<b>E-0003-14</b>	<b>E-0003-15</b>	<b>E-0003-13</b>		
<u>Parameter</u>	MS Recovery (%)	MSD Recovery (%)	<u>RPD</u>	Acceptability Range (%)	<u>LCS</u>	Acceptability Range (%)
Vinyl Chloride	80%	90%	12%	70-130	80%	70-130
1,1-Dichloroethylene	76%	80%	4.6%	70-130	88%	70-130
Cis-1,2-Dichloroethene	84%	88%	5.3%	70-130	102%	70-130
1,1,1-Trichloroethane	84%	88%	5.3%	70-130	98%	70-130
Benzene	89%	91%	2.5%	70-130	106%	70-130
Trichloroethylene	92%	96%	4.6%	70-130	108%	70-130
Toluene	81%	85%	4.1%	70-130	98%	70-130
Tetrachloroethene	91%	91%	0.5%	70-130	109%	70-130
Chlorobenzene	88%	92%	3.9%	70-130	105%	70-130
Ethylbenzene	76%	77%	1.4%	70-130	90%	70-130
1,2,4 Trimethylbenzene	79%	82%	3.5%	70-130	91%	70-130
<b><u>Surrogate Recovery:</u></b>						
Dibromofluoromethane	110%	109%		75-125	109%	75-125
Toluene-d <sub>8</sub>	92%	94%		75-125	91%	75-125
4-Bromofluorobenzene	85%	107%		75-125	104%	75-125

Method Blank = Not Detected

MS = Matrix Spike  
 MSD = Matrix Spike Duplicate  
 RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%



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**JONES ENVIRONMENTAL  
 QUALITY CONTROL INFORMATION**

**Client:** PD Environmental, Inc.  
**Client Address:** 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610

**Report date:** 10/25/2013  
**JEL Ref. No.:** E-0003

**Attn:** Paul King

**Date Sampled:** 10/24/2013  
**Date Received:** 10/24/2013  
**Date Analyzed:** 10/24/2013

**Project Address:** 8410 Amelia Street  
 Oakland, CA

**Physical State:** Soil Gas

**EPA 8260B-Volatile Organics by GC/MS + Oxygenates**

<b>Sample Spiked:</b>	Ambient Air		<b>GC#:</b> E2-102413-E-0003			
	<b>JEL ID:</b>	<b>E-0003-19</b>	<b>E-0003-20</b>	<b>E-0003-18</b>		
<u>Parameter</u>	<u>MS</u> Recovery (%)	<u>MSD</u> Recovery (%)	<u>RPD</u>	<u>Acceptability</u> Range (%)	<u>LCS</u>	<u>Acceptability</u> Range (%)
Vinyl Chloride	75%	71%	5.2%	70-130	77%	70-130
1,1-Dichloroethylene	77%	72%	6.4%	70-130	88%	70-130
Cis-1,2-Dichloroethene	95%	102%	7.9%	70-130	113%	70-130
1,1,1-Trichloroethane	87%	86%	1.6%	70-130	98%	70-130
Benzene	88%	92%	3.8%	70-130	100%	70-130
Trichloroethylene	79%	76%	4.6%	70-130	92%	70-130
Toluene	83%	81%	3.2%	70-130	93%	70-130
Tetrachloroethene	87%	76%	14%	70-130	92%	70-130
Chlorobenzene	101%	94%	7.4%	70-130	107%	70-130
Ethylbenzene	93%	82%	12%	70-130	95%	70-130
1,2,4 Trimethylbenzene	93%	89%	3.9%	70-130	97%	70-130
<b><u>Surrogate Recovery:</u></b>						
Dibromofluoromethane	112%	125%		75-125	114%	75-125
Toluene-d <sub>8</sub>	93%	92%		75-125	94%	75-125
4-Bromofluorobenzene	105%	100%		75-125	97%	75-125

Method Blank = Not Detected

MS = Matrix Spike  
 MSD = Matrix Spike Duplicate  
 RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%







# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1310A36 **Amended:** 11/15/2013

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Michael Deschenes  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia Street, Oakland, CA

**Project Received:** 10/31/2013

Analytical Report reviewed & approved for release on 11/06/2013 by:

Question about  
your data?

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***







## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia Street, Oakland, CA  
**WorkOrder:** 1310A36

<b><u>Glossary</u></b> <b><u>Abbreviation</u></b>	<b><u>Description</u></b>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit
RPD	Relative Percent Deviation
SPK Val	Spike Value
SPKRef Val	Spike Reference Value

### **Analytical** **Qualifier**

H samples were analyzed out of holding time

### **Quality Control** **Qualifier**

F1 MS/MSD recovery was out of acceptance criteria; LCS validated the prep batch.



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia Street, Oakland, CA  
**Date Received:** 10/31/13 18:31  
**Date Prepared:** 10/31/13-11/1/13

**WorkOrder:** 1310A36  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS6	1310A36-001A	Air	10/31/2013 12:25	GC28	83609
Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	11/01/2013 11:24
tert-Amyl methyl ether (TAME)	ND	H	250	1	11/01/2013 11:24
Benzene	ND	H	250	1	11/01/2013 11:24
Bromobenzene	ND	H	250	1	11/01/2013 11:24
Bromochloromethane	ND	H	250	1	11/01/2013 11:24
Bromodichloromethane	ND	H	250	1	11/01/2013 11:24
Bromoform	ND	H	250	1	11/01/2013 11:24
Bromomethane	ND	H	250	1	11/01/2013 11:24
2-Butanone (MEK)	ND	H	1000	1	11/01/2013 11:24
t-Butyl alcohol (TBA)	9100	H	2500	1	11/01/2013 11:24
n-Butyl benzene	ND	H	250	1	11/01/2013 11:24
sec-Butyl benzene	ND	H	250	1	11/01/2013 11:24
tert-Butyl benzene	ND	H	250	1	11/01/2013 11:24
Carbon Disulfide	ND	H	250	1	11/01/2013 11:24
Carbon Tetrachloride	ND	H	250	1	11/01/2013 11:24
Chlorobenzene	ND	H	250	1	11/01/2013 11:24
Chloroethane	ND	H	250	1	11/01/2013 11:24
Chloroform	ND	H	250	1	11/01/2013 11:24
Chloromethane	ND	H	250	1	11/01/2013 11:24
2-Chlorotoluene	ND	H	250	1	11/01/2013 11:24
4-Chlorotoluene	ND	H	250	1	11/01/2013 11:24
Dibromochloromethane	ND	H	250	1	11/01/2013 11:24
1,2-Dibromo-3-chloropropane	ND	H	250	1	11/01/2013 11:24
1,2-Dibromoethane (EDB)	ND	H	250	1	11/01/2013 11:24
Dibromomethane	ND	H	250	1	11/01/2013 11:24
1,2-Dichlorobenzene	ND	H	250	1	11/01/2013 11:24
1,3-Dichlorobenzene	ND	H	250	1	11/01/2013 11:24
1,4-Dichlorobenzene	ND	H	250	1	11/01/2013 11:24
Dichlorodifluoromethane	ND	H	250	1	11/01/2013 11:24
1,1-Dichloroethane	ND	H	250	1	11/01/2013 11:24
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	11/01/2013 11:24
1,1-Dichloroethene	ND	H	250	1	11/01/2013 11:24
cis-1,2-Dichloroethene	ND	H	250	1	11/01/2013 11:24
trans-1,2-Dichloroethene	ND	H	250	1	11/01/2013 11:24
1,2-Dichloropropane	ND	H	250	1	11/01/2013 11:24
1,3-Dichloropropane	ND	H	250	1	11/01/2013 11:24
2,2-Dichloropropane	ND	H	250	1	11/01/2013 11:24
1,1-Dichloropropene	ND	H	250	1	11/01/2013 11:24

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia Street, Oakland, CA  
**Date Received:** 10/31/13 18:31  
**Date Prepared:** 10/31/13-11/1/13

**WorkOrder:** 1310A36  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS6	1310A36-001A	Air	10/31/2013 12:25	GC28	83609
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	250	1	11/01/2013 11:24
trans-1,3-Dichloropropene	ND	H	250	1	11/01/2013 11:24
Diisopropyl ether (DIPE)	ND	H	250	1	11/01/2013 11:24
Ethylbenzene	ND	H	250	1	11/01/2013 11:24
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	11/01/2013 11:24
Freon 113	ND	H	5000	1	11/01/2013 11:24
Hexachlorobutadiene	ND	H	250	1	11/01/2013 11:24
Hexachloroethane	ND	H	250	1	11/01/2013 11:24
2-Hexanone	ND	H	250	1	11/01/2013 11:24
Isopropylbenzene	ND	H	250	1	11/01/2013 11:24
4-Isopropyl toluene	ND	H	250	1	11/01/2013 11:24
Methyl-t-butyl ether (MTBE)	ND	H	250	1	11/01/2013 11:24
Methylene chloride	ND	H	250	1	11/01/2013 11:24
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	11/01/2013 11:24
Naphthalene	ND	H	250	1	11/01/2013 11:24
n-Propyl benzene	ND	H	250	1	11/01/2013 11:24
Styrene	ND	H	250	1	11/01/2013 11:24
1,1,1,2-Tetrachloroethane	ND	H	250	1	11/01/2013 11:24
1,1,2,2-Tetrachloroethane	ND	H	250	1	11/01/2013 11:24
Tetrachloroethene	<b>300</b>	H	250	1	11/01/2013 11:24
Toluene	ND	H	250	1	11/01/2013 11:24
1,2,3-Trichlorobenzene	ND	H	250	1	11/01/2013 11:24
1,2,4-Trichlorobenzene	ND	H	250	1	11/01/2013 11:24
1,1,1-Trichloroethane	ND	H	250	1	11/01/2013 11:24
1,1,2-Trichloroethane	ND	H	250	1	11/01/2013 11:24
Trichloroethene	ND	H	250	1	11/01/2013 11:24
Trichlorofluoromethane	ND	H	250	1	11/01/2013 11:24
1,2,3-Trichloropropane	ND	H	250	1	11/01/2013 11:24
1,2,4-Trimethylbenzene	ND	H	250	1	11/01/2013 11:24
1,3,5-Trimethylbenzene	ND	H	250	1	11/01/2013 11:24
Vinyl Chloride	ND	H	250	1	11/01/2013 11:24
Xylenes, Total	ND	H	250	1	11/01/2013 11:24
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	104	H	70-130		11/01/2013 11:24
Toluene-d8	99	H	70-130		11/01/2013 11:24
4-BFB	90	H	70-130		11/01/2013 11:24

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia Street, Oakland, CA  
**Date Received:** 10/31/13 18:31  
**Date Prepared:** 10/31/13-11/1/13

**WorkOrder:** 1310A36  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS7	1310A36-002A	Air	10/31/2013 13:24	GC28	83529
Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	10/31/2013 19:30
tert-Amyl methyl ether (TAME)	ND	H	250	1	10/31/2013 19:30
Benzene	ND	H	250	1	10/31/2013 19:30
Bromobenzene	ND	H	250	1	10/31/2013 19:30
Bromochloromethane	ND	H	250	1	10/31/2013 19:30
Bromodichloromethane	ND	H	250	1	10/31/2013 19:30
Bromoform	ND	H	250	1	10/31/2013 19:30
Bromomethane	ND	H	250	1	10/31/2013 19:30
2-Butanone (MEK)	ND	H	1000	1	10/31/2013 19:30
t-Butyl alcohol (TBA)	ND	H	2500	1	10/31/2013 19:30
n-Butyl benzene	ND	H	250	1	10/31/2013 19:30
sec-Butyl benzene	ND	H	250	1	10/31/2013 19:30
tert-Butyl benzene	ND	H	250	1	10/31/2013 19:30
Carbon Disulfide	ND	H	250	1	10/31/2013 19:30
Carbon Tetrachloride	ND	H	250	1	10/31/2013 19:30
Chlorobenzene	ND	H	250	1	10/31/2013 19:30
Chloroethane	ND	H	250	1	10/31/2013 19:30
Chloroform	ND	H	250	1	10/31/2013 19:30
Chloromethane	ND	H	250	1	10/31/2013 19:30
2-Chlorotoluene	ND	H	250	1	10/31/2013 19:30
4-Chlorotoluene	ND	H	250	1	10/31/2013 19:30
Dibromochloromethane	ND	H	250	1	10/31/2013 19:30
1,2-Dibromo-3-chloropropane	ND	H	250	1	10/31/2013 19:30
1,2-Dibromoethane (EDB)	ND	H	250	1	10/31/2013 19:30
Dibromomethane	ND	H	250	1	10/31/2013 19:30
1,2-Dichlorobenzene	ND	H	250	1	10/31/2013 19:30
1,3-Dichlorobenzene	ND	H	250	1	10/31/2013 19:30
1,4-Dichlorobenzene	ND	H	250	1	10/31/2013 19:30
Dichlorodifluoromethane	ND	H	250	1	10/31/2013 19:30
1,1-Dichloroethane	ND	H	250	1	10/31/2013 19:30
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	10/31/2013 19:30
1,1-Dichloroethene	ND	H	250	1	10/31/2013 19:30
cis-1,2-Dichloroethene	ND	H	250	1	10/31/2013 19:30
trans-1,2-Dichloroethene	ND	H	250	1	10/31/2013 19:30
1,2-Dichloropropane	ND	H	250	1	10/31/2013 19:30
1,3-Dichloropropane	ND	H	250	1	10/31/2013 19:30
2,2-Dichloropropane	ND	H	250	1	10/31/2013 19:30
1,1-Dichloropropene	ND	H	250	1	10/31/2013 19:30

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia Street, Oakland, CA  
**Date Received:** 10/31/13 18:31  
**Date Prepared:** 10/31/13-11/1/13

**WorkOrder:** 1310A36  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS7	1310A36-002A	Air	10/31/2013 13:24	GC28	83529
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	250	1	10/31/2013 19:30
trans-1,3-Dichloropropene	ND	H	250	1	10/31/2013 19:30
Diisopropyl ether (DIPE)	ND	H	250	1	10/31/2013 19:30
Ethylbenzene	ND	H	250	1	10/31/2013 19:30
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	10/31/2013 19:30
Freon 113	ND	H	5000	1	10/31/2013 19:30
Hexachlorobutadiene	ND	H	250	1	10/31/2013 19:30
Hexachloroethane	ND	H	250	1	10/31/2013 19:30
2-Hexanone	ND	H	250	1	10/31/2013 19:30
Isopropylbenzene	ND	H	250	1	10/31/2013 19:30
4-Isopropyl toluene	ND	H	250	1	10/31/2013 19:30
Methyl-t-butyl ether (MTBE)	ND	H	250	1	10/31/2013 19:30
Methylene chloride	ND	H	250	1	10/31/2013 19:30
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	10/31/2013 19:30
Naphthalene	ND	H	250	1	10/31/2013 19:30
n-Propyl benzene	ND	H	250	1	10/31/2013 19:30
Styrene	ND	H	250	1	10/31/2013 19:30
1,1,1,2-Tetrachloroethane	ND	H	250	1	10/31/2013 19:30
1,1,2,2-Tetrachloroethane	ND	H	250	1	10/31/2013 19:30
Tetrachloroethene	ND	H	250	1	10/31/2013 19:30
Toluene	ND	H	250	1	10/31/2013 19:30
1,2,3-Trichlorobenzene	ND	H	250	1	10/31/2013 19:30
1,2,4-Trichlorobenzene	ND	H	250	1	10/31/2013 19:30
1,1,1-Trichloroethane	ND	H	250	1	10/31/2013 19:30
1,1,2-Trichloroethane	ND	H	250	1	10/31/2013 19:30
Trichloroethene	ND	H	250	1	10/31/2013 19:30
Trichlorofluoromethane	ND	H	250	1	10/31/2013 19:30
1,2,3-Trichloropropane	ND	H	250	1	10/31/2013 19:30
1,2,4-Trimethylbenzene	ND	H	250	1	10/31/2013 19:30
1,3,5-Trimethylbenzene	ND	H	250	1	10/31/2013 19:30
Vinyl Chloride	ND	H	250	1	10/31/2013 19:30
Xylenes, Total	ND	H	250	1	10/31/2013 19:30
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	107	H	70-130		10/31/2013 19:30
Toluene-d8	98	H	70-130		10/31/2013 19:30
4-BFB	94	H	70-130		10/31/2013 19:30

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia Street, Oakland, CA  
**Date Received:** 10/31/13 18:31  
**Date Prepared:** 10/31/13-11/1/13

**WorkOrder:** 1310A36  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS8	1310A36-003A	Air	10/31/2013 14:45	GC28	83609
Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	11/01/2013 17:47
tert-Amyl methyl ether (TAME)	ND	H	250	1	11/01/2013 17:47
Benzene	ND	H	250	1	11/01/2013 17:47
Bromobenzene	ND	H	250	1	11/01/2013 17:47
Bromochloromethane	ND	H	250	1	11/01/2013 17:47
Bromodichloromethane	ND	H	250	1	11/01/2013 17:47
Bromoform	ND	H	250	1	11/01/2013 17:47
Bromomethane	ND	H	250	1	11/01/2013 17:47
2-Butanone (MEK)	ND	H	1000	1	11/01/2013 17:47
t-Butyl alcohol (TBA)	ND	H	2500	1	11/01/2013 17:47
n-Butyl benzene	ND	H	250	1	11/01/2013 17:47
sec-Butyl benzene	ND	H	250	1	11/01/2013 17:47
tert-Butyl benzene	ND	H	250	1	11/01/2013 17:47
Carbon Disulfide	ND	H	250	1	11/01/2013 17:47
Carbon Tetrachloride	ND	H	250	1	11/01/2013 17:47
Chlorobenzene	ND	H	250	1	11/01/2013 17:47
Chloroethane	ND	H	250	1	11/01/2013 17:47
Chloroform	ND	H	250	1	11/01/2013 17:47
Chloromethane	ND	H	250	1	11/01/2013 17:47
2-Chlorotoluene	ND	H	250	1	11/01/2013 17:47
4-Chlorotoluene	ND	H	250	1	11/01/2013 17:47
Dibromochloromethane	ND	H	250	1	11/01/2013 17:47
1,2-Dibromo-3-chloropropane	ND	H	250	1	11/01/2013 17:47
1,2-Dibromoethane (EDB)	ND	H	250	1	11/01/2013 17:47
Dibromomethane	ND	H	250	1	11/01/2013 17:47
1,2-Dichlorobenzene	ND	H	250	1	11/01/2013 17:47
1,3-Dichlorobenzene	ND	H	250	1	11/01/2013 17:47
1,4-Dichlorobenzene	ND	H	250	1	11/01/2013 17:47
Dichlorodifluoromethane	ND	H	250	1	11/01/2013 17:47
1,1-Dichloroethane	ND	H	250	1	11/01/2013 17:47
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	11/01/2013 17:47
1,1-Dichloroethene	ND	H	250	1	11/01/2013 17:47
cis-1,2-Dichloroethene	ND	H	250	1	11/01/2013 17:47
trans-1,2-Dichloroethene	ND	H	250	1	11/01/2013 17:47
1,2-Dichloropropane	ND	H	250	1	11/01/2013 17:47
1,3-Dichloropropane	ND	H	250	1	11/01/2013 17:47
2,2-Dichloropropane	ND	H	250	1	11/01/2013 17:47
1,1-Dichloropropene	ND	H	250	1	11/01/2013 17:47

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia Street, Oakland, CA  
**Date Received:** 10/31/13 18:31  
**Date Prepared:** 10/31/13-11/1/13

**WorkOrder:** 1310A36  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS8	1310A36-003A	Air	10/31/2013 14:45	GC28	83609
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	250	1	11/01/2013 17:47
trans-1,3-Dichloropropene	ND	H	250	1	11/01/2013 17:47
Diisopropyl ether (DIPE)	ND	H	250	1	11/01/2013 17:47
Ethylbenzene	ND	H	250	1	11/01/2013 17:47
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	11/01/2013 17:47
Freon 113	ND	H	5000	1	11/01/2013 17:47
Hexachlorobutadiene	ND	H	250	1	11/01/2013 17:47
Hexachloroethane	ND	H	250	1	11/01/2013 17:47
2-Hexanone	ND	H	250	1	11/01/2013 17:47
Isopropylbenzene	ND	H	250	1	11/01/2013 17:47
4-Isopropyl toluene	ND	H	250	1	11/01/2013 17:47
Methyl-t-butyl ether (MTBE)	ND	H	250	1	11/01/2013 17:47
Methylene chloride	ND	H	250	1	11/01/2013 17:47
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	11/01/2013 17:47
Naphthalene	ND	H	250	1	11/01/2013 17:47
n-Propyl benzene	ND	H	250	1	11/01/2013 17:47
Styrene	ND	H	250	1	11/01/2013 17:47
1,1,1,2-Tetrachloroethane	ND	H	250	1	11/01/2013 17:47
1,1,2,2-Tetrachloroethane	ND	H	250	1	11/01/2013 17:47
Tetrachloroethene	ND	H	250	1	11/01/2013 17:47
Toluene	ND	H	250	1	11/01/2013 17:47
1,2,3-Trichlorobenzene	ND	H	250	1	11/01/2013 17:47
1,2,4-Trichlorobenzene	ND	H	250	1	11/01/2013 17:47
1,1,1-Trichloroethane	ND	H	250	1	11/01/2013 17:47
1,1,2-Trichloroethane	ND	H	250	1	11/01/2013 17:47
Trichloroethene	ND	H	250	1	11/01/2013 17:47
Trichlorofluoromethane	ND	H	250	1	11/01/2013 17:47
1,2,3-Trichloropropane	ND	H	250	1	11/01/2013 17:47
1,2,4-Trimethylbenzene	ND	H	250	1	11/01/2013 17:47
1,3,5-Trimethylbenzene	ND	H	250	1	11/01/2013 17:47
Vinyl Chloride	ND	H	250	1	11/01/2013 17:47
Xylenes, Total	ND	H	250	1	11/01/2013 17:47
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	107	H	70-130		11/01/2013 17:47
Toluene-d8	98	H	70-130		11/01/2013 17:47
4-BFB	89	H	70-130		11/01/2013 17:47

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# Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia Street, Oakland, CA  
**Date Received:** 10/31/13 18:31  
**Date Prepared:** 10/31/13-11/1/13

**WorkOrder:** 1310A36  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS9	1310A36-004A	Air	10/31/2013 11:47	GC28	83609
Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	11/01/2013 15:52
tert-Amyl methyl ether (TAME)	ND	H	250	1	11/01/2013 15:52
Benzene	ND	H	250	1	11/01/2013 15:52
Bromobenzene	ND	H	250	1	11/01/2013 15:52
Bromochloromethane	ND	H	250	1	11/01/2013 15:52
Bromodichloromethane	ND	H	250	1	11/01/2013 15:52
Bromoform	ND	H	250	1	11/01/2013 15:52
Bromomethane	ND	H	250	1	11/01/2013 15:52
2-Butanone (MEK)	ND	H	1000	1	11/01/2013 15:52
t-Butyl alcohol (TBA)	ND	H	2500	1	11/01/2013 19:42
n-Butyl benzene	ND	H	250	1	11/01/2013 15:52
sec-Butyl benzene	ND	H	250	1	11/01/2013 15:52
tert-Butyl benzene	ND	H	250	1	11/01/2013 15:52
Carbon Disulfide	ND	H	250	1	11/01/2013 15:52
Carbon Tetrachloride	ND	H	250	1	11/01/2013 15:52
Chlorobenzene	ND	H	250	1	11/01/2013 15:52
Chloroethane	ND	H	250	1	11/01/2013 15:52
Chloroform	ND	H	250	1	11/01/2013 15:52
Chloromethane	ND	H	250	1	11/01/2013 15:52
2-Chlorotoluene	ND	H	250	1	11/01/2013 15:52
4-Chlorotoluene	ND	H	250	1	11/01/2013 15:52
Dibromochloromethane	ND	H	250	1	11/01/2013 15:52
1,2-Dibromo-3-chloropropane	ND	H	250	1	11/01/2013 15:52
1,2-Dibromoethane (EDB)	ND	H	250	1	11/01/2013 15:52
Dibromomethane	ND	H	250	1	11/01/2013 15:52
1,2-Dichlorobenzene	ND	H	250	1	11/01/2013 15:52
1,3-Dichlorobenzene	ND	H	250	1	11/01/2013 15:52
1,4-Dichlorobenzene	ND	H	250	1	11/01/2013 15:52
Dichlorodifluoromethane	ND	H	250	1	11/01/2013 15:52
1,1-Dichloroethane	ND	H	250	1	11/01/2013 15:52
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	11/01/2013 15:52
1,1-Dichloroethene	ND	H	250	1	11/01/2013 15:52
cis-1,2-Dichloroethene	ND	H	250	1	11/01/2013 15:52
trans-1,2-Dichloroethene	ND	H	250	1	11/01/2013 15:52
1,2-Dichloropropane	ND	H	250	1	11/01/2013 15:52
1,3-Dichloropropane	ND	H	250	1	11/01/2013 15:52
2,2-Dichloropropane	ND	H	250	1	11/01/2013 15:52
1,1-Dichloropropene	ND	H	250	1	11/01/2013 15:52

(Cont.)





## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia Street, Oakland, CA  
**Date Received:** 10/31/13 18:31  
**Date Prepared:** 10/31/13-11/1/13

**WorkOrder:** 1310A36  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS9	1310A36-004A	Air	10/31/2013 11:47	GC28	83609
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	250	1	11/01/2013 15:52
trans-1,3-Dichloropropene	ND	H	250	1	11/01/2013 15:52
Diisopropyl ether (DIPE)	ND	H	250	1	11/01/2013 15:52
Ethylbenzene	ND	H	250	1	11/01/2013 15:52
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	11/01/2013 15:52
Freon 113	ND	H	5000	1	11/01/2013 15:52
Hexachlorobutadiene	ND	H	250	1	11/01/2013 15:52
Hexachloroethane	ND	H	250	1	11/01/2013 15:52
2-Hexanone	ND	H	250	1	11/01/2013 15:52
Isopropylbenzene	ND	H	250	1	11/01/2013 15:52
4-Isopropyl toluene	ND	H	250	1	11/01/2013 15:52
Methyl-t-butyl ether (MTBE)	ND	H	250	1	11/01/2013 15:52
Methylene chloride	ND	H	250	1	11/01/2013 15:52
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	11/01/2013 15:52
Naphthalene	ND	H	250	1	11/01/2013 15:52
n-Propyl benzene	ND	H	250	1	11/01/2013 15:52
Styrene	ND	H	250	1	11/01/2013 15:52
1,1,1,2-Tetrachloroethane	ND	H	250	1	11/01/2013 15:52
1,1,2,2-Tetrachloroethane	ND	H	250	1	11/01/2013 15:52
Tetrachloroethene	2800	H	250	1	11/01/2013 15:52
Toluene	ND	H	250	1	11/01/2013 15:52
1,2,3-Trichlorobenzene	ND	H	250	1	11/01/2013 15:52
1,2,4-Trichlorobenzene	ND	H	250	1	11/01/2013 15:52
1,1,1-Trichloroethane	ND	H	250	1	11/01/2013 15:52
1,1,2-Trichloroethane	ND	H	250	1	11/01/2013 15:52
Trichloroethene	ND	H	250	1	11/01/2013 15:52
Trichlorofluoromethane	ND	H	250	1	11/01/2013 15:52
1,2,3-Trichloropropane	ND	H	250	1	11/01/2013 15:52
1,2,4-Trimethylbenzene	ND	H	250	1	11/01/2013 15:52
1,3,5-Trimethylbenzene	ND	H	250	1	11/01/2013 15:52
Vinyl Chloride	ND	H	250	1	11/01/2013 15:52
Xylenes, Total	ND	H	250	1	11/01/2013 15:52
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	105	H	70-130		11/01/2013 15:52
Toluene-d8	99	H	70-130		11/01/2013 15:52
4-BFB	93	H	70-130		11/01/2013 15:52



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 10/31/13  
**Date Analyzed:** 10/31/13  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia Street, Oakland, CA

**WorkOrder:** 1310A36  
**BatchID:** 83529  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83529  
 1310955-004AMS/MSD

### QC SUMMARY REPORT FOR SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	21.81	0.50	20	-	109	70-130
Benzene	ND	19.22	0.50	20	-	96.1	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	87.35	2.0	80	-	109	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	20.21	0.50	20	-	101	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	19.6	0.50	20	-	98	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	21.06	0.50	20	-	105	70-130
1,1-Dichloroethene	ND	17.81	0.50	20	-	89.1	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 10/31/13  
**Date Analyzed:** 10/31/13  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia Street, Oakland, CA

**WorkOrder:** 1310A36  
**BatchID:** 83529  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83529  
 1310955-004AMS/MSD

## QC SUMMARY REPORT FOR SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	20.12	0.50	20	-	101	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	21.58	0.50	20	-	108	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	20.66	0.50	20	-	103	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	19.55	0.50	20	-	97.8	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	21.69	0.50	20	-	108	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	26.54	46.03		45	106	102	70-130
Toluene-d8	24.47	43.02		45	98	96	70-130
4-BFB	2.297	4.197		4.5	92	93	70-130

(Cont.)



## Quality Control Report

<b>Client:</b>	P & D Environmental	<b>WorkOrder:</b>	1310A36
<b>Date Prepared:</b>	10/31/13	<b>BatchID:</b>	83529
<b>Date Analyzed:</b>	10/31/13	<b>Extraction Method</b>	SW5030B
<b>Instrument:</b>	GC28	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	#0453; 8410 Amelia Street, Oakland, CA	<b>Sample ID:</b>	MB/LCS-83529 1310955-004AMS/MSD

### QC SUMMARY REPORT FOR SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	25.2	25.38	20	ND	126	127	70-130	0.696	20
Benzene	21.78	22.38	20	ND	109	112	70-130	2.69	20
t-Butyl alcohol (TBA)	107	114.3	80	ND	134,F1	143,F1	70-130	6.56	20
Chlorobenzene	21.9	22.22	20	ND	109	111	70-130	1.46	20
1,2-Dibromoethane (EDB)	22.26	22.64	20	ND	111	113	70-130	1.70	20
1,2-Dichloroethane (1,2-DCA)	24.36	24.63	20	ND	122	123	70-130	1.09	20
1,1-Dichloroethene	20.56	20.73	20	ND	103	104	70-130	0.824	20
Diisopropyl ether (DIPE)	23.7	23.83	20	ND	118	119	70-130	0.554	20
Ethyl tert-butyl ether (ETBE)	25.07	25.59	20	ND	125	128	70-130	2.06	20
Methyl-t-butyl ether (MTBE)	41.62	42.21	20	17.12	122	125	70-130	1.40	20
Toluene	21.56	21.42	20	ND	108	107	70-130	0.670	20
Trichloroethene	24.67	25.14	20	ND	123	126	70-130	1.89	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	50.44	50.8	45		112	113	70-130	0.707	20
Toluene-d8	44.52	44.98	45		99	100	70-130	1.02	20
4-BFB	4.243	4.248	4.5		94	94	70-130	0	20

(Cont.)



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/1/13  
**Date Analyzed:** 11/1/13  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia Street, Oakland, CA

**WorkOrder:** 1310A36  
**BatchID:** 83609  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83609

### QC SUMMARY REPORT FOR SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	21.01	0.50	20	-	105	70-130
Benzene	ND	18.52	0.50	20	-	92.6	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	84.22	2.0	80	-	105	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	19.77	0.50	20	-	98.8	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	19.38	0.50	20	-	96.9	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	20.17	0.50	20	-	101	70-130
1,1-Dichloroethene	ND	17.67	0.50	20	-	88.3	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/1/13  
**Date Analyzed:** 11/1/13  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia Street, Oakland, CA

**WorkOrder:** 1310A36  
**BatchID:** 83609  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83609

## QC SUMMARY REPORT FOR SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	19.38	0.50	20	-	96.9	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	20.56	0.50	20	-	103	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	19.93	0.50	20	-	99.6	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	19.18	0.50	20	-	95.9	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	21.49	0.50	20	-	107	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	26.58	44.82		45	106	100	70-130
Toluene-d8	24.12	42.46		45	96	94	70-130
4-BFB	2.313	4.255		4.5	93	95	70-130



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1310A36

ClientCode: PDEO

WaterTrax  
  WriteOn  
  EDF  
  Excel  
  EQuIS  
 Email  
  HardCopy  
  ThirdParty  
  J-flag

**Report to:**

Michael Deschenes  
P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610  
(510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
cc:  
PO:  
ProjectNo: #0453; 8410 Amelia Street, Oakland, CA

**Bill to:**

Accounts Payable  
P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Requested TAT:**

**5 days**

*Date Received:* 10/31/2013

*Date Printed:* 11/15/2013

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1310A36-001	SS6	Air	10/31/2013 12:25	<input type="checkbox"/>	A												
1310A36-002	SS7	Air	10/31/2013 13:24	<input type="checkbox"/>	A												
1310A36-003	SS8	Air	10/31/2013 14:45	<input type="checkbox"/>	A												
1310A36-004	SS9	Air	10/31/2013 11:47	<input type="checkbox"/>	A												

**Test Legend:**

1	8260B_A	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Daniel Loa

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL

**QC Level:** LEVEL 2

**Work Order:** 1310A36

**Project:** #0453; 8410 Amelia Street, Oakland, CA

**Client Contact:** Michael Deschenes

**Date Received:** 10/31/2013

**Comments:**

**Contact's Email:** lab@pdenviro.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1310A36-001A	SS6	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	10/31/2013 12:25	5 days		<input type="checkbox"/>	
1310A36-002A	SS7	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	10/31/2013 13:24	5 days		<input type="checkbox"/>	
1310A36-003A	SS8	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	10/31/2013 14:45	5 days		<input type="checkbox"/>	
1310A36-004A	SS9	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	10/31/2013 11:47	5 days		<input type="checkbox"/>	

\* **NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

Tedlar = Tedlar Air Bag



# CHAIN OF CUSTODY RECORD

1310A36

PAGE 1 OF 1

<b>P&amp;D ENVIRONMENTAL, INC.</b> 55 Santa Clara Ave., Suite 240 Oakland, CA 94610 (510) 658-6916							NUMBER OF CONTAINERS  ANALYSIS(ES): <span style="font-size: 2em; color: blue;">8260</span>	PRESERVATIVE	REMARKS														
PROJECT NUMBER: <span style="font-size: 1.5em; color: blue;">0453</span>		PROJECT NAME: <span style="font-size: 1.2em; color: blue;">8410 Amelia Street, Oakland, CA</span>																					
SAMPLED BY: (PRINTED & SIGNATURE) <span style="font-size: 1.2em; color: blue;">3035- Michael Deschenes</span>																							
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION																			
				Start	End	P10 Reading																	
SS6	10/31/13		Air	1220	1225	2.0	1	X										none	Normal Turn Around				
SS7	↓		↓	1312	1324	0.4	1	X										↓	↓				
SS8	↓		↓	1430	1445	1.7	1	X										↓	↓				
SS9	↓		↓	1142	1147	50	1	X										↓	↓				
RELINQUISHED BY: (SIGNATURE)							DATE: <span style="color: blue;">10/31/13</span> TIME: <span style="color: blue;">1521</span>		RECEIVED BY: (SIGNATURE)			Total No. of Samples (This Shipment): <span style="color: blue;">4</span>		LABORATORY: <span style="color: blue;">McCampbell Analytical</span>									
RELINQUISHED BY: (SIGNATURE)							DATE: <span style="color: blue;">10/31/13</span> TIME: <span style="color: blue;">1700</span>		RECEIVED BY: (SIGNATURE)			Total No. of Containers (This Shipment): <span style="color: blue;">4</span>		LABORATORY CONTACT: <span style="color: blue;">Angela Rydelius</span>					LABORATORY PHONE NUMBER: <span style="color: blue;">(877) 252-9262</span>				
RELINQUISHED BY: (SIGNATURE)							DATE: <span style="color: blue;">10/31/13</span> TIME: <span style="color: blue;">1700</span>		RECEIVED FOR LABORATORY BY: (SIGNATURE)			SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (X) NO											
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com							REMARKS:																



### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **10/31/2013 6:31:09 PM**  
 Project Name: **#0453; 8410 Amelia Street, Oakland, CA** LogIn Reviewed by: **Daniel Loa**  
 WorkOrder N°: **1310A36** Matrix: Air Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments: Samples recieved out of hold time.



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1402984

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Michael Deschenes  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St. Oakland CA

**Project Received:** 02/27/2014

Analytical Report reviewed & approved for release on 03/03/2014 by:

*Question about  
your data?*

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**WorkOrder:** 1402984

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence

### Analytical Qualifier

H samples were analyzed out of holding time



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS7	1402984-001A	Air	02/26/2014 14:22	GC16	87593

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	02/27/2014 17:30
tert-Amyl methyl ether (TAME)	ND	H	250	1	02/27/2014 17:30
Benzene	ND	H	250	1	02/27/2014 17:30
Bromobenzene	ND	H	250	1	02/27/2014 17:30
Bromochloromethane	ND	H	250	1	02/27/2014 17:30
Bromodichloromethane	ND	H	250	1	02/27/2014 17:30
Bromoform	ND	H	250	1	02/27/2014 17:30
Bromomethane	ND	H	250	1	02/27/2014 17:30
2-Butanone (MEK)	ND	H	1000	1	02/27/2014 17:30
t-Butyl alcohol (TBA)	ND	H	2500	1	02/27/2014 17:30
n-Butyl benzene	ND	H	250	1	02/27/2014 17:30
sec-Butyl benzene	ND	H	250	1	02/27/2014 17:30
tert-Butyl benzene	ND	H	250	1	02/27/2014 17:30
Carbon Disulfide	ND	H	250	1	02/27/2014 17:30
Carbon Tetrachloride	ND	H	250	1	02/27/2014 17:30
Chlorobenzene	ND	H	250	1	02/27/2014 17:30
Chloroethane	ND	H	250	1	02/27/2014 17:30
Chloroform	ND	H	250	1	02/27/2014 17:30
Chloromethane	ND	H	250	1	02/27/2014 17:30
2-Chlorotoluene	ND	H	250	1	02/27/2014 17:30
4-Chlorotoluene	ND	H	250	1	02/27/2014 17:30
Dibromochloromethane	ND	H	250	1	02/27/2014 17:30
1,2-Dibromo-3-chloropropane	ND	H	250	1	02/27/2014 17:30
1,2-Dibromoethane (EDB)	ND	H	250	1	02/27/2014 17:30
Dibromomethane	ND	H	250	1	02/27/2014 17:30
1,2-Dichlorobenzene	ND	H	250	1	02/27/2014 17:30
1,3-Dichlorobenzene	ND	H	250	1	02/27/2014 17:30
1,4-Dichlorobenzene	ND	H	250	1	02/27/2014 17:30
Dichlorodifluoromethane	ND	H	250	1	02/27/2014 17:30
1,1-Dichloroethane	ND	H	250	1	02/27/2014 17:30
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	02/27/2014 17:30
1,1-Dichloroethene	ND	H	250	1	02/27/2014 17:30
cis-1,2-Dichloroethene	ND	H	250	1	02/27/2014 17:30
trans-1,2-Dichloroethene	ND	H	250	1	02/27/2014 17:30

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS7	1402984-001A	Air	02/26/2014 14:22	GC16	87593

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
1,2-Dichloropropane	ND	H	250	1	02/27/2014 17:30
1,3-Dichloropropane	ND	H	250	1	02/27/2014 17:30
2,2-Dichloropropane	ND	H	250	1	02/27/2014 17:30
1,1-Dichloropropene	ND	H	250	1	02/27/2014 17:30
cis-1,3-Dichloropropene	ND	H	250	1	02/27/2014 17:30
trans-1,3-Dichloropropene	ND	H	250	1	02/27/2014 17:30
Diisopropyl ether (DIPE)	ND	H	250	1	02/27/2014 17:30
Ethylbenzene	ND	H	250	1	02/27/2014 17:30
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	02/27/2014 17:30
Freon 113	ND	H	5000	1	02/27/2014 17:30
Hexachlorobutadiene	ND	H	250	1	02/27/2014 17:30
Hexachloroethane	ND	H	250	1	02/27/2014 17:30
2-Hexanone	ND	H	250	1	02/27/2014 17:30
Isopropylbenzene	ND	H	250	1	02/27/2014 17:30
4-Isopropyl toluene	ND	H	250	1	02/27/2014 17:30
Methyl-t-butyl ether (MTBE)	ND	H	250	1	02/27/2014 17:30
Methylene chloride	ND	H	250	1	02/27/2014 17:30
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	02/27/2014 17:30
Naphthalene	ND	H	250	1	02/27/2014 17:30
n-Propyl benzene	ND	H	250	1	02/27/2014 17:30
Styrene	ND	H	250	1	02/27/2014 17:30
1,1,1,2-Tetrachloroethane	ND	H	250	1	02/27/2014 17:30
1,1,1,2,2-Tetrachloroethane	ND	H	250	1	02/27/2014 17:30
Tetrachloroethene	330	H	250	1	02/27/2014 17:30
Toluene	ND	H	250	1	02/27/2014 17:30
1,2,3-Trichlorobenzene	ND	H	250	1	02/27/2014 17:30
1,2,4-Trichlorobenzene	ND	H	250	1	02/27/2014 17:30
1,1,1-Trichloroethane	ND	H	250	1	02/27/2014 17:30
1,1,2-Trichloroethane	ND	H	250	1	02/27/2014 17:30
Trichloroethene	ND	H	250	1	02/27/2014 17:30
Trichlorofluoromethane	ND	H	250	1	02/27/2014 17:30
1,2,3-Trichloropropane	ND	H	250	1	02/27/2014 17:30
1,2,4-Trimethylbenzene	ND	H	250	1	02/27/2014 17:30
1,3,5-Trimethylbenzene	ND	H	250	1	02/27/2014 17:30

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS7	1402984-001A	Air	02/26/2014 14:22	GC16	87593

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND	H	250	1	02/27/2014 17:30
Xylenes, Total	ND	H	250	1	02/27/2014 17:30

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	109	H	70-130	02/27/2014 17:30
Toluene-d8	94	H	70-130	02/27/2014 17:30
4-BFB	110	H	70-130	02/27/2014 17:30

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS8	1402984-002A	Air	02/27/2014 11:38	GC16	87593

**Initial Pressure (psia)**                      **Final Pressure (psia)**

1.00	1.00
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Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	02/27/2014 18:13
tert-Amyl methyl ether (TAME)	ND	H	250	1	02/27/2014 18:13
Benzene	ND	H	250	1	02/27/2014 18:13
Bromobenzene	ND	H	250	1	02/27/2014 18:13
Bromochloromethane	ND	H	250	1	02/27/2014 18:13
Bromodichloromethane	ND	H	250	1	02/27/2014 18:13
Bromoform	ND	H	250	1	02/27/2014 18:13
Bromomethane	ND	H	250	1	02/27/2014 18:13
2-Butanone (MEK)	ND	H	1000	1	02/27/2014 18:13
t-Butyl alcohol (TBA)	ND	H	2500	1	02/27/2014 18:13
n-Butyl benzene	ND	H	250	1	02/27/2014 18:13
sec-Butyl benzene	ND	H	250	1	02/27/2014 18:13
tert-Butyl benzene	ND	H	250	1	02/27/2014 18:13
Carbon Disulfide	ND	H	250	1	02/27/2014 18:13
Carbon Tetrachloride	ND	H	250	1	02/27/2014 18:13
Chlorobenzene	ND	H	250	1	02/27/2014 18:13
Chloroethane	ND	H	250	1	02/27/2014 18:13
Chloroform	ND	H	250	1	02/27/2014 18:13
Chloromethane	ND	H	250	1	02/27/2014 18:13
2-Chlorotoluene	ND	H	250	1	02/27/2014 18:13
4-Chlorotoluene	ND	H	250	1	02/27/2014 18:13
Dibromochloromethane	ND	H	250	1	02/27/2014 18:13
1,2-Dibromo-3-chloropropane	ND	H	250	1	02/27/2014 18:13
1,2-Dibromoethane (EDB)	ND	H	250	1	02/27/2014 18:13
Dibromomethane	ND	H	250	1	02/27/2014 18:13
1,2-Dichlorobenzene	ND	H	250	1	02/27/2014 18:13
1,3-Dichlorobenzene	ND	H	250	1	02/27/2014 18:13
1,4-Dichlorobenzene	ND	H	250	1	02/27/2014 18:13
Dichlorodifluoromethane	ND	H	250	1	02/27/2014 18:13
1,1-Dichloroethane	ND	H	250	1	02/27/2014 18:13
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	02/27/2014 18:13
1,1-Dichloroethene	ND	H	250	1	02/27/2014 18:13
cis-1,2-Dichloroethene	<b>280</b>	H	250	1	02/27/2014 18:13
trans-1,2-Dichloroethene	ND	H	250	1	02/27/2014 18:13

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS8	1402984-002A	Air	02/27/2014 11:38	GC16	87593

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
1,2-Dichloropropane	ND	H	250	1	02/27/2014 18:13
1,3-Dichloropropane	ND	H	250	1	02/27/2014 18:13
2,2-Dichloropropane	ND	H	250	1	02/27/2014 18:13
1,1-Dichloropropene	ND	H	250	1	02/27/2014 18:13
cis-1,3-Dichloropropene	ND	H	250	1	02/27/2014 18:13
trans-1,3-Dichloropropene	ND	H	250	1	02/27/2014 18:13
Diisopropyl ether (DIPE)	ND	H	250	1	02/27/2014 18:13
Ethylbenzene	ND	H	250	1	02/27/2014 18:13
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	02/27/2014 18:13
Freon 113	ND	H	5000	1	02/27/2014 18:13
Hexachlorobutadiene	ND	H	250	1	02/27/2014 18:13
Hexachloroethane	ND	H	250	1	02/27/2014 18:13
2-Hexanone	ND	H	250	1	02/27/2014 18:13
Isopropylbenzene	ND	H	250	1	02/27/2014 18:13
4-Isopropyl toluene	ND	H	250	1	02/27/2014 18:13
Methyl-t-butyl ether (MTBE)	ND	H	250	1	02/27/2014 18:13
Methylene chloride	ND	H	250	1	02/27/2014 18:13
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	02/27/2014 18:13
Naphthalene	ND	H	250	1	02/27/2014 18:13
n-Propyl benzene	ND	H	250	1	02/27/2014 18:13
Styrene	ND	H	250	1	02/27/2014 18:13
1,1,1,2-Tetrachloroethane	ND	H	250	1	02/27/2014 18:13
1,1,1,2,2-Tetrachloroethane	ND	H	250	1	02/27/2014 18:13
Tetrachloroethene	<b>8900</b>	H	250	1	02/27/2014 18:13
Toluene	ND	H	250	1	02/27/2014 18:13
1,2,3-Trichlorobenzene	ND	H	250	1	02/27/2014 18:13
1,2,4-Trichlorobenzene	ND	H	250	1	02/27/2014 18:13
1,1,1-Trichloroethane	ND	H	250	1	02/27/2014 18:13
1,1,2-Trichloroethane	ND	H	250	1	02/27/2014 18:13
Trichloroethene	<b>1700</b>	H	250	1	02/27/2014 18:13
Trichlorofluoromethane	ND	H	250	1	02/27/2014 18:13
1,2,3-Trichloropropane	ND	H	250	1	02/27/2014 18:13
1,2,4-Trimethylbenzene	ND	H	250	1	02/27/2014 18:13
1,3,5-Trimethylbenzene	ND	H	250	1	02/27/2014 18:13

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS8	1402984-002A	Air	02/27/2014 11:38	GC16	87593

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND	H	250	1	02/27/2014 18:13
Xylenes, Total	ND	H	250	1	02/27/2014 18:13

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	111	H	70-130	02/27/2014 18:13
Toluene-d8	95	H	70-130	02/27/2014 18:13
4-BFB	116	H	70-130	02/27/2014 18:13



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS7	1402984-001A	Air	02/26/2014 14:22	GC16	87593
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	02/27/2014 17:30
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	02/27/2014 17:30
Benzene	ND	H	0.25	1	02/27/2014 17:30
Bromobenzene	ND	H	0.25	1	02/27/2014 17:30
Bromochloromethane	ND	H	0.25	1	02/27/2014 17:30
Bromodichloromethane	ND	H	0.25	1	02/27/2014 17:30
Bromoform	ND	H	0.25	1	02/27/2014 17:30
Bromomethane	ND	H	0.25	1	02/27/2014 17:30
2-Butanone (MEK)	ND	H	1.0	1	02/27/2014 17:30
t-Butyl alcohol (TBA)	ND	H	2.5	1	02/27/2014 17:30
n-Butyl benzene	ND	H	0.25	1	02/27/2014 17:30
sec-Butyl benzene	ND	H	0.25	1	02/27/2014 17:30
tert-Butyl benzene	ND	H	0.25	1	02/27/2014 17:30
Carbon Disulfide	ND	H	0.25	1	02/27/2014 17:30
Carbon Tetrachloride	ND	H	0.25	1	02/27/2014 17:30
Chlorobenzene	ND	H	0.25	1	02/27/2014 17:30
Chloroethane	ND	H	0.25	1	02/27/2014 17:30
Chloroform	ND	H	0.25	1	02/27/2014 17:30
Chloromethane	ND	H	0.25	1	02/27/2014 17:30
2-Chlorotoluene	ND	H	0.25	1	02/27/2014 17:30
4-Chlorotoluene	ND	H	0.25	1	02/27/2014 17:30
Dibromochloromethane	ND	H	0.25	1	02/27/2014 17:30
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	02/27/2014 17:30
1,2-Dibromoethane (EDB)	ND	H	0.25	1	02/27/2014 17:30
Dibromomethane	ND	H	0.25	1	02/27/2014 17:30
1,2-Dichlorobenzene	ND	H	0.25	1	02/27/2014 17:30
1,3-Dichlorobenzene	ND	H	0.25	1	02/27/2014 17:30
1,4-Dichlorobenzene	ND	H	0.25	1	02/27/2014 17:30
Dichlorodifluoromethane	ND	H	0.25	1	02/27/2014 17:30
1,1-Dichloroethane	ND	H	0.25	1	02/27/2014 17:30
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	02/27/2014 17:30
1,1-Dichloroethene	ND	H	0.25	1	02/27/2014 17:30
cis-1,2-Dichloroethene	ND	H	0.25	1	02/27/2014 17:30
trans-1,2-Dichloroethene	ND	H	0.25	1	02/27/2014 17:30
1,2-Dichloropropane	ND	H	0.25	1	02/27/2014 17:30
1,3-Dichloropropane	ND	H	0.25	1	02/27/2014 17:30
2,2-Dichloropropane	ND	H	0.25	1	02/27/2014 17:30
1,1-Dichloropropene	ND	H	0.25	1	02/27/2014 17:30

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS7	1402984-001A	Air	02/26/2014 14:22	GC16	87593
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	0.25	1	02/27/2014 17:30
trans-1,3-Dichloropropene	ND	H	0.25	1	02/27/2014 17:30
Diisopropyl ether (DIPE)	ND	H	0.25	1	02/27/2014 17:30
Ethylbenzene	ND	H	0.25	1	02/27/2014 17:30
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	02/27/2014 17:30
Freon 113	ND	H	5.0	1	02/27/2014 17:30
Hexachlorobutadiene	ND	H	0.25	1	02/27/2014 17:30
Hexachloroethane	ND	H	0.25	1	02/27/2014 17:30
2-Hexanone	ND	H	0.25	1	02/27/2014 17:30
Isopropylbenzene	ND	H	0.25	1	02/27/2014 17:30
4-Isopropyl toluene	ND	H	0.25	1	02/27/2014 17:30
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	02/27/2014 17:30
Methylene chloride	ND	H	0.25	1	02/27/2014 17:30
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	02/27/2014 17:30
Naphthalene	ND	H	0.25	1	02/27/2014 17:30
n-Propyl benzene	ND	H	0.25	1	02/27/2014 17:30
Styrene	ND	H	0.25	1	02/27/2014 17:30
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	02/27/2014 17:30
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	02/27/2014 17:30
Tetrachloroethene	<b>0.33</b>	H	0.25	1	02/27/2014 17:30
Toluene	ND	H	0.25	1	02/27/2014 17:30
1,2,3-Trichlorobenzene	ND	H	0.25	1	02/27/2014 17:30
1,2,4-Trichlorobenzene	ND	H	0.25	1	02/27/2014 17:30
1,1,1-Trichloroethane	ND	H	0.25	1	02/27/2014 17:30
1,1,2-Trichloroethane	ND	H	0.25	1	02/27/2014 17:30
Trichloroethene	ND	H	0.25	1	02/27/2014 17:30
Trichlorofluoromethane	ND	H	0.25	1	02/27/2014 17:30
1,2,3-Trichloropropane	ND	H	0.25	1	02/27/2014 17:30
1,2,4-Trimethylbenzene	ND	H	0.25	1	02/27/2014 17:30
1,3,5-Trimethylbenzene	ND	H	0.25	1	02/27/2014 17:30
Vinyl Chloride	ND	H	0.25	1	02/27/2014 17:30
Xylenes, Total	ND	H	0.25	1	02/27/2014 17:30
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	109	H	70-130		02/27/2014 17:30
Toluene-d8	94	H	70-130		02/27/2014 17:30
4-BFB	110	H	70-130		02/27/2014 17:30

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS8	1402984-002A	Air	02/27/2014 11:38	GC16	87593
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	02/27/2014 18:13
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	02/27/2014 18:13
Benzene	ND	H	0.25	1	02/27/2014 18:13
Bromobenzene	ND	H	0.25	1	02/27/2014 18:13
Bromochloromethane	ND	H	0.25	1	02/27/2014 18:13
Bromodichloromethane	ND	H	0.25	1	02/27/2014 18:13
Bromoform	ND	H	0.25	1	02/27/2014 18:13
Bromomethane	ND	H	0.25	1	02/27/2014 18:13
2-Butanone (MEK)	ND	H	1.0	1	02/27/2014 18:13
t-Butyl alcohol (TBA)	ND	H	2.5	1	02/27/2014 18:13
n-Butyl benzene	ND	H	0.25	1	02/27/2014 18:13
sec-Butyl benzene	ND	H	0.25	1	02/27/2014 18:13
tert-Butyl benzene	ND	H	0.25	1	02/27/2014 18:13
Carbon Disulfide	ND	H	0.25	1	02/27/2014 18:13
Carbon Tetrachloride	ND	H	0.25	1	02/27/2014 18:13
Chlorobenzene	ND	H	0.25	1	02/27/2014 18:13
Chloroethane	ND	H	0.25	1	02/27/2014 18:13
Chloroform	ND	H	0.25	1	02/27/2014 18:13
Chloromethane	ND	H	0.25	1	02/27/2014 18:13
2-Chlorotoluene	ND	H	0.25	1	02/27/2014 18:13
4-Chlorotoluene	ND	H	0.25	1	02/27/2014 18:13
Dibromochloromethane	ND	H	0.25	1	02/27/2014 18:13
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	02/27/2014 18:13
1,2-Dibromoethane (EDB)	ND	H	0.25	1	02/27/2014 18:13
Dibromomethane	ND	H	0.25	1	02/27/2014 18:13
1,2-Dichlorobenzene	ND	H	0.25	1	02/27/2014 18:13
1,3-Dichlorobenzene	ND	H	0.25	1	02/27/2014 18:13
1,4-Dichlorobenzene	ND	H	0.25	1	02/27/2014 18:13
Dichlorodifluoromethane	ND	H	0.25	1	02/27/2014 18:13
1,1-Dichloroethane	ND	H	0.25	1	02/27/2014 18:13
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	02/27/2014 18:13
1,1-Dichloroethene	ND	H	0.25	1	02/27/2014 18:13
cis-1,2-Dichloroethene	<b>0.28</b>	H	0.25	1	02/27/2014 18:13
trans-1,2-Dichloroethene	ND	H	0.25	1	02/27/2014 18:13
1,2-Dichloropropane	ND	H	0.25	1	02/27/2014 18:13
1,3-Dichloropropane	ND	H	0.25	1	02/27/2014 18:13
2,2-Dichloropropane	ND	H	0.25	1	02/27/2014 18:13
1,1-Dichloropropene	ND	H	0.25	1	02/27/2014 18:13

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Date Received:** 2/27/14 16:34  
**Date Prepared:** 2/27/14

**WorkOrder:** 1402984  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS8	1402984-002A	Air	02/27/2014 11:38	GC16	87593
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	0.25	1	02/27/2014 18:13
trans-1,3-Dichloropropene	ND	H	0.25	1	02/27/2014 18:13
Diisopropyl ether (DIPE)	ND	H	0.25	1	02/27/2014 18:13
Ethylbenzene	ND	H	0.25	1	02/27/2014 18:13
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	02/27/2014 18:13
Freon 113	ND	H	5.0	1	02/27/2014 18:13
Hexachlorobutadiene	ND	H	0.25	1	02/27/2014 18:13
Hexachloroethane	ND	H	0.25	1	02/27/2014 18:13
2-Hexanone	ND	H	0.25	1	02/27/2014 18:13
Isopropylbenzene	ND	H	0.25	1	02/27/2014 18:13
4-Isopropyl toluene	ND	H	0.25	1	02/27/2014 18:13
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	02/27/2014 18:13
Methylene chloride	ND	H	0.25	1	02/27/2014 18:13
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	02/27/2014 18:13
Naphthalene	ND	H	0.25	1	02/27/2014 18:13
n-Propyl benzene	ND	H	0.25	1	02/27/2014 18:13
Styrene	ND	H	0.25	1	02/27/2014 18:13
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	02/27/2014 18:13
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	02/27/2014 18:13
Tetrachloroethene	8.9	H	0.25	1	02/27/2014 18:13
Toluene	ND	H	0.25	1	02/27/2014 18:13
1,2,3-Trichlorobenzene	ND	H	0.25	1	02/27/2014 18:13
1,2,4-Trichlorobenzene	ND	H	0.25	1	02/27/2014 18:13
1,1,1-Trichloroethane	ND	H	0.25	1	02/27/2014 18:13
1,1,2-Trichloroethane	ND	H	0.25	1	02/27/2014 18:13
Trichloroethene	1.7	H	0.25	1	02/27/2014 18:13
Trichlorofluoromethane	ND	H	0.25	1	02/27/2014 18:13
1,2,3-Trichloropropane	ND	H	0.25	1	02/27/2014 18:13
1,2,4-Trimethylbenzene	ND	H	0.25	1	02/27/2014 18:13
1,3,5-Trimethylbenzene	ND	H	0.25	1	02/27/2014 18:13
Vinyl Chloride	ND	H	0.25	1	02/27/2014 18:13
Xylenes, Total	ND	H	0.25	1	02/27/2014 18:13
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	111	H	70-130		02/27/2014 18:13
Toluene-d8	95	H	70-130		02/27/2014 18:13
4-BFB	116	H	70-130		02/27/2014 18:13



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 2/28/14  
**Date Analyzed:** 2/27/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1402984  
**BatchID:** 87593  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87593  
 1402873-003CMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	19.98	0.50	20	-	99.9	70-130
Benzene	ND	21.63	0.50	20	-	108	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	75.03	2.0	80	-	93.8	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	19.5	0.50	20	-	97.5	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	19.44	0.50	20	-	97.2	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	22.65	0.50	20	-	113	70-130
1,1-Dichloroethene	ND	22.06	0.50	20	-	110	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 2/28/14  
**Date Analyzed:** 2/27/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1402984  
**BatchID:** 87593  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87593  
 1402873-003CMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	22.94	0.50	20	-	115	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	21.5	0.50	20	-	108	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	20.03	0.50	20	-	100	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	19.78	0.50	20	-	98.9	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	19.66	0.50	20	-	98.3	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	27.41	49.2		45	110	109	70-130
Toluene-d8	23.97	41.74		45	96	93	70-130
4-BFB	2.819	4.844		4.5	113	108	70-130

(Cont.)





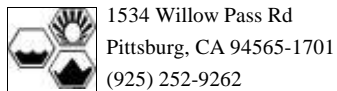
## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 2/28/14  
**Date Analyzed:** 2/27/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St. Oakland CA

**WorkOrder:** 1402984  
**BatchID:** 87593  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87593  
 1402873-003CMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	20.55	20.87	20	ND	103	104	70-130	1.53	20
Benzene	20.85	21.18	20	ND	104	106	70-130	1.57	20
t-Butyl alcohol (TBA)	85.5	88.41	80	ND	107	111	70-130	3.35	20
Chlorobenzene	18.67	19.05	20	ND	93.4	95.2	70-130	2.00	20
1,2-Dibromoethane (EDB)	20.91	20.79	20	ND	105	104	70-130	0.566	20
1,2-Dichloroethane (1,2-DCA)	22.51	22.84	20	ND	113	114	70-130	1.44	20
1,1-Dichloroethene	21.11	21.42	20	ND	106	107	70-130	1.48	20
Diisopropyl ether (DIPE)	22.46	23.04	20	ND	112	115	70-130	2.59	20
Ethyl tert-butyl ether (ETBE)	21.35	21.92	20	ND	107	110	70-130	2.67	20
Methyl-t-butyl ether (MTBE)	20.65	20.93	20	ND	103	105	70-130	1.34	20
Toluene	18.51	19.01	20	ND	92.6	95.1	70-130	2.66	20
Trichloroethene	19.33	19.46	20	ND	96.6	97.3	70-130	0.705	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	49.44	49.01	45		110	109	70-130	0.876	20
Toluene-d8	40.08	40.46	45		89	90	70-130	0.952	20
4-BFB	4.541	4.558	4.5		101	101	70-130	0	20



# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402984

ClientCode: PDEO

- WaterTrax  
  WriteOn  
  EDF  
  Excel  
  EQuIS  
 Email  
  HardCopy  
  ThirdParty  
  J-flag

**Report to:**  
 Michael Deschenes  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610  
 (510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
 cc:  
 PO:  
 ProjectNo: #0453; 8410 Amelia St. Oakland CA

**Bill to:**  
 Accounts Payable  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610

**Requested TAT: 5 days**

**Date Received: 02/27/2014**

**Date Printed: 02/27/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1402984-001	SS7	Air	2/26/2014 14:22	<input type="checkbox"/>	A												
1402984-002	SS8	Air	2/27/2014 11:38	<input type="checkbox"/>	A												

**Test Legend:**

1	8260B_A	2		3		4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A contain testgroup.

**Prepared by: Maria Venegas**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL  
**Project:** #0453; 8410 Amelia St. Oakland CA  
**Comments:** Changed to Rush 2/28/14 2 Day TAT.

**QC Level:** LEVEL 2  
**Client Contact:** Michael Deschenes  
**Contact's Email:** lab@pdenviro.com

**Work Order:** 1402984  
**Date Received:** 2/27/2014

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1402984-001A	SS7	Air	VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	2/26/2014 14:22	2 days		<input type="checkbox"/>	
1402984-002A	SS8	Air	VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	2/27/2014 11:38	2 days		<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

Tedlar = Tedlar Air Bag





### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **2/27/2014 4:34:00 PM**  
 Project Name: **#0453; 8410 Amelia St. Oakland CA** Login Reviewed by: **Maria Venegas**  
 WorkOrder N°: **1402984** Matrix: Air Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1311895 **Amended:** 12/04/2013

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Paul King  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St.

**Project Received:** 11/25/2013

Analytical Report reviewed & approved for release on 12/03/2013 by:

*Question about  
your data?*

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**WorkOrder:** 1311895

<b><u>Glossary</u></b> <b><u>Abbreviation</u></b>	<b><u>Description</u></b>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit
RPD	Relative Percent Deviation
SPK Val	Spike Value
SPKRef Val	Spike Reference Value

### **Analytical** **Qualifier**

H samples were analyzed out of holding time



# Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 11/25/13 18:24  
**Date Prepared:** 11/26/13

**WorkOrder:** 1311895  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS10	1311895-001A	Air	11/25/2013 13:45	GC18	84498
Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	11/26/2013 14:20
tert-Amyl methyl ether (TAME)	ND	H	250	1	11/26/2013 14:20
Benzene	ND	H	250	1	11/26/2013 14:20
Bromobenzene	ND	H	250	1	11/26/2013 14:20
Bromochloromethane	ND	H	250	1	11/26/2013 14:20
Bromodichloromethane	ND	H	250	1	11/26/2013 14:20
Bromoform	ND	H	250	1	11/26/2013 14:20
Bromomethane	ND	H	250	1	11/26/2013 14:20
2-Butanone (MEK)	ND	H	1000	1	11/26/2013 14:20
t-Butyl alcohol (TBA)	ND	H	2500	1	11/26/2013 14:20
n-Butyl benzene	ND	H	250	1	11/26/2013 14:20
sec-Butyl benzene	ND	H	250	1	11/26/2013 14:20
tert-Butyl benzene	ND	H	250	1	11/26/2013 14:20
Carbon Disulfide	ND	H	250	1	11/26/2013 14:20
Carbon Tetrachloride	ND	H	250	1	11/26/2013 14:20
Chlorobenzene	ND	H	250	1	11/26/2013 14:20
Chloroethane	ND	H	250	1	11/26/2013 14:20
Chloroform	ND	H	250	1	11/26/2013 14:20
Chloromethane	ND	H	250	1	11/26/2013 14:20
2-Chlorotoluene	ND	H	250	1	11/26/2013 14:20
4-Chlorotoluene	ND	H	250	1	11/26/2013 14:20
Dibromochloromethane	ND	H	250	1	11/26/2013 14:20
1,2-Dibromo-3-chloropropane	ND	H	250	1	11/26/2013 14:20
1,2-Dibromoethane (EDB)	ND	H	250	1	11/26/2013 14:20
Dibromomethane	ND	H	250	1	11/26/2013 14:20
1,2-Dichlorobenzene	ND	H	250	1	11/26/2013 14:20
1,3-Dichlorobenzene	ND	H	250	1	11/26/2013 14:20
1,4-Dichlorobenzene	ND	H	250	1	11/26/2013 14:20
Dichlorodifluoromethane	ND	H	250	1	11/26/2013 14:20
1,1-Dichloroethane	ND	H	250	1	11/26/2013 14:20
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	11/26/2013 14:20
1,1-Dichloroethene	ND	H	250	1	11/26/2013 14:20
cis-1,2-Dichloroethene	ND	H	250	1	11/26/2013 14:20
trans-1,2-Dichloroethene	ND	H	250	1	11/26/2013 14:20
1,2-Dichloropropane	ND	H	250	1	11/26/2013 14:20
1,3-Dichloropropane	ND	H	250	1	11/26/2013 14:20
2,2-Dichloropropane	ND	H	250	1	11/26/2013 14:20
1,1-Dichloropropene	ND	H	250	1	11/26/2013 14:20

(Cont.)





## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 11/25/13 18:24  
**Date Prepared:** 11/26/13

**WorkOrder:** 1311895  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS10	1311895-001A	Air	11/25/2013 13:45	GC18	84498
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	250	1	11/26/2013 14:20
trans-1,3-Dichloropropene	ND	H	250	1	11/26/2013 14:20
Diisopropyl ether (DIPE)	ND	H	250	1	11/26/2013 14:20
Ethylbenzene	ND	H	250	1	11/26/2013 14:20
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	11/26/2013 14:20
Freon 113	ND	H	5000	1	11/26/2013 14:20
Hexachlorobutadiene	ND	H	250	1	11/26/2013 14:20
Hexachloroethane	ND	H	250	1	11/26/2013 14:20
2-Hexanone	ND	H	250	1	11/26/2013 14:20
Isopropylbenzene	ND	H	250	1	11/26/2013 14:20
4-Isopropyl toluene	ND	H	250	1	11/26/2013 14:20
Methyl-t-butyl ether (MTBE)	ND	H	250	1	11/26/2013 14:20
Methylene chloride	ND	H	250	1	11/26/2013 14:20
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	11/26/2013 14:20
Naphthalene	ND	H	250	1	11/26/2013 14:20
n-Propyl benzene	ND	H	250	1	11/26/2013 14:20
Styrene	ND	H	250	1	11/26/2013 14:20
1,1,1,2-Tetrachloroethane	ND	H	250	1	11/26/2013 14:20
1,1,2,2-Tetrachloroethane	ND	H	250	1	11/26/2013 14:20
Tetrachloroethene	ND	H	250	1	11/26/2013 14:20
Toluene	ND	H	250	1	11/26/2013 14:20
1,2,3-Trichlorobenzene	ND	H	250	1	11/26/2013 14:20
1,2,4-Trichlorobenzene	ND	H	250	1	11/26/2013 14:20
1,1,1-Trichloroethane	ND	H	250	1	11/26/2013 14:20
1,1,2-Trichloroethane	ND	H	250	1	11/26/2013 14:20
Trichloroethene	ND	H	250	1	11/26/2013 14:20
Trichlorofluoromethane	ND	H	250	1	11/26/2013 14:20
1,2,3-Trichloropropane	ND	H	250	1	11/26/2013 14:20
1,2,4-Trimethylbenzene	ND	H	250	1	11/26/2013 14:20
1,3,5-Trimethylbenzene	ND	H	250	1	11/26/2013 14:20
Vinyl Chloride	ND	H	250	1	11/26/2013 14:20
Xylenes, Total	ND	H	250	1	11/26/2013 14:20
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	106	H	70-130		11/26/2013 14:20
Toluene-d8	96	H	70-130		11/26/2013 14:20
4-BFB	88	H	70-130		11/26/2013 14:20

(Cont.)



# Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 11/25/13 18:24  
**Date Prepared:** 11/26/13

**WorkOrder:** 1311895  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS11	1311895-002A	Air	11/25/2013 14:00	GC18	84498
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5000	1	11/26/2013 13:04
tert-Amyl methyl ether (TAME)	ND	H	250	1	11/26/2013 13:04
Benzene	ND	H	250	1	11/26/2013 13:04
Bromobenzene	ND	H	250	1	11/26/2013 13:04
Bromochloromethane	ND	H	250	1	11/26/2013 13:04
Bromodichloromethane	ND	H	250	1	11/26/2013 13:04
Bromoform	ND	H	250	1	11/26/2013 13:04
Bromomethane	ND	H	250	1	11/26/2013 13:04
2-Butanone (MEK)	ND	H	1000	1	11/26/2013 13:04
t-Butyl alcohol (TBA)	ND	H	2500	1	11/26/2013 13:04
n-Butyl benzene	ND	H	250	1	11/26/2013 13:04
sec-Butyl benzene	ND	H	250	1	11/26/2013 13:04
tert-Butyl benzene	ND	H	250	1	11/26/2013 13:04
Carbon Disulfide	ND	H	250	1	11/26/2013 13:04
Carbon Tetrachloride	ND	H	250	1	11/26/2013 13:04
Chlorobenzene	ND	H	250	1	11/26/2013 13:04
Chloroethane	ND	H	250	1	11/26/2013 13:04
Chloroform	ND	H	250	1	11/26/2013 13:04
Chloromethane	ND	H	250	1	11/26/2013 13:04
2-Chlorotoluene	ND	H	250	1	11/26/2013 13:04
4-Chlorotoluene	ND	H	250	1	11/26/2013 13:04
Dibromochloromethane	ND	H	250	1	11/26/2013 13:04
1,2-Dibromo-3-chloropropane	ND	H	250	1	11/26/2013 13:04
1,2-Dibromoethane (EDB)	ND	H	250	1	11/26/2013 13:04
Dibromomethane	ND	H	250	1	11/26/2013 13:04
1,2-Dichlorobenzene	ND	H	250	1	11/26/2013 13:04
1,3-Dichlorobenzene	ND	H	250	1	11/26/2013 13:04
1,4-Dichlorobenzene	ND	H	250	1	11/26/2013 13:04
Dichlorodifluoromethane	ND	H	250	1	11/26/2013 13:04
1,1-Dichloroethane	ND	H	250	1	11/26/2013 13:04
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	11/26/2013 13:04
1,1-Dichloroethene	ND	H	250	1	11/26/2013 13:04
cis-1,2-Dichloroethene	ND	H	250	1	11/26/2013 13:04
trans-1,2-Dichloroethene	ND	H	250	1	11/26/2013 13:04
1,2-Dichloropropane	ND	H	250	1	11/26/2013 13:04
1,3-Dichloropropane	ND	H	250	1	11/26/2013 13:04
2,2-Dichloropropane	ND	H	250	1	11/26/2013 13:04
1,1-Dichloropropene	ND	H	250	1	11/26/2013 13:04

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 11/25/13 18:24  
**Date Prepared:** 11/26/13

**WorkOrder:** 1311895  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS11	1311895-002A	Air	11/25/2013 14:00	GC18	84498
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	250	1	11/26/2013 13:04
trans-1,3-Dichloropropene	ND	H	250	1	11/26/2013 13:04
Diisopropyl ether (DIPE)	ND	H	250	1	11/26/2013 13:04
Ethylbenzene	ND	H	250	1	11/26/2013 13:04
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	11/26/2013 13:04
Freon 113	ND	H	5000	1	11/26/2013 13:04
Hexachlorobutadiene	ND	H	250	1	11/26/2013 13:04
Hexachloroethane	ND	H	250	1	11/26/2013 13:04
2-Hexanone	ND	H	250	1	11/26/2013 13:04
Isopropylbenzene	ND	H	250	1	11/26/2013 13:04
4-Isopropyl toluene	ND	H	250	1	11/26/2013 13:04
Methyl-t-butyl ether (MTBE)	ND	H	250	1	11/26/2013 13:04
Methylene chloride	ND	H	250	1	11/26/2013 13:04
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	11/26/2013 13:04
Naphthalene	ND	H	250	1	11/26/2013 13:04
n-Propyl benzene	ND	H	250	1	11/26/2013 13:04
Styrene	ND	H	250	1	11/26/2013 13:04
1,1,1,2-Tetrachloroethane	ND	H	250	1	11/26/2013 13:04
1,1,2,2-Tetrachloroethane	ND	H	250	1	11/26/2013 13:04
Tetrachloroethene	ND	H	250	1	11/26/2013 13:04
Toluene	ND	H	250	1	11/26/2013 13:04
1,2,3-Trichlorobenzene	ND	H	250	1	11/26/2013 13:04
1,2,4-Trichlorobenzene	ND	H	250	1	11/26/2013 13:04
1,1,1-Trichloroethane	ND	H	250	1	11/26/2013 13:04
1,1,2-Trichloroethane	ND	H	250	1	11/26/2013 13:04
Trichloroethene	ND	H	250	1	11/26/2013 13:04
Trichlorofluoromethane	ND	H	250	1	11/26/2013 13:04
1,2,3-Trichloropropane	ND	H	250	1	11/26/2013 13:04
1,2,4-Trimethylbenzene	ND	H	250	1	11/26/2013 13:04
1,3,5-Trimethylbenzene	ND	H	250	1	11/26/2013 13:04
Vinyl Chloride	ND	H	250	1	11/26/2013 13:04
Xylenes, Total	ND	H	250	1	11/26/2013 13:04
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	104	H	70-130		11/26/2013 13:04
Toluene-d8	98	H	70-130		11/26/2013 13:04
4-BFB	89	H	70-130		11/26/2013 13:04

(Cont.)



# Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 11/25/13 18:24  
**Date Prepared:** 11/26/13

**WorkOrder:** 1311895  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS12	1311895-003A	Air	11/25/2013 14:25	GC18	84498
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5000	1	11/26/2013 13:42
tert-Amyl methyl ether (TAME)	ND	H	250	1	11/26/2013 13:42
Benzene	ND	H	250	1	11/26/2013 13:42
Bromobenzene	ND	H	250	1	11/26/2013 13:42
Bromochloromethane	ND	H	250	1	11/26/2013 13:42
Bromodichloromethane	ND	H	250	1	11/26/2013 13:42
Bromoform	ND	H	250	1	11/26/2013 13:42
Bromomethane	ND	H	250	1	11/26/2013 13:42
2-Butanone (MEK)	ND	H	1000	1	11/26/2013 13:42
t-Butyl alcohol (TBA)	ND	H	2500	1	11/26/2013 13:42
n-Butyl benzene	ND	H	250	1	11/26/2013 13:42
sec-Butyl benzene	ND	H	250	1	11/26/2013 13:42
tert-Butyl benzene	ND	H	250	1	11/26/2013 13:42
Carbon Disulfide	ND	H	250	1	11/26/2013 13:42
Carbon Tetrachloride	ND	H	250	1	11/26/2013 13:42
Chlorobenzene	ND	H	250	1	11/26/2013 13:42
Chloroethane	ND	H	250	1	11/26/2013 13:42
Chloroform	ND	H	250	1	11/26/2013 13:42
Chloromethane	ND	H	250	1	11/26/2013 13:42
2-Chlorotoluene	ND	H	250	1	11/26/2013 13:42
4-Chlorotoluene	ND	H	250	1	11/26/2013 13:42
Dibromochloromethane	ND	H	250	1	11/26/2013 13:42
1,2-Dibromo-3-chloropropane	ND	H	250	1	11/26/2013 13:42
1,2-Dibromoethane (EDB)	ND	H	250	1	11/26/2013 13:42
Dibromomethane	ND	H	250	1	11/26/2013 13:42
1,2-Dichlorobenzene	ND	H	250	1	11/26/2013 13:42
1,3-Dichlorobenzene	ND	H	250	1	11/26/2013 13:42
1,4-Dichlorobenzene	ND	H	250	1	11/26/2013 13:42
Dichlorodifluoromethane	ND	H	250	1	11/26/2013 13:42
1,1-Dichloroethane	ND	H	250	1	11/26/2013 13:42
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	11/26/2013 13:42
1,1-Dichloroethene	ND	H	250	1	11/26/2013 13:42
cis-1,2-Dichloroethene	ND	H	250	1	11/26/2013 13:42
trans-1,2-Dichloroethene	ND	H	250	1	11/26/2013 13:42
1,2-Dichloropropane	ND	H	250	1	11/26/2013 13:42
1,3-Dichloropropane	ND	H	250	1	11/26/2013 13:42
2,2-Dichloropropane	ND	H	250	1	11/26/2013 13:42
1,1-Dichloropropene	ND	H	250	1	11/26/2013 13:42

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 11/25/13 18:24  
**Date Prepared:** 11/26/13

**WorkOrder:** 1311895  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS12	1311895-003A	Air	11/25/2013 14:25	GC18	84498
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	250	1	11/26/2013 13:42
trans-1,3-Dichloropropene	ND	H	250	1	11/26/2013 13:42
Diisopropyl ether (DIPE)	ND	H	250	1	11/26/2013 13:42
Ethylbenzene	ND	H	250	1	11/26/2013 13:42
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	11/26/2013 13:42
Freon 113	ND	H	5000	1	11/26/2013 13:42
Hexachlorobutadiene	ND	H	250	1	11/26/2013 13:42
Hexachloroethane	ND	H	250	1	11/26/2013 13:42
2-Hexanone	ND	H	250	1	11/26/2013 13:42
Isopropylbenzene	ND	H	250	1	11/26/2013 13:42
4-Isopropyl toluene	ND	H	250	1	11/26/2013 13:42
Methyl-t-butyl ether (MTBE)	ND	H	250	1	11/26/2013 13:42
Methylene chloride	ND	H	250	1	11/26/2013 13:42
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	11/26/2013 13:42
Naphthalene	ND	H	250	1	11/26/2013 13:42
n-Propyl benzene	ND	H	250	1	11/26/2013 13:42
Styrene	ND	H	250	1	11/26/2013 13:42
1,1,1,2-Tetrachloroethane	ND	H	250	1	11/26/2013 13:42
1,1,2,2-Tetrachloroethane	ND	H	250	1	11/26/2013 13:42
Tetrachloroethene	ND	H	250	1	11/26/2013 13:42
Toluene	ND	H	250	1	11/26/2013 13:42
1,2,3-Trichlorobenzene	ND	H	250	1	11/26/2013 13:42
1,2,4-Trichlorobenzene	ND	H	250	1	11/26/2013 13:42
1,1,1-Trichloroethane	ND	H	250	1	11/26/2013 13:42
1,1,2-Trichloroethane	ND	H	250	1	11/26/2013 13:42
Trichloroethene	ND	H	250	1	11/26/2013 13:42
Trichlorofluoromethane	ND	H	250	1	11/26/2013 13:42
1,2,3-Trichloropropane	ND	H	250	1	11/26/2013 13:42
1,2,4-Trimethylbenzene	ND	H	250	1	11/26/2013 13:42
1,3,5-Trimethylbenzene	ND	H	250	1	11/26/2013 13:42
Vinyl Chloride	ND	H	250	1	11/26/2013 13:42
Xylenes, Total	ND	H	250	1	11/26/2013 13:42
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	107	H	70-130		11/26/2013 13:42
Toluene-d8	96	H	70-130		11/26/2013 13:42
4-BFB	90	H	70-130		11/26/2013 13:42



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/26/13  
**Date Analyzed:** 11/26/13  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1311895  
**BatchID:** 84498  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-84498  
 1311913-001AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	19.69	0.50	20	-	98.5	70-130
Benzene	ND	19.06	0.50	20	-	95.3	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	73.58	2.0	80	-	92	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	18.8	0.50	20	-	94	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	19.35	0.50	20	-	96.7	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	17.39	0.50	20	-	87	70-130
1,1-Dichloroethene	ND	17.87	0.50	20	-	89.3	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/26/13  
**Date Analyzed:** 11/26/13  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1311895  
**BatchID:** 84498  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-84498  
 1311913-001AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	18.7	0.50	20	-	93.5	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	18.85	0.50	20	-	94.3	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	18.76	0.50	20	-	93.8	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	19.36	0.50	20	-	96.8	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	19.33	0.50	20	-	96.7	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	25.39	42.04		45	102	93	70-130
Toluene-d8	24.48	39.39		45	98	88	70-130
4-BFB	2.288	3.999		4.5	92	89	70-130

(Cont.)



# Quality Control Report

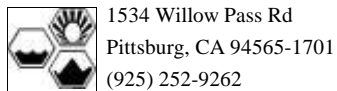
**Client:** P & D Environmental  
**Date Prepared:** 11/26/13  
**Date Analyzed:** 11/26/13  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1311895  
**BatchID:** 84498  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-84498  
 1311913-001AMS/MSD

## QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	22.86	22.55	20	ND	114	113	70-130	1.37	20
Benzene	20.5	19.81	20	ND	102	99.1	70-130	3.39	20
t-Butyl alcohol (TBA)	94.79	96.03	80	ND	118	120	70-130	1.31	20
Chlorobenzene	19.91	19.54	20	ND	99.6	97.7	70-130	1.89	20
1,2-Dibromoethane (EDB)	22.37	22.29	20	ND	112	111	70-130	0.393	20
1,2-Dichloroethane (1,2-DCA)	20.94	20.66	20	ND	105	103	70-130	1.35	20
1,1-Dichloroethene	18.55	18.51	20	ND	92.7	92.5	70-130	0.225	20
Diisopropyl ether (DIPE)	20.61	20.74	20	ND	103	104	70-130	0.611	20
Ethyl tert-butyl ether (ETBE)	21.26	21.59	20	ND	106	108	70-130	1.53	20
Methyl-t-butyl ether (MTBE)	22.39	22.48	20	ND	112	112	70-130	0	20
Toluene	19.81	19.48	20	ND	99	97.4	70-130	1.67	20
Trichloroethene	20.24	19.79	20	ND	101	99	70-130	2.22	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	44.9	44.73	45		100	99	70-130	0.397	20
Toluene-d8	39.69	39.45	45		88	88	70-130	0	20
4-BFB	3.905	3.926	4.5		87	87	70-130	0	20





# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1311895

ClientCode: PDEO

- WaterTrax  
  WriteOn  
  EDF  
  Excel  
  EQUIS  
  Email  
  HardCopy  
  ThirdParty  
  J-flag

**Report to:**

Paul King  
P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610  
(510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
cc:  
PO:  
ProjectNo: #0453; 8410 Amelia St.

**Bill to:**

Accounts Payable  
P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Requested TAT:**

**5 days**

*Date Received:* 11/25/2013

*Date Printed:* 11/26/2013

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1311895-001	SS10	Air	11/25/2013 13:45	<input type="checkbox"/>	A												
1311895-002	SS11	Air	11/25/2013 14:00	<input type="checkbox"/>	A												
1311895-003	SS12	Air	11/25/2013 14:25	<input type="checkbox"/>	A												

**Test Legend:**

1	8260B_A	2		3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Zoraida Cortez**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL

**QC Level:** LEVEL 2

**Work Order:** 1311895

**Project:** #0453; 8410 Amelia St.

**Client Contact:** Paul King

**Date Received:** 11/25/2013

**Comments:**

**Contact's Email:** lab@pdenviro.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1311895-001A	SS10	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	11/25/2013 13:45	5 days		<input type="checkbox"/>	
1311895-002A	SS11	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	11/25/2013 14:00	5 days		<input type="checkbox"/>	
1311895-003A	SS12	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	11/25/2013 14:25	5 days		<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

Tedlar = Tedlar Air Bag

# CHAIN OF CUSTODY RECORD

1511890

<b>P&amp;D ENVIRONMENTAL, INC.</b> 55 Santa Clara Ave., Suite 240 Oakland, CA 94610 (510) 658-6916							NUMBER OF CONTAINERS	ANALYSIS(ES): EPA 8260	PRESERVATIVE	REMARKS			
PROJECT NUMBER: <div style="font-size: 24px; font-weight: bold;">0453</div>			PROJECT NAME: 8410 Amelia St. Oakland, CA										
SAMPLED BY: (PRINTED & SIGNATURE) MICHAEL BASS-DESCHENES <i>Michael Bass-Deschenes</i>													
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION									
				START TIME	END TIME	PID							
SS10	11/25/13	1345	AIR	1345	1356	0.2	1	X				None	Normal Turnaround Time
SS11	↓	1400	↓	1400	1410	0	1	X				↓	↓
SS12	↓	1425	↓	1425	1438	0.2	1	X				↓	↓
RELINQUISHED BY: (SIGNATURE)			DATE	TIME	RECEIVED BY: (SIGNATURE)			Total No. of Samples (This Shipment)	3	LABORATORY:			
<i>Michael Bass-Deschenes</i>			11/25/13	1531	<i>[Signature]</i>			Total No. of Containers (This Shipment)	3	McCampbell Analytical, Inc			
RELINQUISHED BY: (SIGNATURE)			DATE	TIME	RECEIVED BY: (SIGNATURE)			LABORATORY CONTACT:		LABORATORY PHONE NUMBER:			
<i>[Signature]</i>			11/25/13	1645	<i>[Signature]</i>			Angela Rydelius		(877) 252-9262			
RELINQUISHED BY: (SIGNATURE)			DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)			SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (X) NO					
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com					REMARKS:								



### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **11/25/2013 6:24:13 PM**  
 Project Name: **#0453; 8410 Amelia St.** Login Reviewed by: **Zoraida Cortez**  
 WorkOrder N°: **1311895** Matrix: Air Carrier: Rob Pringle (MAI Courier)

**Chain of Custody (COC) Information**

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1403080

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Michael Deschenes  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St., Oakland

**Project Received:** 03/04/2014

Analytical Report reviewed & approved for release on 03/05/2014 by:

Question about  
your data?

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**WorkOrder:** 1403080

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence

### Analytical Qualifier

H samples were analyzed out of holding time



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS13	1403080-001A	Air	03/04/2014 11:40	GC16	87709

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	03/04/2014 20:07
tert-Amyl methyl ether (TAME)	ND	H	250	1	03/04/2014 20:07
Benzene	ND	H	250	1	03/04/2014 20:07
Bromobenzene	ND	H	250	1	03/04/2014 20:07
Bromochloromethane	ND	H	250	1	03/04/2014 20:07
Bromodichloromethane	ND	H	250	1	03/04/2014 20:07
Bromoform	ND	H	250	1	03/04/2014 20:07
Bromomethane	ND	H	250	1	03/04/2014 20:07
2-Butanone (MEK)	ND	H	1000	1	03/04/2014 20:07
t-Butyl alcohol (TBA)	ND	H	2500	1	03/04/2014 20:07
n-Butyl benzene	ND	H	250	1	03/04/2014 20:07
sec-Butyl benzene	ND	H	250	1	03/04/2014 20:07
tert-Butyl benzene	ND	H	250	1	03/04/2014 20:07
Carbon Disulfide	ND	H	250	1	03/04/2014 20:07
Carbon Tetrachloride	ND	H	250	1	03/04/2014 20:07
Chlorobenzene	ND	H	250	1	03/04/2014 20:07
Chloroethane	ND	H	250	1	03/04/2014 20:07
Chloroform	ND	H	250	1	03/04/2014 20:07
Chloromethane	ND	H	250	1	03/04/2014 20:07
2-Chlorotoluene	ND	H	250	1	03/04/2014 20:07
4-Chlorotoluene	ND	H	250	1	03/04/2014 20:07
Dibromochloromethane	ND	H	250	1	03/04/2014 20:07
1,2-Dibromo-3-chloropropane	ND	H	250	1	03/04/2014 20:07
1,2-Dibromoethane (EDB)	ND	H	250	1	03/04/2014 20:07
Dibromomethane	ND	H	250	1	03/04/2014 20:07
1,2-Dichlorobenzene	ND	H	250	1	03/04/2014 20:07
1,3-Dichlorobenzene	ND	H	250	1	03/04/2014 20:07
1,4-Dichlorobenzene	ND	H	250	1	03/04/2014 20:07
Dichlorodifluoromethane	ND	H	250	1	03/04/2014 20:07
1,1-Dichloroethane	ND	H	250	1	03/04/2014 20:07
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	03/04/2014 20:07
1,1-Dichloroethene	ND	H	250	1	03/04/2014 20:07
cis-1,2-Dichloroethene	ND	H	250	1	03/04/2014 20:07
trans-1,2-Dichloroethene	ND	H	250	1	03/04/2014 20:07

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS13	1403080-001A	Air	03/04/2014 11:40	GC16	87709

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
1,2-Dichloropropane	ND	H	250	1	03/04/2014 20:07
1,3-Dichloropropane	ND	H	250	1	03/04/2014 20:07
2,2-Dichloropropane	ND	H	250	1	03/04/2014 20:07
1,1-Dichloropropene	ND	H	250	1	03/04/2014 20:07
cis-1,3-Dichloropropene	ND	H	250	1	03/04/2014 20:07
trans-1,3-Dichloropropene	ND	H	250	1	03/04/2014 20:07
Diisopropyl ether (DIPE)	ND	H	250	1	03/04/2014 20:07
Ethylbenzene	ND	H	250	1	03/04/2014 20:07
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	03/04/2014 20:07
Freon 113	ND	H	5000	1	03/04/2014 20:07
Hexachlorobutadiene	ND	H	250	1	03/04/2014 20:07
Hexachloroethane	ND	H	250	1	03/04/2014 20:07
2-Hexanone	ND	H	250	1	03/04/2014 20:07
Isopropylbenzene	ND	H	250	1	03/04/2014 20:07
4-Isopropyl toluene	ND	H	250	1	03/04/2014 20:07
Methyl-t-butyl ether (MTBE)	ND	H	250	1	03/04/2014 20:07
Methylene chloride	ND	H	250	1	03/04/2014 20:07
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	03/04/2014 20:07
Naphthalene	ND	H	250	1	03/04/2014 20:07
n-Propyl benzene	ND	H	250	1	03/04/2014 20:07
Styrene	ND	H	250	1	03/04/2014 20:07
1,1,1,2-Tetrachloroethane	ND	H	250	1	03/04/2014 20:07
1,1,1,2,2-Tetrachloroethane	ND	H	250	1	03/04/2014 20:07
Tetrachloroethene	ND	H	250	1	03/04/2014 20:07
Toluene	ND	H	250	1	03/04/2014 20:07
1,2,3-Trichlorobenzene	ND	H	250	1	03/04/2014 20:07
1,2,4-Trichlorobenzene	ND	H	250	1	03/04/2014 20:07
1,1,1-Trichloroethane	ND	H	250	1	03/04/2014 20:07
1,1,2-Trichloroethane	ND	H	250	1	03/04/2014 20:07
Trichloroethene	ND	H	250	1	03/04/2014 20:07
Trichlorofluoromethane	ND	H	250	1	03/04/2014 20:07
1,2,3-Trichloropropane	ND	H	250	1	03/04/2014 20:07
1,2,4-Trimethylbenzene	ND	H	250	1	03/04/2014 20:07
1,3,5-Trimethylbenzene	ND	H	250	1	03/04/2014 20:07

(Cont.)





## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS13	1403080-001A	Air	03/04/2014 11:40	GC16	87709

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND	H	250	1	03/04/2014 20:07
Xylenes, Total	ND	H	250	1	03/04/2014 20:07

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	112	H	70-130	03/04/2014 20:07
Toluene-d8	96	H	70-130	03/04/2014 20:07
4-BFB	105	H	70-130	03/04/2014 20:07

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS14	1403080-002A	Air	03/04/2014 12:03	GC16	87709

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	03/04/2014 20:53
tert-Amyl methyl ether (TAME)	ND	H	250	1	03/04/2014 20:53
Benzene	ND	H	250	1	03/04/2014 20:53
Bromobenzene	ND	H	250	1	03/04/2014 20:53
Bromochloromethane	ND	H	250	1	03/04/2014 20:53
Bromodichloromethane	ND	H	250	1	03/04/2014 20:53
Bromoform	ND	H	250	1	03/04/2014 20:53
Bromomethane	ND	H	250	1	03/04/2014 20:53
2-Butanone (MEK)	ND	H	1000	1	03/04/2014 20:53
t-Butyl alcohol (TBA)	ND	H	2500	1	03/04/2014 20:53
n-Butyl benzene	ND	H	250	1	03/04/2014 20:53
sec-Butyl benzene	ND	H	250	1	03/04/2014 20:53
tert-Butyl benzene	ND	H	250	1	03/04/2014 20:53
Carbon Disulfide	ND	H	250	1	03/04/2014 20:53
Carbon Tetrachloride	ND	H	250	1	03/04/2014 20:53
Chlorobenzene	ND	H	250	1	03/04/2014 20:53
Chloroethane	ND	H	250	1	03/04/2014 20:53
Chloroform	ND	H	250	1	03/04/2014 20:53
Chloromethane	ND	H	250	1	03/04/2014 20:53
2-Chlorotoluene	ND	H	250	1	03/04/2014 20:53
4-Chlorotoluene	ND	H	250	1	03/04/2014 20:53
Dibromochloromethane	ND	H	250	1	03/04/2014 20:53
1,2-Dibromo-3-chloropropane	ND	H	250	1	03/04/2014 20:53
1,2-Dibromoethane (EDB)	ND	H	250	1	03/04/2014 20:53
Dibromomethane	ND	H	250	1	03/04/2014 20:53
1,2-Dichlorobenzene	ND	H	250	1	03/04/2014 20:53
1,3-Dichlorobenzene	ND	H	250	1	03/04/2014 20:53
1,4-Dichlorobenzene	ND	H	250	1	03/04/2014 20:53
Dichlorodifluoromethane	ND	H	250	1	03/04/2014 20:53
1,1-Dichloroethane	ND	H	250	1	03/04/2014 20:53
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	03/04/2014 20:53
1,1-Dichloroethene	ND	H	250	1	03/04/2014 20:53
cis-1,2-Dichloroethene	ND	H	250	1	03/04/2014 20:53
trans-1,2-Dichloroethene	ND	H	250	1	03/04/2014 20:53

(Cont.)



# Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS14	1403080-002A	Air	03/04/2014 12:03	GC16	87709

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
1,2-Dichloropropane	ND	H	250	1	03/04/2014 20:53
1,3-Dichloropropane	ND	H	250	1	03/04/2014 20:53
2,2-Dichloropropane	ND	H	250	1	03/04/2014 20:53
1,1-Dichloropropene	ND	H	250	1	03/04/2014 20:53
cis-1,3-Dichloropropene	ND	H	250	1	03/04/2014 20:53
trans-1,3-Dichloropropene	ND	H	250	1	03/04/2014 20:53
Diisopropyl ether (DIPE)	ND	H	250	1	03/04/2014 20:53
Ethylbenzene	ND	H	250	1	03/04/2014 20:53
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	03/04/2014 20:53
Freon 113	ND	H	5000	1	03/04/2014 20:53
Hexachlorobutadiene	ND	H	250	1	03/04/2014 20:53
Hexachloroethane	ND	H	250	1	03/04/2014 20:53
2-Hexanone	ND	H	250	1	03/04/2014 20:53
Isopropylbenzene	ND	H	250	1	03/04/2014 20:53
4-Isopropyl toluene	ND	H	250	1	03/04/2014 20:53
Methyl-t-butyl ether (MTBE)	ND	H	250	1	03/04/2014 20:53
Methylene chloride	ND	H	250	1	03/04/2014 20:53
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	03/04/2014 20:53
Naphthalene	ND	H	250	1	03/04/2014 20:53
n-Propyl benzene	ND	H	250	1	03/04/2014 20:53
Styrene	ND	H	250	1	03/04/2014 20:53
1,1,1,2-Tetrachloroethane	ND	H	250	1	03/04/2014 20:53
1,1,2,2-Tetrachloroethane	ND	H	250	1	03/04/2014 20:53
Tetrachloroethene	1400	H	250	1	03/04/2014 20:53
Toluene	ND	H	250	1	03/04/2014 20:53
1,2,3-Trichlorobenzene	ND	H	250	1	03/04/2014 20:53
1,2,4-Trichlorobenzene	ND	H	250	1	03/04/2014 20:53
1,1,1-Trichloroethane	ND	H	250	1	03/04/2014 20:53
1,1,2-Trichloroethane	ND	H	250	1	03/04/2014 20:53
Trichloroethene	ND	H	250	1	03/04/2014 20:53
Trichlorofluoromethane	ND	H	250	1	03/04/2014 20:53
1,2,3-Trichloropropane	ND	H	250	1	03/04/2014 20:53
1,2,4-Trimethylbenzene	ND	H	250	1	03/04/2014 20:53
1,3,5-Trimethylbenzene	ND	H	250	1	03/04/2014 20:53

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS14	1403080-002A	Air	03/04/2014 12:03	GC16	87709

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND	H	250	1	03/04/2014 20:53
Xylenes, Total	ND	H	250	1	03/04/2014 20:53

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	111	H	70-130	03/04/2014 20:53
Toluene-d8	96	H	70-130	03/04/2014 20:53
4-BFB	106	H	70-130	03/04/2014 20:53

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS15	1403080-003A	Air	03/04/2014 12:22	GC16	87709

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	03/04/2014 21:36
tert-Amyl methyl ether (TAME)	ND	H	250	1	03/04/2014 21:36
Benzene	ND	H	250	1	03/04/2014 21:36
Bromobenzene	ND	H	250	1	03/04/2014 21:36
Bromochloromethane	ND	H	250	1	03/04/2014 21:36
Bromodichloromethane	ND	H	250	1	03/04/2014 21:36
Bromoform	ND	H	250	1	03/04/2014 21:36
Bromomethane	ND	H	250	1	03/04/2014 21:36
2-Butanone (MEK)	ND	H	1000	1	03/04/2014 21:36
t-Butyl alcohol (TBA)	ND	H	2500	1	03/04/2014 21:36
n-Butyl benzene	ND	H	250	1	03/04/2014 21:36
sec-Butyl benzene	ND	H	250	1	03/04/2014 21:36
tert-Butyl benzene	ND	H	250	1	03/04/2014 21:36
Carbon Disulfide	ND	H	250	1	03/04/2014 21:36
Carbon Tetrachloride	ND	H	250	1	03/04/2014 21:36
Chlorobenzene	ND	H	250	1	03/04/2014 21:36
Chloroethane	ND	H	250	1	03/04/2014 21:36
Chloroform	ND	H	250	1	03/04/2014 21:36
Chloromethane	ND	H	250	1	03/04/2014 21:36
2-Chlorotoluene	ND	H	250	1	03/04/2014 21:36
4-Chlorotoluene	ND	H	250	1	03/04/2014 21:36
Dibromochloromethane	ND	H	250	1	03/04/2014 21:36
1,2-Dibromo-3-chloropropane	ND	H	250	1	03/04/2014 21:36
1,2-Dibromoethane (EDB)	ND	H	250	1	03/04/2014 21:36
Dibromomethane	ND	H	250	1	03/04/2014 21:36
1,2-Dichlorobenzene	ND	H	250	1	03/04/2014 21:36
1,3-Dichlorobenzene	ND	H	250	1	03/04/2014 21:36
1,4-Dichlorobenzene	ND	H	250	1	03/04/2014 21:36
Dichlorodifluoromethane	ND	H	250	1	03/04/2014 21:36
1,1-Dichloroethane	ND	H	250	1	03/04/2014 21:36
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	03/04/2014 21:36
1,1-Dichloroethene	ND	H	250	1	03/04/2014 21:36
cis-1,2-Dichloroethene	ND	H	250	1	03/04/2014 21:36
trans-1,2-Dichloroethene	ND	H	250	1	03/04/2014 21:36

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS15	1403080-003A	Air	03/04/2014 12:22	GC16	87709

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
1,2-Dichloropropane	ND	H	250	1	03/04/2014 21:36
1,3-Dichloropropane	ND	H	250	1	03/04/2014 21:36
2,2-Dichloropropane	ND	H	250	1	03/04/2014 21:36
1,1-Dichloropropene	ND	H	250	1	03/04/2014 21:36
cis-1,3-Dichloropropene	ND	H	250	1	03/04/2014 21:36
trans-1,3-Dichloropropene	ND	H	250	1	03/04/2014 21:36
Diisopropyl ether (DIPE)	ND	H	250	1	03/04/2014 21:36
Ethylbenzene	ND	H	250	1	03/04/2014 21:36
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	03/04/2014 21:36
Freon 113	ND	H	5000	1	03/04/2014 21:36
Hexachlorobutadiene	ND	H	250	1	03/04/2014 21:36
Hexachloroethane	ND	H	250	1	03/04/2014 21:36
2-Hexanone	ND	H	250	1	03/04/2014 21:36
Isopropylbenzene	ND	H	250	1	03/04/2014 21:36
4-Isopropyl toluene	ND	H	250	1	03/04/2014 21:36
Methyl-t-butyl ether (MTBE)	ND	H	250	1	03/04/2014 21:36
Methylene chloride	ND	H	250	1	03/04/2014 21:36
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	03/04/2014 21:36
Naphthalene	ND	H	250	1	03/04/2014 21:36
n-Propyl benzene	ND	H	250	1	03/04/2014 21:36
Styrene	ND	H	250	1	03/04/2014 21:36
1,1,1,2-Tetrachloroethane	ND	H	250	1	03/04/2014 21:36
1,1,2,2-Tetrachloroethane	ND	H	250	1	03/04/2014 21:36
Tetrachloroethene	<b>4000</b>	H	250	1	03/04/2014 21:36
Toluene	ND	H	250	1	03/04/2014 21:36
1,2,3-Trichlorobenzene	ND	H	250	1	03/04/2014 21:36
1,2,4-Trichlorobenzene	ND	H	250	1	03/04/2014 21:36
1,1,1-Trichloroethane	ND	H	250	1	03/04/2014 21:36
1,1,2-Trichloroethane	ND	H	250	1	03/04/2014 21:36
Trichloroethene	ND	H	250	1	03/04/2014 21:36
Trichlorofluoromethane	ND	H	250	1	03/04/2014 21:36
1,2,3-Trichloropropane	ND	H	250	1	03/04/2014 21:36
1,2,4-Trimethylbenzene	ND	H	250	1	03/04/2014 21:36
1,3,5-Trimethylbenzene	ND	H	250	1	03/04/2014 21:36

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS15	1403080-003A	Air	03/04/2014 12:22	GC16	87709

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND	H	250	1	03/04/2014 21:36
Xylenes, Total	ND	H	250	1	03/04/2014 21:36

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	113	H	70-130	03/04/2014 21:36
Toluene-d8	96	H	70-130	03/04/2014 21:36
4-BFB	102	H	70-130	03/04/2014 21:36



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS13	1403080-001A	Air	03/04/2014 11:40	GC16	87709
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	03/04/2014 20:07
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	03/04/2014 20:07
Benzene	ND	H	0.25	1	03/04/2014 20:07
Bromobenzene	ND	H	0.25	1	03/04/2014 20:07
Bromochloromethane	ND	H	0.25	1	03/04/2014 20:07
Bromodichloromethane	ND	H	0.25	1	03/04/2014 20:07
Bromoform	ND	H	0.25	1	03/04/2014 20:07
Bromomethane	ND	H	0.25	1	03/04/2014 20:07
2-Butanone (MEK)	ND	H	1.0	1	03/04/2014 20:07
t-Butyl alcohol (TBA)	ND	H	2.5	1	03/04/2014 20:07
n-Butyl benzene	ND	H	0.25	1	03/04/2014 20:07
sec-Butyl benzene	ND	H	0.25	1	03/04/2014 20:07
tert-Butyl benzene	ND	H	0.25	1	03/04/2014 20:07
Carbon Disulfide	ND	H	0.25	1	03/04/2014 20:07
Carbon Tetrachloride	ND	H	0.25	1	03/04/2014 20:07
Chlorobenzene	ND	H	0.25	1	03/04/2014 20:07
Chloroethane	ND	H	0.25	1	03/04/2014 20:07
Chloroform	ND	H	0.25	1	03/04/2014 20:07
Chloromethane	ND	H	0.25	1	03/04/2014 20:07
2-Chlorotoluene	ND	H	0.25	1	03/04/2014 20:07
4-Chlorotoluene	ND	H	0.25	1	03/04/2014 20:07
Dibromochloromethane	ND	H	0.25	1	03/04/2014 20:07
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	03/04/2014 20:07
1,2-Dibromoethane (EDB)	ND	H	0.25	1	03/04/2014 20:07
Dibromomethane	ND	H	0.25	1	03/04/2014 20:07
1,2-Dichlorobenzene	ND	H	0.25	1	03/04/2014 20:07
1,3-Dichlorobenzene	ND	H	0.25	1	03/04/2014 20:07
1,4-Dichlorobenzene	ND	H	0.25	1	03/04/2014 20:07
Dichlorodifluoromethane	ND	H	0.25	1	03/04/2014 20:07
1,1-Dichloroethane	ND	H	0.25	1	03/04/2014 20:07
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	03/04/2014 20:07
1,1-Dichloroethene	ND	H	0.25	1	03/04/2014 20:07
cis-1,2-Dichloroethene	ND	H	0.25	1	03/04/2014 20:07
trans-1,2-Dichloroethene	ND	H	0.25	1	03/04/2014 20:07
1,2-Dichloropropane	ND	H	0.25	1	03/04/2014 20:07
1,3-Dichloropropane	ND	H	0.25	1	03/04/2014 20:07
2,2-Dichloropropane	ND	H	0.25	1	03/04/2014 20:07
1,1-Dichloropropene	ND	H	0.25	1	03/04/2014 20:07

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS13	1403080-001A	Air	03/04/2014 11:40	GC16	87709
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	0.25	1	03/04/2014 20:07
trans-1,3-Dichloropropene	ND	H	0.25	1	03/04/2014 20:07
Diisopropyl ether (DIPE)	ND	H	0.25	1	03/04/2014 20:07
Ethylbenzene	ND	H	0.25	1	03/04/2014 20:07
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	03/04/2014 20:07
Freon 113	ND	H	5.0	1	03/04/2014 20:07
Hexachlorobutadiene	ND	H	0.25	1	03/04/2014 20:07
Hexachloroethane	ND	H	0.25	1	03/04/2014 20:07
2-Hexanone	ND	H	0.25	1	03/04/2014 20:07
Isopropylbenzene	ND	H	0.25	1	03/04/2014 20:07
4-Isopropyl toluene	ND	H	0.25	1	03/04/2014 20:07
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	03/04/2014 20:07
Methylene chloride	ND	H	0.25	1	03/04/2014 20:07
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	03/04/2014 20:07
Naphthalene	ND	H	0.25	1	03/04/2014 20:07
n-Propyl benzene	ND	H	0.25	1	03/04/2014 20:07
Styrene	ND	H	0.25	1	03/04/2014 20:07
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	03/04/2014 20:07
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	03/04/2014 20:07
Tetrachloroethene	ND	H	0.25	1	03/04/2014 20:07
Toluene	ND	H	0.25	1	03/04/2014 20:07
1,2,3-Trichlorobenzene	ND	H	0.25	1	03/04/2014 20:07
1,2,4-Trichlorobenzene	ND	H	0.25	1	03/04/2014 20:07
1,1,1-Trichloroethane	ND	H	0.25	1	03/04/2014 20:07
1,1,2-Trichloroethane	ND	H	0.25	1	03/04/2014 20:07
Trichloroethene	ND	H	0.25	1	03/04/2014 20:07
Trichlorofluoromethane	ND	H	0.25	1	03/04/2014 20:07
1,2,3-Trichloropropane	ND	H	0.25	1	03/04/2014 20:07
1,2,4-Trimethylbenzene	ND	H	0.25	1	03/04/2014 20:07
1,3,5-Trimethylbenzene	ND	H	0.25	1	03/04/2014 20:07
Vinyl Chloride	ND	H	0.25	1	03/04/2014 20:07
Xylenes, Total	ND	H	0.25	1	03/04/2014 20:07
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	112	H	70-130		03/04/2014 20:07
Toluene-d8	96	H	70-130		03/04/2014 20:07
4-BFB	105	H	70-130		03/04/2014 20:07

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS14	1403080-002A	Air	03/04/2014 12:03	GC16	87709
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	03/04/2014 20:53
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	03/04/2014 20:53
Benzene	ND	H	0.25	1	03/04/2014 20:53
Bromobenzene	ND	H	0.25	1	03/04/2014 20:53
Bromochloromethane	ND	H	0.25	1	03/04/2014 20:53
Bromodichloromethane	ND	H	0.25	1	03/04/2014 20:53
Bromoform	ND	H	0.25	1	03/04/2014 20:53
Bromomethane	ND	H	0.25	1	03/04/2014 20:53
2-Butanone (MEK)	ND	H	1.0	1	03/04/2014 20:53
t-Butyl alcohol (TBA)	ND	H	2.5	1	03/04/2014 20:53
n-Butyl benzene	ND	H	0.25	1	03/04/2014 20:53
sec-Butyl benzene	ND	H	0.25	1	03/04/2014 20:53
tert-Butyl benzene	ND	H	0.25	1	03/04/2014 20:53
Carbon Disulfide	ND	H	0.25	1	03/04/2014 20:53
Carbon Tetrachloride	ND	H	0.25	1	03/04/2014 20:53
Chlorobenzene	ND	H	0.25	1	03/04/2014 20:53
Chloroethane	ND	H	0.25	1	03/04/2014 20:53
Chloroform	ND	H	0.25	1	03/04/2014 20:53
Chloromethane	ND	H	0.25	1	03/04/2014 20:53
2-Chlorotoluene	ND	H	0.25	1	03/04/2014 20:53
4-Chlorotoluene	ND	H	0.25	1	03/04/2014 20:53
Dibromochloromethane	ND	H	0.25	1	03/04/2014 20:53
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	03/04/2014 20:53
1,2-Dibromoethane (EDB)	ND	H	0.25	1	03/04/2014 20:53
Dibromomethane	ND	H	0.25	1	03/04/2014 20:53
1,2-Dichlorobenzene	ND	H	0.25	1	03/04/2014 20:53
1,3-Dichlorobenzene	ND	H	0.25	1	03/04/2014 20:53
1,4-Dichlorobenzene	ND	H	0.25	1	03/04/2014 20:53
Dichlorodifluoromethane	ND	H	0.25	1	03/04/2014 20:53
1,1-Dichloroethane	ND	H	0.25	1	03/04/2014 20:53
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	03/04/2014 20:53
1,1-Dichloroethene	ND	H	0.25	1	03/04/2014 20:53
cis-1,2-Dichloroethene	ND	H	0.25	1	03/04/2014 20:53
trans-1,2-Dichloroethene	ND	H	0.25	1	03/04/2014 20:53
1,2-Dichloropropane	ND	H	0.25	1	03/04/2014 20:53
1,3-Dichloropropane	ND	H	0.25	1	03/04/2014 20:53
2,2-Dichloropropane	ND	H	0.25	1	03/04/2014 20:53
1,1-Dichloropropene	ND	H	0.25	1	03/04/2014 20:53

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS14	1403080-002A	Air	03/04/2014 12:03	GC16	87709
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	0.25	1	03/04/2014 20:53
trans-1,3-Dichloropropene	ND	H	0.25	1	03/04/2014 20:53
Diisopropyl ether (DIPE)	ND	H	0.25	1	03/04/2014 20:53
Ethylbenzene	ND	H	0.25	1	03/04/2014 20:53
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	03/04/2014 20:53
Freon 113	ND	H	5.0	1	03/04/2014 20:53
Hexachlorobutadiene	ND	H	0.25	1	03/04/2014 20:53
Hexachloroethane	ND	H	0.25	1	03/04/2014 20:53
2-Hexanone	ND	H	0.25	1	03/04/2014 20:53
Isopropylbenzene	ND	H	0.25	1	03/04/2014 20:53
4-Isopropyl toluene	ND	H	0.25	1	03/04/2014 20:53
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	03/04/2014 20:53
Methylene chloride	ND	H	0.25	1	03/04/2014 20:53
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	03/04/2014 20:53
Naphthalene	ND	H	0.25	1	03/04/2014 20:53
n-Propyl benzene	ND	H	0.25	1	03/04/2014 20:53
Styrene	ND	H	0.25	1	03/04/2014 20:53
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	03/04/2014 20:53
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	03/04/2014 20:53
Tetrachloroethene	1.4	H	0.25	1	03/04/2014 20:53
Toluene	ND	H	0.25	1	03/04/2014 20:53
1,2,3-Trichlorobenzene	ND	H	0.25	1	03/04/2014 20:53
1,2,4-Trichlorobenzene	ND	H	0.25	1	03/04/2014 20:53
1,1,1-Trichloroethane	ND	H	0.25	1	03/04/2014 20:53
1,1,2-Trichloroethane	ND	H	0.25	1	03/04/2014 20:53
Trichloroethene	ND	H	0.25	1	03/04/2014 20:53
Trichlorofluoromethane	ND	H	0.25	1	03/04/2014 20:53
1,2,3-Trichloropropane	ND	H	0.25	1	03/04/2014 20:53
1,2,4-Trimethylbenzene	ND	H	0.25	1	03/04/2014 20:53
1,3,5-Trimethylbenzene	ND	H	0.25	1	03/04/2014 20:53
Vinyl Chloride	ND	H	0.25	1	03/04/2014 20:53
Xylenes, Total	ND	H	0.25	1	03/04/2014 20:53
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	111	H	70-130		03/04/2014 20:53
Toluene-d8	96	H	70-130		03/04/2014 20:53
4-BFB	106	H	70-130		03/04/2014 20:53

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS15	1403080-003A	Air	03/04/2014 12:22	GC16	87709
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	03/04/2014 21:36
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	03/04/2014 21:36
Benzene	ND	H	0.25	1	03/04/2014 21:36
Bromobenzene	ND	H	0.25	1	03/04/2014 21:36
Bromochloromethane	ND	H	0.25	1	03/04/2014 21:36
Bromodichloromethane	ND	H	0.25	1	03/04/2014 21:36
Bromoform	ND	H	0.25	1	03/04/2014 21:36
Bromomethane	ND	H	0.25	1	03/04/2014 21:36
2-Butanone (MEK)	ND	H	1.0	1	03/04/2014 21:36
t-Butyl alcohol (TBA)	ND	H	2.5	1	03/04/2014 21:36
n-Butyl benzene	ND	H	0.25	1	03/04/2014 21:36
sec-Butyl benzene	ND	H	0.25	1	03/04/2014 21:36
tert-Butyl benzene	ND	H	0.25	1	03/04/2014 21:36
Carbon Disulfide	ND	H	0.25	1	03/04/2014 21:36
Carbon Tetrachloride	ND	H	0.25	1	03/04/2014 21:36
Chlorobenzene	ND	H	0.25	1	03/04/2014 21:36
Chloroethane	ND	H	0.25	1	03/04/2014 21:36
Chloroform	ND	H	0.25	1	03/04/2014 21:36
Chloromethane	ND	H	0.25	1	03/04/2014 21:36
2-Chlorotoluene	ND	H	0.25	1	03/04/2014 21:36
4-Chlorotoluene	ND	H	0.25	1	03/04/2014 21:36
Dibromochloromethane	ND	H	0.25	1	03/04/2014 21:36
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	03/04/2014 21:36
1,2-Dibromoethane (EDB)	ND	H	0.25	1	03/04/2014 21:36
Dibromomethane	ND	H	0.25	1	03/04/2014 21:36
1,2-Dichlorobenzene	ND	H	0.25	1	03/04/2014 21:36
1,3-Dichlorobenzene	ND	H	0.25	1	03/04/2014 21:36
1,4-Dichlorobenzene	ND	H	0.25	1	03/04/2014 21:36
Dichlorodifluoromethane	ND	H	0.25	1	03/04/2014 21:36
1,1-Dichloroethane	ND	H	0.25	1	03/04/2014 21:36
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	03/04/2014 21:36
1,1-Dichloroethene	ND	H	0.25	1	03/04/2014 21:36
cis-1,2-Dichloroethene	ND	H	0.25	1	03/04/2014 21:36
trans-1,2-Dichloroethene	ND	H	0.25	1	03/04/2014 21:36
1,2-Dichloropropane	ND	H	0.25	1	03/04/2014 21:36
1,3-Dichloropropane	ND	H	0.25	1	03/04/2014 21:36
2,2-Dichloropropane	ND	H	0.25	1	03/04/2014 21:36
1,1-Dichloropropene	ND	H	0.25	1	03/04/2014 21:36

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St., Oakland  
**Date Received:** 3/4/14 18:29  
**Date Prepared:** 3/4/14

**WorkOrder:** 1403080  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS15	1403080-003A	Air	03/04/2014 12:22	GC16	87709
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	0.25	1	03/04/2014 21:36
trans-1,3-Dichloropropene	ND	H	0.25	1	03/04/2014 21:36
Diisopropyl ether (DIPE)	ND	H	0.25	1	03/04/2014 21:36
Ethylbenzene	ND	H	0.25	1	03/04/2014 21:36
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	03/04/2014 21:36
Freon 113	ND	H	5.0	1	03/04/2014 21:36
Hexachlorobutadiene	ND	H	0.25	1	03/04/2014 21:36
Hexachloroethane	ND	H	0.25	1	03/04/2014 21:36
2-Hexanone	ND	H	0.25	1	03/04/2014 21:36
Isopropylbenzene	ND	H	0.25	1	03/04/2014 21:36
4-Isopropyl toluene	ND	H	0.25	1	03/04/2014 21:36
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	03/04/2014 21:36
Methylene chloride	ND	H	0.25	1	03/04/2014 21:36
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	03/04/2014 21:36
Naphthalene	ND	H	0.25	1	03/04/2014 21:36
n-Propyl benzene	ND	H	0.25	1	03/04/2014 21:36
Styrene	ND	H	0.25	1	03/04/2014 21:36
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	03/04/2014 21:36
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	03/04/2014 21:36
Tetrachloroethene	4.0	H	0.25	1	03/04/2014 21:36
Toluene	ND	H	0.25	1	03/04/2014 21:36
1,2,3-Trichlorobenzene	ND	H	0.25	1	03/04/2014 21:36
1,2,4-Trichlorobenzene	ND	H	0.25	1	03/04/2014 21:36
1,1,1-Trichloroethane	ND	H	0.25	1	03/04/2014 21:36
1,1,2-Trichloroethane	ND	H	0.25	1	03/04/2014 21:36
Trichloroethene	ND	H	0.25	1	03/04/2014 21:36
Trichlorofluoromethane	ND	H	0.25	1	03/04/2014 21:36
1,2,3-Trichloropropane	ND	H	0.25	1	03/04/2014 21:36
1,2,4-Trimethylbenzene	ND	H	0.25	1	03/04/2014 21:36
1,3,5-Trimethylbenzene	ND	H	0.25	1	03/04/2014 21:36
Vinyl Chloride	ND	H	0.25	1	03/04/2014 21:36
Xylenes, Total	ND	H	0.25	1	03/04/2014 21:36
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	113	H	70-130		03/04/2014 21:36
Toluene-d8	96	H	70-130		03/04/2014 21:36
4-BFB	102	H	70-130		03/04/2014 21:36



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/4/14  
**Date Analyzed:** 3/4/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St., Oakland

**WorkOrder:** 1403080  
**BatchID:** 87709  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87709  
 1402944-006AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	17.3	0.50	20	-	86.5	70-130
Benzene	ND	19.21	0.50	20	-	96.1	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	64.49	2.0	80	-	80.6	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	18.42	0.50	20	-	92.1	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	18.67	0.50	20	-	93.4	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	19.61	0.50	20	-	98	70-130
1,1-Dichloroethene	ND	19.9	0.50	20	-	99.5	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/4/14  
**Date Analyzed:** 3/4/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St., Oakland

**WorkOrder:** 1403080  
**BatchID:** 87709  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87709  
 1402944-006AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	18.74	0.50	20	-	93.7	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	17.8	0.50	20	-	89	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	17.49	0.50	20	-	87.4	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	18.39	0.50	20	-	91.9	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	18.45	0.50	20	-	92.3	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	28.4	47.6		45	114	106	70-130
Toluene-d8	23.78	39.65		45	95	88	70-130
4-BFB	2.615	4.141		4.5	105	92	70-130

(Cont.)



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/4/14  
**Date Analyzed:** 3/4/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St., Oakland

**WorkOrder:** 1403080  
**BatchID:** 87709  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87709  
 1402944-006AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	18.11	19.45	20	ND	90.5	97.3	70-130	7.14	20
Benzene	19.12	20.37	20	ND	95.6	102	70-130	6.32	20
t-Butyl alcohol (TBA)	67.16	77.59	80	ND	84	97	70-130	14.4	20
Chlorobenzene	18.53	19.35	20	ND	92.7	96.7	70-130	4.31	20
1,2-Dibromoethane (EDB)	20.29	20.95	20	ND	101	105	70-130	3.18	20
1,2-Dichloroethane (1,2-DCA)	20.45	21.9	20	ND	102	109	70-130	6.83	20
1,1-Dichloroethene	19.34	21.08	20	ND	96.7	105	70-130	8.59	20
Diisopropyl ether (DIPE)	19.33	20.37	20	ND	96.7	102	70-130	5.25	20
Ethyl tert-butyl ether (ETBE)	18.29	19.84	20	ND	91.5	99.2	70-130	8.09	20
Methyl-t-butyl ether (MTBE)	18.59	19.99	20	ND	93	100	70-130	7.26	20
Toluene	18.39	19.53	20	ND	91.9	97.7	70-130	6.02	20
Trichloroethene	18.32	19.3	20	ND	91.6	96.5	70-130	5.18	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	47.71	49.42	45		106	110	70-130	3.52	20
Toluene-d8	39.66	40.96	45		88	91	70-130	3.23	20
4-BFB	4.078	4.27	4.5		91	95	70-130	4.59	20





1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1403080

ClientCode: PDEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQulS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Michael Deschenes  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610  
 (510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
 cc/3rd Party:  
 PO:  
 ProjectNo: #0453; 8410 Amelia St., Oakland

**Bill to:**

Accounts Payable  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610

**Requested TAT:**

**2 days**

**Date Received: 03/04/2014**

**Date Printed: 03/04/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1403080-001	SS13	Air	3/4/2014 11:40	<input type="checkbox"/>	A												
1403080-002	SS14	Air	3/4/2014 12:03	<input type="checkbox"/>	A												
1403080-003	SS15	Air	3/4/2014 12:22	<input type="checkbox"/>	A												

**Test Legend:**

1	8260B_A	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Daniel Loa

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL  
**Project:** #0453; 8410 Amelia St., Oakland  
**Comments:**

**QC Level:** LEVEL 2  
**Client Contact:** Michael Deschenes  
**Contact's Email:** lab@pdenviro.com

**Work Order:** 1403080  
**Date Received:** 3/4/2014

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1403080-001A	SS13	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	3/4/2014 11:40	2 days		<input type="checkbox"/>	
1403080-002A	SS14	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	3/4/2014 12:03	2 days		<input type="checkbox"/>	
1403080-003A	SS15	Air	SW8260B (VOCs)	1	Tedlar	<input type="checkbox"/>	3/4/2014 12:22	2 days		<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

Tedlar = Tedlar Air Bag

# CHAIN OF CUSTODY RECORD

**P&D ENVIRONMENTAL, INC.**  
 55 Santa Clara Ave., Suite 240  
 Oakland, CA 94610  
 (510) 658-6916

# RUSH

PROJECT NUMBER:

0453

PROJECT NAME:

8410 AUELIA ST  
 OAKLAND

NUMBER OF CONTAINERS

ANALYSIS(ES):  
 EPA 8260

PRESERVATIVE

SAMPLED BY: (PRINTED & SIGNATURE)

MICHAEL BASS-DESCHENES *Michael Bass-Deschenes*

REMARKS

SAMPLE NUMBER

DATE

TIME

TYPE

SAMPLE LOCATION

SAMPLE TIME    END TIME    RID (m)

SS13

3/4/14

1140

AIR

1140 1141 0

1

X

NONE

48 HOUR RUSH

SS14

"

1203

"

1203 1204 0.3

1

X

"

" "

SS15

"

1222

"

1222 1223 0.2

1

X

"

" "

RELINQUISHED BY: (SIGNATURE)

*Michael Bass-Deschenes*

DATE

3/4/14

TIME

1550

RECEIVED BY: (SIGNATURE)

*Tim [Signature]*

Total No. of Samples (This Shipment)

3

LABORATORY:

MC CAMPBELL ANALYTICAL, INC.

RELINQUISHED BY: (SIGNATURE)

*Tim [Signature]*

DATE

3/4

TIME

1820

RECEIVED BY: (SIGNATURE)

*Tim [Signature]*

LABORATORY CONTACT:

ANGELA RYDELLUS (877) 252-9262

LABORATORY PHONE NUMBER:

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)

SAMPLE ANALYSIS REQUEST SHEET

ATTACHED: ( ) YES (X) NO

Results and billing to:  
 P&D Environmental, Inc.  
 lab@pdenviro.com

REMARKS: TEFLAR BAGS



### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **3/4/2014 6:29:09 PM**  
 Project Name: **#0453; 8410 Amelia St., Oakland** Login Reviewed by: **Daniel Loa**  
 WorkOrder N°: **1403080** Matrix: Air Carrier: Tim Tatum (MAI Courier)

**Chain of Custody (COC) Information**

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1403186

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Paul King  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St.

**Project Received:** 03/06/2014

Analytical Report reviewed & approved for release on 03/10/2014 by:

Question about  
your data?

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**WorkOrder:** 1403186

<b><u>Glossary</u></b> <b><u>Abbreviation</u></b>	<b><u>Description</u></b>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence

### **Analytical** **Qualifier**

H samples were analyzed out of holding time



# Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS16	1403186-001A	Air	03/06/2014 14:54	GC18	87843
Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	03/06/2014 21:50
tert-Amyl methyl ether (TAME)	ND	H	250	1	03/06/2014 21:50
Benzene	ND	H	250	1	03/06/2014 21:50
Bromobenzene	ND	H	250	1	03/06/2014 21:50
Bromochloromethane	ND	H	250	1	03/06/2014 21:50
Bromodichloromethane	ND	H	250	1	03/06/2014 21:50
Bromoform	ND	H	250	1	03/06/2014 21:50
Bromomethane	ND	H	250	1	03/06/2014 21:50
2-Butanone (MEK)	ND	H	1000	1	03/06/2014 21:50
t-Butyl alcohol (TBA)	<b>32,000</b>	H	2500	1	03/06/2014 21:50
n-Butyl benzene	ND	H	250	1	03/06/2014 21:50
sec-Butyl benzene	ND	H	250	1	03/06/2014 21:50
tert-Butyl benzene	ND	H	250	1	03/06/2014 21:50
Carbon Disulfide	ND	H	250	1	03/06/2014 21:50
Carbon Tetrachloride	ND	H	250	1	03/06/2014 21:50
Chlorobenzene	ND	H	250	1	03/06/2014 21:50
Chloroethane	ND	H	250	1	03/06/2014 21:50
Chloroform	ND	H	250	1	03/06/2014 21:50
Chloromethane	ND	H	250	1	03/06/2014 21:50
2-Chlorotoluene	ND	H	250	1	03/06/2014 21:50
4-Chlorotoluene	ND	H	250	1	03/06/2014 21:50
Dibromochloromethane	ND	H	250	1	03/06/2014 21:50
1,2-Dibromo-3-chloropropane	ND	H	250	1	03/06/2014 21:50
1,2-Dibromoethane (EDB)	ND	H	250	1	03/06/2014 21:50
Dibromomethane	ND	H	250	1	03/06/2014 21:50
1,2-Dichlorobenzene	ND	H	250	1	03/06/2014 21:50
1,3-Dichlorobenzene	ND	H	250	1	03/06/2014 21:50
1,4-Dichlorobenzene	ND	H	250	1	03/06/2014 21:50
Dichlorodifluoromethane	ND	H	250	1	03/06/2014 21:50
1,1-Dichloroethane	ND	H	250	1	03/06/2014 21:50
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	03/06/2014 21:50
1,1-Dichloroethene	ND	H	250	1	03/06/2014 21:50
cis-1,2-Dichloroethene	ND	H	250	1	03/06/2014 21:50
trans-1,2-Dichloroethene	ND	H	250	1	03/06/2014 21:50
1,2-Dichloropropane	ND	H	250	1	03/06/2014 21:50
1,3-Dichloropropane	ND	H	250	1	03/06/2014 21:50
2,2-Dichloropropane	ND	H	250	1	03/06/2014 21:50
1,1-Dichloropropene	ND	H	250	1	03/06/2014 21:50

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS16	1403186-001A	Air	03/06/2014 14:54	GC18	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	250	1	03/06/2014 21:50
trans-1,3-Dichloropropene	ND	H	250	1	03/06/2014 21:50
Diisopropyl ether (DIPE)	ND	H	250	1	03/06/2014 21:50
Ethylbenzene	ND	H	250	1	03/06/2014 21:50
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	03/06/2014 21:50
Freon 113	ND	H	5000	1	03/06/2014 21:50
Hexachlorobutadiene	ND	H	250	1	03/06/2014 21:50
Hexachloroethane	ND	H	250	1	03/06/2014 21:50
2-Hexanone	ND	H	250	1	03/06/2014 21:50
Isopropylbenzene	ND	H	250	1	03/06/2014 21:50
4-Isopropyl toluene	ND	H	250	1	03/06/2014 21:50
Methyl-t-butyl ether (MTBE)	ND	H	250	1	03/06/2014 21:50
Methylene chloride	ND	H	250	1	03/06/2014 21:50
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	03/06/2014 21:50
Naphthalene	ND	H	250	1	03/06/2014 21:50
n-Propyl benzene	ND	H	250	1	03/06/2014 21:50
Styrene	ND	H	250	1	03/06/2014 21:50
1,1,1,2-Tetrachloroethane	ND	H	250	1	03/06/2014 21:50
1,1,2,2-Tetrachloroethane	ND	H	250	1	03/06/2014 21:50
Tetrachloroethene	380	H	250	1	03/06/2014 21:50
Toluene	ND	H	250	1	03/06/2014 21:50
1,2,3-Trichlorobenzene	ND	H	250	1	03/06/2014 21:50
1,2,4-Trichlorobenzene	ND	H	250	1	03/06/2014 21:50
1,1,1-Trichloroethane	ND	H	250	1	03/06/2014 21:50
1,1,2-Trichloroethane	ND	H	250	1	03/06/2014 21:50
Trichloroethene	ND	H	250	1	03/06/2014 21:50
Trichlorofluoromethane	ND	H	250	1	03/06/2014 21:50
1,2,3-Trichloropropane	ND	H	250	1	03/06/2014 21:50
1,2,4-Trimethylbenzene	ND	H	250	1	03/06/2014 21:50
1,3,5-Trimethylbenzene	ND	H	250	1	03/06/2014 21:50
Vinyl Chloride	ND	H	250	1	03/06/2014 21:50
Xylenes, Total	ND	H	250	1	03/06/2014 21:50
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	93	H	70-130		03/06/2014 21:50
Toluene-d8	115	H	70-130		03/06/2014 21:50
4-BFB	92	H	70-130		03/06/2014 21:50

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS17	1403186-002A	Air	03/06/2014 14:45	GC10	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5000	1	03/07/2014 14:09
tert-Amyl methyl ether (TAME)	ND	H	250	1	03/07/2014 14:09
Benzene	ND	H	250	1	03/07/2014 14:09
Bromobenzene	ND	H	250	1	03/07/2014 14:09
Bromochloromethane	ND	H	250	1	03/07/2014 14:09
Bromodichloromethane	ND	H	250	1	03/07/2014 14:09
Bromoform	ND	H	250	1	03/07/2014 14:09
Bromomethane	ND	H	250	1	03/07/2014 14:09
2-Butanone (MEK)	ND	H	1000	1	03/07/2014 14:09
t-Butyl alcohol (TBA)	ND	H	2500	1	03/07/2014 14:09
n-Butyl benzene	ND	H	250	1	03/07/2014 14:09
sec-Butyl benzene	ND	H	250	1	03/07/2014 14:09
tert-Butyl benzene	ND	H	250	1	03/07/2014 14:09
Carbon Disulfide	ND	H	250	1	03/07/2014 14:09
Carbon Tetrachloride	ND	H	250	1	03/07/2014 14:09
Chlorobenzene	ND	H	250	1	03/07/2014 14:09
Chloroethane	ND	H	250	1	03/07/2014 14:09
Chloroform	ND	H	250	1	03/07/2014 14:09
Chloromethane	ND	H	250	1	03/07/2014 14:09
2-Chlorotoluene	ND	H	250	1	03/07/2014 14:09
4-Chlorotoluene	ND	H	250	1	03/07/2014 14:09
Dibromochloromethane	ND	H	250	1	03/07/2014 14:09
1,2-Dibromo-3-chloropropane	ND	H	250	1	03/07/2014 14:09
1,2-Dibromoethane (EDB)	ND	H	250	1	03/07/2014 14:09
Dibromomethane	ND	H	250	1	03/07/2014 14:09
1,2-Dichlorobenzene	ND	H	250	1	03/07/2014 14:09
1,3-Dichlorobenzene	ND	H	250	1	03/07/2014 14:09
1,4-Dichlorobenzene	ND	H	250	1	03/07/2014 14:09
Dichlorodifluoromethane	ND	H	250	1	03/07/2014 14:09
1,1-Dichloroethane	ND	H	250	1	03/07/2014 14:09
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	03/07/2014 14:09
1,1-Dichloroethene	ND	H	250	1	03/07/2014 14:09
cis-1,2-Dichloroethene	ND	H	250	1	03/07/2014 14:09
trans-1,2-Dichloroethene	ND	H	250	1	03/07/2014 14:09
1,2-Dichloropropane	ND	H	250	1	03/07/2014 14:09
1,3-Dichloropropane	ND	H	250	1	03/07/2014 14:09
2,2-Dichloropropane	ND	H	250	1	03/07/2014 14:09
1,1-Dichloropropene	ND	H	250	1	03/07/2014 14:09

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS17	1403186-002A	Air	03/06/2014 14:45	GC10	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	250	1	03/07/2014 14:09
trans-1,3-Dichloropropene	ND	H	250	1	03/07/2014 14:09
Diisopropyl ether (DIPE)	ND	H	250	1	03/07/2014 14:09
Ethylbenzene	ND	H	250	1	03/07/2014 14:09
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	03/07/2014 14:09
Freon 113	ND	H	5000	1	03/07/2014 14:09
Hexachlorobutadiene	ND	H	250	1	03/07/2014 14:09
Hexachloroethane	ND	H	250	1	03/07/2014 14:09
2-Hexanone	ND	H	250	1	03/07/2014 14:09
Isopropylbenzene	ND	H	250	1	03/07/2014 14:09
4-Isopropyl toluene	ND	H	250	1	03/07/2014 14:09
Methyl-t-butyl ether (MTBE)	ND	H	250	1	03/07/2014 14:09
Methylene chloride	ND	H	250	1	03/07/2014 14:09
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	03/07/2014 14:09
Naphthalene	ND	H	250	1	03/07/2014 14:09
n-Propyl benzene	ND	H	250	1	03/07/2014 14:09
Styrene	ND	H	250	1	03/07/2014 14:09
1,1,1,2-Tetrachloroethane	ND	H	250	1	03/07/2014 14:09
1,1,2,2-Tetrachloroethane	ND	H	250	1	03/07/2014 14:09
Tetrachloroethene	1400	H	250	1	03/07/2014 14:09
Toluene	ND	H	250	1	03/07/2014 14:09
1,2,3-Trichlorobenzene	ND	H	250	1	03/07/2014 14:09
1,2,4-Trichlorobenzene	ND	H	250	1	03/07/2014 14:09
1,1,1-Trichloroethane	ND	H	250	1	03/07/2014 14:09
1,1,2-Trichloroethane	ND	H	250	1	03/07/2014 14:09
Trichloroethene	ND	H	250	1	03/07/2014 14:09
Trichlorofluoromethane	ND	H	250	1	03/07/2014 14:09
1,2,3-Trichloropropane	ND	H	250	1	03/07/2014 14:09
1,2,4-Trimethylbenzene	ND	H	250	1	03/07/2014 14:09
1,3,5-Trimethylbenzene	ND	H	250	1	03/07/2014 14:09
Vinyl Chloride	ND	H	250	1	03/07/2014 14:09
Xylenes, Total	ND	H	250	1	03/07/2014 14:09
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	92	H	70-130		03/07/2014 14:09
Toluene-d8	110	H	70-130		03/07/2014 14:09
4-BFB	81	H	70-130		03/07/2014 14:09

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS18	1403186-003A	Air	03/06/2014 13:48	GC10	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5000	1	03/07/2014 14:50
tert-Amyl methyl ether (TAME)	ND	H	250	1	03/07/2014 14:50
Benzene	ND	H	250	1	03/07/2014 14:50
Bromobenzene	ND	H	250	1	03/07/2014 14:50
Bromochloromethane	ND	H	250	1	03/07/2014 14:50
Bromodichloromethane	ND	H	250	1	03/07/2014 14:50
Bromoform	ND	H	250	1	03/07/2014 14:50
Bromomethane	ND	H	250	1	03/07/2014 14:50
2-Butanone (MEK)	ND	H	1000	1	03/07/2014 14:50
t-Butyl alcohol (TBA)	ND	H	2500	1	03/07/2014 14:50
n-Butyl benzene	ND	H	250	1	03/07/2014 14:50
sec-Butyl benzene	ND	H	250	1	03/07/2014 14:50
tert-Butyl benzene	ND	H	250	1	03/07/2014 14:50
Carbon Disulfide	ND	H	250	1	03/07/2014 14:50
Carbon Tetrachloride	ND	H	250	1	03/07/2014 14:50
Chlorobenzene	ND	H	250	1	03/07/2014 14:50
Chloroethane	ND	H	250	1	03/07/2014 14:50
Chloroform	ND	H	250	1	03/07/2014 14:50
Chloromethane	ND	H	250	1	03/07/2014 14:50
2-Chlorotoluene	ND	H	250	1	03/07/2014 14:50
4-Chlorotoluene	ND	H	250	1	03/07/2014 14:50
Dibromochloromethane	ND	H	250	1	03/07/2014 14:50
1,2-Dibromo-3-chloropropane	ND	H	250	1	03/07/2014 14:50
1,2-Dibromoethane (EDB)	ND	H	250	1	03/07/2014 14:50
Dibromomethane	ND	H	250	1	03/07/2014 14:50
1,2-Dichlorobenzene	ND	H	250	1	03/07/2014 14:50
1,3-Dichlorobenzene	ND	H	250	1	03/07/2014 14:50
1,4-Dichlorobenzene	ND	H	250	1	03/07/2014 14:50
Dichlorodifluoromethane	ND	H	250	1	03/07/2014 14:50
1,1-Dichloroethane	ND	H	250	1	03/07/2014 14:50
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	03/07/2014 14:50
1,1-Dichloroethene	ND	H	250	1	03/07/2014 14:50
cis-1,2-Dichloroethene	ND	H	250	1	03/07/2014 14:50
trans-1,2-Dichloroethene	ND	H	250	1	03/07/2014 14:50
1,2-Dichloropropane	ND	H	250	1	03/07/2014 14:50
1,3-Dichloropropane	ND	H	250	1	03/07/2014 14:50
2,2-Dichloropropane	ND	H	250	1	03/07/2014 14:50
1,1-Dichloropropene	ND	H	250	1	03/07/2014 14:50

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS18	1403186-003A	Air	03/06/2014 13:48	GC10	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	250	1	03/07/2014 14:50
trans-1,3-Dichloropropene	ND	H	250	1	03/07/2014 14:50
Diisopropyl ether (DIPE)	ND	H	250	1	03/07/2014 14:50
Ethylbenzene	ND	H	250	1	03/07/2014 14:50
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	03/07/2014 14:50
Freon 113	ND	H	5000	1	03/07/2014 14:50
Hexachlorobutadiene	ND	H	250	1	03/07/2014 14:50
Hexachloroethane	ND	H	250	1	03/07/2014 14:50
2-Hexanone	ND	H	250	1	03/07/2014 14:50
Isopropylbenzene	ND	H	250	1	03/07/2014 14:50
4-Isopropyl toluene	ND	H	250	1	03/07/2014 14:50
Methyl-t-butyl ether (MTBE)	ND	H	250	1	03/07/2014 14:50
Methylene chloride	ND	H	250	1	03/07/2014 14:50
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	03/07/2014 14:50
Naphthalene	ND	H	250	1	03/07/2014 14:50
n-Propyl benzene	ND	H	250	1	03/07/2014 14:50
Styrene	ND	H	250	1	03/07/2014 14:50
1,1,1,2-Tetrachloroethane	ND	H	250	1	03/07/2014 14:50
1,1,2,2-Tetrachloroethane	ND	H	250	1	03/07/2014 14:50
Tetrachloroethene	710	H	250	1	03/07/2014 14:50
Toluene	ND	H	250	1	03/07/2014 14:50
1,2,3-Trichlorobenzene	ND	H	250	1	03/07/2014 14:50
1,2,4-Trichlorobenzene	ND	H	250	1	03/07/2014 14:50
1,1,1-Trichloroethane	ND	H	250	1	03/07/2014 14:50
1,1,2-Trichloroethane	ND	H	250	1	03/07/2014 14:50
Trichloroethene	ND	H	250	1	03/07/2014 14:50
Trichlorofluoromethane	ND	H	250	1	03/07/2014 14:50
1,2,3-Trichloropropane	ND	H	250	1	03/07/2014 14:50
1,2,4-Trimethylbenzene	ND	H	250	1	03/07/2014 14:50
1,3,5-Trimethylbenzene	ND	H	250	1	03/07/2014 14:50
Vinyl Chloride	ND	H	250	1	03/07/2014 14:50
Xylenes, Total	ND	H	250	1	03/07/2014 14:50
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	94	H	70-130		03/07/2014 14:50
Toluene-d8	110	H	70-130		03/07/2014 14:50
4-BFB	77	H	70-130		03/07/2014 14:50



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS16	1403186-001A	Air	03/06/2014 14:54	GC18	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	03/06/2014 21:50
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	03/06/2014 21:50
Benzene	ND	H	0.25	1	03/06/2014 21:50
Bromobenzene	ND	H	0.25	1	03/06/2014 21:50
Bromochloromethane	ND	H	0.25	1	03/06/2014 21:50
Bromodichloromethane	ND	H	0.25	1	03/06/2014 21:50
Bromoform	ND	H	0.25	1	03/06/2014 21:50
Bromomethane	ND	H	0.25	1	03/06/2014 21:50
2-Butanone (MEK)	ND	H	1.0	1	03/06/2014 21:50
t-Butyl alcohol (TBA)	32	H	2.5	1	03/06/2014 21:50
n-Butyl benzene	ND	H	0.25	1	03/06/2014 21:50
sec-Butyl benzene	ND	H	0.25	1	03/06/2014 21:50
tert-Butyl benzene	ND	H	0.25	1	03/06/2014 21:50
Carbon Disulfide	ND	H	0.25	1	03/06/2014 21:50
Carbon Tetrachloride	ND	H	0.25	1	03/06/2014 21:50
Chlorobenzene	ND	H	0.25	1	03/06/2014 21:50
Chloroethane	ND	H	0.25	1	03/06/2014 21:50
Chloroform	ND	H	0.25	1	03/06/2014 21:50
Chloromethane	ND	H	0.25	1	03/06/2014 21:50
2-Chlorotoluene	ND	H	0.25	1	03/06/2014 21:50
4-Chlorotoluene	ND	H	0.25	1	03/06/2014 21:50
Dibromochloromethane	ND	H	0.25	1	03/06/2014 21:50
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	03/06/2014 21:50
1,2-Dibromoethane (EDB)	ND	H	0.25	1	03/06/2014 21:50
Dibromomethane	ND	H	0.25	1	03/06/2014 21:50
1,2-Dichlorobenzene	ND	H	0.25	1	03/06/2014 21:50
1,3-Dichlorobenzene	ND	H	0.25	1	03/06/2014 21:50
1,4-Dichlorobenzene	ND	H	0.25	1	03/06/2014 21:50
Dichlorodifluoromethane	ND	H	0.25	1	03/06/2014 21:50
1,1-Dichloroethane	ND	H	0.25	1	03/06/2014 21:50
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	03/06/2014 21:50
1,1-Dichloroethene	ND	H	0.25	1	03/06/2014 21:50
cis-1,2-Dichloroethene	ND	H	0.25	1	03/06/2014 21:50
trans-1,2-Dichloroethene	ND	H	0.25	1	03/06/2014 21:50
1,2-Dichloropropane	ND	H	0.25	1	03/06/2014 21:50
1,3-Dichloropropane	ND	H	0.25	1	03/06/2014 21:50
2,2-Dichloropropane	ND	H	0.25	1	03/06/2014 21:50
1,1-Dichloropropene	ND	H	0.25	1	03/06/2014 21:50

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS16	1403186-001A	Air	03/06/2014 14:54	GC18	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	0.25	1	03/06/2014 21:50
trans-1,3-Dichloropropene	ND	H	0.25	1	03/06/2014 21:50
Diisopropyl ether (DIPE)	ND	H	0.25	1	03/06/2014 21:50
Ethylbenzene	ND	H	0.25	1	03/06/2014 21:50
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	03/06/2014 21:50
Freon 113	ND	H	5.0	1	03/06/2014 21:50
Hexachlorobutadiene	ND	H	0.25	1	03/06/2014 21:50
Hexachloroethane	ND	H	0.25	1	03/06/2014 21:50
2-Hexanone	ND	H	0.25	1	03/06/2014 21:50
Isopropylbenzene	ND	H	0.25	1	03/06/2014 21:50
4-Isopropyl toluene	ND	H	0.25	1	03/06/2014 21:50
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	03/06/2014 21:50
Methylene chloride	ND	H	0.25	1	03/06/2014 21:50
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	03/06/2014 21:50
Naphthalene	ND	H	0.25	1	03/06/2014 21:50
n-Propyl benzene	ND	H	0.25	1	03/06/2014 21:50
Styrene	ND	H	0.25	1	03/06/2014 21:50
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	03/06/2014 21:50
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	03/06/2014 21:50
Tetrachloroethene	<b>0.38</b>	H	0.25	1	03/06/2014 21:50
Toluene	ND	H	0.25	1	03/06/2014 21:50
1,2,3-Trichlorobenzene	ND	H	0.25	1	03/06/2014 21:50
1,2,4-Trichlorobenzene	ND	H	0.25	1	03/06/2014 21:50
1,1,1-Trichloroethane	ND	H	0.25	1	03/06/2014 21:50
1,1,2-Trichloroethane	ND	H	0.25	1	03/06/2014 21:50
Trichloroethene	ND	H	0.25	1	03/06/2014 21:50
Trichlorofluoromethane	ND	H	0.25	1	03/06/2014 21:50
1,2,3-Trichloropropane	ND	H	0.25	1	03/06/2014 21:50
1,2,4-Trimethylbenzene	ND	H	0.25	1	03/06/2014 21:50
1,3,5-Trimethylbenzene	ND	H	0.25	1	03/06/2014 21:50
Vinyl Chloride	ND	H	0.25	1	03/06/2014 21:50
Xylenes, Total	ND	H	0.25	1	03/06/2014 21:50
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	93	H	70-130		03/06/2014 21:50
Toluene-d8	115	H	70-130		03/06/2014 21:50
4-BFB	92	H	70-130		03/06/2014 21:50

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS17	1403186-002A	Air	03/06/2014 14:45	GC10	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	03/07/2014 14:09
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	03/07/2014 14:09
Benzene	ND	H	0.25	1	03/07/2014 14:09
Bromobenzene	ND	H	0.25	1	03/07/2014 14:09
Bromochloromethane	ND	H	0.25	1	03/07/2014 14:09
Bromodichloromethane	ND	H	0.25	1	03/07/2014 14:09
Bromoform	ND	H	0.25	1	03/07/2014 14:09
Bromomethane	ND	H	0.25	1	03/07/2014 14:09
2-Butanone (MEK)	ND	H	1.0	1	03/07/2014 14:09
t-Butyl alcohol (TBA)	ND	H	2.5	1	03/07/2014 14:09
n-Butyl benzene	ND	H	0.25	1	03/07/2014 14:09
sec-Butyl benzene	ND	H	0.25	1	03/07/2014 14:09
tert-Butyl benzene	ND	H	0.25	1	03/07/2014 14:09
Carbon Disulfide	ND	H	0.25	1	03/07/2014 14:09
Carbon Tetrachloride	ND	H	0.25	1	03/07/2014 14:09
Chlorobenzene	ND	H	0.25	1	03/07/2014 14:09
Chloroethane	ND	H	0.25	1	03/07/2014 14:09
Chloroform	ND	H	0.25	1	03/07/2014 14:09
Chloromethane	ND	H	0.25	1	03/07/2014 14:09
2-Chlorotoluene	ND	H	0.25	1	03/07/2014 14:09
4-Chlorotoluene	ND	H	0.25	1	03/07/2014 14:09
Dibromochloromethane	ND	H	0.25	1	03/07/2014 14:09
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	03/07/2014 14:09
1,2-Dibromoethane (EDB)	ND	H	0.25	1	03/07/2014 14:09
Dibromomethane	ND	H	0.25	1	03/07/2014 14:09
1,2-Dichlorobenzene	ND	H	0.25	1	03/07/2014 14:09
1,3-Dichlorobenzene	ND	H	0.25	1	03/07/2014 14:09
1,4-Dichlorobenzene	ND	H	0.25	1	03/07/2014 14:09
Dichlorodifluoromethane	ND	H	0.25	1	03/07/2014 14:09
1,1-Dichloroethane	ND	H	0.25	1	03/07/2014 14:09
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	03/07/2014 14:09
1,1-Dichloroethene	ND	H	0.25	1	03/07/2014 14:09
cis-1,2-Dichloroethene	ND	H	0.25	1	03/07/2014 14:09
trans-1,2-Dichloroethene	ND	H	0.25	1	03/07/2014 14:09
1,2-Dichloropropane	ND	H	0.25	1	03/07/2014 14:09
1,3-Dichloropropane	ND	H	0.25	1	03/07/2014 14:09
2,2-Dichloropropane	ND	H	0.25	1	03/07/2014 14:09
1,1-Dichloropropene	ND	H	0.25	1	03/07/2014 14:09

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS17	1403186-002A	Air	03/06/2014 14:45	GC10	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	0.25	1	03/07/2014 14:09
trans-1,3-Dichloropropene	ND	H	0.25	1	03/07/2014 14:09
Diisopropyl ether (DIPE)	ND	H	0.25	1	03/07/2014 14:09
Ethylbenzene	ND	H	0.25	1	03/07/2014 14:09
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	03/07/2014 14:09
Freon 113	ND	H	5.0	1	03/07/2014 14:09
Hexachlorobutadiene	ND	H	0.25	1	03/07/2014 14:09
Hexachloroethane	ND	H	0.25	1	03/07/2014 14:09
2-Hexanone	ND	H	0.25	1	03/07/2014 14:09
Isopropylbenzene	ND	H	0.25	1	03/07/2014 14:09
4-Isopropyl toluene	ND	H	0.25	1	03/07/2014 14:09
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	03/07/2014 14:09
Methylene chloride	ND	H	0.25	1	03/07/2014 14:09
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	03/07/2014 14:09
Naphthalene	ND	H	0.25	1	03/07/2014 14:09
n-Propyl benzene	ND	H	0.25	1	03/07/2014 14:09
Styrene	ND	H	0.25	1	03/07/2014 14:09
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	03/07/2014 14:09
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	03/07/2014 14:09
Tetrachloroethene	1.4	H	0.25	1	03/07/2014 14:09
Toluene	ND	H	0.25	1	03/07/2014 14:09
1,2,3-Trichlorobenzene	ND	H	0.25	1	03/07/2014 14:09
1,2,4-Trichlorobenzene	ND	H	0.25	1	03/07/2014 14:09
1,1,1-Trichloroethane	ND	H	0.25	1	03/07/2014 14:09
1,1,2-Trichloroethane	ND	H	0.25	1	03/07/2014 14:09
Trichloroethene	ND	H	0.25	1	03/07/2014 14:09
Trichlorofluoromethane	ND	H	0.25	1	03/07/2014 14:09
1,2,3-Trichloropropane	ND	H	0.25	1	03/07/2014 14:09
1,2,4-Trimethylbenzene	ND	H	0.25	1	03/07/2014 14:09
1,3,5-Trimethylbenzene	ND	H	0.25	1	03/07/2014 14:09
Vinyl Chloride	ND	H	0.25	1	03/07/2014 14:09
Xylenes, Total	ND	H	0.25	1	03/07/2014 14:09
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	92	H	70-130		03/07/2014 14:09
Toluene-d8	110	H	70-130		03/07/2014 14:09
4-BFB	81	H	70-130		03/07/2014 14:09

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS18	1403186-003A	Air	03/06/2014 13:48	GC10	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	03/07/2014 14:50
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	03/07/2014 14:50
Benzene	ND	H	0.25	1	03/07/2014 14:50
Bromobenzene	ND	H	0.25	1	03/07/2014 14:50
Bromochloromethane	ND	H	0.25	1	03/07/2014 14:50
Bromodichloromethane	ND	H	0.25	1	03/07/2014 14:50
Bromoform	ND	H	0.25	1	03/07/2014 14:50
Bromomethane	ND	H	0.25	1	03/07/2014 14:50
2-Butanone (MEK)	ND	H	1.0	1	03/07/2014 14:50
t-Butyl alcohol (TBA)	ND	H	2.5	1	03/07/2014 14:50
n-Butyl benzene	ND	H	0.25	1	03/07/2014 14:50
sec-Butyl benzene	ND	H	0.25	1	03/07/2014 14:50
tert-Butyl benzene	ND	H	0.25	1	03/07/2014 14:50
Carbon Disulfide	ND	H	0.25	1	03/07/2014 14:50
Carbon Tetrachloride	ND	H	0.25	1	03/07/2014 14:50
Chlorobenzene	ND	H	0.25	1	03/07/2014 14:50
Chloroethane	ND	H	0.25	1	03/07/2014 14:50
Chloroform	ND	H	0.25	1	03/07/2014 14:50
Chloromethane	ND	H	0.25	1	03/07/2014 14:50
2-Chlorotoluene	ND	H	0.25	1	03/07/2014 14:50
4-Chlorotoluene	ND	H	0.25	1	03/07/2014 14:50
Dibromochloromethane	ND	H	0.25	1	03/07/2014 14:50
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	03/07/2014 14:50
1,2-Dibromoethane (EDB)	ND	H	0.25	1	03/07/2014 14:50
Dibromomethane	ND	H	0.25	1	03/07/2014 14:50
1,2-Dichlorobenzene	ND	H	0.25	1	03/07/2014 14:50
1,3-Dichlorobenzene	ND	H	0.25	1	03/07/2014 14:50
1,4-Dichlorobenzene	ND	H	0.25	1	03/07/2014 14:50
Dichlorodifluoromethane	ND	H	0.25	1	03/07/2014 14:50
1,1-Dichloroethane	ND	H	0.25	1	03/07/2014 14:50
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	03/07/2014 14:50
1,1-Dichloroethene	ND	H	0.25	1	03/07/2014 14:50
cis-1,2-Dichloroethene	ND	H	0.25	1	03/07/2014 14:50
trans-1,2-Dichloroethene	ND	H	0.25	1	03/07/2014 14:50
1,2-Dichloropropane	ND	H	0.25	1	03/07/2014 14:50
1,3-Dichloropropane	ND	H	0.25	1	03/07/2014 14:50
2,2-Dichloropropane	ND	H	0.25	1	03/07/2014 14:50
1,1-Dichloropropene	ND	H	0.25	1	03/07/2014 14:50

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/6/14 19:27  
**Date Prepared:** 3/6/14-3/7/14

**WorkOrder:** 1403186  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS18	1403186-003A	Air	03/06/2014 13:48	GC10	87843
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND	H	0.25	1	03/07/2014 14:50
trans-1,3-Dichloropropene	ND	H	0.25	1	03/07/2014 14:50
Diisopropyl ether (DIPE)	ND	H	0.25	1	03/07/2014 14:50
Ethylbenzene	ND	H	0.25	1	03/07/2014 14:50
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	03/07/2014 14:50
Freon 113	ND	H	5.0	1	03/07/2014 14:50
Hexachlorobutadiene	ND	H	0.25	1	03/07/2014 14:50
Hexachloroethane	ND	H	0.25	1	03/07/2014 14:50
2-Hexanone	ND	H	0.25	1	03/07/2014 14:50
Isopropylbenzene	ND	H	0.25	1	03/07/2014 14:50
4-Isopropyl toluene	ND	H	0.25	1	03/07/2014 14:50
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	03/07/2014 14:50
Methylene chloride	ND	H	0.25	1	03/07/2014 14:50
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	03/07/2014 14:50
Naphthalene	ND	H	0.25	1	03/07/2014 14:50
n-Propyl benzene	ND	H	0.25	1	03/07/2014 14:50
Styrene	ND	H	0.25	1	03/07/2014 14:50
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	03/07/2014 14:50
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	03/07/2014 14:50
Tetrachloroethene	0.71	H	0.25	1	03/07/2014 14:50
Toluene	ND	H	0.25	1	03/07/2014 14:50
1,2,3-Trichlorobenzene	ND	H	0.25	1	03/07/2014 14:50
1,2,4-Trichlorobenzene	ND	H	0.25	1	03/07/2014 14:50
1,1,1-Trichloroethane	ND	H	0.25	1	03/07/2014 14:50
1,1,2-Trichloroethane	ND	H	0.25	1	03/07/2014 14:50
Trichloroethene	ND	H	0.25	1	03/07/2014 14:50
Trichlorofluoromethane	ND	H	0.25	1	03/07/2014 14:50
1,2,3-Trichloropropane	ND	H	0.25	1	03/07/2014 14:50
1,2,4-Trimethylbenzene	ND	H	0.25	1	03/07/2014 14:50
1,3,5-Trimethylbenzene	ND	H	0.25	1	03/07/2014 14:50
Vinyl Chloride	ND	H	0.25	1	03/07/2014 14:50
Xylenes, Total	ND	H	0.25	1	03/07/2014 14:50
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	94	H	70-130		03/07/2014 14:50
Toluene-d8	110	H	70-130		03/07/2014 14:50
4-BFB	77	H	70-130		03/07/2014 14:50



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/6/14  
**Date Analyzed:** 3/6/14  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1403186  
**BatchID:** 87843  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87843  
 1403031-015BMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	19.12	0.50	20	-	95.6	70-130
Benzene	ND	19.53	0.50	20	-	97.6	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	72.95	2.0	80	-	91.2	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	19.16	0.50	20	-	95.8	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	20.24	0.50	20	-	101	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	18.23	0.50	20	-	91.1	70-130
1,1-Dichloroethene	ND	16.32	0.50	20	-	81.6	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/6/14  
**Date Analyzed:** 3/6/14  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1403186  
**BatchID:** 87843  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87843  
 1403031-015BMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	18.66	0.50	20	-	93.3	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	18.48	0.50	20	-	92.4	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	18.71	0.50	20	-	93.6	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	19.22	0.50	20	-	96.1	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	20.13	0.50	20	-	101	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	23.1	39.6		45	92	88	70-130
Toluene-d8	28.39	49.5		45	114	110	70-130
4-BFB	2.23	3.993		4.5	89	89	70-130

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/6/14  
**Date Analyzed:** 3/6/14  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1403186  
**BatchID:** 87843  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-87843  
 1403031-015BMS/MSD

## QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	21.28	20.16	20	ND	106	101	70-130	5.42	20
Benzene	20.59	18.78	20	ND	103	93.9	70-130	9.21	20
t-Butyl alcohol (TBA)	85.13	85.91	80	ND	106	107	70-130	0.915	20
Chlorobenzene	20.25	18.6	20	ND	101	93	70-130	8.48	20
1,2-Dibromoethane (EDB)	22.29	20.98	20	ND	111	105	70-130	6.06	20
1,2-Dichloroethane (1,2-DCA)	20.38	18.64	20	1.644	93.7	85	70-130	8.89	20
1,1-Dichloroethene	17.26	15.15	20	ND	86.3	75.7	70-130	13.0	20
Diisopropyl ether (DIPE)	20.07	18.94	20	ND	100	94.7	70-130	5.78	20
Ethyl tert-butyl ether (ETBE)	20.53	19.41	20	ND	103	97.1	70-130	5.58	20
Methyl-t-butyl ether (MTBE)	21.25	20.11	20	ND	106	101	70-130	5.54	20
Toluene	19.78	18.15	20	ND	98.9	90.7	70-130	8.61	20
Trichloroethene	20.84	18.96	20	ND	104	94.8	70-130	9.45	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	41.26	39.41	45		92	88	70-130	4.58	20
Toluene-d8	50.03	48.24	45		111	107	70-130	3.64	20
4-BFB	3.965	3.796	4.5		88	84	70-130	4.36	20



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1403186

ClientCode: PDEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQulS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Paul King  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610  
 (510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
 cc/3rd Party:  
 PO:  
 ProjectNo: #0453; 8410 Amelia St.

**Bill to:**

Accounts Payable  
 P & D Environmental  
 55 Santa Clara, Ste.240  
 Oakland, CA 94610

**Requested TAT:**

**2 days**

**Date Received: 03/06/2014**

**Date Printed: 03/06/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1403186-001	SS16	Air	3/6/2014 14:54	<input type="checkbox"/>	A												
1403186-002	SS17	Air	3/6/2014 14:45	<input type="checkbox"/>	A												
1403186-003	SS18	Air	3/6/2014 13:48	<input type="checkbox"/>	A												

**Test Legend:**

1	8260B_A	2		3		4		5	
6		7		8		9		10	
11		12							

The following SamplIDs: 001A, 002A, 003A contain testgroup.

**Prepared by: Zoraida Cortez**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL

**QC Level:** LEVEL 2

**Work Order:** 1403186

**Project:** #0453; 8410 Amelia St.

**Client Contact:** Paul King

**Date Received:** 3/6/2014

**Comments:**

**Contact's Email:** lab@pdenviro.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1403186-001A	SS16	Air	VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	3/6/2014 14:54	2 days		<input type="checkbox"/>	
1403186-002A	SS17	Air	VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	3/6/2014 14:45	2 days		<input type="checkbox"/>	
1403186-003A	SS18	Air	VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	3/6/2014 13:48	2 days		<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

Tedlar = Tedlar Air Bag

# CHAIN OF CUSTODY RECORD

1403186

PAGE 1 OF 1

RUSH

<b>P&amp;D ENVIRONMENTAL, INC.</b> 55 Santa Clara Ave., Suite 240 Oakland, CA 94610 (510) 658-6916							NUMBER OF CONTAINERS	ANALYSIS(ES): EPA 8260	PRESERVATIVE	REMARKS					
PROJECT NUMBER: <span style="font-size: 1.5em;">0453</span>			PROJECT NAME: 8410 AMELIA ST OAKLAND, CA												
SAMPLED BY: (PRINTED & SIGNATURE) MICHAEL BASS-DESCHENES <i>Michael Bass-Deschenes</i>															
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION											
				START	END	PID(OPA)									
SS16	3/6/14	1454	AIR	1454	1455	0	1	X						None	48 hr RUSH
SS17	"	1445	"	1445	1446	0.8	1	X						"	"
SS18	"	1348	"	1349	1350	0.4	1	X						"	"
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		Total No. of Samples (This Shipment)	3	LABORATORY:							
<i>Michael Bass-Deschenes</i>		3/6/14	1612	<i>Heena Drown</i>		Total No. of Containers (This Shipment)	3	Mc CAMPBELL ANALYTICAL, INC							
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		LABORATORY CONTACT: LABORATORY PHONE NUMBER:									
<i>Heena</i>		3/6/14	1915	<i>Heena</i>		ANGELA RYDELIUS (877) 252-9262									
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)		SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (x) NO									
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com				REMARKS:		TEDDAR BAGS									





### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **3/6/2014 7:27:26 PM**  
 Project Name: **#0453; 8410 Amelia St.** Login Reviewed by: **Zoraida Cortez**  
 WorkOrder N°: **1403186** Matrix: Air Carrier: Client Drop-In

#### Chain of Custody (COC) Information

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1403390

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Paul King  
**Project P.O.:**  
**Project Name:** #0453; 8410 Amelia St.

**Project Received:** 03/12/2014

Analytical Report reviewed & approved for release on 03/14/2014 by:

Question about  
your data?

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.***





## Glossary of Terms & Qualifier Definitions

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**WorkOrder:** 1403390

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence

### Analytical Qualifier

H samples were analyzed out of holding time

### Quality Control Qualifiers

F1 MS/MSD recovery was out of acceptance criteria; LCS validated the prep batch.



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS19	1403390-001A	Air	03/12/2014 11:31	GC10	88139
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5000	1	03/13/2014 14:12
tert-Amyl methyl ether (TAME)	ND	H	250	1	03/13/2014 14:12
Benzene	ND	H	250	1	03/13/2014 14:12
Bromobenzene	ND	H	250	1	03/13/2014 14:12
Bromochloromethane	ND	H	250	1	03/13/2014 14:12
Bromodichloromethane	ND	H	250	1	03/13/2014 14:12
Bromoform	ND	H	250	1	03/13/2014 14:12
Bromomethane	ND	H	250	1	03/13/2014 14:12
2-Butanone (MEK)	ND	H	1000	1	03/13/2014 14:12
t-Butyl alcohol (TBA)	ND	H	2500	1	03/13/2014 14:12
n-Butyl benzene	ND	H	250	1	03/13/2014 14:12
sec-Butyl benzene	ND	H	250	1	03/13/2014 14:12
tert-Butyl benzene	ND	H	250	1	03/13/2014 14:12
Carbon Disulfide	ND	H	250	1	03/13/2014 14:12
Carbon Tetrachloride	ND	H	250	1	03/13/2014 14:12
Chlorobenzene	ND	H	250	1	03/13/2014 14:12
Chloroethane	ND	H	250	1	03/13/2014 14:12
Chloroform	ND	H	250	1	03/13/2014 14:12
Chloromethane	ND	H	250	1	03/13/2014 14:12
2-Chlorotoluene	ND	H	250	1	03/13/2014 14:12
4-Chlorotoluene	ND	H	250	1	03/13/2014 14:12
Dibromochloromethane	ND	H	250	1	03/13/2014 14:12
1,2-Dibromo-3-chloropropane	ND	H	250	1	03/13/2014 14:12
1,2-Dibromoethane (EDB)	ND	H	250	1	03/13/2014 14:12
Dibromomethane	ND	H	250	1	03/13/2014 14:12
1,2-Dichlorobenzene	ND	H	250	1	03/13/2014 14:12
1,3-Dichlorobenzene	ND	H	250	1	03/13/2014 14:12
1,4-Dichlorobenzene	ND	H	250	1	03/13/2014 14:12
Dichlorodifluoromethane	ND	H	250	1	03/13/2014 14:12
1,1-Dichloroethane	ND	H	250	1	03/13/2014 14:12
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	03/13/2014 14:12
1,1-Dichloroethene	ND	H	250	1	03/13/2014 14:12
cis-1,2-Dichloroethene	ND	H	250	1	03/13/2014 14:12
trans-1,2-Dichloroethene	ND	H	250	1	03/13/2014 14:12
1,2-Dichloropropane	ND	H	250	1	03/13/2014 14:12
1,3-Dichloropropane	ND	H	250	1	03/13/2014 14:12
2,2-Dichloropropane	ND	H	250	1	03/13/2014 14:12
1,1-Dichloropropene	ND	H	250	1	03/13/2014 14:12

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS19	1403390-001A	Air	03/12/2014 11:31	GC10	88139
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	250	1	03/13/2014 14:12
trans-1,3-Dichloropropene	ND	H	250	1	03/13/2014 14:12
Diisopropyl ether (DIPE)	ND	H	250	1	03/13/2014 14:12
Ethylbenzene	ND	H	250	1	03/13/2014 14:12
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	03/13/2014 14:12
Freon 113	ND	H	5000	1	03/13/2014 14:12
Hexachlorobutadiene	ND	H	250	1	03/13/2014 14:12
Hexachloroethane	ND	H	250	1	03/13/2014 14:12
2-Hexanone	ND	H	250	1	03/13/2014 14:12
Isopropylbenzene	ND	H	250	1	03/13/2014 14:12
4-Isopropyl toluene	ND	H	250	1	03/13/2014 14:12
Methyl-t-butyl ether (MTBE)	ND	H	250	1	03/13/2014 14:12
Methylene chloride	ND	H	250	1	03/13/2014 14:12
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	03/13/2014 14:12
Naphthalene	ND	H	250	1	03/13/2014 14:12
n-Propyl benzene	ND	H	250	1	03/13/2014 14:12
Styrene	ND	H	250	1	03/13/2014 14:12
1,1,1,2-Tetrachloroethane	ND	H	250	1	03/13/2014 14:12
1,1,2,2-Tetrachloroethane	ND	H	250	1	03/13/2014 14:12
Tetrachloroethene	<b>760</b>	H	250	1	03/13/2014 14:12
Toluene	ND	H	250	1	03/13/2014 14:12
1,2,3-Trichlorobenzene	ND	H	250	1	03/13/2014 14:12
1,2,4-Trichlorobenzene	ND	H	250	1	03/13/2014 14:12
1,1,1-Trichloroethane	ND	H	250	1	03/13/2014 14:12
1,1,2-Trichloroethane	ND	H	250	1	03/13/2014 14:12
Trichloroethene	ND	H	250	1	03/13/2014 14:12
Trichlorofluoromethane	ND	H	250	1	03/13/2014 14:12
1,2,3-Trichloropropane	ND	H	250	1	03/13/2014 14:12
1,2,4-Trimethylbenzene	ND	H	250	1	03/13/2014 14:12
1,3,5-Trimethylbenzene	ND	H	250	1	03/13/2014 14:12
Vinyl Chloride	ND	H	250	1	03/13/2014 14:12
Xylenes, Total	ND	H	250	1	03/13/2014 14:12
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	102	H	70-130		03/13/2014 14:12
Toluene-d8	90	H	70-130		03/13/2014 14:12
4-BFB	94	H	70-130		03/13/2014 14:12

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS20	1403390-002A	Air	03/12/2014 12:42	GC10	88139
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
Acetone	ND	H	5000	1	03/13/2014 14:54
tert-Amyl methyl ether (TAME)	ND	H	250	1	03/13/2014 14:54
Benzene	ND	H	250	1	03/13/2014 14:54
Bromobenzene	ND	H	250	1	03/13/2014 14:54
Bromochloromethane	ND	H	250	1	03/13/2014 14:54
Bromodichloromethane	ND	H	250	1	03/13/2014 14:54
Bromoform	ND	H	250	1	03/13/2014 14:54
Bromomethane	ND	H	250	1	03/13/2014 14:54
2-Butanone (MEK)	ND	H	1000	1	03/13/2014 14:54
t-Butyl alcohol (TBA)	<b>6700</b>	H	2500	1	03/13/2014 14:54
n-Butyl benzene	ND	H	250	1	03/13/2014 14:54
sec-Butyl benzene	ND	H	250	1	03/13/2014 14:54
tert-Butyl benzene	ND	H	250	1	03/13/2014 14:54
Carbon Disulfide	ND	H	250	1	03/13/2014 14:54
Carbon Tetrachloride	ND	H	250	1	03/13/2014 14:54
Chlorobenzene	ND	H	250	1	03/13/2014 14:54
Chloroethane	ND	H	250	1	03/13/2014 14:54
Chloroform	ND	H	250	1	03/13/2014 14:54
Chloromethane	ND	H	250	1	03/13/2014 14:54
2-Chlorotoluene	ND	H	250	1	03/13/2014 14:54
4-Chlorotoluene	ND	H	250	1	03/13/2014 14:54
Dibromochloromethane	ND	H	250	1	03/13/2014 14:54
1,2-Dibromo-3-chloropropane	ND	H	250	1	03/13/2014 14:54
1,2-Dibromoethane (EDB)	ND	H	250	1	03/13/2014 14:54
Dibromomethane	ND	H	250	1	03/13/2014 14:54
1,2-Dichlorobenzene	ND	H	250	1	03/13/2014 14:54
1,3-Dichlorobenzene	ND	H	250	1	03/13/2014 14:54
1,4-Dichlorobenzene	ND	H	250	1	03/13/2014 14:54
Dichlorodifluoromethane	ND	H	250	1	03/13/2014 14:54
1,1-Dichloroethane	ND	H	250	1	03/13/2014 14:54
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	03/13/2014 14:54
1,1-Dichloroethene	ND	H	250	1	03/13/2014 14:54
cis-1,2-Dichloroethene	ND	H	250	1	03/13/2014 14:54
trans-1,2-Dichloroethene	ND	H	250	1	03/13/2014 14:54
1,2-Dichloropropane	ND	H	250	1	03/13/2014 14:54
1,3-Dichloropropane	ND	H	250	1	03/13/2014 14:54
2,2-Dichloropropane	ND	H	250	1	03/13/2014 14:54
1,1-Dichloropropene	ND	H	250	1	03/13/2014 14:54

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS20	1403390-002A	Air	03/12/2014 12:42	GC10	88139
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	250	1	03/13/2014 14:54
trans-1,3-Dichloropropene	ND	H	250	1	03/13/2014 14:54
Diisopropyl ether (DIPE)	ND	H	250	1	03/13/2014 14:54
Ethylbenzene	ND	H	250	1	03/13/2014 14:54
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	03/13/2014 14:54
Freon 113	ND	H	5000	1	03/13/2014 14:54
Hexachlorobutadiene	ND	H	250	1	03/13/2014 14:54
Hexachloroethane	ND	H	250	1	03/13/2014 14:54
2-Hexanone	ND	H	250	1	03/13/2014 14:54
Isopropylbenzene	ND	H	250	1	03/13/2014 14:54
4-Isopropyl toluene	ND	H	250	1	03/13/2014 14:54
Methyl-t-butyl ether (MTBE)	ND	H	250	1	03/13/2014 14:54
Methylene chloride	ND	H	250	1	03/13/2014 14:54
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	03/13/2014 14:54
Naphthalene	ND	H	250	1	03/13/2014 14:54
n-Propyl benzene	ND	H	250	1	03/13/2014 14:54
Styrene	ND	H	250	1	03/13/2014 14:54
1,1,1,2-Tetrachloroethane	ND	H	250	1	03/13/2014 14:54
1,1,2,2-Tetrachloroethane	ND	H	250	1	03/13/2014 14:54
Tetrachloroethene	ND	H	250	1	03/13/2014 14:54
Toluene	ND	H	250	1	03/13/2014 14:54
1,2,3-Trichlorobenzene	ND	H	250	1	03/13/2014 14:54
1,2,4-Trichlorobenzene	ND	H	250	1	03/13/2014 14:54
1,1,1-Trichloroethane	ND	H	250	1	03/13/2014 14:54
1,1,2-Trichloroethane	ND	H	250	1	03/13/2014 14:54
Trichloroethene	ND	H	250	1	03/13/2014 14:54
Trichlorofluoromethane	ND	H	250	1	03/13/2014 14:54
1,2,3-Trichloropropane	ND	H	250	1	03/13/2014 14:54
1,2,4-Trimethylbenzene	ND	H	250	1	03/13/2014 14:54
1,3,5-Trimethylbenzene	ND	H	250	1	03/13/2014 14:54
Vinyl Chloride	ND	H	250	1	03/13/2014 14:54
Xylenes, Total	ND	H	250	1	03/13/2014 14:54
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	103	H	70-130		03/13/2014 14:54
Toluene-d8	89	H	70-130		03/13/2014 14:54
4-BFB	90	H	70-130		03/13/2014 14:54

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS21	1403390-003A	Air	03/12/2014 12:01	GC10	88139
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
Acetone	ND	H	5000	1	03/13/2014 15:36
tert-Amyl methyl ether (TAME)	ND	H	250	1	03/13/2014 15:36
Benzene	ND	H	250	1	03/13/2014 15:36
Bromobenzene	ND	H	250	1	03/13/2014 15:36
Bromochloromethane	ND	H	250	1	03/13/2014 15:36
Bromodichloromethane	ND	H	250	1	03/13/2014 15:36
Bromoform	ND	H	250	1	03/13/2014 15:36
Bromomethane	ND	H	250	1	03/13/2014 15:36
2-Butanone (MEK)	ND	H	1000	1	03/13/2014 15:36
t-Butyl alcohol (TBA)	ND	H	2500	1	03/13/2014 15:36
n-Butyl benzene	ND	H	250	1	03/13/2014 15:36
sec-Butyl benzene	ND	H	250	1	03/13/2014 15:36
tert-Butyl benzene	ND	H	250	1	03/13/2014 15:36
Carbon Disulfide	ND	H	250	1	03/13/2014 15:36
Carbon Tetrachloride	ND	H	250	1	03/13/2014 15:36
Chlorobenzene	ND	H	250	1	03/13/2014 15:36
Chloroethane	ND	H	250	1	03/13/2014 15:36
Chloroform	ND	H	250	1	03/13/2014 15:36
Chloromethane	ND	H	250	1	03/13/2014 15:36
2-Chlorotoluene	ND	H	250	1	03/13/2014 15:36
4-Chlorotoluene	ND	H	250	1	03/13/2014 15:36
Dibromochloromethane	ND	H	250	1	03/13/2014 15:36
1,2-Dibromo-3-chloropropane	ND	H	250	1	03/13/2014 15:36
1,2-Dibromoethane (EDB)	ND	H	250	1	03/13/2014 15:36
Dibromomethane	ND	H	250	1	03/13/2014 15:36
1,2-Dichlorobenzene	ND	H	250	1	03/13/2014 15:36
1,3-Dichlorobenzene	ND	H	250	1	03/13/2014 15:36
1,4-Dichlorobenzene	ND	H	250	1	03/13/2014 15:36
Dichlorodifluoromethane	ND	H	250	1	03/13/2014 15:36
1,1-Dichloroethane	ND	H	250	1	03/13/2014 15:36
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	03/13/2014 15:36
1,1-Dichloroethene	ND	H	250	1	03/13/2014 15:36
cis-1,2-Dichloroethene	ND	H	250	1	03/13/2014 15:36
trans-1,2-Dichloroethene	ND	H	250	1	03/13/2014 15:36
1,2-Dichloropropane	ND	H	250	1	03/13/2014 15:36
1,3-Dichloropropane	ND	H	250	1	03/13/2014 15:36
2,2-Dichloropropane	ND	H	250	1	03/13/2014 15:36
1,1-Dichloropropene	ND	H	250	1	03/13/2014 15:36

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/m<sup>3</sup>

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS21	1403390-003A	Air	03/12/2014 12:01	GC10	88139
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	250	1	03/13/2014 15:36
trans-1,3-Dichloropropene	ND	H	250	1	03/13/2014 15:36
Diisopropyl ether (DIPE)	ND	H	250	1	03/13/2014 15:36
Ethylbenzene	ND	H	250	1	03/13/2014 15:36
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	03/13/2014 15:36
Freon 113	ND	H	5000	1	03/13/2014 15:36
Hexachlorobutadiene	ND	H	250	1	03/13/2014 15:36
Hexachloroethane	ND	H	250	1	03/13/2014 15:36
2-Hexanone	ND	H	250	1	03/13/2014 15:36
Isopropylbenzene	ND	H	250	1	03/13/2014 15:36
4-Isopropyl toluene	ND	H	250	1	03/13/2014 15:36
Methyl-t-butyl ether (MTBE)	ND	H	250	1	03/13/2014 15:36
Methylene chloride	ND	H	250	1	03/13/2014 15:36
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	03/13/2014 15:36
Naphthalene	ND	H	250	1	03/13/2014 15:36
n-Propyl benzene	ND	H	250	1	03/13/2014 15:36
Styrene	ND	H	250	1	03/13/2014 15:36
1,1,1,2-Tetrachloroethane	ND	H	250	1	03/13/2014 15:36
1,1,2,2-Tetrachloroethane	ND	H	250	1	03/13/2014 15:36
Tetrachloroethene	ND	H	250	1	03/13/2014 15:36
Toluene	ND	H	250	1	03/13/2014 15:36
1,2,3-Trichlorobenzene	ND	H	250	1	03/13/2014 15:36
1,2,4-Trichlorobenzene	ND	H	250	1	03/13/2014 15:36
1,1,1-Trichloroethane	ND	H	250	1	03/13/2014 15:36
1,1,2-Trichloroethane	ND	H	250	1	03/13/2014 15:36
Trichloroethene	ND	H	250	1	03/13/2014 15:36
Trichlorofluoromethane	ND	H	250	1	03/13/2014 15:36
1,2,3-Trichloropropane	ND	H	250	1	03/13/2014 15:36
1,2,4-Trimethylbenzene	ND	H	250	1	03/13/2014 15:36
1,3,5-Trimethylbenzene	ND	H	250	1	03/13/2014 15:36
Vinyl Chloride	ND	H	250	1	03/13/2014 15:36
Xylenes, Total	ND	H	250	1	03/13/2014 15:36
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	101	H	70-130		03/13/2014 15:36
Toluene-d8	90	H	70-130		03/13/2014 15:36
4-BFB	89	H	70-130		03/13/2014 15:36



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS19	1403390-001A	Air	03/12/2014 11:31	GC10	88139
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	03/13/2014 14:12
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	03/13/2014 14:12
Benzene	ND	H	0.25	1	03/13/2014 14:12
Bromobenzene	ND	H	0.25	1	03/13/2014 14:12
Bromochloromethane	ND	H	0.25	1	03/13/2014 14:12
Bromodichloromethane	ND	H	0.25	1	03/13/2014 14:12
Bromoform	ND	H	0.25	1	03/13/2014 14:12
Bromomethane	ND	H	0.25	1	03/13/2014 14:12
2-Butanone (MEK)	ND	H	1.0	1	03/13/2014 14:12
t-Butyl alcohol (TBA)	ND	H	2.5	1	03/13/2014 14:12
n-Butyl benzene	ND	H	0.25	1	03/13/2014 14:12
sec-Butyl benzene	ND	H	0.25	1	03/13/2014 14:12
tert-Butyl benzene	ND	H	0.25	1	03/13/2014 14:12
Carbon Disulfide	ND	H	0.25	1	03/13/2014 14:12
Carbon Tetrachloride	ND	H	0.25	1	03/13/2014 14:12
Chlorobenzene	ND	H	0.25	1	03/13/2014 14:12
Chloroethane	ND	H	0.25	1	03/13/2014 14:12
Chloroform	ND	H	0.25	1	03/13/2014 14:12
Chloromethane	ND	H	0.25	1	03/13/2014 14:12
2-Chlorotoluene	ND	H	0.25	1	03/13/2014 14:12
4-Chlorotoluene	ND	H	0.25	1	03/13/2014 14:12
Dibromochloromethane	ND	H	0.25	1	03/13/2014 14:12
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	03/13/2014 14:12
1,2-Dibromoethane (EDB)	ND	H	0.25	1	03/13/2014 14:12
Dibromomethane	ND	H	0.25	1	03/13/2014 14:12
1,2-Dichlorobenzene	ND	H	0.25	1	03/13/2014 14:12
1,3-Dichlorobenzene	ND	H	0.25	1	03/13/2014 14:12
1,4-Dichlorobenzene	ND	H	0.25	1	03/13/2014 14:12
Dichlorodifluoromethane	ND	H	0.25	1	03/13/2014 14:12
1,1-Dichloroethane	ND	H	0.25	1	03/13/2014 14:12
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	03/13/2014 14:12
1,1-Dichloroethene	ND	H	0.25	1	03/13/2014 14:12
cis-1,2-Dichloroethene	ND	H	0.25	1	03/13/2014 14:12
trans-1,2-Dichloroethene	ND	H	0.25	1	03/13/2014 14:12
1,2-Dichloropropane	ND	H	0.25	1	03/13/2014 14:12
1,3-Dichloropropane	ND	H	0.25	1	03/13/2014 14:12
2,2-Dichloropropane	ND	H	0.25	1	03/13/2014 14:12
1,1-Dichloropropene	ND	H	0.25	1	03/13/2014 14:12

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS19	1403390-001A	Air	03/12/2014 11:31	GC10	88139
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	0.25	1	03/13/2014 14:12
trans-1,3-Dichloropropene	ND	H	0.25	1	03/13/2014 14:12
Diisopropyl ether (DIPE)	ND	H	0.25	1	03/13/2014 14:12
Ethylbenzene	ND	H	0.25	1	03/13/2014 14:12
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	03/13/2014 14:12
Freon 113	ND	H	5.0	1	03/13/2014 14:12
Hexachlorobutadiene	ND	H	0.25	1	03/13/2014 14:12
Hexachloroethane	ND	H	0.25	1	03/13/2014 14:12
2-Hexanone	ND	H	0.25	1	03/13/2014 14:12
Isopropylbenzene	ND	H	0.25	1	03/13/2014 14:12
4-Isopropyl toluene	ND	H	0.25	1	03/13/2014 14:12
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	03/13/2014 14:12
Methylene chloride	ND	H	0.25	1	03/13/2014 14:12
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	03/13/2014 14:12
Naphthalene	ND	H	0.25	1	03/13/2014 14:12
n-Propyl benzene	ND	H	0.25	1	03/13/2014 14:12
Styrene	ND	H	0.25	1	03/13/2014 14:12
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	03/13/2014 14:12
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	03/13/2014 14:12
Tetrachloroethene	<b>0.76</b>	H	0.25	1	03/13/2014 14:12
Toluene	ND	H	0.25	1	03/13/2014 14:12
1,2,3-Trichlorobenzene	ND	H	0.25	1	03/13/2014 14:12
1,2,4-Trichlorobenzene	ND	H	0.25	1	03/13/2014 14:12
1,1,1-Trichloroethane	ND	H	0.25	1	03/13/2014 14:12
1,1,2-Trichloroethane	ND	H	0.25	1	03/13/2014 14:12
Trichloroethene	ND	H	0.25	1	03/13/2014 14:12
Trichlorofluoromethane	ND	H	0.25	1	03/13/2014 14:12
1,2,3-Trichloropropane	ND	H	0.25	1	03/13/2014 14:12
1,2,4-Trimethylbenzene	ND	H	0.25	1	03/13/2014 14:12
1,3,5-Trimethylbenzene	ND	H	0.25	1	03/13/2014 14:12
Vinyl Chloride	ND	H	0.25	1	03/13/2014 14:12
Xylenes, Total	ND	H	0.25	1	03/13/2014 14:12
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	102	H	70-130		03/13/2014 14:12
Toluene-d8	90	H	70-130		03/13/2014 14:12
4-BFB	94	H	70-130		03/13/2014 14:12

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS20	1403390-002A	Air	03/12/2014 12:42	GC10	88139
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	03/13/2014 14:54
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	03/13/2014 14:54
Benzene	ND	H	0.25	1	03/13/2014 14:54
Bromobenzene	ND	H	0.25	1	03/13/2014 14:54
Bromochloromethane	ND	H	0.25	1	03/13/2014 14:54
Bromodichloromethane	ND	H	0.25	1	03/13/2014 14:54
Bromoform	ND	H	0.25	1	03/13/2014 14:54
Bromomethane	ND	H	0.25	1	03/13/2014 14:54
2-Butanone (MEK)	ND	H	1.0	1	03/13/2014 14:54
t-Butyl alcohol (TBA)	6.7	H	2.5	1	03/13/2014 14:54
n-Butyl benzene	ND	H	0.25	1	03/13/2014 14:54
sec-Butyl benzene	ND	H	0.25	1	03/13/2014 14:54
tert-Butyl benzene	ND	H	0.25	1	03/13/2014 14:54
Carbon Disulfide	ND	H	0.25	1	03/13/2014 14:54
Carbon Tetrachloride	ND	H	0.25	1	03/13/2014 14:54
Chlorobenzene	ND	H	0.25	1	03/13/2014 14:54
Chloroethane	ND	H	0.25	1	03/13/2014 14:54
Chloroform	ND	H	0.25	1	03/13/2014 14:54
Chloromethane	ND	H	0.25	1	03/13/2014 14:54
2-Chlorotoluene	ND	H	0.25	1	03/13/2014 14:54
4-Chlorotoluene	ND	H	0.25	1	03/13/2014 14:54
Dibromochloromethane	ND	H	0.25	1	03/13/2014 14:54
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	03/13/2014 14:54
1,2-Dibromoethane (EDB)	ND	H	0.25	1	03/13/2014 14:54
Dibromomethane	ND	H	0.25	1	03/13/2014 14:54
1,2-Dichlorobenzene	ND	H	0.25	1	03/13/2014 14:54
1,3-Dichlorobenzene	ND	H	0.25	1	03/13/2014 14:54
1,4-Dichlorobenzene	ND	H	0.25	1	03/13/2014 14:54
Dichlorodifluoromethane	ND	H	0.25	1	03/13/2014 14:54
1,1-Dichloroethane	ND	H	0.25	1	03/13/2014 14:54
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	03/13/2014 14:54
1,1-Dichloroethene	ND	H	0.25	1	03/13/2014 14:54
cis-1,2-Dichloroethene	ND	H	0.25	1	03/13/2014 14:54
trans-1,2-Dichloroethene	ND	H	0.25	1	03/13/2014 14:54
1,2-Dichloropropane	ND	H	0.25	1	03/13/2014 14:54
1,3-Dichloropropane	ND	H	0.25	1	03/13/2014 14:54
2,2-Dichloropropane	ND	H	0.25	1	03/13/2014 14:54
1,1-Dichloropropene	ND	H	0.25	1	03/13/2014 14:54

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## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS20	1403390-002A	Air	03/12/2014 12:42	GC10	88139
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	0.25	1	03/13/2014 14:54
trans-1,3-Dichloropropene	ND	H	0.25	1	03/13/2014 14:54
Diisopropyl ether (DIPE)	ND	H	0.25	1	03/13/2014 14:54
Ethylbenzene	ND	H	0.25	1	03/13/2014 14:54
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	03/13/2014 14:54
Freon 113	ND	H	5.0	1	03/13/2014 14:54
Hexachlorobutadiene	ND	H	0.25	1	03/13/2014 14:54
Hexachloroethane	ND	H	0.25	1	03/13/2014 14:54
2-Hexanone	ND	H	0.25	1	03/13/2014 14:54
Isopropylbenzene	ND	H	0.25	1	03/13/2014 14:54
4-Isopropyl toluene	ND	H	0.25	1	03/13/2014 14:54
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	03/13/2014 14:54
Methylene chloride	ND	H	0.25	1	03/13/2014 14:54
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	03/13/2014 14:54
Naphthalene	ND	H	0.25	1	03/13/2014 14:54
n-Propyl benzene	ND	H	0.25	1	03/13/2014 14:54
Styrene	ND	H	0.25	1	03/13/2014 14:54
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	03/13/2014 14:54
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	03/13/2014 14:54
Tetrachloroethene	ND	H	0.25	1	03/13/2014 14:54
Toluene	ND	H	0.25	1	03/13/2014 14:54
1,2,3-Trichlorobenzene	ND	H	0.25	1	03/13/2014 14:54
1,2,4-Trichlorobenzene	ND	H	0.25	1	03/13/2014 14:54
1,1,1-Trichloroethane	ND	H	0.25	1	03/13/2014 14:54
1,1,2-Trichloroethane	ND	H	0.25	1	03/13/2014 14:54
Trichloroethene	ND	H	0.25	1	03/13/2014 14:54
Trichlorofluoromethane	ND	H	0.25	1	03/13/2014 14:54
1,2,3-Trichloropropane	ND	H	0.25	1	03/13/2014 14:54
1,2,4-Trimethylbenzene	ND	H	0.25	1	03/13/2014 14:54
1,3,5-Trimethylbenzene	ND	H	0.25	1	03/13/2014 14:54
Vinyl Chloride	ND	H	0.25	1	03/13/2014 14:54
Xylenes, Total	ND	H	0.25	1	03/13/2014 14:54
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	103	H	70-130		03/13/2014 14:54
Toluene-d8	89	H	70-130		03/13/2014 14:54
4-BFB	90	H	70-130		03/13/2014 14:54

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS21	1403390-003A	Air	03/12/2014 12:01	GC10	88139
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	5.0	1	03/13/2014 15:36
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	03/13/2014 15:36
Benzene	ND	H	0.25	1	03/13/2014 15:36
Bromobenzene	ND	H	0.25	1	03/13/2014 15:36
Bromochloromethane	ND	H	0.25	1	03/13/2014 15:36
Bromodichloromethane	ND	H	0.25	1	03/13/2014 15:36
Bromoform	ND	H	0.25	1	03/13/2014 15:36
Bromomethane	ND	H	0.25	1	03/13/2014 15:36
2-Butanone (MEK)	ND	H	1.0	1	03/13/2014 15:36
t-Butyl alcohol (TBA)	ND	H	2.5	1	03/13/2014 15:36
n-Butyl benzene	ND	H	0.25	1	03/13/2014 15:36
sec-Butyl benzene	ND	H	0.25	1	03/13/2014 15:36
tert-Butyl benzene	ND	H	0.25	1	03/13/2014 15:36
Carbon Disulfide	ND	H	0.25	1	03/13/2014 15:36
Carbon Tetrachloride	ND	H	0.25	1	03/13/2014 15:36
Chlorobenzene	ND	H	0.25	1	03/13/2014 15:36
Chloroethane	ND	H	0.25	1	03/13/2014 15:36
Chloroform	ND	H	0.25	1	03/13/2014 15:36
Chloromethane	ND	H	0.25	1	03/13/2014 15:36
2-Chlorotoluene	ND	H	0.25	1	03/13/2014 15:36
4-Chlorotoluene	ND	H	0.25	1	03/13/2014 15:36
Dibromochloromethane	ND	H	0.25	1	03/13/2014 15:36
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	03/13/2014 15:36
1,2-Dibromoethane (EDB)	ND	H	0.25	1	03/13/2014 15:36
Dibromomethane	ND	H	0.25	1	03/13/2014 15:36
1,2-Dichlorobenzene	ND	H	0.25	1	03/13/2014 15:36
1,3-Dichlorobenzene	ND	H	0.25	1	03/13/2014 15:36
1,4-Dichlorobenzene	ND	H	0.25	1	03/13/2014 15:36
Dichlorodifluoromethane	ND	H	0.25	1	03/13/2014 15:36
1,1-Dichloroethane	ND	H	0.25	1	03/13/2014 15:36
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	03/13/2014 15:36
1,1-Dichloroethene	ND	H	0.25	1	03/13/2014 15:36
cis-1,2-Dichloroethene	ND	H	0.25	1	03/13/2014 15:36
trans-1,2-Dichloroethene	ND	H	0.25	1	03/13/2014 15:36
1,2-Dichloropropane	ND	H	0.25	1	03/13/2014 15:36
1,3-Dichloropropane	ND	H	0.25	1	03/13/2014 15:36
2,2-Dichloropropane	ND	H	0.25	1	03/13/2014 15:36
1,1-Dichloropropene	ND	H	0.25	1	03/13/2014 15:36

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0453; 8410 Amelia St.  
**Date Received:** 3/12/14 19:51  
**Date Prepared:** 3/13/14

**WorkOrder:** 1403390  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SS21	1403390-003A	Air	03/12/2014 12:01	GC10	88139
<b>Analytes</b>	<b>Result</b>	<b>Qualifiers</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>
cis-1,3-Dichloropropene	ND	H	0.25	1	03/13/2014 15:36
trans-1,3-Dichloropropene	ND	H	0.25	1	03/13/2014 15:36
Diisopropyl ether (DIPE)	ND	H	0.25	1	03/13/2014 15:36
Ethylbenzene	ND	H	0.25	1	03/13/2014 15:36
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	03/13/2014 15:36
Freon 113	ND	H	5.0	1	03/13/2014 15:36
Hexachlorobutadiene	ND	H	0.25	1	03/13/2014 15:36
Hexachloroethane	ND	H	0.25	1	03/13/2014 15:36
2-Hexanone	ND	H	0.25	1	03/13/2014 15:36
Isopropylbenzene	ND	H	0.25	1	03/13/2014 15:36
4-Isopropyl toluene	ND	H	0.25	1	03/13/2014 15:36
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	03/13/2014 15:36
Methylene chloride	ND	H	0.25	1	03/13/2014 15:36
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	03/13/2014 15:36
Naphthalene	ND	H	0.25	1	03/13/2014 15:36
n-Propyl benzene	ND	H	0.25	1	03/13/2014 15:36
Styrene	ND	H	0.25	1	03/13/2014 15:36
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	03/13/2014 15:36
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	03/13/2014 15:36
Tetrachloroethene	ND	H	0.25	1	03/13/2014 15:36
Toluene	ND	H	0.25	1	03/13/2014 15:36
1,2,3-Trichlorobenzene	ND	H	0.25	1	03/13/2014 15:36
1,2,4-Trichlorobenzene	ND	H	0.25	1	03/13/2014 15:36
1,1,1-Trichloroethane	ND	H	0.25	1	03/13/2014 15:36
1,1,2-Trichloroethane	ND	H	0.25	1	03/13/2014 15:36
Trichloroethene	ND	H	0.25	1	03/13/2014 15:36
Trichlorofluoromethane	ND	H	0.25	1	03/13/2014 15:36
1,2,3-Trichloropropane	ND	H	0.25	1	03/13/2014 15:36
1,2,4-Trimethylbenzene	ND	H	0.25	1	03/13/2014 15:36
1,3,5-Trimethylbenzene	ND	H	0.25	1	03/13/2014 15:36
Vinyl Chloride	ND	H	0.25	1	03/13/2014 15:36
Xylenes, Total	ND	H	0.25	1	03/13/2014 15:36
<b>Surrogates</b>	<b>REC (%)</b>	<b>Qualifiers</b>	<b>Limits</b>		
Dibromofluoromethane	101	H	70-130		03/13/2014 15:36
Toluene-d8	90	H	70-130		03/13/2014 15:36
4-BFB	89	H	70-130		03/13/2014 15:36



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/13/14  
**Date Analyzed:** 3/13/14  
**Instrument:** GC10  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1403390  
**BatchID:** 88139  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-88139  
 1403313-001BMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	20.21	0.50	20	-	101	70-130
Benzene	ND	19.5	0.50	20	-	97.5	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	71.54	2.0	80	-	89.4	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	20.03	0.50	20	-	100	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	21.66	0.50	20	-	108	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	19.54	0.50	20	-	97.7	70-130
1,1-Dichloroethene	ND	20	0.50	20	-	100	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)





# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/13/14  
**Date Analyzed:** 3/13/14  
**Instrument:** GC10  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1403390  
**BatchID:** 88139  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-88139  
 1403313-001BMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	19.58	0.50	20	-	97.9	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	20.08	0.50	20	-	100	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	19.69	0.50	20	-	98.5	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	20.27	0.50	20	-	101	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	19.82	0.50	20	-	99.1	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	25.72	45.11		45	103	100	70-130
Toluene-d8	22.88	39.55		45	92	88	70-130
4-BFB	2.373	4.501		4.5	95	100	70-130

(Cont.)



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 3/13/14  
**Date Analyzed:** 3/13/14  
**Instrument:** GC10  
**Matrix:** Water  
**Project:** #0453; 8410 Amelia St.

**WorkOrder:** 1403390  
**BatchID:** 88139  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-88139  
 1403313-001BMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	25.3	24.76	20	ND	127	124	70-130	2.17	20
Benzene	22.5	21.14	20	ND	112	106	70-130	6.23	20
t-Butyl alcohol (TBA)	122.6	127.2	80	ND	153,F1	159,F1	70-130	3.66	20
Chlorobenzene	24.16	22.93	20	ND	121	115	70-130	5.22	20
1,2-Dibromoethane (EDB)	27.92	26.39	20	ND	140,F1	132,F1	70-130	5.62	20
1,2-Dichloroethane (1,2-DCA)	23.61	22.49	20	ND	118	112	70-130	4.87	20
1,1-Dichloroethene	19.31	18.22	20	ND	96.6	91.1	70-130	5.83	20
Diisopropyl ether (DIPE)	23.76	22.46	20	ND	119	112	70-130	5.61	20
Ethyl tert-butyl ether (ETBE)	24.8	23.65	20	ND	124	118	70-130	4.75	20
Methyl-t-butyl ether (MTBE)	24.83	24.12	20	ND	124	121	70-130	2.90	20
Toluene	22.99	21.76	20	ND	115	109	70-130	5.46	20
Trichloroethene	22.8	21.57	20	ND	114	108	70-130	5.55	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	49.31	47.99	45		110	107	70-130	2.72	20
Toluene-d8	41.86	40.52	45		93	90	70-130	3.25	20
4-BFB	4.592	4.718	4.5		102	105	70-130	2.71	20

1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1403390

ClientCode: PDEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQulS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Paul King  
P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610  
(510) 658-6916    FAX: 510-834-0152

Email: lab@pdenviro.com  
cc/3rd Party:  
PO:  
ProjectNo: #0453; 8410 Amelia St.

**Bill to:**

Accounts Payable  
P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Requested TAT:**

**2 days**

**Date Received: 03/12/2014**

**Date Printed: 03/12/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1403390-001	SS19	Air	3/12/2014 11:31	<input type="checkbox"/>	A												
1403390-002	SS20	Air	3/12/2014 12:42	<input type="checkbox"/>	A												
1403390-003	SS21	Air	3/12/2014 12:01	<input type="checkbox"/>	A												

**Test Legend:**

1	8260B_A	2		3		4		5	
6		7		8		9		10	
11		12							

The following SamplIDs: 001A, 002A, 003A contain testgroup.

**Prepared by: Zoraida Cortez**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** P & D ENVIRONMENTAL

**QC Level:** LEVEL 2

**Work Order:** 1403390

**Project:** #0453; 8410 Amelia St.

**Client Contact:** Paul King

**Date Received:** 3/12/2014

**Comments:**

**Contact's Email:** lab@pdenviro.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1403390-001A	SS19	Air	VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	3/12/2014 11:31	2 days		<input type="checkbox"/>	
1403390-002A	SS20	Air	VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	3/12/2014 12:42	2 days		<input type="checkbox"/>	
1403390-003A	SS21	Air	VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	3/12/2014 12:01	2 days		<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

Tedlar = Tedlar Air Bag





### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **3/12/2014 7:51:03 PM**  
 Project Name: **#0453; 8410 Amelia St.** Login Reviewed by: **Zoraida Cortez**  
 WorkOrder N°: **1403390** Matrix: Air Carrier: Daniel (MAI Courier)

**Chain of Custody (COC) Information**

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments: