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By Alameda County Environmental Health 10:26 am, Jan 19, 2016

January 18, 2016

Mr. Jerry Wickham
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

SUBJECT: REMEDIATION PROGRESS AND GROUNDWATER MONITORING
REPORT CERTIFICATION
ACEH Case # RO 0000357
Snow Cleaners
2678 Coolidge Avenue
Oakland, CA

Dear Mr. Wickham:

You will find enclosed one copy of the following document prepared by P&D Environmental, Inc.

- Remediation Progress and Groundwater Monitoring And Sampling Report dated January 18, 2016 (document 0298.R18).

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

Should you have any questions, please do not hesitate to call me at (800) 818-7669.

Cordially,
Snow Cleaners, Inc.

Harold Turner
President

0298.L97

P&D ENVIRONMENTAL, INC.

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

January 18, 2016
Report 0298.R18

Mr. Harold Turner
Snow Cleaners, Inc.
2678 Coolidge Avenue
Oakland, CA

**SUBJECT: REMEDIATION PROGRESS AND GROUNDWATER MONITORING
AND SAMPLING REPORT
(JULY 2013 THROUGH DECEMBER 2015)
ACDEH Case # RO 0000357
Snow Cleaners
2678 Coolidge Avenue
Oakland, CA**

Dear Mr. Turner:

P&D Environmental Inc. (P&D) has prepared this report documenting remediation progress and the monitoring and sampling of four groundwater monitoring wells designated as MW1 through MW4 located near the subject site, and four dual phase groundwater and soil vapor extraction wells designated as DP1 through DP4 located at the subject site. All of the wells in the groundwater monitoring network (offsite groundwater monitoring wells MW1, MW2, MW3, and MW4, and onsite extraction wells DP1, DP2, DP3, and DP4) were monitored and sampled on November 15, 2013; June 26, 2014; and on July 15 and 16, 2015. In addition, wells MW1, and DP1 through DP4 were monitored and sampled on December 11 and 12, 2013 for dissolved gases, dissolved hydrogen, and Gene-Trac testing for evidence of chlorinated ethene-degrading bacteria.

Additionally in February 2014 a groundwater treatment system effluent sample was collected, and the soil vapor extraction (SVE) system was started and sampled. Following collection of the groundwater treatment system effluent sample and the SVE system startup sampling, neither system has been operated during the reporting period based on the rapid saturation of SVE system carbon.

A Site Location Map is attached as Figure 1, and a Site Vicinity Map Detail showing all of the well locations is attached as Figure 2. All work was performed under the under the direct supervision of a California professional geologist.

BACKGROUND

Underground Storage Tanks (USTs) associated with the former dry cleaning facility were removed and associated limited excavation of the UST pit was performed by others in 1990. In January, 1994 two groundwater monitoring wells (MW1 and MW2) were installed by others at offsite locations in Davis Street near the former UST pit. P&D subsequently preformed a review of available files for the site, installed an absorbent sock in well MW2 as an interim remedial measure for collection of

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free product, and collected water samples from the wells on February 20, 2003. Documentation of the well sampling is provided in P&D's March 10, 2003 Groundwater Monitoring and Sampling Report (document 0298.R1).

P&D subsequently collected groundwater grab samples, creek water samples, soil gas samples, and oversaw the installation of groundwater monitoring wells MW3 and MW4 at offsite locations on September 9, 2008. A detailed discussion of the investigation including multiple figures showing the extent of impacted groundwater and geologic cross sections A-A' through G-G' are provided in P&D's Subsurface Investigation Report dated August 19, 2009 (document 0298.R6).

Documentation of the collection of additional soil gas samples and the collection of crawl space air samples is provided in P&D's March 22, 2010 Soil Gas and Crawl Space Air Investigation Report (document 0298.R8) and P&D's September 15, 2010 Crawl Space Air Investigation Report (document 0298.R10). On September 27 through 29, 2010 P&D oversaw the installation of dual-phase extraction wells DP1 through DP4, and vapor extraction wells VE1 and VE2. The initial monitoring and sampling of the new wells was performed on October 15, 2010 in conjunction with the periodic monitoring and sampling of the existing offsite groundwater monitoring wells. Based on the initial groundwater sample results, the report included revised figures showing the extent of petroleum and volatile organic compounds (VOCs) in soil and groundwater. Documentation of the well installation is provided in P&D's Well Installation Report dated December 2, 2010 (document 0298.R11).

On December 13, 2010 a vapor extraction feasibility test was performed at well DP1. During 2011 a discharge permit was obtained from East Bay Municipal Utility District (EBMUD), a pump was installed in well DP1, and groundwater extraction feasibility testing was performed beginning May 23, 2011 through June 2, 2011 and again from June 8 through June 30, 2011. Documentation of the vapor extraction and groundwater extraction feasibility testing is provided in P&D's April 16, 2012 Vapor Extraction and Groundwater Extraction Feasibility Test Report (document 0298.R13).

Groundwater extraction was resumed on August 28, 2012 and continued until March 21, 2013. During the December 12 and 13, 2012 well sampling event, effervescing was observed in some of the groundwater samples, and the samples were subsequently analyzed for dissolved gases. Documentation of the groundwater extraction and semi-annual well sampling is provided in P&D's March 25, 2013 Semi-Annual Groundwater Monitoring, Sampling and Remediation Status Report (document 0298.R16). Documentation of groundwater well monitoring and sampling on May 14, 2013 is provided in P&D's Groundwater Monitoring and Sampling Report (document 0298.R17).

FIELD ACTIVITIES

Field activities included groundwater sample collection, groundwater treatment system effluent sample collection, and soil vapor extraction system startup and air sample collection. Each of these is discussed below.

Groundwater Sample Collection

All of the wells in the groundwater monitoring network (offsite groundwater monitoring wells MW1, MW2, MW3, and MW4, and onsite extraction wells DP1, DP2, DP3, and DP4) were monitored and sampled on November 15, 2013; June 26, 2014; and on July 15 and 16, 2015. In addition, wells MW1, and DP1 through DP4 were monitored and sampled on December 11 and 12, 2013 for dissolved gases, hydrogen, and Gene-Trac testing. The wells were monitored for depth to water to the nearest 0.01 foot using an electric water level indicator. A summary of the depth to water measurements is attached with this report as Table 1.

Due to the presence of the pump in well DP1 and a depth to water below the top of the pump, P&D personnel were unable to measure the depth to water and the depth to free product in well DP1 using a steel tape and water-finding and product-finding paste, and were only able to measure the depth to water using an electric water level indicator.

Following the measurement of depth to water the wells were purged with a peristaltic pump for a minimum of 15 minutes prior to being sampled. Purging was performed at low flow rates to minimize turbulence and minimize the likelihood of sediments in the samples in accordance with U.S. EPA low flow methods. During purging operations, the field parameters of electrical conductivity, temperature, pH, dissolved oxygen (DO), oxidation reduction potential (ORP), turbidity, and depth to water were monitored and recorded on a groundwater monitoring/well purging data sheet. On December 11 and 12, 2013 purging and monitoring of the purged water was performed following the collection of water samples to evaluate changes in field parameters during an extended period of time.

Free product was not encountered during the purging or sampling of any of the wells. Sheen was observed on water purged from wells DP3 on December 11, 2013 and from wells DP1 and DP2 on December 12, 2013. Petroleum hydrocarbon odors were detected on the purge water from wells MW2, DP1, DP2, DP3, and DP4, with the odors described as ranging from slight to strong. Records of the field parameters measured during well purging are included with this report as Appendix A. A The final field parameters recorded during purging for pH, dissolved oxygen, oxidation reduction potential are summarized in Table 2.

Once the field parameters were observed to stabilize, and the wells had been purged for a minimum of 15 minutes, water samples were collected directly from the discharge tubing from the pump. The samples were transferred to 40-milliliter glass Volatile Organic Analysis (VOA) vials that were preserved with hydrochloric acid and sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to assure that no air bubbles were present. All sample bottles were labeled and stored in a cooler with ice pending transport to the laboratory. Chain of custody procedures were observed for all sample handling.

Additionally, groundwater samples were collected from wells MW1, DP1, DP2, DP3, and DP4 following protocols provided in the SiREM Groundwater Collection and Shipping Protocol for Gene-Trac® Samples and Dissolved Hydrogen Sampling Technical Guidance from Microseeps that are include with this report as Appendixes A and B, respectively.

In addition, wells MW1, and DP1 through DP4 were monitored and sampled on December 11 and 12, 2013 for dissolved hydrogen, and Gene-Trac testing in accordance with methods described above and methods described in Appendix B for dissolved hydrogen testing and methods described in Appendix C for Gene-Trac testing. All sample bottles were labeled and stored in a cooler with ice pending transport to the laboratory. Chain of custody procedures were observed for all sample handling.

Groundwater Treatment System Effluent Sample Collection

In preparation for re-starting the groundwater treatment system, P&D personnel collected an effluent water sample from a sampling port for the groundwater treatment system at a location downstream from the granular activated carbon vessels on February 21, 2014. All sample bottles were labeled and stored in a cooler with ice pending transport to the laboratory. Chain of custody procedures were observed for all sample handling. The groundwater treatment system has not operated since that time.

Soil Vapor Extraction System Startup and Air Sample Collection

Following receipt of the Bay Area Air Quality Management District (BAAQMD) Authority To Construct dated June 3, 2013 a soil vapor extraction system consisting of one Roots positive displacement blower with a variable speed drive, one moisture separator (knockout tank), two 2,000-pound vessels containing granular activated carbon (GAC), and one 2,000-pound vessel containing 1,000 pounds of potassium permanganate was installed at the site. The system was plumbed to allow dual phase extraction of groundwater while extracting vapors at well DP1, with vapors pulled sequentially through the moisture separator, the first carbon vessel (designated as air abatement device A1), the second carbon vessel (designated as air abatement device A2), and the potassium permanganate vessel (designated as air abatement device A3) before being pulled into the blower and then discharged to the atmosphere. Monitoring ports for evaluating air flow and sampling ports for air sample collection were installed in the piping before and after each of the air abatement devices and the blower. A Vapor Extraction System Diagram showing the SVE system components is attached with this report as Figure D1 in Appendix D. A Facility Layout diagram showing the locations of the SVE system components and piping at the site is attached with this report as Figure D2 in Appendix D.

Following receipt of the BAAQMD Permit to Operate (PTO) dated January 16, 2014 start-up notification was provided to the BAAQMD on January 20, 2014 in accordance with PTO requirements and the system was started on January 27, 2014. The system air flow rate and temperature were measured using a TSI Velocicalc Model 9535 digital hot wire anemometer at locations shown in Figure D1. System vacuum was measured at the DP1 wellhead with a mechanical diaphragm vacuum gage and recorded in inches of Mercury vacuum with an accuracy of 0.2 inches of Mercury vacuum. Air quality was also periodically evaluated with a Thermo Electron Corporation Model 580B Photoionization Detector (PID) by using a vacuum chamber to pull air into a 1-liter Tedlar bag and then connecting the PID intake to the Tedlar bag. The PID was equipped with a 10.6 eV bulb and was calibrated with a 100 parts per million (ppm) isobutylene standard prior to the beginning of use. The SVE system air flow rate, temperature, and vacuum measurements

were recorded on a SVE System Monitoring Data Sheet which is attached with this report in Appendix D.

After approximately 3.5 hours of SVE system operation at a flow rate of approximately 50 standard cubic feet per minute (scfm) and an extraction vacuum of 4 inches of Mercury, PID readings of 283, 22.4 and 6.3 ppm were recorded at the inlets to air abatement devices A1, A2 and A3, respectively, and recorded on the SVE Monitoring Data Sheet (see Appendix D). The SVE system blower was then shut off.

On February 3, 2014 two additional 2,000-pound vessels containing GAC, and one additional 1,000-pound vessel containing 1,000 pounds of potassium permanganate were delivered to the site. The previously-installed SVE system carbon and potassium permanganate vessels were designated as System 1 and the new vessels were designated as System 2 and were plumbed with valves so that air flow from the extraction well could be re-directed from System 1 to System 2 by adjusting the valves prior to the extracted air being drawn into the blower. The System 2 vessels were designated as A1, A2 and A3 in the same manner as the vessels were designated for System 1, with the first carbon vessel designated as A1, the second carbon vessel as A2, and the potassium permanganate vessel designated as A3.

On February 19, 2014 P&D personnel re-started the SVE system with the air directed through the System 2 vessels. Atmospheric air was initially drawn through the vessels and the outlet to vessels A1 and A2 was monitored with the PID, with readings of 0 ppm observed for each vessel. The air flow was then drawn from well DP1 with a vacuum measured at the DP1 wellhead of 4.5 inches of Mercury, an air flow rate of 30.41 scfm, and air temperature of 61.8 degrees Fahrenheit. The PID values for the inlets to A1, A2 and A3 were then measured as 216, 142.7 and 104.6 ppm, respectively. The SVE system was then shut off.

On February 20, 2014 P&D personnel returned to the site and re-started the SVE system with air drawn from well DP1 and directed through the System 2 vessels. The measured air flow rate was 60.83 scfm with an air temperature of 71.4 degrees Fahrenheit. Immediately following startup PID values were recorded at the DP1 wellhead and the inlets to A1 and A2 where values of 193, approximately 219, and approximately 2 to 3 (with a maximum of 6) ppm, respectively, were recorded. Approximately one half hour after startup of the system, PID values at the inlet to A1 and A2 of 216 and 34 ppm, respectively, were recorded. Air samples were then collected at the inlets to A1 and A2 using 1-liter Tedlar bags that were placed into a vacuum chamber for sample collection. Following completion of air sample collection the Tedlar bags were stored in a cooler to prevent exposure to light and crushing before being transported to the laboratory. Chain of custody procedures were observed for all sample handling. The SVE system was then shut off.

Following review of the February 20, 2014 air sample results, P&D personnel returned to the site on February 27, 2014 and monitored the System 2 vessel inlets to A1, A2 and A3 and the outlet to A3 using a Thermo Scientific Model TVA 1000 Flame Ionization Detector (FID). Monitoring was performed with an initial flow rate of 52.48 scfm without a carbon filter to evaluate total detectable methane and VOC concentrations, followed by monitoring with a carbon filter to evaluate total detectable methane concentrations (methane is not substantially adsorbed by the carbon filter). A valve located between the outlet to A3 and the blower intake was then opened to introduce

atmospheric air to the air being drawn into the blower, resulting in a measured air flow rate from well DP1 of approximately 12 scfm. The system 2 vessels A1, A2 and A3 inlets and the A3 outlet were then monitored with an air flow rate of approximately 12 scfm from well DP1 approximately one hour after the air flow from well DP1 was reduced, and again approximately one hour after that for flow and FID values without and with the carbon filter.

On February 27, 2014 following evaluation of the System 2 vessels the valves for the SVE system vessels were adjusted to direct extracted air flow from well DP1 through the System 1 vessels, the air flow was verified to be approximately 12 scfm from well DP1, and the System 1 A1, A2 and A3 inlets and the A3 outlet were then monitored using the FID without and then with the carbon filter. The System 1 vessels were monitored again approximately one hour after the initial System 1 vessel monitoring, and again approximately one hour after that for flow and FID values without and with the carbon filter. The SVE system was then shut off. A FID Lower Explosive Limit (LEL) value of 1 percent is approximately equivalent to a concentration of 10,000 ppm total ionizable organic vapors, and the FID readout changes from ppm to percent LEL at a concentration of 10,000 ppm. The System 1 and System 2 vessel FID air monitoring results are summarized in Table 3.

On February 28, 2014 P&D personnel returned to the site and re-started the SVE system with air drawn from well DP1 and directed through the System 1 vessels. A valve located between the outlet to A3 and the blower intake was then opened to introduce atmospheric air to the air being drawn into the blower, resulting in a measured air flow rate from well DP1 of approximately 12 scfm. Approximately one hour after startup of the system, air samples were collected at the System 1 vessel inlets to A1 and A2 using 1-liter Tedlar bags that were placed into a vacuum chamber for sample collection. Following completion of air sample collection the Tedlar bags were stored in a cooler to prevent exposure to light and crushing before being transported to the laboratory. Chain of custody procedures were observed for all sample handling. The SVE system was then shut off. The SVE system has not been operated since that time.

GEOLOGY AND HYDROGEOLOGY

Review of Figure 1 shows that the site is located near the top of a northeasterly-trending interfluvial (ridge-like) structure. The topography in the area surrounding the site slopes to the east and south. Peralta Creek is located approximately 500 feet to the east and approximately 400 feet to the southeast of the subject site. The creek flows towards the southwest. Portions of the creek located directly to the east of the site are lined with concrete. Based on evaluation of the concrete channel for Peralta Creek that is located beneath Davis Street, the water that flows through Peralta Hacienda Historic Park is not the same water that flows in Peralta Creek on the north side of Davis Street.

The site geology and hydrogeology are complex, and a detailed discussion of the site geology and hydrogeology is provided in P&D's Subsurface Investigation Report dated August 19, 2009 (document 0298.R6). The interpreted groundwater flow direction in the vicinity of the site was developed using multiple lines of evidence (topography, lithology, soil discoloration, contaminant concentration distribution, and the measured depth to water in the different wells).

Groundwater is interpreted to generally move in an unconfined A-water-bearing zone in the immediate vicinity of the site northeastwards and eastwards in the vicinity of the former UST pit and

then towards the southeast (towards Peralta Creek) to the north of the former UST pit, based on the elevations and slope of the surface of the fine-grained materials that are encountered beginning at a depth of approximately 25 feet below the ground surface (bgs) in the vicinity of the site. Based on the presence of coarse-grained materials at depths greater than 30 feet bgs that are located between borehole B6 and well MW3, groundwater is interpreted to move vertically in a southerly-trending paleo-channel from the unconfined A-water-bearing zone to a confined B-water-bearing zone in the area between the northeast side of well DP2 at the subject site and 34th Avenue, and then move horizontally in the B-water-bearing zone to the south towards Peralta Creek and Peralta Hacienda Historical Park.

Review of Table 1 and Figure 2 shows that historically there has been a difference in water table elevation of as much as approximately 4.5 to 5.0 feet between wells DP2 and DP1. The horizontal distance is approximately 18 feet between these two wells, and the location of this change in water table elevation corresponds with an increase in depth to fine-grained materials which are encountered at a depth of approximately 22 to 25 feet bgs between well DP2 and Davis Street to the southwest. Based on the depth of approximately 22 to 25 feet bgs to fine-grained materials between well DP2 and Davis Street to the southwest, the thickness of the water layer overlying the fine-grained materials to the southwest of DP2 ranges seasonally between approximately 1 and 4 feet. The depth to fine-grained materials and the saturated thickness of the water-bearing sediments to the northeast of DP2 is unknown. A discussion of geologic cross sections in P&Ds Well Installation Report dated December 2, 2010 (document 0298.R11) identifies a east-northeasterly-trending channel in the surface of the fine-grained materials that drains the area beneath the former UST pit towards the northeast and towards the change in water table elevation of approximately 4.5 to 5.0 feet that has historically been located between wells DP2 and DP1.

Based on water level information available (see Table 1) the historically measured depth to water in the offsite groundwater monitoring wells MW1 through MW4 has ranged from 11.04 to 19.80 feet in well MW2; 16.52 to 23.83 feet in well MW3 (after September 19, 2008); 19.07 to 24.26 feet in well MW1; and 20.59 to 26.21 feet in well MW4. Review of historical groundwater monitoring well water levels shows that the water levels in wells MW2 and MW3 (screened in the A-water-bearing zone) have been consistently similar, and that the water levels in wells MW1 and MW4 (screened in the B-water-bearing zone) have been consistently similar, with a difference of approximately 6 to 7 feet in the elevations between the two sets of wells during dry season months and a difference of approximately 8 to 10 feet during wet season months. The water elevations in the wells that are screened in the A-water-bearing zone are higher than the water elevations in the wells that are screened in the B-water-bearing zone. Additionally, both the A-water-bearing zone and the B-water-bearing zone respond similarly to seasonal changes in water levels, with a seasonal vertical range of water elevations to date of approximately 7.0 feet in wells MW2 and MW3, and approximately 4.0 feet in wells MW1 and MW4. Historical well water levels are shown for August 2009 through June 2012 in Figure 3 to illustrate the relationships of water level changes for wells MW1 through MW4.

Figure 4 shows water level changes in all of the wells for October 2010 through June 2012 (wells DP1 through DP4 were not installed until September 2010). Review of Figure 4 shows the following.

- Water levels in wells MW2, DP2 and DP3 are similar.

- Water levels and changes in water levels in wells DP1 and DP4 are similar (the water level in well DP1 was depressed in June 2011 because of groundwater extraction in well DP1).
- Water levels and changes in water levels in wells MW1 and MW4 are similar.
- Changes in water levels in wells DP2 and DP3 are similar.

Monthly monitoring of water levels in wells MW1 through MW4 from August 2009 through June 2011 provided a monitoring frequency that allowed the seasonal changes in water levels to be visible in Figures 3 and 4. Water level monitoring was not performed in any of the wells between the beginning of December 2011 and the end of June 2012. For this reason elevated water levels historically measured in the wells during this time period were not recorded and are not shown on Figures 3 and 4. Additionally, water level information following June 2011 was not collected with a frequency that allowed the seasonal changes in water levels to be clearly visible in Figures 3 and 4.

LABORATORY ANALYSIS

All of the groundwater samples were analyzed at McCampbell Analytical, Inc. (McCampbell) of Pittsburg, California (McCampbell), with the exception of the samples collected on December 11 and 12, 2013 which were analyzed at SiREM of Guelph, Ontario, Canada, and at Microseeps of Pittsburgh, Pennsylvania. Microseeps was subsequently acquired by Pace Analytical, Inc. All of the air samples collected on February 20 and 28, 2014 were analyzed at McCampbell.

The groundwater samples analyzed at McCampbell were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G) and for Total Petroleum Hydrocarbons as Stoddard solvent (TPH-SS) by EPA Methods 5030B in conjunction with EPA Method 8021B, and modified EPA Method 8015B, and for Total Petroleum Hydrocarbons as Diesel (TPH-D) and for Total Petroleum Hydrocarbons as Bunker Oil (TPH-BO) by EPA Method 3510C in conjunction with EPA Method 8015B. In addition, all of the samples were analyzed for Volatile Organic Compounds (VOCs) including Methyl tert-Butyl Ether (MTBE); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and halogenated volatile organic compounds (HVOCs) including tetrachloroethene (PCE) and the associated decomposition products tetrachloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE) and vinyl chloride by EPA Method 8260B. The samples collected on July 15, 2015 were also analyzed for the dissolved gases methane, ethane, and ethene (MEE) and carbon dioxide using Method RSK 175.

The groundwater samples collected on December 11 and 12, 2013 from wells MW1, and DP1 through DP4 that were analyzed at SiREM of Guelph, Ontario, Canada were analyzed using quantitative polymerase chain reaction (qPCR) Gene-Trac® methods for *Dehalococcoides* (*Dhc*) bacteria enumeration, and using qPCR Gene-Trac® methods for identification of the presence of the Vinyl Chloride Reductase (*vcrA*) gene. Gene-Trac® testing is used to assess bioremediation potential by quantifying and characterizing key dechlorinating bacteria in groundwater and soil. *Dhc* enumeration analysis is used for identification of bacteria associated with dechlorination of chlorinated ethenes, including PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride. Analysis for *vcrA* gene is used to identify the presence of the *Dhc* gene that dechlorinates vinyl chloride to ethane.

The groundwater samples collected on December 11 and 12, 2013 from wells MW1 and DP1 through DP4 that were analyzed at SiREM of Guelph, Ontario, Canada were also analyzed for the dissolved gases MEE using analytical Method AM20GAX. Analytical Method AM20GAX is a gas chromatography method that provides reporting limits for MEE that are lower than RSK 175 low level reporting limits.

The groundwater samples collected on December 11 and 12, 2013 from wells MW1, and DP1 through DP4 that were analyzed at Microseeps of Pittsburgh, Pennsylvania were analyzed for dissolved hydrogen using Method AM20GAZ. The sample results are reported in nanoMolar (nM) units, which are equivalent to nanoMoles per liter (nM/L). One nM is equivalent to 1.0E-09 moles. The nM value can be converted to micrograms per liter (ug/L) by dividing the nM value by 500. One nM is equivalent to 1.0E-09 moles.

The groundwater TPH and EPA Method 8260B sample results are summarized in Table 4A, the dissolved gas sample results are summarized in Table 4B, and the Gene-Trac® *Dhc* bacteria and *vcra* gene enumeration results are summarized in Table 4C. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report as Appendix E.

The air samples collected from the SVE system were analyzed at McCampbell for VOCs using EPA Method 8260B, TPH-SS using EPA Methods 8015 modified and EPA Method 8021B, and for the light gases acetylene, ethene, methane, n-butane, n-ethane, n-pentane, and n-propane. The detected sample results are summarized in Table 5, and copies of the laboratory analytical reports and chain of custody documentation are attached with this report as Appendix E.

DISCUSSION AND RECOMMENDATIONS

Groundwater conditions and SVE are each discussed separately.

Groundwater Conditions

Review of Table 1 shows that the greatest depth to water (the lowest water levels) measured at the site were measured in July 2015. These low water levels are attributed to drought conditions.

Review of Table 2 shows that historical ORP values have been consistently negative at locations MW2, DP1, DP2 and DP3, and that the DO value for these wells has been consistently lower than for the other wells. Comparison of Table 2 ORP and DO values with detected TPH and VOC concentrations shown in Table 4A shows that the wells where consistently negative ORP values and lower DO values are encountered are wells where elevated TPH and VOC concentrations are encountered. Review of the December 11 and 12, 2013 purge data sheets in Appendix A shows that ORP stabilized in different wells between 10 minutes and 1.5 hours after the beginning of purging, and that DO stabilized in different wells between 1.25 and 2 hours after the beginning of purging. The time necessary for field parameter stabilization indicates that field parameter values associated with historical low flow purge sampling volumes may not be representative of stabilized field parameter values.

Review of Table 4A shows that water quality for the most recent groundwater monitoring and sampling events has remained consistent with historical water quality, with TPH and VOCs largely not detected in wells MW1, MW3 and MW4, marginally detected in well DP4, and detected at elevated concentrations in the remaining wells (MW2, DP1, DP2 and DP3).

Review of Table 4B shows that the dissolved gases ethane and ethene have consistently been detected in wells MW2, DP1 and DP2 where elevated TPH and VOC concentrations have been detected (see Table 1A) and where negative ORP and lower DO values have been detected (see Table 2). In addition, review of Table 4B shows that the dissolved hydrogen concentrations were approximately one order of magnitude greater at plume core wells DP1, DP2 and DP3 than plume core exterior well MW1 and plume core margin well DP4.

Selected wells were sampled to characterize groundwater plume conditions for evidence of bacteria capable of degrading chlorinated ethenes (PCE and associated decomposition products) as follows:

- Outside of the groundwater plume core (MW1),
- At a marginal location to the groundwater plume core (DP4), and
- Inside the groundwater plume core near residential structures (DP2 and DP3).

Review of Table 4C shows that *Dhc* was detected in wells DP1 through DP4, and was not detected in well MW1 located outside of the groundwater plume. The highest *Dhc* detected value was at well DP1 in the core of the plume, with lesser detected values at other locations by one to two orders of magnitude. Similarly, *vcrA* gene was detected in wells DP1, DP2 and DP4 (*vcrA* gene analysis was not performed for well MW1 because *Dhc* was not detected in sample MW1, and *vcrA* gene was not detected in well DP3), with the highest detected value in well DP1 and the other detected values one to two orders less in magnitude.

The detected presence of *Dhc* and *vcrA* indicates that bioattenuation of chlorinated ethenes, including vinyl chloride is possible. Comparison of the Table 4C detected quantities with the SiREM Guidelines for Interpretation of Gene-Trac® Test Results in Appendix F shows that the *Dhc* quantities at DP1 are considered to be moderate at best for observable dechlorination activity, with *Dhc* quantities at the remaining locations being considered as possibly indicating suboptimal site conditions for high rates of dechlorination. Similarly, Appendix F shows that the detected presence of *vcrA* gene indicates that complete dechlorination to ethene is possible, however only the quantities at DP1 suggest that minimal quantities are present for vinyl chloride dechlorination.

Complete chlorinated ethene dechlorination appears to be occurring at the site for the following reasons:

- PCE decomposition compounds TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride are detected in groundwater samples (see Table 4C) and in soil vapor samples (see Table 5).
- Ethene is detected in groundwater samples (see Table 4C) and in soil vapor samples (see Table 5).
- *Dhc* and *vcrA* gene are detected at quantities indicating that dechlorination is feasible.
- Review of Appendix A groundwater purge values from December 11 and 12, 2013

shows that pH values of approximately 6.5 were recorded for wells with elevated TPH and VOC concentrations. A pH range of 6 to 8 is considered ideal for *Dhc*.

The presence of large quantities of Stoddard solvent in the impacted area is considered to be an electron donor for chlorinated ethene dechlorination. In addition, the large quantities of Stoddard solvent are interpreted to have resulted in anaerobic conditions as evidenced by the negative ORP and lower DO values (see Table 3) in the impacted area. Dissolved hydrogen concentrations of 2 to 11 nMol/L have been identified by others as optimum for anaerobic reductive dechlorination, and all detected dissolved hydrogen concentrations exceed 11 nMol/L, indicating that abundant dissolved hydrogen is present for anaerobic reductive dechlorination.

Dechlorination of PCE and TCE to DCE occurs under mild reducing conditions, whereas the dechlorination of DCE to vinyl chloride and vinyl chloride to ethene requires more strongly reducing conditions of methanogenesis. Effervescing of groundwater samples collected from the impacted area, in addition to elevated dissolved methane and carbon dioxide concentrations (see Table 4B) and elevated methane soil vapor concentrations and the presence of vinyl chloride and ethene in soil vapor (see Table 5) indicate that methanogenesis conditions are present in the impacted portion of the site.

Although there is an abundance of an electron donor (Stoddard solvent) and abundant dissolved hydrogen to facilitate chlorinated ethene dechlorination, and also evidence of strongly anaerobic conditions which are ideal for *Dhc*, and also based on the presence of *Dhc* and *vcrA* gene, it appears that site conditions prevent the flourishing of the *Dhc* population. Possible causes for the *Dhc* population not flourishing include the following:

- Stoddard solvent may be toxic to the *Dhc* population. Stoddard solvent is hydrophobic. A hydrophilic electron donor such as lactate may be a more appropriate electron donor and carbon source for chlorinated ethene metabolism and *Dhc* growth.
- Chloroform detected in wells peripheral to the groundwater plume may be mildly toxic to *Dhc* and inhibit *Dhc* growth (detected groundwater concentrations are approximately 1 ug/L and chloroform concentrations of approximately 50 ug/L chloroform have been reported to inhibit *Dhc* growth).
- Stoddard solvent and chlorinated ethene concentrations may be at concentrations inhospitable for microbial growth until the concentrations are reduced.

Soil Vapor Extraction

Review of Table 3 shows that System 2 vessel vapor concentrations with and without the FID carbon filter were reduced during operation of the SVE system at lower flow rates. Additionally, review of Table 5 System 2 vessel A1 inlet and A2 inlet (A2 inlet is the same as the A1 outlet) air concentrations shows a 99.76 percent removal efficiency.

Review of Table 3 also shows that System 1 vapor concentrations without the FID carbon filter were also reduced during operation of the SVE system at lower flow rates. However, based on the lower removal efficiency of the System 1 vessels, the GAC should be replaced in the System 1 vessels.

Recommendations

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

- Collection of groundwater samples on an annual basis.
- Analysis of future groundwater samples for dissolved gases, including carbon dioxide and hydrogen for trend analysis.
- Resume groundwater extraction at well DP1 in accordance with EBMUD permit requirements.
- Replacement of the System 1 GAC in vessels A1 and A2.
- Resume vapor extraction at well DP1 in accordance with BAAQMD requirements. SVE should be started at a low flow rate of approximately 10 scfm until extracted vapor concentrations are reduced, at which time SVE flow rates should be increased.
- Evaluation of refrigeration of extracted vapors as a method to reduce carbon consumption.
- Evaluation of site conditions to identify conditions that are inhibiting *Dhc* population growth.
- Evaluation of alternate electron donors such as lactate to determine if an alternate electron donor can increase *Dhc* population growth.

DISTRIBUTION

A copy of this report will be uploaded to the ACDEH website and to GeoTracker.

LIMITATIONS

This report was prepared solely for the use of Snow Cleaners, Inc. 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 the 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 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 borings 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

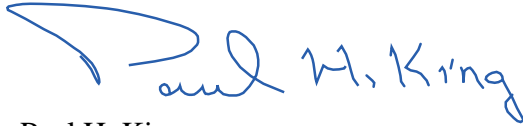
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other individuals or entities used in this report. This report presents our professional judgment based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

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: 12/31/17



Attachments:

Table 1 - Summary of Groundwater Elevation Data

Table 2 - Summary of Water Quality Field Parameters - pH, Dissolved Oxygen, and Oxidation-Reduction Potential

Table 3 - Summary of SVE System Air Monitoring Data

Table 4A - Summary of Groundwater Sample Results - Petroleum Hydrocarbons and VOCs

Table 4B - Summary of Groundwater Sample Results - Dissolved Gases

Table 4C - Summary of Groundwater Sample Results – Microbiological

Table 5 - Summary of Soil Vapor Extraction System Air Sample Results

Figure 1 - Site Location Map

Figure 2 - Site Vicinity Map Detail Showing Well Locations

Figure 3 - Graph of Water Levels in Site Groundwater Monitoring Network Wells for August 2009 Through June 2012

Figure 4 - Graph of Water Levels in Site Groundwater Monitoring Network Wells for October 2010 Through June 2012

Appendix A - Groundwater Monitoring/Well Purging Data Sheets

Appendix B - SiREM Groundwater Collection and Shipping Protocol for Gene-Trac® Samples

Appendix C - Dissolved Hydrogen Sampling Technical Guidance from Microseeps

Appendix D - SVE System Air Monitoring Data Sheet

Appendix E - Laboratory Reports and Chain of Custody Documentation

Appendix F - SiREM Guidelines for Interpretation of Gene-Trac® Test Results

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TABLES

TABLE 1
SUMMARY OF GROUNDWATER ELEVATION DATA

Well No	Date	Top Of Casing Elevation (ft)**	Depth To Water (ft)	Water Table Elevation (ft)	Change in Water Table Elevation
MW1	7/15/2015	132.78	24.26	108.52	-0.78
	6/26/2014		23.48	109.30	0.70
	12/11/2013		24.18	108.60	-0.04
	11/15/2013		24.14	108.64	-1.87
	5/14/2013		22.27	110.51	-0.89
	12/12/2012		21.38	111.40	0.66
	6/28/2012		22.04	110.74	
	12/5/2011		car parked on well	could not measure	
	9/2/2011		22.55	110.23	-1.62
	6/1/2011		20.93	111.85	-0.52
	5/20/2011		20.41	112.37	-0.95
	4/15/2011		19.46	113.32	-0.21
	3/18/2011		19.25	113.53	2.65
	2/18/2011		21.90	110.88	-1.14
	1/21/2011		20.76	112.02	2.39
	12/10/2010		23.15	109.63	0.70
	11/19/2010		23.85	108.93	0.07
	10/15/2010		23.92	108.86	-0.42
	9/22/2010		23.50	109.28	-0.63
	8/20/2010		22.87	109.91	-0.86
	7/16/2010		22.01	110.77	-0.95
	6/18/2010		21.06	111.72	-0.80
	5/21/2010		20.26	112.52	-1.02
	4/16/2010		19.24	113.54	-0.17
	3/19/2010		19.07	113.71	1.49
	2/19/2010		20.56	112.22	0.52
	1/27/2010		21.08	111.70	2.28
	12/1/2009		23.36	109.42	0.06
	11/30/2009		23.42	109.36	-0.32
	11/25/2009		car parked on well	could not measure	
	10/29/2009		23.10	109.68	0.30
	9/24/2009		23.40	109.38	-0.52
	8/20/2009		22.88	109.90	0.12
	9/26/2008		23.00	109.78	0.02
	9/18/2008		23.02	109.76	-2.37
	2/20/2003		20.65	112.13	
	1/18/2003		20.06	112.72	
MW2	7/16/2015	133.59	19.80	113.79	-1.71
	6/26/2014		18.09	115.50	1.14
	12/11/2013		Not Measured		
	11/15/2013		19.23	114.36	-2.39
	5/14/2013		16.84	116.75	-3.13
	12/12/2012		13.71	119.88	2.30
	6/28/2012		16.01	117.58	2.09
	12/5/2011		18.10	115.49	-1.04
	9/2/2011		17.06	116.53	-1.99
	6/1/2011		15.07	118.52	-1.04
	5/20/2011		14.03	119.56	-2.99
	4/15/2011		11.04	122.55	0.57
	3/18/2011		11.61	121.98	2.09
	2/18/2011		13.70	119.89	0.20
	1/21/2011		13.90	119.69	1.88
	12/13/2010		15.78	117.81	-0.05
	12/10/2010		15.73	117.86	0.96
	11/23/2010		16.69	116.90	0.97
	11/19/2010		17.66	115.93	-0.07
	11/12/2010		17.59	116.00	0.47
	10/15/2010		18.06	115.53	-0.34
	9/22/2010		17.72	115.87	-0.37
	8/20/2010		17.35	116.24	-0.60
	7/16/2010		16.75	116.84	-1.34
	6/18/2010		15.41	118.18	-1.37
	5/21/2010		14.04	119.55	-2.25
	4/16/2010		11.79	121.80	-0.30
	3/19/2010		11.49	122.10	1.91
	2/19/2010		13.40	120.19	-0.65
	1/27/2010		12.75	120.84	5.71
	12/1/2009		18.46	115.13	-1.00
	11/30/2009		car parked on well	could not measure	
	11/25/2009		car parked on well	could not measure	
	10/29/2009		17.46	116.13	1.37
	9/24/2009		18.83	114.76	-0.37
	8/20/2009		18.46	115.13	0.04
	9/18/2008		18.50	115.09	-5.41
2/20/2003	13.09	120.50	-1.54		
1/18/2003	11.55 [#]	122.04			

TABLE 1
SUMMARY OF GROUNDWATER ELEVATION DATA

Well No	Date	Top Of Casing Elevation (ft)**	Depth To Water (ft)	Water Table Elevation (ft)	Change in Water Table Elevation
MW3	7/15/2015	136.35	24.83	111.52	-1.43
	6/26/2014		23.40	112.95	0.09
	12/11/2013		Not Measured		
	11/15/2013		23.49	112.86	-3.06
	5/14/2013		20.43	115.92	-2.56
	12/12/2012		17.87	118.48	2.90
	6/28/2012		20.77	115.58	-0.26
	12/5/2011		20.51	115.84	0.78
	9/2/2011		21.29	115.06	-1.34
	6/1/2011		19.95	116.40	-0.98
	5/20/2011		18.97	117.38	-2.45
	4/15/2011		16.52	119.83	0.67
	3/18/2011		17.19	119.16	1.40
	2/18/2011		18.59	117.76	-0.51
	1/21/2011		18.08	118.27	1.20
	12/10/2010		19.28	117.07	1.87
	11/19/2010		21.15	115.20	1.82
	10/15/2010		22.97	113.38	-0.42
	9/22/2010		22.55	113.80	-0.93
	8/20/2010		21.62	114.73	-1.25
	7/16/2010		20.37	115.98	-1.05
	6/18/2010		19.32	117.03	-0.59
	5/21/2010		18.73	117.62	-1.34
	4/16/2010		17.39	118.96	-0.44
	3/19/2010		16.95	119.40	1.01
	2/19/2010		17.96	118.39	-0.25
	1/27/2010		17.71	118.64	3.45
	12/1/2009		21.16	115.19	-0.02
	11/30/2009		21.14	115.21	-0.12
	11/25/2009		21.02	115.33	-1.07
	10/29/2009		19.95	116.40	1.72
	9/24/2009		21.67	114.68	-0.59
	8/20/2009		21.08	115.27	-0.17
9/26/2008	20.91	115.44	2.78		
9/19/2008	23.69	112.66	4.37		
9/18/2008	28.06	108.29	5.25		
9/15/2008	33.31	103.04	-6.51		
9/15/2008	26.80	109.55			
MW4	7/15/2015	134.09	26.21	107.88	-0.77
	6/26/2014		25.44	108.65	0.61
	12/11/2013		Not Measured		
	11/15/2013		26.05	108.04	-1.73
	5/14/2013		24.32	109.77	-0.93
	12/12/2012		23.39	110.70	0.69
	6/28/2012		24.08	110.01	1.12
	12/5/2011		25.20	108.89	-0.65
	9/2/2011		24.55	109.54	-1.57
	6/1/2011		22.98	111.11	-0.52
	5/20/2011		22.46	111.63	-1.87
	4/15/2011		20.59	113.50	0.76
	3/18/2011		21.35	112.74	1.59
	2/18/2011		22.94	111.15	-0.16
	1/21/2011		22.78	111.31	2.32
	12/10/2010		25.10	108.99	0.69
	11/19/2010		25.79	108.30	0.07
	10/15/2010		25.86	108.23	-0.39
	9/22/2010		25.47	108.62	-0.62
	8/20/2010		24.85	109.24	-0.82
	7/16/2010		24.03	110.06	-0.92
	6/18/2010		23.11	110.98	-0.78
	5/21/2010		22.33	111.76	-0.97
	4/16/2010		21.36	112.73	-0.18
	3/19/2010		21.18	112.91	1.41
	2/19/2010		22.59	111.50	0.52
	1/27/2010		23.11	110.98	2.20
	12/1/2009		25.31	108.78	0.06
	11/30/2009		25.37	108.72	-0.11
	11/25/2009		25.26	108.83	-0.20
	10/29/2009		25.06	109.03	0.31
	9/24/2009		25.37	108.72	-0.51
	8/20/2009		24.86	109.23	0.14
9/26/2008	25.00	109.09	0.00		
9/19/2008	25.00	109.09	0.02		
9/18/2008	25.02	109.07	0.09		
9/15/2008	25.11	108.98	-0.08		
9/15/2008	25.03	109.06			

TABLE 1
SUMMARY OF GROUNDWATER ELEVATION DATA

Well No	Date	Top Of Casing Elevation (ft)**	Depth To Water (ft)	Water Table Elevation (ft)	Change in Water Table Elevation	
DP1	7/16/2015	137.22	28.00	109.22	-3.06	
	6/26/2014		24.94	112.28	3.18	
	12/11/2013		28.12	109.10	-0.06	
	11/15/2013		28.06	109.16	-6.24	
	5/14/2013		21.82	115.40	12.90	
	12/12/2012		34.72	102.50	-13.79	
	6/28/2012		20.93	116.29	4.05	
	12/5/2011		25.17 (0.25)##	112.24	-2.73	
	9/2/2011		22.25	114.97	1.44	
	6/1/2011		23.69	113.53		
	5/20/2011		Adjusting pump rates - water level fluctuating.			
	4/15/2011		14.19	123.03	1.46	
	3/18/2011		15.65	121.57	3.26	
	2/18/2011		18.91	118.31	-1.08	
	1/21/2011		17.83	119.39	7.08	
	12/13/2010		24.91	112.31	0.50	
	12/10/2010		25.41	111.81	1.06	
	11/23/2010		26.47	110.75	0.24	
	11/19/2010		26.71	110.51	0.13	
	11/12/2010		26.84	110.38	-1.16	
10/15/2010	25.68	111.54	-0.26			
10/5/2010*	25.42	111.80	1.16			
9/28/2010*	136.39	25.75	110.64			
DP2	7/16/2015	136.59	22.66	113.93	-1.05	
	6/26/2014		21.61	114.98	1.23	
	12/11/2013		22.84	113.75	0.19	
	11/15/2013		23.03	113.56	-2.97	
	5/14/2013		20.06	116.53	-2.05	
	12/12/2012		18.01	118.58	1.14	
	6/28/2012		19.15	117.44	2.01	
	12/5/2011		21.16	115.43	-0.79	
	9/2/2011		20.37	116.22	-1.89	
	6/1/2011		18.48	118.11		
	5/20/2011		Not Measured			
	4/15/2011		13.12	123.47	1.06	
	3/18/2011		14.18	122.41	2.73	
	2/18/2011		16.91	119.68	-0.17	
	1/21/2011		16.74	119.85	3.40	
	12/13/2010		20.14	116.45	-0.01	
	12/10/2010		20.13	116.46	0.81	
	11/23/2010		20.94	115.65	0.71	
	11/19/2010		21.65	114.94	-0.07	
	11/12/2010		21.58	115.01	-0.47	
10/15/2010	21.11	115.48	-0.15			
10/5/2010*	20.96	115.63	-0.57			
9/28/2010*	135.77	19.57	116.20			
DP3	7/15/2015	135.75	21.60	114.15	-1.24	
	6/26/2014		20.36	115.39	1.31	
	12/11/2013		21.67	114.08	0.30	
	11/15/2013		21.97	113.78	-3.13	
	5/14/2013		18.84	116.91	-2.78	
	12/12/2012		16.06	119.69	1.92	
	6/28/2012		17.98	117.77	2.22	
	12/5/2011		20.20	115.55	-0.91	
	9/2/2011		19.07	116.68	0.07	
	6/1/2011		17.09	118.66		
	5/20/2011		Not Measured			
	4/15/2011		12.35	123.40	0.95	
	3/18/2011		13.30	122.45	2.60	
	2/18/2011		15.90	119.85	-0.27	
	1/21/2011		15.63	120.12	2.61	
	12/13/2010		18.24	117.51	0.11	
	12/10/2010		18.35	117.40	0.91	
	11/23/2010		19.26	116.49	0.89	
	11/19/2010		20.15	115.60	-0.09	
	11/12/2010		20.06	115.69	-0.77	
10/15/2010	19.29	116.46	-0.15			
10/5/2010*	19.14	116.61	1.52			
9/28/2010*	134.51	19.42	115.09			
DP4	7/16/2015	137.60	25.17	112.43	-2.60	
	6/26/2014		22.57	115.03	4.14	
	12/11/2013		26.71	110.89	-0.06	
	11/15/2013		26.65	110.95	-5.95	
	5/14/2013		20.70	116.90	-1.13	
	12/12/2012		19.57	118.03	0.09	
	6/28/2012		19.66	117.94	3.52	
	12/5/2011		23.18	114.42	-2.00	
	9/2/2011		21.18	116.42	-1.87	
	6/1/2011		19.31	118.29		
	5/20/2011		Not Measured			
	4/15/2011		13.14	124.46	1.28	
	3/18/2011		14.42	123.18	3.13	
	2/18/2011		17.55	120.05	-0.46	
	1/21/2011		17.09	120.51	6.76	
	12/13/2010		23.85	113.75	0.76	
	12/10/2010		24.61	112.99	1.63	
	11/23/2010		26.24	111.36	0.21	
	11/19/2010		26.45	111.15	0.16	
	11/12/2010		26.61	110.99	-0.38	
10/15/2010	25.40	111.37	-0.37			
10/5/2010*	25.03	111.74	0.79			
9/28/2010*	136.77	25.82	110.95			
NOTES:						
Top of well casing amended on 11/12/2010 in preparation for vapor extraction pilot test.						
* = Prior to well development.						
** = Wells MW3 and MW4 surveyed on September 22-23, 2008; wells DP1 through DP4 surveyed on October 5, 2010						
# = Depth to water not corrected for free product thickness; free product with thickness of 0.02 feet encountered.						
## = Indicates free product thickness in feet. The water table elevation has been corrected for the presence of free product by assuming a specific gravity of 0.75						

TABLE 2
SUMMARY OF WATER QUALITY FIELD PARAMETERS - pH, DISSOLVED OXYGEN, AND OXIDATION-REDUCTION POTENTIAL

Sample ID	Sample Date	pH	D.O. (mg/L)	O.R.P. (mV)
MW1	7/15/2015	6.69	0.60	38.8
	6/26/2014	6.41	3.17	90.4
	12/11/2013	6.55	2.02	126
	11/15/2013	6.73	1.97	77.8
	5/14/2013	6.50	0.59	149.1
	12/12/2012	5.97	0.88	88.0
	6/29/2012	6.60	0.77	55.1
MW2	7/16/2015	6.74	0.58	-140.2
	6/26/2014	6.55	3.22	-121.8
	12/11/2013	Not Monitored or Sampled.		
	11/15/2013	6.87	0.89	-101.7
	5/14/2013	6.71	0.16	-95.6
	12/12/2012	6.03	0.32	-131.2
	6/29/2012	6.66	0.12	-91.2
MW3	7/15/2015	7.12	0.61	-7.5
	6/26/2014	7.25	2.57	26.3
	12/11/2013	Not Monitored or Sampled.		
	11/15/2013	7.46	1.17	51.8
	5/14/2013	7.40	4.22	41.2
	12/12/2012	7.34	1.39	42.8
	6/29/2012	7.27	0.58	9.0
MW4	7/15/2015	6.69	1.77	-11.8
	6/26/2014	6.52	3.69	116.1
	12/11/2013	Not Monitored or Sampled.		
	11/15/2013	6.73	3.35	83.7
	5/14/2013	6.63	0.91	70.7
	12/12/2012	6.06	1.04	98.1
	6/29/2012	6.59	2.12	70.6
DP1	7/16/2015	6.58	1.31	-49.1
	6/26/2014	6.59	3.72	73.0
	12/11/2013	6.69	1.42	-119.0
	11/15/2013	6.70	0.69	-90.9
	5/14/2013	6.90	0.98	77.9
	12/12/2012	6.29	1.15	-35.2
	6/29/2012	6.64	0.41	28.5
DP2	7/16/2015	6.77	0.42	-114.4
	6/26/2014	6.60	2.67	-127.3
	12/11/2013	6.66	1.45	-112.0
	11/15/2013	6.81	6.97	-60.4
	5/14/2013	6.73	0.24	-46.5
	12/12/2012	5.93	0.28	-125.0
	6/29/2012	6.73	0.81	-115.3
DP3	7/15/2015	6.68	0.57	-136.1
	6/26/2014	6.60	2.49	-70.0
	12/11/2013	6.64	1.43	-108.0
	11/15/2013	6.69	0.82	-75.7
	5/14/2013	6.72	0.25	-70.2
	12/12/2012	5.90	0.45	-122.6
	6/29/2012	6.70	0.15	-103.8
DP4	7/16/2015	6.73	6.17	121.2
	6/26/2014	6.60	13.00	136.1
	12/11/2013	6.74	1.13	25.0
	11/15/2013	6.77	0.86	18.2
	5/14/2013	6.80	6.15	44.7
	12/12/2012	6.00	5.11	75.5
	6/29/2012	6.72	3.42	-25.5
NOTES:				
D.O. = Dissolved Oxygen.				
O.R.P = Oxidation-Reduction Potential.				
mg/L = milligrams per Liter.				
mV = millivolts.				

TABLE 3
SUMMARY OF SVE SYSTEM AIR MONITORING DATA

System flow rate of 52.48 scfm from well DP1			
System 2	2/27/2013	Without Carbon Filter	With Carbon Filter
	Inlet to A1	1.51% LEL	4000 ppm
	Inlet to A2	1.24% LEL	1.02% LEL
	Inlet to A3	1.1% LEL	6 ppm
	Outlet to A3	5000 ppm	9 ppm
	Air flow reduced - ~12 scfm from well DP1		
System 2	2/27/2013	Without Carbon Filter	With Carbon Filter
	Inlet to A1	3880 ppm	300 ppm
	Inlet to A2	3800 ppm	300 ppm
	Inlet to A3	3300 ppm	0 ppm
	Outlet to A3	2900 ppm	0 ppm
	Air flow reduced - ~12 scfm from well DP1		
System 2	2/27/2013	Without Carbon Filter	With Carbon Filter
	Inlet to A1	2900 ppm	0 ppm
	Inlet to A2	2870 ppm	0 ppm
	Inlet to A3	1845 ppm	0 ppm
	Outlet to A3	1450 ppm	0 ppm
	Air flow reduced - ~12 scfm from well DP1		
System 1	2/27/2013	Without Carbon Filter	With Carbon Filter
	Inlet to A1	3600 ppm	0 ppm
	Inlet to A2	2.70% LEL	0 ppm
	Inlet to A3	4.93% LEL	0 ppm
	Outlet to A3	4.41% LEL	0 ppm
	Air flow reduced - ~12 scfm from well DP1		
System 1	2/27/2013	Without Carbon Filter	With Carbon Filter
	Inlet to A1	2550 ppm	0 ppm
	Inlet to A2	4300 ppm	0 ppm
	Inlet to A3	2.80% LEL	0 ppm
	Outlet to A3	2.43% LEL	0 ppm
	Air flow reduced - ~12 scfm from well DP1		
System 1	2/27/2013	Without Carbon Filter	With Carbon Filter
	Inlet to A1	3250 ppm	0 ppm
	Inlet to A2	2800 ppm	0 ppm
	Inlet to A3	1.05% LEL	0 ppm
	Outlet to A3	1.03% LEL	0 ppm
NOTES:			
scfm = Standard Cubic Feet per Minute.			
LEL = Lower Explosive Limit.			
ppm = Parts Per Million.			

TABLE 4A
SUMMARY OF GROUNDWATER SAMPLE RESULTS - PETROLEUM HYDROCARBONS AND VOCs

Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B	
MW1	7/15/2015	ND<50	ND<50	ND<50	NA	130	ND, except: Chloroform = 0.95	
	6/26/2014	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Chloroform = 0.98	
	12/1/2013	NA	NA	NA	NA	NA	NA	
	11/15/2013	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Chloroform = 1.2	
	5/14/2013	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Chloroform = 0.95	
	12/12/2012	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Chloroform = 0.97	
	6/29/2012	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Tetrachloroethene = 1.2, cis-1,2-Dichloroethene = 3.0, Chloroform = 1.2	
	12/6/2011	Well Inaccessible; car parked on top of well.						
	10/15/2010	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Chloroform=0.85	
	5/21/2010	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Chloroform=0.80	
	12/1/2009	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Chloroform=0.71	
	9/18/2008	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Chloroform=0.74	
	10/27/2004	ND<50	ND<50	ND<50	ND<250	NA	ND, except: Chloroform=0.78	
	2/20/2003	ND<50	ND<50	ND<50	ND<250	NA	ND, except: Chloroform=1.2, Xylenes = 0.61	
	5/15/1995	ND<50	NA	NA	NA	NA	** ND	
12/22/1994	ND<50	NA	NA	NA	NA	** ND		
9/14/1994	ND, a	NA	NA	NA	NA	** ND		
7/29/1994	ND<50	NA	NA	NA	NA	** ND		
5/31/1994	ND<50	NA	NA	NA	NA	** ND		
1/24/1994	ND<50	NA	ND	NA	NA	** ND		
MW2	7/16/2015	1,200, a,g	1,400, a,g	730, h,j	NA	840, h,j	ND, except: Toluene = 3.7, Ethylbenzene = 3.1, Xylenes = 12, cis-1,2-Dichloroethene = 120, trans-1,2-Dichloroethene = 7.1, Vinyl Chloride = 21, n-Propylbenzene = 3.6, 1,3,5-Trimethylbenzene = 11	
	6/26/2014	760, g	1,300, g	4,600, i,j	NA	4,400, i,j	ND, except: Xylenes = 18, cis-1,2-Dichloroethene = 170, trans-1,2-Dichloroethene = 5.7, Vinyl Chloride = 16, 1,2,4-Trimethylbenzene = 30, 1,3,5-Trimethylbenzene = 6.8	
	12/11/2013	Not Monitored or Sampled.						
	11/15/2013	1,800, g	1,700, g	2,800, h,m	NA	2,600, h,m	ND, except: Xylenes = 48, cis-1,2-Dichloroethene = 940, trans-1,2-Dichloroethene = 26, Vinyl Chloride = 120, 1,2,4-Trimethylbenzene = 95, 1,3,5-Trimethylbenzene = 31	
	5/14/2013	760, g,k	800, g,k	2,700, h,i,m	NA	2,800, h,j,m	ND, except: Xylenes = 25, cis-1,2-Dichloroethene = 520, trans-1,2-Dichloroethene = 14, Vinyl Chloride = 60, 1,2,4-Trimethylbenzene = 47, 1,3,5-Trimethylbenzene = 14	
	12/12/2012	1,100, a,n	1,200, a,n	2,300, l,m	NA	2,500, l,m	ND, except: cis-1,2-Dichloroethene = 790, 1,2,4-Trimethylbenzene = 59, Vinyl Chloride = 110	
	6/29/2012	600, a,g	970, a,g	1,400, i,j,l	NA	1,600, i,j,l	ND, except: Toluene = 7.6, Xylenes = 12, cis-1,2-Dichloroethene = 190, trans-1,2-Dichloroethene = 18, Vinyl Chloride = 82, Carbon disulfide = 5.1, 1,2,4-Trimethylbenzene = 38, 1,3,5-Trimethylbenzene = 9.1	
	12/5/2011	1,200, a,g	1,800, a,g	2,400, h,i	NA	2,700, h,i	ND, except: Toluene = 15, Ethylbenzene = 18, Xylenes = 57, cis-1,2-Dichloroethene = 310, trans-1,2-Dichloroethene = 12, Naphthalene = 9.8, Vinyl Chloride = 50, n-Butyl benzene = 5.3, Isopropylbenzene = 12, sec-Butyl benzene = 8.4, n-Propyl benzene = 17, 1,2,4-Trimethylbenzene = 120, 1,3,5-Trimethylbenzene = 35	
	10/15/2010	3,600, a,b,g	3,900, a,b,g	25,000, b,h,i,j	NA	22,000, b,h,i,j	ND, except: cis-1,2-dichloroethene= 1,500, Vinyl Chloride = 160, 1,2,4-Trimethylbenzene = 100	
	5/21/2010	2,400, g	2,500, g	3,900, h,i,j	NA	4,700, h,i,j	ND, except: cis-1,2-dichloroethene= 1,700, Vinyl Chloride = 180, 1,2,4-Trimethylbenzene = 89	

TABLE 4A
SUMMARY OF GROUNDWATER SAMPLE RESULTS - PETROLEUM HYDROCARBONS AND VOCs

Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B	
MW2								
Continued	12/1/2009	34,000, b,c	47,000, b,c	74,000, b,d,e,f	NA	91,000, b,d,e,f	ND, except: cis-1,2-dichloroethene= 1,800, Vinyl Chloride =73, 1,2,4-Trimethylbenzene = 140	
	9/18/2008	11,000, c,b	14,000	28,000, b,d,e	NA	33,000	ND, except: cis-1,2-dichloroethene= 880, Vinyl Chloride =44, Xylenes = 46, 1,2,4-Trimethylbenzene = 140, 1,3,5-Trimethylbenzene = 41	
	10/27/2004	320,000, c	500,000	280,000 , b,d, f	ND<50,000	NA	**ND, except: cis-1,2-dichloroethene = 3,300	
	2/20/2003	76,000, b,c	75,000	370,000, b,d,f	37,000	NA	ND, except: Toluene = 47, Ethylbenzene =43, Xylenes =160, cis-1,2-Dichloroethene = 360, trans-1,2-Dichloroethene = 22, n-Butyl benzene = 43, Isopropylbenzene = 35, sec-Butyl benzene = 48, n-Propyl benzene = 86, 4-Isopropyl toluene = 25, 1,3,5-Trimethylbenzene = 160, Naphthalene = 32, Vinyl Chloride =24	
	5/15/1995	12,000, c	NA	NA	NA	NA	**Benzene =17, **Toluene =96, **Ethylbenzene =50, **Xylenes =200	
	12/22/1994	20,000, a,c	NA	NA	NA	NA	**Benzene =22, **Toluene =170, **Ethylbenzene =89, **Xylenes =470	
	12/22/1994	--	--	--	--	--	ND, except: +Benzene = 21, +Toluene = 170, +Ethylbenzene =48, +Xylenes = 180, +cis-1,2-Dichloroethene = 1,100, +trans-1,2-Dichloroethene = 15, +1,1-Dichloroethane = 2.8, +Chloroethane = 6.7	
	9/14/1994	200,000, b,c	NA	NA	NA	NA	**Benzene = ND < 15 **Toluene =170, **Ethylbenzene =400, **Xylenes = 2,600	
	9/14/1994	--	--	--	--	--	ND, except: +Benzene = 24, +Toluene = 440, +Ethylbenzene =300, +Xylenes = 830, +cis-1,2-dichloroethene = 720, +Chloroform = 25, +Acetone = 120	
	7/29/1994	21,000, b, c	NA	NA	NA	NA	**Benzene =21, **Toluene =150, **Ethylbenzene =53, **Xylenes = 150	
	5/31/1994	6,400, c	NA	NA	NA	NA	**Benzene =15, **Toluene =100, **Ethylbenzene =43, **Xylenes = 220	
	1/28/1994	2,800, c	NA	12,000, d	NA	NA	ND, except: **Xylenes =43	
	1/19/1994++	3,400, c	NA	20,000	NA	NA	**Benzene =15, **Toluene =180, **Ethylbenzene =39, **Xylenes = 200	
MW3	7/15/2015	ND<50	ND<50	ND<50	NA	ND<100	ND	
	6/26/2014	ND<50	ND<50	ND<50	NA	110, i	ND	
	12/11/2013	Not Monitored or Sampled.						
	11/15/2013	ND<50	ND<50	ND<50	NA	ND<100	ND	
	5/14/2013	ND<50	ND<50	ND<50	NA	ND<100	ND	
	12/12/2012	ND<50	ND<50	ND<50	NA	ND<100	ND	
	6/29/2012	ND<50	ND<50	ND<50	NA	ND<100	ND	
	12/5/2011	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Carbon disulfide = 1.9	
	10/15/2010	ND<50	ND<50	ND<50	NA	ND<100	ND	
	5/21/2010	ND<50	ND<50	ND<50	NA	ND<100	ND	
	12/1/2009	ND<50	ND<50	63, e	NA	120, e	ND	
	9/18/2008	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Bromoform = 0.57, Chloroform = 1.3	

TABLE 4A
SUMMARY OF GROUNDWATER SAMPLE RESULTS - PETROLEUM HYDROCARBONS AND VOCs

Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B	
MW4	7/15/2015	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 23, Chloroform = 2.2	
	6/26/2014	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 20, Chloroform = 1.8	
	12/11/2013	Not Monitored or Sampled.						
	11/15/2013	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 22, Chloroform = 2.0	
	5/14/2013	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 15, Chloroform = 1.6	
	12/12/2012	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 15, Chloroform = 1.5	
	6/29/2012	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 12, Chloroform = 1.2	
	12/5/2011	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 12, Chloroform = 1.2	
	10/15/2010	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 8.4, trans-1,2-dichloroethene = 0.84, Chloroform = 1.3	
	5/21/2010	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 8.7, Chloroform = 1.3	
	12/1/2009	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 5.8, Chloroform = 0.97	
	9/18/2008	ND<50	ND<50	ND<50	NA	ND<100	ND, except: cis-1,2-dichloroethene = 4.8, Chloroform = 0.96	
DP1	7/16/2015	970, a,g	350, a,g	190, h,i,l	NA	280, h,i,l	ND, except: Tetrachloroethene = 650, Trichloroethene = 7,800, cis-1,2-Dichloroethene = 6,800, Vinyl Chloride = 340	
	6/26/2014	2,200, a	390, a	330, i,j	NA	580, i,j	ND, except: Tetrachloroethene = 5,400, Trichloroethene = 1,900, cis-1,2-Dichloroethene = 1,100, NA	
	12/11/2013	NA	NA	NA	NA	NA	NA	
	11/15/2013	2,300, a,g	1,100, a,g	6,600, h,i,j	NA	7,900, h,i,j	ND, except: cis-1,2-Dichloroethene = 14,000, Vinyl Chloride = 4,400	
	5/14/2013	410, g,k	290, g,k	530, h,i,j	NA	780, h,i,j	ND, except: Tetrachloroethene = 380, Trichloroethene = 180, cis-1,2-Dichloroethene = 150	
	12/12/2012	4,500, a,g	2,300, a,g	7,200, h,i,j	NA	9,400, h,i,j	ND, except: Tetrachloroethene = 4,100, Trichloroethene = 3,800, cis-1,2-Dichloroethene = 5,200, Vinyl Chloride = 290	
	6/29/2012	1,100, a	73, a	84, i	NA	190, i	ND, except: Tetrachloroethene = 2,400, Trichloroethene = 650, cis-1,2-Dichloroethene = 110	
	12/6/2011	2,000, a,g	940, a,g	47,000, h,i,j	NA	59,000, h,i,j	ND, except: Tetrachloroethene = 2,800, Trichloroethene = 850, cis-1,2-Dichloroethene = 260	
	10/15/2010	10,000, b,g,k	5,100, b,g	9,000, b,h,j	NA	9,800, b,h,j	ND, except: cis-1,2-dichloroethene = 17,000, Vinyl Chloride = 2,600	
DP2	7/16/2015	670, a,g	580, a,g	390, h,i,l	NA	480, h,i,l	ND, except: cis-1,2-dichloroethene = 800, trans-1,2-dichloroethene = 55, Vinyl Chloride = 600	
	6/26/2014	550, b,g	390, b,g	2,700, i,j	NA	2,700, i,j	ND, except: cis-1,2-dichloroethene = 7,400, trans-1,2-dichloroethene = 160, Vinyl Chloride = 1,900, Methylene chloride = 110, Acetone = 2,400	
	12/11/2013	NA	NA	NA	NA	NA	NA	
	11/15/2013	700, a,g	460, a,g	2,600, m	NA	2,400, m	ND, except: cis-1,2-dichloroethene = 5,900, Vinyl Chloride = 580	
	5/14/2013	420, g,k	460, g,k	950, h,m	NA	1,000, h,m	ND, except: cis-1,2-dichloroethene = 11,000, Vinyl Chloride = 2,300	
	12/12/2012	670, a,n	640, a,n	1,500, m	NA	1,700, m	ND, except: cis-1,2-dichloroethene = 17,000, Vinyl Chloride = 1,200	
	6/29/2012	1,500, a,g	990, a,g	1,000, h,m	NA	1,200, h,m	ND, except: cis-1,2-dichloroethene = 14,000	
	12/6/2011	1,300, a,g	480, a,g	670, i,l	NA	1,000, i,l	ND, except: cis-1,2-dichloroethene = 14,000	
	10/15/2010	4,800, a,g	2,900, a,g	3,900, h,i	NA	2,900, h,i	ND, except: cis-1,2-dichloroethene = 22,000	

TABLE 4A
SUMMARY OF GROUNDWATER SAMPLE RESULTS - PETROLEUM HYDROCARBONS AND VOCs

Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B
DP3	7/15/2015	1,200, a,g	1,400, a,g	1,000, h,i,j,l	NA	1,700, h,i,j,l	ND, except: Ethylbenzene = 2.1, Xylenes = 12, cis-1,2-Dichloroethene = 9.8, trans-1,2-Dichloroethene = 1.4, Vinyl Chloride = 8.5, Naphthalene = 2.3, n-Butyl benzene = 3.1, 1,2,4-Trimethylbenzene = 34, 1,3,5-Trimethylbenzene = 15, sec-Butyl benzene = 3.4, Isopropylbenzene = 3.5, n-Propyl benzene = 6.2, 4-Isopropyl toluene = 1.2
	6/26/2014	1,800, b,g	2,000, b,g	6,500, i,j	NA	7,000, i,j	ND, except: Ethylbenzene = 3.7, Xylenes = 21, cis-1,2-Dichloroethene = 18, Vinyl Chloride = 13, Naphthalene = 3.8, Methylene chloride = 2.6, Isopropylbenzene = 5.7, n-Propyl benzene = 8.1, 1,2,4-Trimethylbenzene = 54, 1,3,5-Trimethylbenzene = 22,
	12/11/2013	NA	NA	NA	NA	NA	NA
	11/15/2013	1,400, b,g	1,300, b,g	9,400, b, h,j,m	NA	9,000, b,h,j,m	ND, except: Benzene = 2.1, Toluene = 1.3, Ethylbenzene = 1.6, Xylenes = 9.0, cis-1,2-Dichloroethene = 18, trans-1,2-Dichloroethene = 1.4, Vinyl Chloride = 16, Naphthalene = 2.3, n-Butyl benzene = 3.7, 1,2,4-Trimethylbenzene = 34, 1,3,5-Trimethylbenzene = 13, sec-Butyl benzene = 4.8, Isopropylbenzene = 3.5, n-Propyl benzene = 5.3, 4-Isopropyl toluene = 1.6,
	5/14/2013	590, g,k	630, g,k	2,700, h,m	NA	2,800, h,m	ND, except: Benzene = 0.85, Toluene = 0.74, Xylenes = 2.5, Trichloroethene = 0.74, cis-1,2-Dichloroethene = 22, trans-1,2-Dichloroethene = 2.4, Vinyl Chloride = 25, Naphthalene = 2.6, n-Butyl benzene = 1.5, 1,2,4-Trimethylbenzene = 28, 1,3,5-Trimethylbenzene = 8.0, sec-Butyl benzene = 1.7, Isopropylbenzene = 1.5, n-Propyl benzene = 1.7, 4-Isopropyl toluene = 1.0,
	12/12/2012	830, n	900, n	5,200, m	NA	5,500, m	ND, except: Benzene = 2.1, Toluene = 1.8, Ethylbenzene = 1.2, Xylenes = 5.2, cis-1,2-Dichloroethene = 36, trans-1,2-Dichloroethene = 3.1, Vinyl Chloride = 47, Naphthalene = 1.7, n-Butyl benzene = 1.5, 1,2,4-Trimethylbenzene = 208, 1,3,5-Trimethylbenzene = 4.6, sec-Butyl benzene = 2.3, Isopropylbenzene = 2.4, n-Propyl benzene = 3.6, 4-Isopropyl toluene = 1.2,

TABLE 4A
SUMMARY OF GROUNDWATER SAMPLE RESULTS - PETROLEUM HYDROCARBONS AND VOCs

Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B
DP3							
Continued	6/29/2012	770, g	1,300, g	1,400, i,j,l	NA	1,600, i,j,l	ND, except: Benzene = 0.77, Toluene = 1.6, Ethylbenzene = 1.7, Xylenes = 7.5, Trichloroethene = 0.70, cis-1,2-Dichloroethene = 27, trans-1,2-Dichloroethene = 3.3, Vinyl Chloride = 25, Naphthalene = 5.6, n-Butyl benzene = 2.4, 1,2,4-Trimethylbenzene = 38, 1,3,5-Trimethylbenzene = 9.4, sec-Butyl benzene = 3.2, Isopropylbenzene = 4.2, n-Propyl benzene = 6.0, 4-Isopropyl toluene = 1.4, Carbon disulfide = 0.73
	12/6/2011	480, g	630, g	3,600, m	NA	4,500, m	ND, except: Benzene = 0.97, Toluene = 1.1, Ethylbenzene = 1.7, Xylenes = 3.1, cis-1,2-Dichloroethene = 22, trans-1,2-Dichloroethene = 2.3, Vinyl Chloride = 17, Naphthalene = 2.2, n-Butyl benzene = 1.7, 1,2,4-Trimethylbenzene = 24, 1,3,5-Trimethylbenzene = 3.5, sec-Butyl benzene = 2.5, Isopropylbenzene = 2.8, n-Propyl benzene = 4.2, 4-Isopropyl toluene = 0.99
	10/15/2010	5,700, g	8,000, g	10,000, h,i,j	NA	9,800, h,i,j	ND, except: Toluene = 2.7, Ethylbenzene = 4.0, Xylenes = 23, cis-1,2-Dichloroethene = 44, trans-1,2-Dichloroethene = 4.5, Vinyl Chloride = 28, Naphthalene = 7.5, n-Butyl benzene = 4.4, 1,2,4-Trimethylbenzene = 69, 1,3,5-Trimethylbenzene = 24, sec-Butyl benzene = 6.0, Isopropylbenzene = 7.2, n-Propyl benzene = 10,
DP4	7/16/2015	ND<50	ND<50	ND<50	NA	110	ND, except: Tetrachloroethene = 1.8, Trichloroethene = 2.1, cis-1,2-Dichloroethene = 0.97,
	6/26/2014	ND<50	ND<50	65, i	NA	160, i	ND, except: Tetrachloroethene = 1.4, Trichloroethene = 1.0, cis-1,2-Dichloroethene = 0.96, Chloroform = 1.2, Methylene chloride = 0.60,
	12/11/2013	NA	NA	NA	NA	NA	NA
	11/15/2013	130, a,g	70, a,g	92, l,m	NA	130, l,m	ND, except: Tetrachloroethene = 48, Trichloroethene = 58, cis-1,2-Dichloroethene = 210, trans-1,2-Dichloroethene = 16, Vinyl Chloride = 31,
	5/14/2013	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Tetrachloroethene = 0.73, Chloroform = 1.5
	12/12/2012	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Tetrachloroethene = 20, Trichloroethene = 10, cis-1,2-Dichloroethene = 3.6, Chloroform = 0.60
	6/29/2012	53, g	68, g	ND<50	NA	ND<100	ND, except: Tetrachloroethene = 2.1, Trichloroethene = 1.3, cis-1,2-Dichloroethene = 0.66, Chloroform = 0.62
	12/5/2011	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Chloroform = 0.96
	10/15/2010	1,800, g,k	1,500, g,k	1,200, h,j	NA	920, h,j	ND, except: Tetrachloroethene = 22, Trichloroethene = 40, cis-1,2-Dichloroethene = 80, trans-1,2-Dichloroethene = 33, Vinyl Chloride = 2.9, tert-Butyl benzene = 3.8, 4-Isopropyl toluene = 4.5

TABLE 4A
SUMMARY OF GROUNDWATER SAMPLE RESULTS - PETROLEUM HYDROCARBONS AND VOCs

Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B
ESL		100	100	100	100	100	Benzene = 1.0, Toluene = 4.0, Ethylbenzene = 3.0, Xylenes = 2.0, Tetrachloroethene = 5.0, Trichloroethene = 5.0, cis-1,2-Dichloroethene = 6.0, trans-1,2-Dichloroethene = 1.0, 1,1-Dichloroethane = 5.0, Chloroethane = 16, Vinyl Chloride = 0.5, Naphthalene = 6.1, Chloroform = 8.0, Bromoform = 8.0, Methylene chloride = 5.0, Acetone = 1,500, n-Butyl benzene = None, 1,2,4-Trimethylbenzene = None, 1,3,5-Trimethylbenzene = None, sec-Butyl benzene = None, Isopropylbenzene = None, tert-Butyl benzene = None, n-Propyl benzene = None, Carbon disulfide = None.
NOTES: TPH-G = Total Petroleum Hydrocarbons as Gasoline TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent TPH-D = Total Petroleum Hydrocarbons as Diesel TPH-MO = Total Petroleum Hydrocarbons as Motor Oil TPH-BO = Total Petroleum Hydrocarbons as Bunker Oil VOCs = Volatile Organic Compounds ND = Not Detected. NA = Not Analyzed. -- = See TPH-G results in the line above. a = Laboratory Note: one to a few isolated peaks present. b = Laboratory Note: lighter than water immiscible sheen/product present. c = Laboratory Note: results reported as gasoline consist of Stoddard Solvent/mineral spirit. d = Laboratory Note: results reported as diesel consist of Stoddard Solvent/mineral spirit. e = results reported as diesel consist of diesel range compounds; no recognizable pattern. f = results reported as diesel consist of oil range compounds. g = Laboratory Note: results reported as gasoline and Stoddard solvent consist of Stoddard Solvent/mineral spirit. h = Laboratory Note: results reported as diesel and bunker oil consist of Stoddard Solvent/mineral spirit. i = Laboratory Note: results reported as diesel and bunker oil consist of diesel range compounds; no recognizable pattern. j = Laboratory Note: results reported as diesel and bunker oil consist of oil range compounds. k = Laboratory Note: no recognizable pattern. l = Laboratory Note: results reported as diesel and bunker oil consist of gasoline range compounds. m = Laboratory Note: results reported as diesel and bunker oil consist of kerosene or jet fuel range compounds. n = Laboratory Note: results reported as gasoline and Stoddard solvent consist of strongly aged gasoline or diesel range compounds. * = MW2 VOC detection limits are all increased because of a sample dilution factor of 500. ** = Analysis by EPA Method 8020. + = Samples subcontracted to different lab for VOC analysis by EPA Method 8260. ++ = Well Development Water stored at site in drum; submitted to lab on January 28, 1994. ESL = Environmental Screening Level, developed 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. Values in bold indicate concentrations that exceed their respective ESL values. Results are in micrograms per liter (µg/L), unless otherwise noted.							

TABLE 4B
SUMMARY OF GROUNDWATER SAMPLE RESULTS - DISSOLVED GASES

Well Number	Sample Date	Methane	Ethane	Ethene	Hydrogen *	Carbon Dioxide
MW1	7/15/2015	0.13	ND<0.20	ND<0.30	--	22,000
	6/26/2014	--	--	--	--	--
	12/11/2013	50	ND<20	ND<20	48	--
	12/12/2012	ND<0.1	ND<0.2	ND<0.2	--	--
MW2	7/16/2015	680	ND<0.20	0.33	--	35,000
	6/26/2014	--	--	--	--	--
	12/11/2013	--	--	--	--	--
	12/12/2012	5,200	2.3	3.7	--	--
MW3	7/15/2015	0.30	ND<0.20	ND<0.30	--	6,200
	6/26/2014	--	--	--	--	--
	12/11/2013	--	--	--	--	--
	12/12/2012	2.2	ND<0.2	ND<0.2	--	--
MW4	7/15/2015	0.14	ND<0.20	ND<0.30	--	14,000
	6/26/2014	--	--	--	--	--
	12/11/2013	--	--	--	--	--
	12/12/2012	0.27	ND<0.2	ND<0.2	--	--
DP1	7/16/2015	530	2.6	14	--	13,000
	6/26/2014	--	--	--	--	--
	12/12/2013	9,300	30	770	420	--
	12/12/2012	150	ND<0.40	5.4	--	--
DP2	7/16/2015	960	ND<0.20	48	--	25,000
	6/26/2014	--	--	--	--	--
	12/12/2013	14,000	ND<20	40	460	--
	12/12/2012	2,600	1.0	19	--	--
DP3	7/15/2015	930	ND<0.20	ND<0.30	--	37,000
	6/26/2014	--	--	--	--	--
	12/11/2013	14,000	ND<20	ND<20	920	--
	12/12/2012	7,400	1.4	2.7	--	--
DP4	7/16/2015	0.84	ND<0.20	ND<0.30	--	12,000
	6/26/2014	--	--	--	--	--
	12/11/2013	4,900	ND<20	ND<20	69	--
	12/12/2012	3.1	ND<0.2	ND<0.2	--	--
NOTES:						
-- = Not Analyzed						
ND = Not Detected						
Ethane, Ethene, Methane, and Carbon Dioxide results are in micrograms per liter (µg/L).						
* = Dissolved Hydrogen results are presented in nanomoles (nMol/L).						

TABLE 4C
 SUMMARY OF GROUNDWATER SAMPLE RESULTS - MICROBIOLOGICAL

Well Number	Sample Date	<i>Dehalococcoides (Dhc)</i>	Vinyl Chloride Reductase (<i>vcrA</i>) Gene
MW1	12/11/2013	ND<1.00E+03	NA
DP1	12/12/2013	4.00E+05	3.00E+05
DP2	12/12/2013	4.00E+04	1.00E+04
DP3	12/11/2013	1.00E+03	ND<1.00E+03
DP4	12/11/2013	1.00E+04	6.00E+03
NOTES:			
ND = Not Detected			
NA = Not Analyzed			
<i>Dehalococcoides</i> results presented in Enumeration/Liter.			
Vinyl Chloride Reductase results presented in Gene Copies/Liter.			

TABLE 5
SUMMARY OF SOIL VAPOR EXTRACTION SYSTEM AIR SAMPLE RESULTS

Sample ID	Sample Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	TBA	TPH-SS	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylenes	Methane	n-Ethane	Ethene	n-Butane
DP1 **	12/13/2010	3,900,000	4,100,000	260,000	27,000	47,000	NA	3,000,000	ND<6,500	ND<7,700	ND<8,900	ND<8,900	ND<8,900	--	--	--	--
Inlet to A1	2/20/2014	180,000	130,000	36,000	ND	ND	ND	4,300,000	--	--	--	--	--	29,521,472	19,678	55,068	17,353
Inlet to A2	2/20/2014	430	ND<250	ND<250	ND<250	ND<250	ND	ND<25000	--	--	--	--	--	22,961,145	ND<2,460	ND<2,295	ND<4,754
Inlet to A1	2/28/2014	440,000	180,000	67,000	ND	10,000	ND	1,100,000	--	--	--	--	--	2,164,908	3,075	ND<2,295	7,844
Inlet to A2	2/28/2014	18,000	4,300	930	ND	ND	ND	69,000	--	--	--	--	--	1,049,652	19,678	3,556	6,894
Inlet to A3	2/28/2014	6,000	900	ND	ND	ND	7,000	36,000	--	--	--	--	--	1,115,256	ND<2,295	ND<2,295	6,656
NOTES:																	
PCE = Tetrachloroethene																	
TCE = Trichloroethene																	
cis-1,2-DCE = cis-1,2-Dichloroethene																	
trans-1,2-DCE = trans-1,2-Dichloroethene																	
TBA = t-Butyl alcohol																	
TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.																	
ND = Not Detected.																	
** = Obtained at end of Soil Vapor Extraction feasibility test.																	
-- = Not Analyzed.																	
Results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), unless otherwise indicated.																	

FIGURES

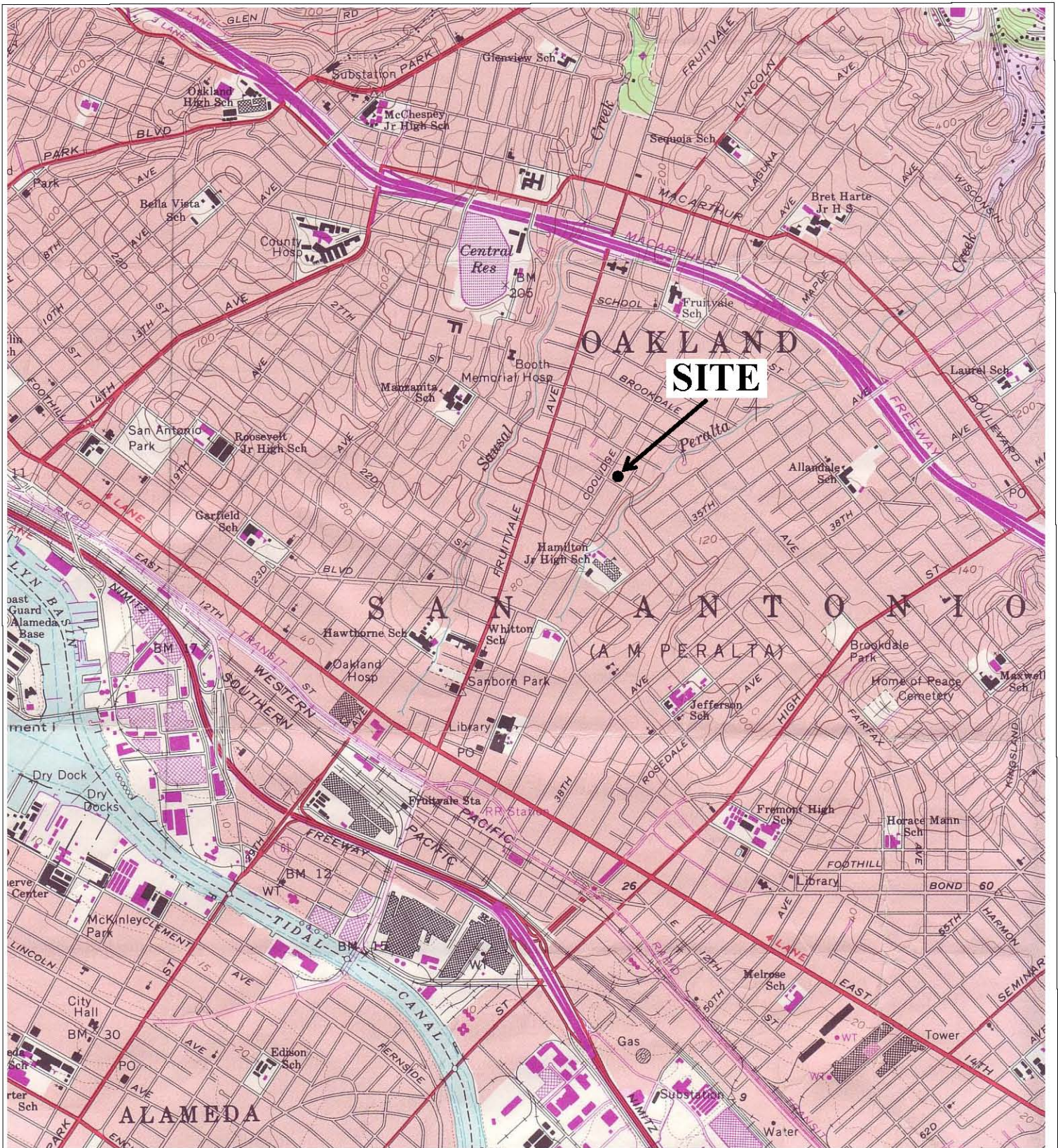
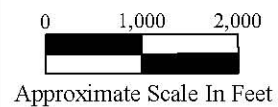


Figure 1
 Site Location Map
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

Base Map From:
 U.S. Geological Survey
 Oakland East, California
 7.5-Minute Quadrangle
 Photorevised 1980

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



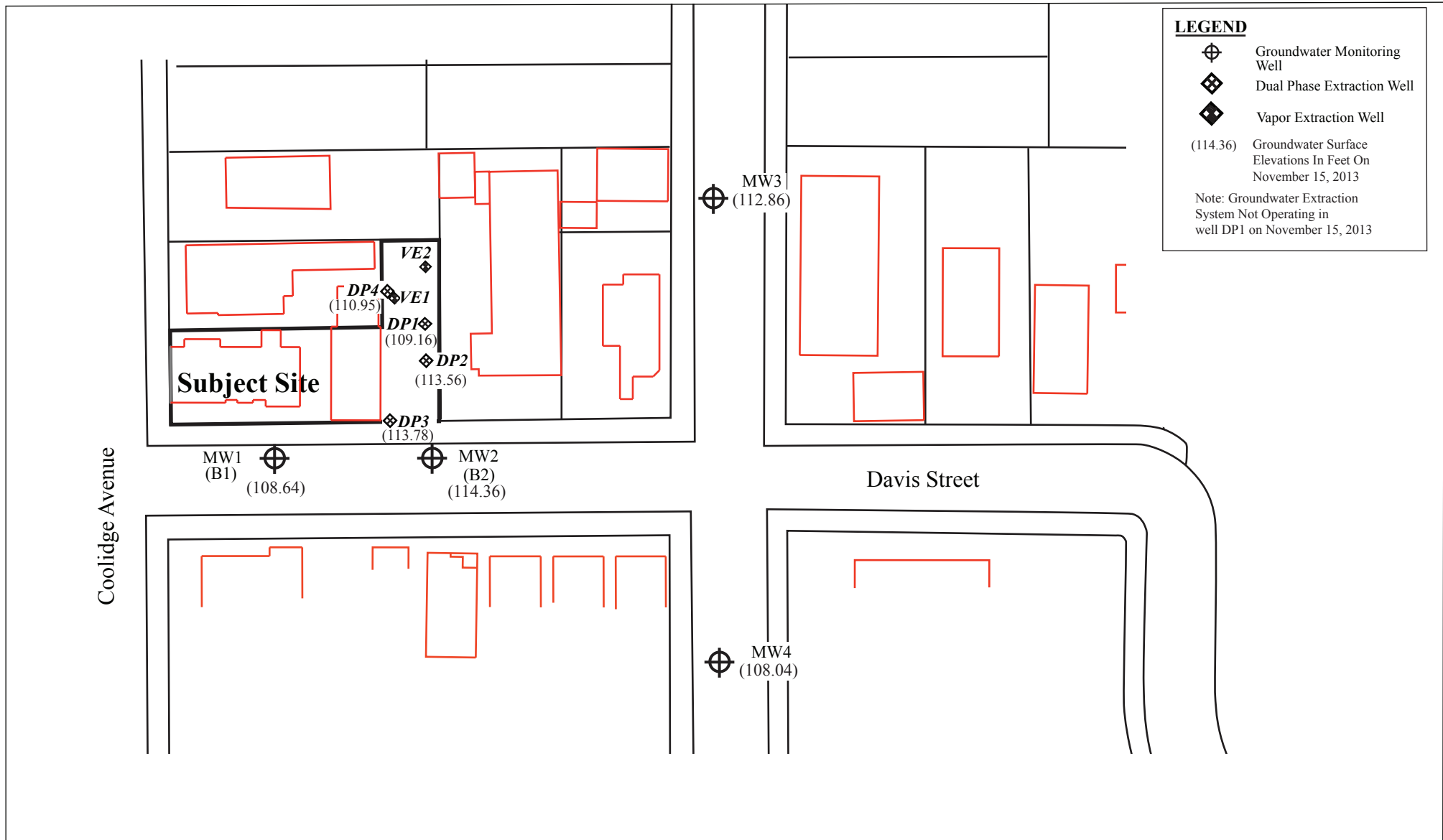
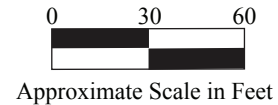


Figure 2
 Site Vicinity Map Detail Showing Well Locations
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

Base Map from:
 Kier & Wright Engineers Surveyors, Inc.
 September 2008 Survey
 and
 Parcel Quest Assessor's Parcel Maps
 Alameda County Map Disc, July 2001

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



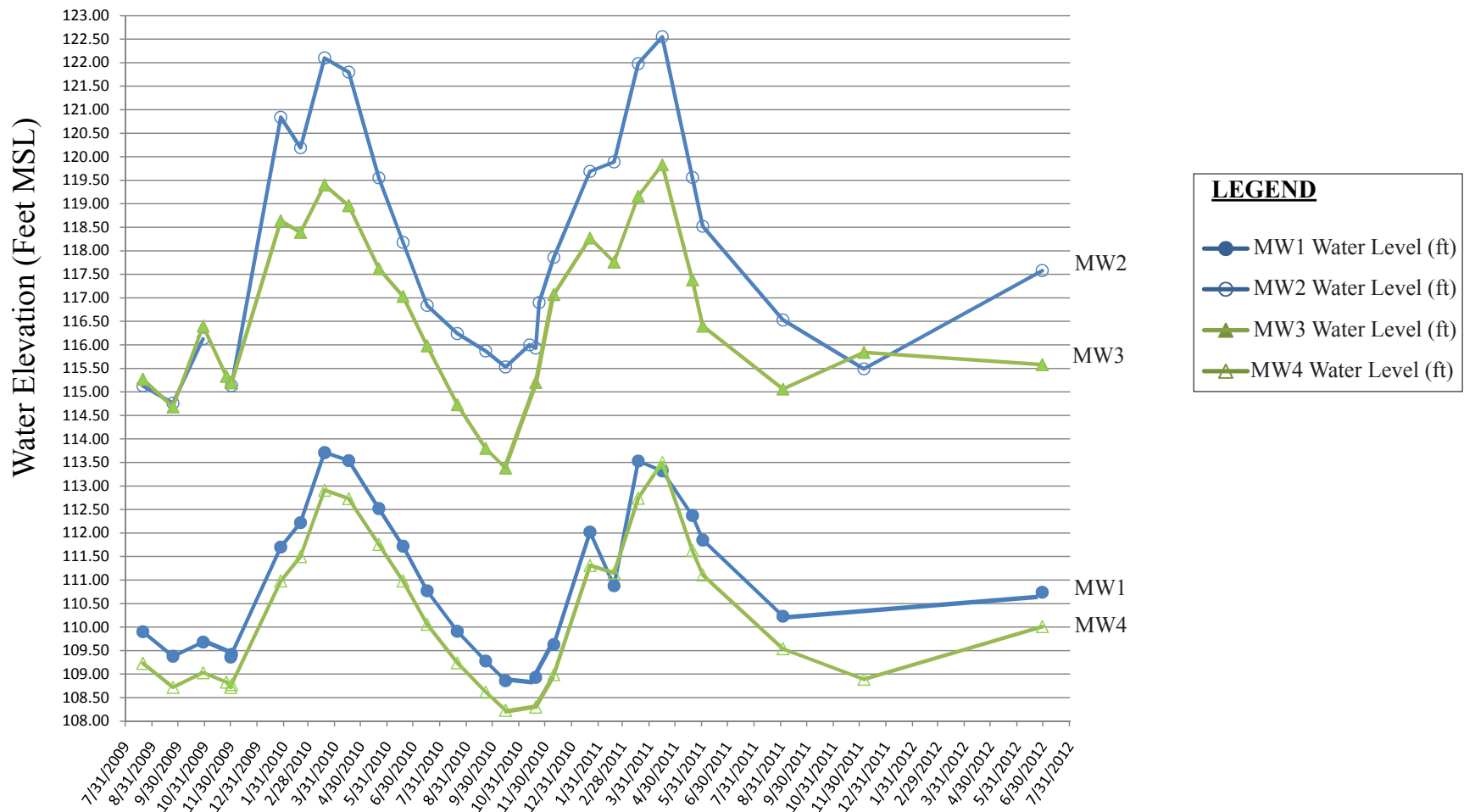


Figure 3
 Graph of Water Levels in Site Groundwater Monitoring Network Wells
 for August 2009 Through June 2012
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

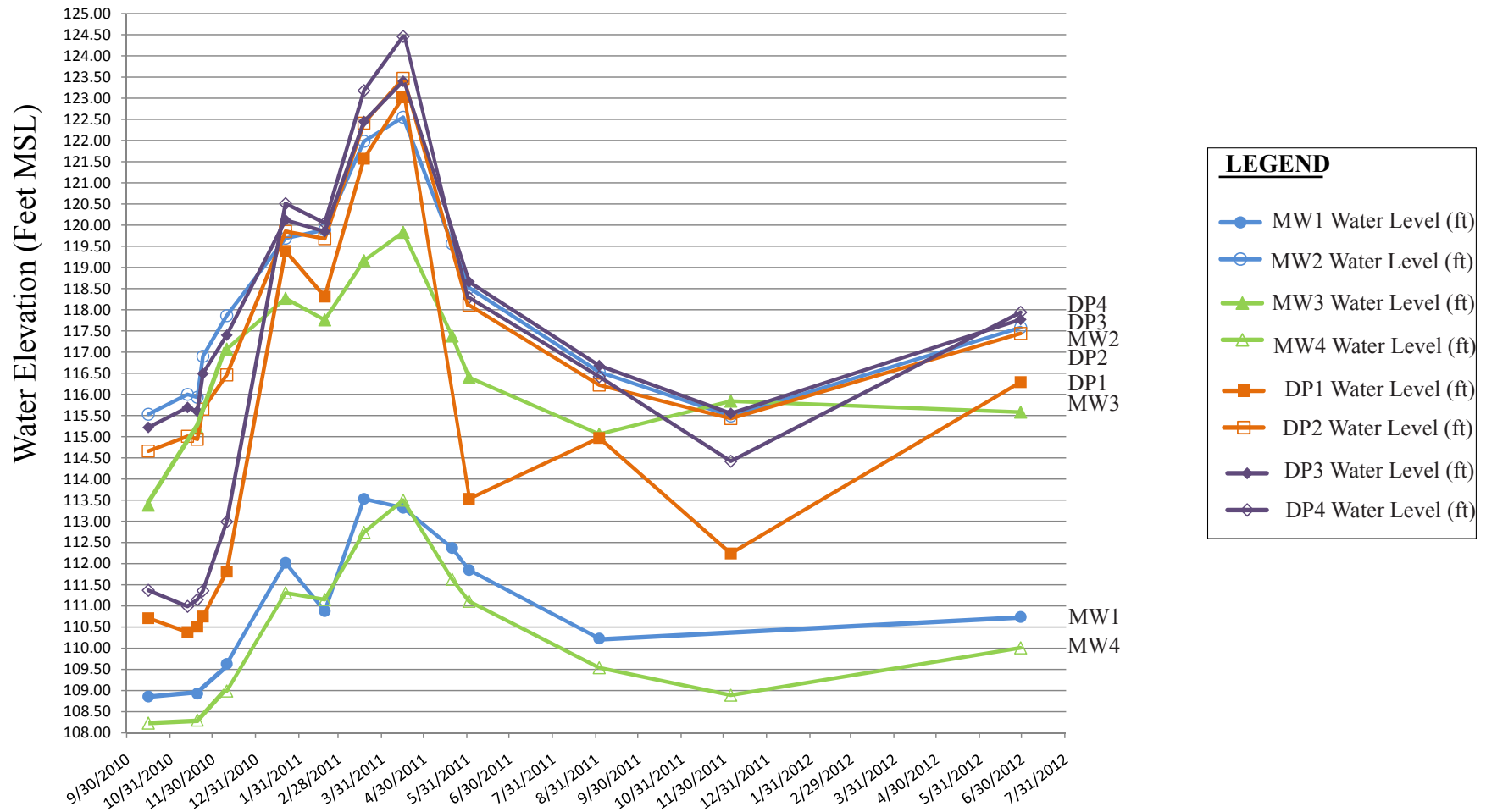


Figure 4
 Graph of Water Levels in Site Groundwater Monitoring Network Wells
 for October 2010 Through June 2012
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

APPENDIX A

GROUNDWATER MONITORING/WELL PURGING DATA SHEETS

- **November 15, 2013**
- **December 11 and 12, 2013**
- **June 26, 2014**
- **July 15 and 16, 2015**

November 15, 2013

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland

Well No. MW-1

Job Number 0298

Date 11/5/13

TOC to Water (ft.) 24.14

Sheen none

Well Depth (ft.) 44.5

Free Product Thickness ∅

Well Diameter 2"

Sample Collection Method Peristaltic pump + new unused PE tubing

Flow Rate (mL/minute) 225

Start Purge Time 1214

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (uS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1215	225	24.22	6.92	442.2	19.8	7.85	74.1	0.00
1218	900	24.23	6.76	443.6	19.5	3.72	80.3	0.00
1221	1575	24.28	6.75	445.3	19.5	3.06	80.0	0.00
1224	2250	24.29	6.76	441.6	19.5	2.48	81.0	0.00
1227	2925	24.30	6.75	442.4	19.5	2.21	81.1	0.00
1230	3600	24.31	6.73	443.9	19.4	1.97	77.8	0.00

NOTES
no sheen / no odor
MW1 collected @ 1232

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 19.23
 Well Depth (ft.) 24.6
 Well Diameter 4"
 Flow Rate (mL/minute) 225
 Start Purge Time 1137

Well No. MW-2
 Date 11/15/13
 Sheen none
 Free Product Thickness 0
 Sample Collection Method Peristaltic pump + new unused PE tubing

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>Depth to Water (ft.)</u>	<u>pH</u>	<u>Electrical Conductivity (µS/cm)</u>	<u>Temperature (C°)</u>	<u>Dissolved Oxygen (mg/L)</u>	<u>Oxidation/Reduction Potential (mV)</u>	<u>Turbidity (NTU)</u>
1138	225	19.36	6.88	503.2	20.6	2.71	-94.3	2.44
1141	900	19.42	6.87	504.2	20.7	2.18	-96.8	0.00
1144	1,575	19.46	6.88	503.7	20.8	1.68	-98.5	0.00
1147	2,250	19.51	6.88	503.9	20.8	1.37	-99.4	0.00
1150	2,925	19.53	6.88	504.0	20.7	1.18	-100.2	0.00
1153	3,600	19.58	6.87	504.1	20.7	0.89	-101.7	0.00

NOTES
 moderate Stoddard solvent odor + no sheen
 MW-2 collected @ 1155

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland

Well No. MW-3

Job Number 0298

Date 11/15/13

TOC to Water (ft.) 23.49

Sheen none

Well Depth (ft.) 35.4

Free Product Thickness

Well Diameter 2"

Sample Collection Method Peristaltic

Flow Rate (mL/minute) ~225

pump + new/unused
PE tubing

Start Purge Time 1337

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (μ S/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/ Reduction Potential (mV)	Turbidity (NTU)
1338	225	24.30	7.34	324.0	19.7	4.45	37.6	0.00
1341	900	25.09	7.27	329.3	19.4	1.28	51.3	0.00
1344	1,575	26.25	7.30	324.2	19.4	1.36	55.4	0.00
1347	2,250	26.68	7.39	311.1	19.3	1.48	55.1	0.00
1350	2,925	27.20	7.46	294.5	19.4	1.27	52.5	0.00
1353	3,600	27.96	7.46	286.0	19.3	1.17	51.8	0.00

NOTES

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

no sheen/ no odor
MW-3 sample collected @ 1355

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland

Well No. MW-4

Job Number 0298

Date 11/15/13

TOC to Water (ft.) 26.05

Sheen none

Well Depth (ft.) 37.2

Free Product Thickness ∅

Well Diameter 2"

Sample Collection Method peristaltic

Flow Rate (mL/minute) ~225

pump + new unused PE

Start Purge Time 1457

tubing

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>Depth to Water (ft.)</u>	<u>pH</u>	<u>Electrical Conductivity (μS/cm)</u>	<u>Temperature (C°)</u>	<u>Dissolved Oxygen (mg/L)</u>	<u>Oxidation/Reduction Potential (mV)</u>	<u>Turbidity (NTU)</u>
<u>1458</u>	<u>225</u>	<u>26.12</u>	<u>7.36</u>	<u>125.1</u>	<u>19.8</u>	<u>5.66</u>	<u>18.4</u>	<u>0.00</u>
<u>1501</u>	<u>900</u>	<u>26.13</u>	<u>7.08</u>	<u>131.6</u>	<u>19.4</u>	<u>3.69</u>	<u>42.8</u>	<u>0.00</u>
<u>1504</u>	<u>1,575</u>	<u>26.14</u>	<u>6.74</u>	<u>286.6</u>	<u>19.2</u>	<u>3.24</u>	<u>72.3</u>	<u>0.00</u>
<u>1507</u>	<u>2,250</u>	<u>26.15</u>	<u>6.72</u>	<u>308.5</u>	<u>19.2</u>	<u>3.39</u>	<u>78.5</u>	<u>0.00</u>
<u>1510</u>	<u>2,925</u>	<u>26.16</u>	<u>6.74</u>	<u>299.6</u>	<u>19.2</u>	<u>3.35</u>	<u>82.5</u>	<u>0.00</u>
<u>1513</u>	<u>3,600</u>	<u>26.16</u>	<u>6.73</u>	<u>310.7</u>	<u>19.1</u>	<u>3.35</u>	<u>83.7</u>	<u>0.00</u>

NOTES

no sheen + no odor

Sample collected @ 1515

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/-3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 28.06'
 Well Depth (ft.) 37.0
 Well Diameter 4"
 Flow Rate (mL/minute) ~225
 Start Purge Time 0931

Well No. DP-1
 Date 11/15/13
 Sheen Yes
 Free Product Thickness could not measure
 Sample Collection Method Peristaltic
pump + new/unused
PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
0932	225	28.09	6.63	476.8	18.0	1.63	-70.7	0.00
0935	900	28.30	6.66	469.5	18.1	1.09	-80.4	0.00
0938	1,575	28.35	6.68	462.7	18.1	0.93	-84.4	0.00
0941	2,250	28.41	6.69	460.7	18.0	0.82	-87.4	0.00
0944	2,925	28.45	6.70	458.7	18.0	0.74	-89.4	0.00
0947	3,600	28.47	6.70	458.6	18.0	0.69	-90.9	0.00

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Sheen on sample, strong stoddard solvent odor
DP-1 collected @ 0950

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 23.03
 Well Depth (ft.) 25.0
 Well Diameter 4"
 Flow Rate (mL/minute) ~225
 Start Purge Time 1415

Well No. DP-2
 Date 11/15/13
 Sheen None
 Free Product Thickness Ø
 Sample Collection Method Peristaltic Pump + new unused PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1416	225	23.12	6.86	472.9	19.5	2.87	-59.1	0.00
1419	900	23.17	6.83	472.2	19.4	3.75	-62.2	0.00
1422	1,575	23.18	6.82	473.5	19.4	5.98	-64.4	0.00
1425	2,250	23.19	6.82	474.4	19.4	6.82	-62.4	0.00
1428	2,925	23.19	6.72	471.2	19.3	6.80	-61.0	0.00
1431	3,600	23.19	6.81	475.9	19.2	6.97	-60.4	0.00

NOTES
 Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Moderate to strong odor
~~B~~ DP-2 collected @ 1433
 Well dewatered during sample collection

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners - Oakland
 Job Number 0298
 TOC to Water (ft.) 21.97'
 Well Depth (ft.) 27.0'
 Well Diameter 4"
 Flow Rate (mL/minute) ~225
 Start Purge Time 1038

Well No. DP-3
 Date 11/15/13
 Sheen none
 Free Product Thickness 0
 Sample Collection Method peristaltic pump + new/unused PE tubing

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>Depth to Water (ft.)</u>	<u>pH</u>	<u>Electrical Conductivity (µS/cm)</u>	<u>Temperature (C°)</u>	<u>Dissolved Oxygen (mg/L)</u>	<u>Oxidation/Reduction Potential (mV)</u>	<u>Turbidity (NTU)</u>
1039	225	22.07	6.74	555.2	19.2	12.66	-42.3	0.00
1042	900	22.16	6.71	562	19.2	2.93	-65.0	0.00
1045	1,575	22.30	6.69	564	19.6	1.13	-72.6	0.00
1048	2,250	22.40	6.69	562	19.6	0.88	-75.2	0.00
1051	2,925	22.46	6.71	561	19.6	0.86	-75.3	0.00
1054	3,600	22.48	6.69	560	19.7	0.82	-75.7	0.00

NOTES
 Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Slight-moderate Stockard Solvent odor, no sheen
 DP3 collected @ 1057

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland

Well No. DP-4

Job Number 0298

Date 11/15/13

TOC to Water (ft.) 26.65

Sheen none

Well Depth (ft.) 38.0

Free Product Thickness 0

Well Diameter 4"

Sample Collection Method Peristaltic

Flow Rate (mL/minute) ~225

pump + new unused PE tubing

Start Purge Time 1007

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1008	225	26.76	6.79	282.2	18.0	2.42	47.6	0.00
1011	900	26.78	6.83	280.6	18.1	1.43	48.6	0.00
1014	1.575	26.84	6.77	278.4	17.9	1.19	48.7	0.00
1017	2.350	26.89	6.79	276.6	18.9 ^{HD}	0.98	20.9	0.00
1020	2.925	26.93	6.79	275.1	17.9	0.90	6.8	0.00
1023	3.600	26.98	6.77	274.2	18.0	0.86	18.2	0.00

NOTES

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

Slight-Moderate Stoddard Solvent odor
no sheen
DP-4 collected @ 1025

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners - Oakland

Well No. VE-1

Job Number 0298

Date 11/15/13

TOC to Water (ft.) no water encountered

Sheen NIA

Well Depth (ft.) 15.8

Free Product Thickness Ø

Well Diameter 4"

Sample Collection Method NIA

Flow Rate (mL/minute) NA

monitored only,
no sample collected

Start Purge Time NIA

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity ($\mu\text{S/cm}$)	Temperature ($^{\circ}\text{C}$)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)

HD

NOTES monitored only, no sample collected

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) No water encountered
 Well Depth (ft.) 17.03
 Well Diameter 4"
 Flow Rate (mL/minute) N/A
 Start Purge Time N/A

Well No. VE-2
 Date 11/15/13
 Sheen N/A
 Free Product Thickness ∅
 Sample Collection Method N/A
Monitored only, no sample collected

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>Depth to Water (ft.)</u>	<u>pH</u>	<u>Electrical Conductivity (uS/cm)</u>	<u>Temperature (C°)</u>	<u>Dissolved Oxygen (mg/L)</u>	<u>Oxidation/Reduction Potential (mV)</u>	<u>Turbidity (NTU)</u>

HD

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Monitored only, no sample collected

December 11 and 12, 2013

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners
 Job Number 0298
 TOC to Water (ft.) 24.18
 Well Depth (ft.) 94.5
 Well Diameter 2"
 Flow Rate (mL/minute) 300
 Start Purge Time 1130

Well No. MW-1
 Date 12/11/13
 Sheen none
 Free Product Thickness 0
 Sample Collection Method peristaltic pump + new unused PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)	ORP Meter
1131	2	24.30	6.32	0.750	17.76	3.41	141	38.8	0.00
1134		24.31	6.35	0.744	18.00	3.15	121	40.0	0.00
1137		24.33	6.50	0.740	18.12	2.92	57	27.7	0.00
1140		24.34	6.52	0.740	18.14	2.78	45	22.0	0.00
1143		24.34	6.54	0.739	18.12	2.65	54	20.6	0.00
1146		24.34	6.54	0.737	18.16	2.56	50	17.1	0.00
- 2 1-L DHC samples collected @ 1150 & 1155									
- 2 VOAs for Ethene collected @ 12:00									
1202		24.29	6.61	0.708	18.39	3.70	98	16.5	
1205		24.31	6.56	0.708	18.30	2.98	101	16.9	
1208		24.34	6.54	0.705	18.29	2.80	105	16.4	
1211		24.35	6.56	0.697	18.31	2.45	109	14.7	
15 minute purge for Hydrogen Sample collected @ 12:55									
1302		24.31	6.55	0.656	18.02	2.96	126	14.6	
1305		24.34	6.55	0.656	18.11	2.51	126	14.5	
1308		24.35	6.55	0.655	18.13	2.41	126	13.6	
1311		24.35	6.55	0.655	18.11	2.31	126	12.6	
1314		24.35	6.55	0.655	18.12	2.22	126	12.5	
1317		24.35	6.55	0.655	18.12	2.08	126	12.5	
1320		24.35	6.55	0.655	18.12	2.06	126	12.5	
1323		24.35	6.55	0.655	18.12	2.06	126	12.0	
1326		24.35	6.55	0.655	18.12	2.02	126	11.9	

NOTES
 Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

no sheen + no odor

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners
 Job Number 0298
 TOC to Water (ft.) 28.12
 Well Depth (ft.) 37.0
 Well Diameter 4"
 Flow Rate (mL/minute) 300
 Start Purge Time 1343

Well No. DP1
 Date 12/2/13
 Sheen Yes
 Free Product Thickness -
 Sample Collection Method Peristaltic pump + new/unused PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1344		28.23	6.60	773	16.94	4.75	-87	16.4
1347		28.42	6.66	743	17.19	2.91	-106	15.8
1350		28.46	6.67	741	17.25	2.66	-110	15.2
1353		28.59	6.68	739	17.34	2.16	-115	14.5
1356		28.62	6.69	740	17.36	2.00	-115	14.1
1359		28.67	6.70	739	17.40	1.82	-116	14.0
- 2 1-L DHC Samples collected @ 1419, 1430								
- 2 VOAs for Ethene collected @ 1432								
1433		28.73	6.71	722	18.45	2.78	-117	18.1
1436		28.77	6.70	725	18.44	2.47	-117	15.0
1439		28.81	6.70	721	18.37	2.04	-116	14.3
1442		28.86	6.70	721	18.34	1.88	-117	14.1
15 14 minute purge for Hydrogen @ 1443								
Sample collected @ 1458								
1459		28.94	6.68	733	18.33	1.43	-118	14.7
1502		28.97	6.69	731	18.33	1.43	-118	14.5
1505		29.01	6.70	729	18.15	1.42	-119	13.6
1508		29.05	6.69	729	18.05	1.42	-119	12.8

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Strong odor.

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners
 Job Number 0298
 TOC to Water (ft.) 22.84
 Well Depth (ft.) 25.0
 Well Diameter 4"
 Flow Rate (mL/minute) 300
 Start Purge Time 1925

Well No. DP2
 Date 12/12/13
 Sheen ~~12/11/13~~ yes
 Free Product Thickness ∅
 Sample Collection Method Peristaltic pump + new/unused PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1226	—	23.19	6.58	766	17.77	3.46	-119	17.3
1229	—	23.31	6.52	762	17.89	2.56	-110	17.1
1232	—	23.37	6.51	763	17.82	2.43	-105	14.8
1235	—	23.43	6.49	764	17.87	2.29	-107	12.6
1238	—	23.53	6.55	766	17.89	2.17	-109	12.5
1241	—	23.57	6.57	768	17.84	2.00	-109	11.3
- 2 1-L DHC sampled collected @ 1246 @ 1253								
- 2 UOAs for Ethene collected @ 1257								
1258	—	23.62	6.63	767	17.45	2.64	-109	14.4
1301	—	23.67	6.62	769	17.66	2.31	-110	12.9
1304	—	23.71	6.65	770	17.79	2.09	-112	11.4
1307	—	23.75	6.64	771	17.86	1.86	-112	10.2
15 minute purge for Hydrogen								
Sample collected @ 1325								
1326	—	23.73	6.61	775	16.98	1.69	-108	8.0
1329	—	23.76	6.61	771	17.48	1.61	-109	7.7
1332	—	23.79	6.64	772	17.74	1.55	-110	7.3
1335	—	23.81	6.65	772	17.82	1.45	-112	7.1
1338	—	23.83	6.66	771	17.80	1.45	-112	6.2
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

moderate - strong odor.
lots of effervescence observed @ this well

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners
 Job Number 0298
 TOC to Water (ft.) 21.67
 Well Depth (ft.) 27.0'
 Well Diameter 4"
 Flow Rate (mL/minute) 300
 Start Purge Time 1417

Well No. DP3
 Date 12/11/13
 Sheen ~~no~~ yes
 Free Product Thickness ∅
 Sample Collection Method peristaltic pump + new/unused PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1418		21.92	6.52	904	18.55	3.44	-96	24.1
1421		22.01	6.53	899	18.77	2.76	-105	22.1
1424		22.12	6.55	890	18.76	2.39	-108	21.9
1427		22.16	6.56	888	18.72	2.24	-109	21.8
1430		22.25	6.57	884	18.76	2.02	-110	20.6
1433		22.27	6.57	883	18.67	1.88	-112	20.4
	2- 1L dHC samples				1445			
	2- HCl VOAS				1450			
1453		22.50	6.69	880	18.32	2.24	-107	36.0
1456		22.56	6.63	880	18.57	1.91	-108	33.3
1459		22.58	6.61	878	18.62	1.77	-109	32.9
1502		22.62	6.61	877	18.61	1.68	-109	30.5
	15 minute purge for Hydrogen. Sample collected @ 1527							
1528		23.02	6.70	886	18.12	1.90	-104	30.2
1531		23.02	6.63	882	18.28	1.76	-105	30.1
1534		23.04	6.60	873	18.44	1.66	-106	28.9
1537		23.07	6.61	870	18.50	1.59	-107	27.2
1540		23.11	6.60	867	18.55	1.53	-107	26.6
1543		23.14	6.60	866	18.61	1.45	-108	26.3
1546		23.15	6.60	866	18.61	1.43	-108	26.2
1549		23.16	6.64	867	18.61	1.43	-108	26.3

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Slight - moderate standard solvent odor, no sheen bubbling/effervescence observed.

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners

Well No. DP4

Job Number 0298

Date 12/11/13

TOC to Water (ft.) 26.71

Sheen none

Well Depth (ft.) 38.0

Free Product Thickness none

Well Diameter 4"

Sample Collection Method peristaltic

Flow Rate (mL/minute) 300

pump + new/unused PE tubing.

Start Purge Time 1559

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (uS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1600		26.78	6.77	466	17.28	1.85	-31	34.9
1603		26.84	6.71	451	17.25	1.58	-2	32.6
1606		26.90	6.70	448	17.23	1.52	12	32.1
1609		27.03	6.67	443	17.15	1.44	36	31.6
1612		27.08	6.69	443	17.14	1.40	39	30.5
1615		27.14	6.71	443	17.10	1.36	42	29.4
-	2 1-L DHC samples collected @ 1637 & 1654							
-	2 UDAs for ethene collected @ 1656							
1657		27.21	6	453				23.7
1712		27.15	6.66	461	15.17	1.68	46	14.6
1715		27.19	6.66	471	15.78	1.44	36	12.9
1718		27.21	6.66	471	16.10	1.39	33	11.0
1721		27.25	6.69	470	16.22	1.32	31	10.9
	Hydrogen Sample collected @ 1737							
1738		27.46	6.68	465	18.09	1.19	27	9.3
1741		27.48	6.68	464	16.31	1.16	26	7.9
1744		27.49	6.74	459	16.35	1.14	25	7.8
1747		27.50	6.74	458	16.43	1.13	25	7.8
1750		27.52	6.74	458	16.40	1.13	25	7.7

NOTES

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

Slight-moderate standard solvent odor, no sheen

June 26, 2014

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland

Well No. Mw-1

Job Number 0298

Date 06/26/2014

TOC to Water (ft.) 23.48

Sheen none

Well Depth (ft.) 44.5

Free Product Thickness ∅

Well Diameter 2"

Sample Collection Method peristaltic

Flow Rate (mL/minute) 225

pump + dedicated PE tubing.

Start Purge Time 0853

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
0854	225	23.51	5.90	699	19.9	4.16	185.1	0.00
0857	900	23.59	6.27	681	19.5	3.84	172.4	0.00
0900	1575	23.57	6.37	661	19.5	3.45	169.9	0.00
0903	2250	23.58	6.38	661	19.5	3.44	170.1	0.00
0906	2925	23.58	6.39	658	19.4	3.29	55.3	0.00
0909	3600	23.58	6.41	658	19.5	3.17	90.4	0.00

NOTES

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

NO sheen, no odor
Mw1 collected @ 0915

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland

Well No. MW2

Job Number 0298

Date 6/26/14

TOC to Water (ft.) 18.09

Sheen none

Well Depth (ft.) 24.6

Free Product Thickness 0

Well Diameter 4"

Sample Collection Method peristaltic

Flow Rate (mL/minute) 225

pump + new/unused PE tubing

Start Purge Time 0936

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (μ S/cm)	Temperature (C ^o)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
0937	225	18.23	6.53	782	19.7	4.07	-122.8	0.00
0940	900	18.26	6.56	781	19.7	3.67	-124.7	0.00
0943	1575	18.30	6.56	780	19.7	3.43	-124.6	0.00
0946	2250	18.30	6.57	779	19.6	3.31	-124.4	0.00
0949	2825	18.34	6.59	779	19.7	3.20	-123.8	0.00
0952	3600	18.37	6.55	778	19.5	3.22	-121.8	0.00

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Moderate Standard solvent odor + no sheen
MW2 ^{sample} collected @ # 0955

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland

Well No. MW3

Job Number 0298

Date 6/26/14

TOC to Water (ft.) 23.40

Sheen none

Well Depth (ft.) ~~246~~ 35.4

Free Product Thickness 0

Well Diameter 2"

Sample Collection Method peristaltic

Flow Rate (mL/minute) ~225

pump + dedicated PE tubing

Start Purge Time 1025

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>Depth to Water (ft.)</u>	<u>pH</u>	<u>Electrical Conductivity (µS/cm)</u>	<u>Temperature (C°)</u>	<u>Dissolved Oxygen (mg/L)</u>	<u>Oxidation/Reduction Potential (mV)</u>	<u>Turbidity (NTU)</u>
<u>1026</u>	<u>225</u>	<u>23.78</u>	<u>7.30</u>	<u>470.2</u>	<u>21.6</u>	<u>3.62</u>	<u>100.9</u>	<u>0.00</u>
<u>1029</u>	<u>900</u>	<u>24.23</u>	<u>7.04</u>	<u>473.0</u>	<u>19.5</u>	<u>3.45</u>	<u>86.4</u>	<u>0.00</u>
<u>1032</u>	<u>1575</u>	<u>25.17</u>	<u>7.10</u>	<u>465.6</u>	<u>19.6</u>	<u>2.97</u>	<u>72.3</u>	<u>0.00</u>
<u>1035</u>	<u>2250</u>	<u>25.96</u>	<u>7.12</u>	<u>463.0</u>	<u>19.6</u>	<u>2.83</u>	<u>66.5</u>	<u>0.00</u>
<u>1038</u>	<u>2925</u>	<u>26.65</u>	<u>7.18</u>	<u>446.5</u>	<u>19.6</u>	<u>2.65</u>	<u>51.1</u>	<u>0.00</u>
<u>1041</u>	<u>3600</u>	<u>27.30</u>	<u>7.25</u>	<u>494.2</u>	<u>19.6</u>	<u>2.57</u>	<u>26.3</u>	<u>0.00</u>
_____	_____	_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____	_____	_____

NOTES

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

no sheen/ no odor
MW3 Sample collected @ 1045

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 25.44
 Well Depth (ft.) 37.2
 Well Diameter 2"
 Flow Rate (mL/minute) ~225
 Start Purge Time 1112

Well No. MW4
 Date 6/26/14
 Sheen none
 Free Product Thickness Ø
 Sample Collection Method peristaltic pump +
dedicated PE tubing.

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1113	225	25.53	6.86	470.2	21.7	4.03	135.4	0.00
1116	900	25.53	6.53	456.7	20.2	3.97	128.0	0.00
1119	1575	25.56	6.51	454.9	19.8	3.94	126.1	0.00
1122	2250	25.57	6.52	454.1	19.7	3.86	120.8	0.00
1125	2925	25.58	6.52	453.2	19.6	3.83	117.6	0.00
1128	3600	25.59	6.52	453.7	19.6	3.69	116.1	0.00

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

no sheen + no odor
MW4 sample collected @ 1135

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland

Well No. DPI

Job Number 0298

Date 6/26/2014

TOC to Water (ft.) 24.94

Sheen yes

Well Depth (ft.) 37.0

Free Product Thickness could not measure
 Peristaltic Pump +
 Sample Collection Method dedicated

Well Diameter 4"

Flow Rate (mL/minute) ~225

new/unused PE tubing

Start Purge Time 1405

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (uS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1406	225	25.03	6.74	468.1	20.7	4.86	34.7	0.00
1409	900	25.10	6.61	454.0	20.0	3.98	42.9	0.00
1412	1575	25.18	6.59	451.9	20.0	3.79	41.4	0.00
1415	2250	25.26	6.61	451.3	19.8	3.48	58.5	0.00
1418	2925	25.32	6.60	450.1	19.8	3.65	65.1	0.00
1421	3600	25.38	6.59	450.5	19.9	3.72	73.0	0.00

NOTES

Stability Parameters sample
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Sheen on sample, strong stoddard solvent odor.
DPI collected @ 1425

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow cleaners, Oakland

Well No. DP2

Job Number 0298

Date 6/26/2017

TOC to Water (ft.) 21.61

Sheen none

Well Depth (ft.) 25.0

Free Product Thickness

Well Diameter 4"

Sample Collection Method peristaltic

Flow Rate (mL/minute) ~225

pump + new / unused PE tubing

Start Purge Time 1333

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1334	225	21.71	6.60	746	21.6	6.62	-150.5	0.00
1337	900	21.80	6.55	728	20.3	4.54	-135.7	0.00
1340	1575	21.91	6.54	723	20.0	3.30	-122.9	0.00
1343	2250	21.98	6.53	724	19.9	3.12	-184.8	0.00
1346	2925	22.04	6.59	721	20.0	2.82	-137.0	0.00
1349	3600	22.11	6.60	720	20.0	2.67	-127.3	0.00

NOTES

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

Moderate to strong odor
Sample DP-2 collected @ 1355

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland.

Well No. DP3

Job Number 0298

Date 6/26/2014

TOC to Water (ft.) ~~20.36~~ 20.36

Sheen none

Well Depth (ft.) 27.0

Free Product Thickness ∅

Well Diameter 4"

Sample Collection Method peristaltic pump + new/unused PE tubing

Flow Rate (mL/minute) ~225

Start Purge Time 1252

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (uS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
<u>1253</u>	<u>225</u>	<u>20.48</u>	<u>6.56</u>	<u>731</u>	<u>20.9</u>	<u>3.57</u>	<u>-53.7</u>	<u>0.00</u>
<u>1256</u>	<u>900</u>	<u>20.61</u>	<u>6.61</u>	<u>792</u>	<u>20.0</u>	<u>3.49</u>	<u>-58.3</u>	<u>0.00</u>
<u>1259</u>	<u>1575</u>	<u>20.69</u>	<u>6.60</u>	<u>790</u>	<u>20.0</u>	<u>2.94</u>	<u>-62.7</u>	<u>0.00</u>
<u>1302</u>	<u>2250</u>	<u>20.72</u>	<u>6.59</u>	<u>794</u>	<u>20.0</u>	<u>2.73</u>	<u>-65.3</u>	<u>0.00</u>
<u>1305</u>	<u>2925</u>	<u>20.78</u>	<u>6.65</u>	<u>795</u>	<u>20.1</u>	<u>2.53</u>	<u>-68.6</u>	<u>0.00</u>
<u>1308</u>	<u>3600</u>	<u>20.82</u>	<u>6.60</u>	<u>795</u>	<u>20.1</u>	<u>2.49</u>	<u>-70.0</u>	<u>0.00</u>
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
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NOTES
Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

Slight-moderate standard solvent odor, no sheen
DP3 collected @ 1310

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland

Well No. DP4

Job Number 0298

Date 6/26/2014

TOC to Water (ft.) 22.57

Sheen none

Well Depth (ft.) 38.0

Free Product Thickness Ø

Well Diameter 4"

Sample Collection Method peristaltic

Flow Rate (mL/minute) ~225

pump + new/unused PE tubing

Start Purge Time 1437

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1438	225	22.61	6.80	408	21.3	14.22	79.8	0.00
1441	900	22.63	6.66	401	19.7	14.29	87.9	0.00
1444	1575	22.66	6.60	399	19.7	13.76	103.9	0.00
1447	2250	22.68	6.59	396	19.5	13.56	111.9	0.00
1450	2925	22.68	6.59	394	19.4	13.04	126.7	0.00
1453	3600	22.68	6.60	393	19.3	13.00	136.1	0.00

NOTES
Slight-Moderate Stoddard solvent odor
no sheen observed.
Sample DP4 collected @ 1455

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

July 15 and 16, 2015

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 24.26
 Well Depth (ft.) 44.5
 Well Diameter 2"
 Flow Rate (mL/minute) ~250
 Start Purge Time 1518

Well No. MW-1
 Date 7/15/15
 Sheen None
 Free Product Thickness Ø
 Sample Collection Method Peristaltic pump +
dedicated PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1519	250	24.40	6.84	752	21.5	2.87	39.6	2.08
1522	1,000	24.41	6.69	744	20.3	1.02	36.4	0.00
1525	1,750	24.42	6.69	743	20.1	0.93	37.3	0.00
1528	2,500	24.43	6.68	741	20.1	0.80	38.1	0.00
1531	3,250	24.44	6.70	735	20.0	0.71	38.8	0.00
1534	4,000	24.44	6.70	727	20.1	0.64	38.9	0.00
1536	4,750	24.44	6.70	723	20.1	0.62	38.8	0.00
1538	5,500	24.45	6.69	720	20.1	0.60	38.8	0.00

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

No sheen + no odor.
MW-1 collected @ 1540

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0798
 TOC to Water (ft.) 19.8
 Well Depth (ft.) 24.6
 Well Diameter 4"
 Flow Rate (mL/minute) ~250 mL
 Start Purge Time 1353

Well No. MW-2
 Date 7/16/15
 Sheen None
 Free Product Thickness 0
 Sample Collection Method Peristaltic pump & new unused PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (μ S/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1354	250	19.42	6.90	971	21.0	2.39	-107.3	1.01
1357	1,000	19.52	6.75	960	20.4	1.19	-133.4	3.56
1400	1,750	19.62	6.75	961	20.4	0.89	-135.4	3.97
1403	2,500	19.74	6.71	961	20.4	0.73	-133.9	3.61
1406	3,250	19.84	6.69	961	20.4	0.64	-134.5	3.59
1409	4,000	19.94	6.72	964	20.5	0.59	-139.1	3.27
1411	4,750	20.03	6.74	965	20.4	0.58	-140.2	3.33

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

No odor or sheen on purge water.
Stoddard solvent odor on DW probe & tubing. Effervescent.
MW-2 collected @ 1420

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland Well No. MW-3
 Job Number 0298 Date 7/15/15
 TOC to Water (ft.) 24.83 Sheen None
 Well Depth (ft.) 35.4 Free Product Thickness 0
 Well Diameter 2" Sample Collection Method Peristaltic pump & dedicated PE tubing
 Flow Rate (mL/minute) ~250
 Start Purge Time 1352

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1353	250	26.52	7.17	544.1	21.0	3.89	15.3	6.02
1356	1,000	27.32	7.46	597	20.0	0.89	-0.3	7.21
1359	1,750	28.22	7.69	629	20.0	1.21	-5.1	6.90
1402	2,500	28.63	7.95	635	20.2	1.41	-9.2	6.50
1405	3,250	29.20	7.66	564	20.1	1.05	-7.4	5.06
1408	4,000	29.65	7.29	565	20.2	0.67	-7.1	3.74
1410	4,750	29.95	7.15	572	20.3	0.64	-6.9	1.01
1412	5,500	30.23	7.12	571	20.4	0.61	-7.5	0.16

NOTES
 Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

No sheen or odor.
MW-3 collected @ 1420hrs

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 26.21
 Well Depth (ft.) 37.2
 Well Diameter 2"
 Flow Rate (mL/minute) ~250
 Start Purge Time 1302

Well No. MW-4
 Date 7/15/15
 Sheen None
 Free Product Thickness Ø
 Sample Collection Method Peristaltic pump & dedicated PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1303	250	26.32	7.09	498.8	21.2	5.14	-26.7	1.51
1306	1,000	26.33	6.72	525.5	20.0	1.50	-9.8	1.55
1309	1,750	26.33	6.68	526.2	20.0	1.56	-7.9	0.20
1312	2,500	26.34	6.69	526.6	19.9	1.64	-9.4	0.00
1315	3,250	26.34	6.67	526.6	20.0	1.68	-10.7	0.00
1318	4,000	26.34	6.69	527.9	19.9	1.77	-11.8	0.00

NOTES

No sheen + no odor.
MW-4 collected @ 1330hrs

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 28.00
 Well Depth (ft.) 37.0
 Well Diameter 4"
 Flow Rate (mL/minute) ~250
 Start Purge Time 1250

Well No. DP-1
 Date 7/16/15
 Sheen light
 Free Product Thickness Ø
 Sample Collection Method Peristaltic pump +
new unused PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (uS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1251	250	28.32	6.77	619	21.4	5.72	130.4	2.29
1254	1,000	28.37	6.55	617	19.7	1.10	-1.4	2.52
1257	1,750	28.41	6.50	612	19.7	0.93	-11.0	3.20
1300	2,500	28.54	6.50	616	19.7	1.43	-32.6	4.44
1303	3,250	28.69	6.56	622	19.7	1.61	-42.6	4.07
1306	4,000	28.75	6.57	626	19.7	1.16	-46.0	2.63
1308	4,750	28.81	6.58	629	19.8	1.31	-49.1	2.04

NOTES
 Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Light sheen + no odor on purgewater.
Standard Solvent odor on tubing.
DP-1 collected @ 1315 Effervescent

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 22.66
 Well Depth (ft.) 25.0
 Well Diameter 4"
 Flow Rate (mL/minute) ~250
 Start Purge Time 1615

Well No. DP-2
 Date 7/16/15
 Sheen None
 Free Product Thickness Ø
 Sample Collection Method Peristaltic pump & New unused PET tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1616	250	22.86	6.83	820	21.5	3.46	-81.4	1.80
1619	1,000	22.92	6.75	824	19.9	1.13	-118.5	0.00
1622	1,750	23.08	6.75	830	19.9	0.80	-113.5	0.00
1625	2,500	23.21	6.76	832	19.9	0.60	-110.0	0.00
1628	3,250	23.34	6.77	833	19.8	0.49	-108.4	0.00
1631	4,000	23.49	6.77	832	19.8	0.44	-114.8	0.00
1633	4,750	23.57	6.77	830	19.8	0.42	-114.4	0.00

NOTES
 Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

No odor or sheen.
DP-2 collected @ 1640.

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 21.60
 Well Depth (ft.) 27.0
 Well Diameter 4"
 Flow Rate (mL/minute) ~250
 Start Purge Time 16 21

Well No. DP-3
 Date 7/15/15
 Sheen yes
 Free Product Thickness Ø
 Sample Collection Method Peristaltic pump & new hunged PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1622	250	21.82	6.79	952	22.1	4.21	-77.6	29.22
1625	1,000	21.97	6.71	944	20.3	1.34	-123.7	9.61
1628	1,750	22.07	6.70	944	20.3	0.93	-128.6	11.22
1631	2,500	22.14	6.70	949	20.4	0.74	-132.1	4.26
1634	3,250	22.23	6.69	947	20.3	0.64	-134.0	4.31
1637	4,000	22.28	6.68	947	20.4	0.57	-136.1	2.12

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

Sheen & mod-strong Stoddard solvent odor.
DP-3 collected @ 1645 Efferrescent

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) 25.17
 Well Depth (ft.) 38.0
 Well Diameter 4"
 Flow Rate (mL/minute) ~250
 Start Purge Time 1516

Well No. DP-4
 Date 7/16/15
 Sheen None
 Free Product Thickness ∅
 Sample Collection Method Peristaltic pump +
 new nansen PE tubing

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1517	250	25.35	7.27	530.3	19.9	5.35	90.0	2.84
1520	1,000	25.40	6.78	527.9	18.9	5.71	110.2	2.09
1523	1,750	25.49	6.74	524.9	18.9	5.73	114.2	1.77
1526	2,500	25.56	6.72	523.8	18.8	5.95	117.9	0.35
1529	3,250	25.62	6.70	523.1	18.8	6.04	120.1	0.00
1532	4,000	25.68	6.73	522.1	18.8	6.17	121.2	0.00

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

No sheen + no odor.
DP-4 collected @ 1540

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0298
 TOC to Water (ft.) No Water Encountered
 Well Depth (ft.) 15.8
 Well Diameter 4"
 Flow Rate (mL/minute) —
 Start Purge Time —

Well No. VE-1
 Date 7/16/15
 Sheen N/A
 Free Product Thickness Ø
 Sample Collection Method No Sample Collected,
 No Water Encountered

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>Depth to Water (ft.)</u>	<u>pH</u>	<u>Electrical Conductivity (uS/cm)</u>	<u>Temperature (C°)</u>	<u>Dissolved Oxygen (mg/L)</u>	<u>Oxidation/Reduction Potential (mV)</u>	<u>Turbidity (NTU)</u>

SIC

NOTES
 Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name Snow Cleaners, Oakland
 Job Number 0798
 TOC to Water (ft.) No Water Encountered
 Well Depth (ft.) 17.0
 Well Diameter 4"
 Flow Rate (mL/minute) —
 Start Purge Time —

Well No. VE-2
 Date 7/16/15
 Sheen N/A
 Free Product Thickness 0
 Sample Collection Method No Sample Collected;
No Water Available Encountered
sjc

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>Depth to Water (ft.)</u>	<u>pH</u>	<u>Electrical Conductivity (μS/cm)</u>	<u>Temperature (C°)</u>	<u>Dissolved Oxygen (mg/L)</u>	<u>Oxidation/Reduction Potential (mV)</u>	<u>Turbidity (NTU)</u>

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

APPENDIX B

Dissolved Hydrogen Sampling Technical Guidance from Microseeps



Dissolved Hydrogen Sampling

Technical Guidance from Microseeps

Sampling
Questions?

Call
800-659-2887
Mon. - Fri.
9 -5 EST

Choosing A Pump for Sampling

- Use a peristaltic pump if possible such as the Geopump II.
- If a submersible pump is used, there must be no current passed down-hole. An air-actuated pump is preferred.
- Do not use a Grundfos Redi-Flow II.
- If a bladder pump is used, the surge of the fill-and-squeeze cycle can create flow rates well above the optimum 300 ml/min. To compensate for this, use one of the following options:
 1. Decrease the duty-cycle as much as possible so that the bladder does not completely fill and these rapid flow rates are not generated.
 2. Get a five-gallon bucket, place the pump effluent hose into the bottom of the bucket and start the pump. When the bucket is near full, the standing water in the bucket can be used as a protective layer to impede atmospheric contamination of the dissolved gas content of the water at the bottom of the bucket. Use the bucket as a surge tank and use a peristaltic pump, with the intake hose placed near the end of the bladder pump effluent hose, to pump water from the bottom of the bucket and through the bubble strip apparatus.

Collecting the Sample

Low-Flow Purging

- Measure the depth to water (DTW) of the well and the total depth.
- Use a variable speed pump and direct the pump effluent through a flow-through cell that contains properly calibrated probes for conductivity, pH, temperature and D.O. Ensure that the effluent of the pump leads into a proper waste receptacle.
- Begin pumping at the fastest rate possible without displaying significant draw-down.
- If the static head decreases more than a half inch, decrease the flow-rate, record the new DTW and continue.
- Purge until readings from the flow-through cell stabilize. (Three successive readings taken five minutes apart should all be within 10% of their mean.)
- If purging is done appropriately, stabilization will occur rapidly after one well volume of water is pumped.
- Begin recording probe readings after one well volume is purged.

Use the time from initial pumping to flow-through readings stabilization to set up sampling equipment and containers and complete the paperwork required for sampling record-keeping.



APPENDIX C

SiREM Groundwater Collection and Shipping Protocol for Gene-Trac® Samples

GROUNDWATER COLLECTION AND SHIPPING PROTOCOL FOR GENE-TRAC® SAMPLES

There are two sampling methods for Gene-Trac testing: A) conventional groundwater sample collection; and B) field filtration (i.e., groundwater solids collected on a filter). Procedures for both sampling methods are provided in this document. SiREM is pleased to provide sampling supplies (containers or filters, blue ice, coolers) free of charge upon request (please provide 3 days advance notice for this service). Note: customers are responsible for payment of shipping charges (outbound and incoming).

Sample Collection Methods: Prior to sample collection, sampling points should be purged using industry-accepted groundwater purging protocols to obtain representative groundwater. Note: turbidity in groundwater samples is not a concern.

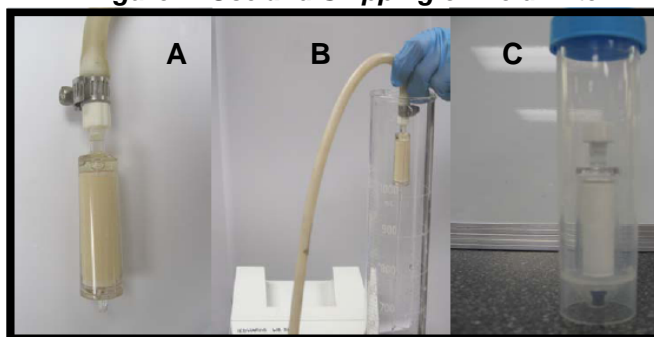
Method A: Conventional Groundwater Samples (collect 1 liter per sample location)

After sample point purging, groundwater samples are collected in large mouth 1-liter (L) high-density polyethylene (HDPE) bottles (e.g., Nalgene or equivalent) with minimum achievable headspace. No preservatives are required; samples should be stored and shipped at 4°C.

Method B: Field Filtration Samples (2 filters required per sample location)

- 1) Remove filter from storage container and insert Luer Lock adapter (white fitting) into pump effluent tubing (1/4" – 5/16" inside diameter) and securely fasten using a gear clamp (Figure 1A).
- 2) Turn on pump and direct filter discharge into a graduated container (Figure 1B). Pass up to 1L of water through the filter and record the measured volume of water passed through the filter (in L or milliliters [mL]). Should the filter clog prior to filtration of 1 L, shut off the pump and record the measured volume passed through the filter. Dispose of effluent groundwater in accordance with applicable site procedures.
- 3) Cap the effluent end of the filter (while full of water) with the small black cap; decouple the tubing/ Luer Lock fitting from the influent end of the filter and seal the filter unit with the white cap. Place the sealed filter the 50 mL container, label with the sample location, date and total volume of groundwater passed through the filter (Figure 1C). The filters should be stored and shipped at 4°C.
- 4) Remove the Luer Lock fitting clamped to the tubing and discard.

Figure 1: Use and Shipping of Field Filter



Sample Labeling and Handling: Samples should be clearly labeled (including sample ID and date) and individually sealed in re-sealable freezer bags then placed in a cooler with cool packs (preferred). If ice is used it must be double bagged. Sample hold time is 10 days at 4°C.

Chain-of-Custody: The completed chain-of-custody should be placed in a zip-lock bag inside the cooler with the samples. Include: the total volume passed through the filter for each sample (Method B only); the applicable purchase order number, and quotation number where applicable; and indicate which of the following analyses are requested:

Method 1: Gene-Trac-Dhc (*Dehalococcoides*)

Method 2: Gene-Trac VC (vinyl chloride reductase [*vcrA*])

Method 3: Gene-Trac-Dhb (*Dehalobacter*)

Shipping: Ship samples by priority overnight courier to SiREM. Total value of samples should be given a total value of no more than \$10; otherwise a 15% duty will be applied to the stated value (to be paid by customer).

Shipping Documentation: The following shipping documents are required for sample shipment.

1) International Air Waybill (e.g., FedEx)

Section 1: Fill in shipping address and include your FedEx account number

Section 2: To address is:

**SiREM
Sample Reception
130 Research Lane Suite 2
Guelph, Ontario, Canada N1G 5G3**

Section 4: Describe as **“groundwater samples for destructive analysis”**
Maximum value for customs purposes should be \$10.

Section 5: Check “FedEx Broker”

Section 6: FedEx International Priority

Section 7: Other packaging

Section 8: Check “No” or “Yes” (as applicable) for dangerous goods

Section 9: Payment by sender

Section 10: Sign and date

See attached Sample FedEx International Air Waybill. Complete shipper specific information (yellow/shaded), other information should be completed as indicated.

2) Canada Customs (Commercial) Invoice

The Canada Customs Invoice (see electronically editable attached PDF) replaces the standard commercial or pro forma invoice. The following fields must be completed on the Canada Customs Commercial Invoice.

Field 1: Address of Shipment Origin

Field 2: Date of shipment

Field 8: Courier name

Field 11: Total number of pieces being shipped

Field 12: Describe as “groundwater samples for destructive analysis”

Field 16: Total weight

See attached sample Canada Customs Invoice. Complete shipper specific information (yellow/shaded), other information should be completed as indicated.

Technical Inquiries:

Phil Dennis 519-822-2265 ext. 238/ pdennis@siremlab.com

Ximena Druar 519-822-2265 ext. 286/ xdruar@siremlab.com

Shipping Inquiries/Sampling Supplies:

Twyla Gilbert 519-822-2265 ext. 255/ tgilbert@siremlab.com

Attachments: (1) Sample Fed Ex International Air Waybill

(2) Sample Canada Customs Invoice

PACKAGE LABEL

COMMERCIAL INVOICE LABEL

DELIVERY RECORD LABEL

DELIVERY REATTEMPT LABEL

1 From (please print and press hard)

Date * MM/DD/YY Sender's FedEx Account Number

Sender's Name * Phone * Very Important

Company *

Address Dept/Floor

Address

City State/Province *

Country * ZIP/Postal Code

2 Your Internal Billing Reference Information
(Optional) (First 24 characters will appear on invoice)

3 To (please print and press hard)

Recipient's Name Sample Reception Phone VERY IM 519-822-2265 DELIVERY

Company SIREM

Address 130 Research Lane Dept/Floor

Address Suite 2

City Guelph State/Province ON

Country Canada ZIP/Postal Code N1G 5G3

Recipient's I.D. number for Customs purposes (e.g. GST/RFC/VAT or as locally required)

For HOLD at FedEx Location check here For Saturday Delivery check here
(Extra charge may apply. Not available at all locations.)

4 Shipment Information

Total Packages (Shipper's Load and Count/SLAC) Total Weight lbs. kgs. DIM Weight lbs. kgs.

Commodity Description	Harmonized Code	Country of Manufacture	Value for Customs
Groundwater samples for destructive analysis			

Total Declared Value For Carriage \$10.00 Specify Currency US Total Value For Customs \$10.00

For Harmonized Code #'s over U.S. \$2,500 or those which require a U.S. Dept. of Commerce validated Export License, attach a completed Shipper's Export Declaration form and check here. If filing by SEC 30.39 FTSP, no SED required, however, fill in CAS or SAS.

FedEx cannot estimate Customs charges. ALL shipments can be subject to Customs charges.

FedEx Tracking Number 0400

5 Broker Selection Not available to all destinations FedEx International Broker Select

Broker's Name

City/State/Province/Country

ZIP/Postal Code Phone VERY IMPORTANT

6 Service Not all services available to all destinations

FedEx International First (Postal code required) (Higher rates apply) FedEx International Priority

FedEx International Economy (FedEx Letter/Pak rate not available) FedEx International Priority Freight

7 Packaging FedEx Letter FedEx Pak Other Packaging

8 Special Handling Not all options available to all destinations

Does this shipment contain dangerous goods? (One box must be checked) No Yes (As per attached Shipper's Declaration)

No Yes (Shipper's Declaration not required) DESCRIPTION CA Cargo Aircraft Only 29 Dry Ice Dry Ice, 9, UN 1845 x kg.

9 Payment TRANSPORTATION CHARGES PAID BY: (Enter FedEx account no. or Credit Card no. below)

Sender Recipient Third Party Credit Card Cash/Check

FedEx Account No. Your Fed Ex Account Number Not all options available to all destinations. Exp. Date

DUTIES AND TAXES PAID BY: FedEx cannot estimate Customs charges

Sender Recipient Third Party Total (Excludes Customs charges)

FedEx Account No. Your Fed Ex Account Number \$

10 Required Signature

By giving us your shipment, you agree to the conditions on the back of this Non-Negotiable Air Waybill. Certain international treaties, including the Warsaw Convention, may apply to this shipment and limit our liability for damage, loss or delay, as described in the Conditions of Contract.

WARNING: These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. Law prohibited.

Sender's Signature: * Date Executed: *

This is not authorization to deliver this shipment without a recipient signature. Use of this Air Waybill constitutes your agreement to the Conditions of Contract on the back of this Air Waybill. The terms and conditions of service may vary from country to country. Consult our local office for specific information.

FedEx Courier Receipt: Date: (For Letter of Credit shipments only)

FedEx Tracking Number Form I.D. No. 0400

For Assistance Call 1-800-247-4747

FedEx International Air Waybill

For all U.S. Export Shipments and shipments between the U.S. and Puerto Rico

Refer to the back of the Destination Station copy of this Air Waybill for completion instructions and a detailed description of above services.

SENDER'S COPY

RETAIN THIS COPY FOR YOUR RECORDS

International Air Waybill

FedEx Federal Express

0400

Non-Negotiable International Air Waybill ©1994-97 Federal Express Corporation

311

PART 151709 Rev. Date 7/97 ©1994-97 FedEx PRINTED IN U.S.A.

97 SPC



<p>1. Vendor (name and address) - Vendeur (nom et adresse)</p> <p>ENTER YOUR NAME, COMPANY & ADDRESS</p>	<p>2. Date of direct shipment to Canada - Date d'expédition directe vers le Canada</p> <p style="text-align: center;">ENTER DATE</p> <p>3. Other references (include purchaser's order No.) Autres références (inclure le n° de commande de l'acheteur)</p>
---	--

<p>4. Consignee (name and address) - Destinataire (nom et adresse)</p> <p>SAMPLE RECEPTION SIREM LABORATORY 130 RESEARCH LANE, SUITE 2 GUELPH, ON N1G 5G3 CANADA</p>	<p>5. Purchaser's name and address (if other than consignee) Nom et adresse de l'acheteur (s'il diffère du destinataire)</p>
---	--

<p>6. Country of transhipment - Pays de transbordement</p>	<p>7. Country of origin of goods Pays d'origine des marchandises USA</p> <p style="font-size: small;">IF SHIPMENT INCLUDES GOODS OF DIFFERENT ORIGINS ENTER ORIGINS AGAINST ITEMS IN 12. SI L'EXPÉDITION COMPREND DES MARCHANDISES D'ORIGINES DIFFÉRENTES, PRÉCISEZ LEUR PROVENANCE EN 12.</p>
--	---

<p>8. Transportation: Give mode and place of direct shipment to Canada Transport : Précisez mode et point d'expédition directe vers le Canada</p> <p>FEDEX air</p>	<p>9. Conditions of sale and terms of payment (i.e. sale, consignment shipment, leased goods, etc.) Conditions de vente et modalités de paiement (p. ex. vente, expédition en consignation, location de marchandises, etc.)</p> <p>SAMPLES for destructive analysis</p>
<p>10. Currency of settlement - Devises du paiement</p> <p>US FUNDS</p>	

11. Number of packages Nombre de colis	12. Specification of commodities (kind of packages, marks and numbers, general description and characteristics, i.e., grade, quality) Désignation des articles (nature des colis, marques et numéros, description générale et caractéristiques, p. ex. classe, qualité)	13. Quantity (state unit) Quantité (précisez l'unité)	Selling price - Prix de vente	
			14. Unit price Prix unitaire	15. Total
1	groundwater sample(s) for destructive analysis	1.000 unit/unit	1.00	1.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00
		unit/unit		0.00

<p>18. If any of fields 1 to 17 are included on an attached commercial invoice, check this box Si tout renseignement relativement aux zones 1 à 17 figure sur une ou des factures commerciales ci-attachées, cochez cette case</p> <p>Commercial Invoice No. / N° de la facture commerciale _____</p> <p style="text-align: right;"><input type="checkbox"/></p>	<p>16. Total weight - Poids total</p> <p>Net</p> <p>TOTAL LBS.</p>	<p>17. Invoice total Total de la facture</p> <p style="text-align: right;">1.00</p>
--	---	--

<p>19. Exporter's name and address (if other than vendor) Nom et adresse de l'exportateur (s'il diffère du vendeur)</p> <p>NOT APPLICABLE</p>	<p>20. Originator (name and address) - Expéditeur d'origine (nom et adresse)</p> <p>NOT APPLICABLE</p>
--	---

<p>21. CCRA ruling (if applicable) - Décision de l'Agence (s'il y a lieu)</p>	<p>22. If fields 23 to 25 are not applicable, check this box Si les zones 23 à 25 sont sans objet, cochez cette case</p> <p style="text-align: right;"><input checked="" type="checkbox"/></p>
---	--

<p>23. If included in field 17 indicate amount: Si compris dans le total à la zone 17, précisez :</p> <p>(i) Transportation charges, expenses and insurance from the place of direct shipment to Canada Les frais de transport, dépenses et assurances à partir du point d'expédition directe vers le Canada</p> <p>(ii) Costs for construction, erection and assembly incurred after importation into Canada Les coûts de construction, d'érection et d'assemblage après importation au Canada</p> <p>(iii) Export packing Le coût de l'emballage d'exportation</p>	<p>24. If not included in field 17 indicate amount: Si non compris dans le total à la zone 17, précisez :</p> <p>(i) Transportation charges, expenses and insurance to the place of direct shipment to Canada Les frais de transport, dépenses et assurances jusqu'au point d'expédition directe vers le Canada</p> <p>(ii) Amounts for commissions other than buying commissions Les commissions autres que celles versées pour l'achat</p> <p>(iii) Export packing Le coût de l'emballage d'exportation</p>	<p>25. Check (if applicable): Cochez (s'il y a lieu) :</p> <p>(i) Royalty payments or subsequent proceeds are paid or payable by the purchaser Des redevances ou produits ont été ou seront versés par l'acheteur</p> <p style="text-align: right;"><input type="checkbox"/></p> <p>(ii) The purchaser has supplied goods or services for use in the production of these goods L'acheteur a fourni des marchandises ou des services pour la production de ces marchandises</p> <p style="text-align: right;"><input type="checkbox"/></p>
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Dans ce formulaire, toutes les expressions désignant des personnes visent à la fois les hommes et les femmes.

APPENDIX D

SVE System Air Monitoring Data Sheet

- **Figure D1 - Vapor Extraction System Diagram**
- **Figure D2 - Facility Layout**
- **SVE System Air Monitoring Data Sheet**

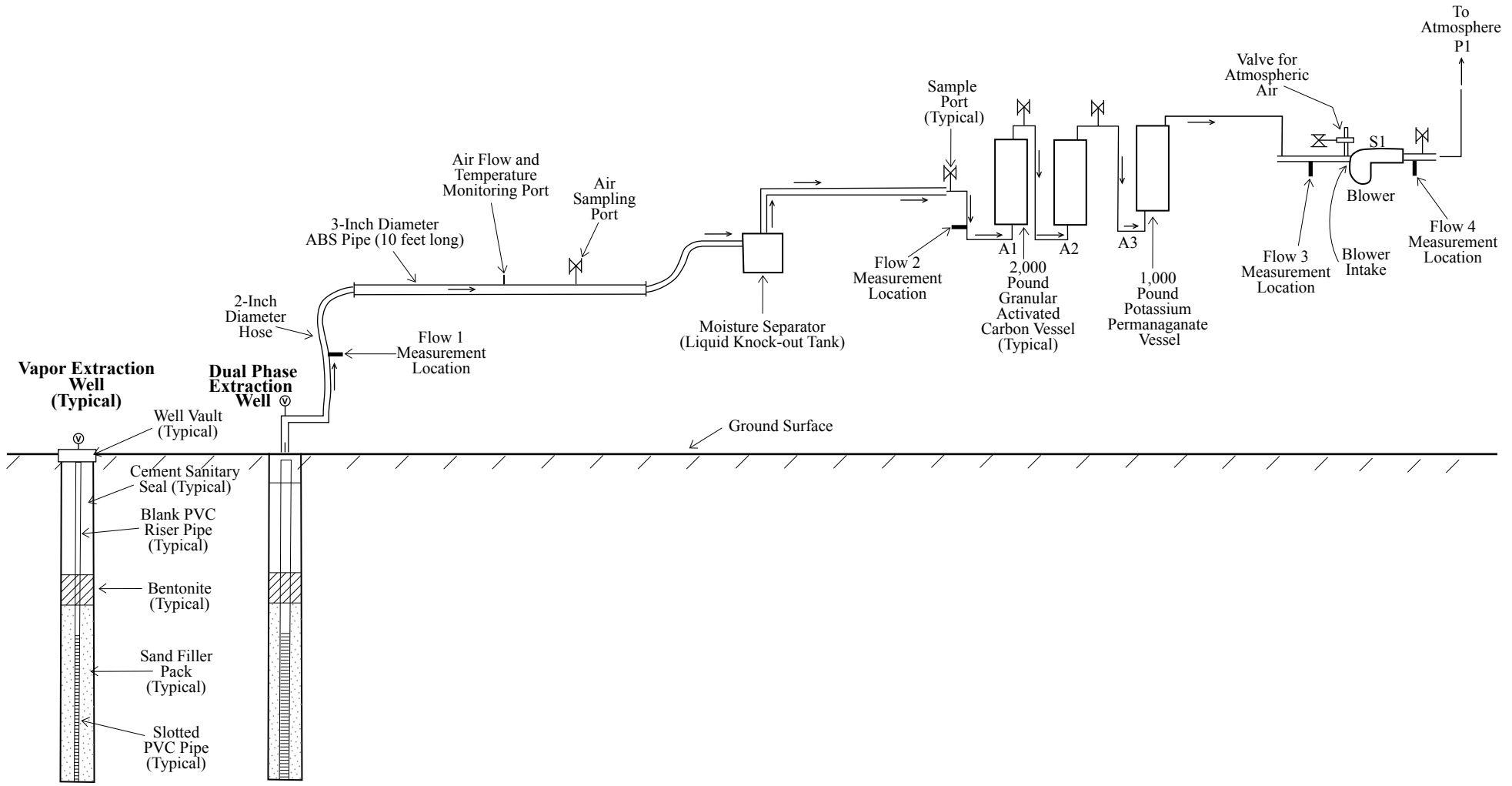
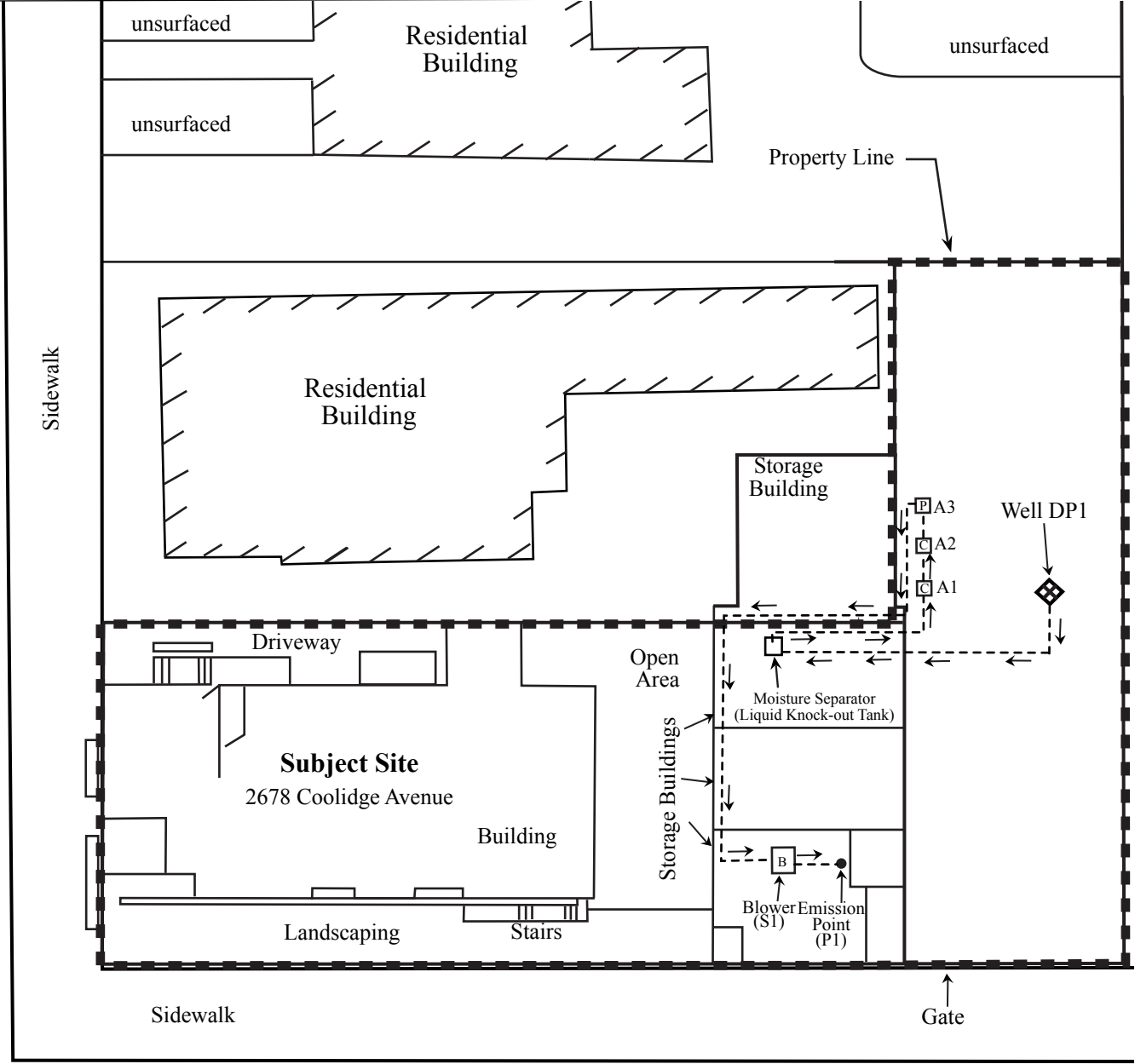


Figure D1
 Vapor Extraction System Diagram
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

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

NO SCALE

Coolidge Avenue



LEGEND

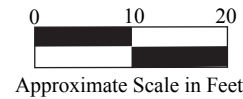
- Well
- Piping
- Flow Direction
- Blower
- Carbon Vessels
- Potassium Permanganate Vessel
- Emission Point
- Property Line

Figure D2
 Facility Layout
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

Davis Street

Base Map from:
 Kier & Wright Engineers Surveyors, Inc.
 September 2008 survey

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



SVE SYSTEM MONITORING DATA SHEET

10.8 Hz
~10.2 Hz

<u>Blower Startup Date & Time</u>	<u>Blower Shut Down Date & Time</u>	<u>Monitoring Date & Time</u>	<u>Frequency</u> <u>X</u> <u>Machine Hours</u>	<u>Monitored Location</u>	<u>System Vacuum</u> <u>(inches of mercury)</u>	<u>Monitored Pipe Dia-meter</u> <u>(inches)</u>	<u>Influent Vapor Flow Rate Between S1 & A1 (fpm)</u>	<u>Influent Vapor Flow Rate Between S1 & A1 (scfm)</u>	<u>Temperature (°F)</u>	<u>PID Reading Prior to A1 (ppm)</u>	<u>PID Reading Between A1 and A2 (ppm)</u>	<u>PID Reading After A2 (ppm)</u>	<u>Sample Collection at Inlet to A1 Date/Time</u>
1/27/14	1204			Flow 1		3"	1174	57.64	76.2				
				Flow 2		3"	895	41.50	70.3				
				Flow 3		3"	1143	56.08	69.1				
				Flow 4		3"	661	32.44	66.7				
				Inlet to A1	4								
				Inlet to A2	4								
				Inlet to A3	4								
				Flow 1		3"	837	41.06	65.2				
				Flow 2		3"	758	37.18	65.0				
				Flow 3		3"	1016	49.85	65.1				
				Flow 4		3"	648	31.80	66.7				
				Inlet to A1	4				283	283			
				Inlet to A2	4					22.4			
				Inlet to A3	4					6.3			
2/19/14				Inlet to A2						0.00			
				Inlet to A3						0.00			

APPENDIX E

LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION

- **McC Campbell W/O # 1311564 - November 15, 2013 Groundwater Samples from wells MW1 through MW4 and DP1 through DP4 TPH, MBTEX, and VOCs**
- **SiREM File References S-3048 - December 11 and 12, 2013 Groundwater Samples from wells MW1, and DP1 through DP4 Methane, Ethane, and Ethene**
- **Microseeps W/O# 10982 December 11 and 12, 2013 Groundwater Samples from wells MW1, and DP1 through DP4 Dissolved Hydrogen**
- **SiREM File References: S-3048 December 11 and 12, 2013 Groundwater Samples from wells MW-1, and DP-1 through DP-4 *Dehalococcoides* and Vinyl Chloride Reductase gene**
- **McC Campbell W/O # 1402723 - February 20, 2014 Air Sample Inlet to A1 TPH, VOCs, and Light Gases**
- **McC Campbell W/O # 1402724 - February 20, 2014 Air Sample Inlet to A2 TPH, VOCs, and Light Gases**
- **McC Campbell W/O # 1402791 - February 21, 2014 Effluent Water Sample TPH and VOCs**
- **McC Campbell W/O # 1402A30 - February 28, 2014 Air Sample Inlet to A1 TPH, VOCs, and Light Gases**
- **McC Campbell W/O # 1402A31 - February 28, 2014 Air Samples Inlet to A2 and Inlet to A3 TPH, VOCs, and Light Gases**
- **McC Campbell W/O # 1406A67 - June 26, 2014 Groundwater Samples from wells MW1 through MW4 and DP1 through DP4 TPH, MBTEX, and VOCs**
- **McC Campbell W/O # 1507703 - July 15 and 16, 2015 Groundwater Samples from wells MW1 through MW4 and DP1 through DP4 TPH, MBTEX, VOCs, and Dissolved Gases**



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1311564

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

Project Contact: Paul King
Project P.O.:
Project Name: #0298; Snow Cleaners

Project Received: 11/18/2013

Analytical Report reviewed & approved for release on 11/22/2013 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: #0298; Snow Cleaners
WorkOrder: 1311564

<u>Glossary</u> <u>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

<u>Analytical</u> <u>Qualifier</u>	
---------------------------------------	--

S	spike recovery outside accepted recovery limits
b6	lighter than water immiscible sheen/product is present
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d5	TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?)
d6	one to a few isolated non-target peaks present in the TPH(g) chromatogram
e2/e8	diesel range compounds are significant; no recognizable pattern; and/or kerosene/kerosene range/jet fuel range
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
e8	kerosene/kerosene range/jet fuel range
e11	stoddard solvent/mineral spirit (?)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
MW1	1311564-001B	Water	11/15/2013 12:32	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	11/20/2013 16:16
tert-Amyl methyl ether (TAME)	ND		0.50	1	11/20/2013 16:16
Benzene	ND		0.50	1	11/20/2013 16:16
Bromobenzene	ND		0.50	1	11/20/2013 16:16
Bromochloromethane	ND		0.50	1	11/20/2013 16:16
Bromodichloromethane	ND		0.50	1	11/20/2013 16:16
Bromoform	ND		0.50	1	11/20/2013 16:16
Bromomethane	ND		0.50	1	11/20/2013 16:16
2-Butanone (MEK)	ND		2.0	1	11/20/2013 16:16
t-Butyl alcohol (TBA)	ND		2.0	1	11/20/2013 16:16
n-Butyl benzene	ND		0.50	1	11/20/2013 16:16
sec-Butyl benzene	ND		0.50	1	11/20/2013 16:16
tert-Butyl benzene	ND		0.50	1	11/20/2013 16:16
Carbon Disulfide	ND		0.50	1	11/20/2013 16:16
Carbon Tetrachloride	ND		0.50	1	11/20/2013 16:16
Chlorobenzene	ND		0.50	1	11/20/2013 16:16
Chloroethane	ND		0.50	1	11/20/2013 16:16
Chloroform	1.2		0.50	1	11/20/2013 16:16
Chloromethane	ND		0.50	1	11/20/2013 16:16
2-Chlorotoluene	ND		0.50	1	11/20/2013 16:16
4-Chlorotoluene	ND		0.50	1	11/20/2013 16:16
Dibromochloromethane	ND		0.50	1	11/20/2013 16:16
1,2-Dibromo-3-chloropropane	ND		0.20	1	11/20/2013 16:16
1,2-Dibromoethane (EDB)	ND		0.50	1	11/20/2013 16:16
Dibromomethane	ND		0.50	1	11/20/2013 16:16
1,2-Dichlorobenzene	ND		0.50	1	11/20/2013 16:16
1,3-Dichlorobenzene	ND		0.50	1	11/20/2013 16:16
1,4-Dichlorobenzene	ND		0.50	1	11/20/2013 16:16
Dichlorodifluoromethane	ND		0.50	1	11/20/2013 16:16
1,1-Dichloroethane	ND		0.50	1	11/20/2013 16:16
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	11/20/2013 16:16
1,1-Dichloroethene	ND		0.50	1	11/20/2013 16:16
cis-1,2-Dichloroethene	ND		0.50	1	11/20/2013 16:16
trans-1,2-Dichloroethene	ND		0.50	1	11/20/2013 16:16
1,2-Dichloropropane	ND		0.50	1	11/20/2013 16:16
1,3-Dichloropropane	ND		0.50	1	11/20/2013 16:16
2,2-Dichloropropane	ND		0.50	1	11/20/2013 16:16
1,1-Dichloropropene	ND		0.50	1	11/20/2013 16:16

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW1	1311564-001B	Water	11/15/2013 12:32	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	11/20/2013 16:16
trans-1,3-Dichloropropene	ND		0.50	1	11/20/2013 16:16
Diisopropyl ether (DIPE)	ND		0.50	1	11/20/2013 16:16
Ethylbenzene	ND		0.50	1	11/20/2013 16:16
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	11/20/2013 16:16
Freon 113	ND		0.50	1	11/20/2013 16:16
Hexachlorobutadiene	ND		0.50	1	11/20/2013 16:16
Hexachloroethane	ND		0.50	1	11/20/2013 16:16
2-Hexanone	ND		0.50	1	11/20/2013 16:16
Isopropylbenzene	ND		0.50	1	11/20/2013 16:16
4-Isopropyl toluene	ND		0.50	1	11/20/2013 16:16
Methyl-t-butyl ether (MTBE)	ND		0.50	1	11/20/2013 16:16
Methylene chloride	ND		0.50	1	11/20/2013 16:16
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	11/20/2013 16:16
Naphthalene	ND		0.50	1	11/20/2013 16:16
n-Propyl benzene	ND		0.50	1	11/20/2013 16:16
Styrene	ND		0.50	1	11/20/2013 16:16
1,1,1,2-Tetrachloroethane	ND		0.50	1	11/20/2013 16:16
1,1,2,2-Tetrachloroethane	ND		0.50	1	11/20/2013 16:16
Tetrachloroethene	ND		0.50	1	11/20/2013 16:16
Toluene	ND		0.50	1	11/20/2013 16:16
1,2,3-Trichlorobenzene	ND		0.50	1	11/20/2013 16:16
1,2,4-Trichlorobenzene	ND		0.50	1	11/20/2013 16:16
1,1,1-Trichloroethane	ND		0.50	1	11/20/2013 16:16
1,1,2-Trichloroethane	ND		0.50	1	11/20/2013 16:16
Trichloroethene	ND		0.50	1	11/20/2013 16:16
Trichlorofluoromethane	ND		0.50	1	11/20/2013 16:16
1,2,3-Trichloropropane	ND		0.50	1	11/20/2013 16:16
1,2,4-Trimethylbenzene	ND		0.50	1	11/20/2013 16:16
1,3,5-Trimethylbenzene	ND		0.50	1	11/20/2013 16:16
Vinyl Chloride	ND		0.50	1	11/20/2013 16:16
Xylenes, Total	ND		0.50	1	11/20/2013 16:16
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	111		70-130		11/20/2013 16:16
Toluene-d8	105		70-130		11/20/2013 16:16
4-BFB	93		70-130		11/20/2013 16:16

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
Extraction Method: SW5030B
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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
MW2	1311564-002B	Water	11/15/2013 11:55	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		500	50	11/20/2013 16:54
tert-Amyl methyl ether (TAME)	ND		25	50	11/20/2013 16:54
Benzene	ND		25	50	11/20/2013 16:54
Bromobenzene	ND		25	50	11/20/2013 16:54
Bromochloromethane	ND		25	50	11/20/2013 16:54
Bromodichloromethane	ND		25	50	11/20/2013 16:54
Bromoform	ND		25	50	11/20/2013 16:54
Bromomethane	ND		25	50	11/20/2013 16:54
2-Butanone (MEK)	ND		100	50	11/20/2013 16:54
t-Butyl alcohol (TBA)	ND		100	50	11/20/2013 16:54
n-Butyl benzene	ND		25	50	11/20/2013 16:54
sec-Butyl benzene	ND		25	50	11/20/2013 16:54
tert-Butyl benzene	ND		25	50	11/20/2013 16:54
Carbon Disulfide	ND		25	50	11/20/2013 16:54
Carbon Tetrachloride	ND		25	50	11/20/2013 16:54
Chlorobenzene	ND		25	50	11/20/2013 16:54
Chloroethane	ND		25	50	11/20/2013 16:54
Chloroform	ND		25	50	11/20/2013 16:54
Chloromethane	ND		25	50	11/20/2013 16:54
2-Chlorotoluene	ND		25	50	11/20/2013 16:54
4-Chlorotoluene	ND		25	50	11/20/2013 16:54
Dibromochloromethane	ND		25	50	11/20/2013 16:54
1,2-Dibromo-3-chloropropane	ND		10	50	11/20/2013 16:54
1,2-Dibromoethane (EDB)	ND		25	50	11/20/2013 16:54
Dibromomethane	ND		25	50	11/20/2013 16:54
1,2-Dichlorobenzene	ND		25	50	11/20/2013 16:54
1,3-Dichlorobenzene	ND		25	50	11/20/2013 16:54
1,4-Dichlorobenzene	ND		25	50	11/20/2013 16:54
Dichlorodifluoromethane	ND		25	50	11/20/2013 16:54
1,1-Dichloroethane	ND		25	50	11/20/2013 16:54
1,2-Dichloroethane (1,2-DCA)	ND		25	50	11/20/2013 16:54
1,1-Dichloroethene	ND		25	50	11/20/2013 16:54
cis-1,2-Dichloroethene	940		25	50	11/20/2013 16:54
trans-1,2-Dichloroethene	26		25	50	11/20/2013 16:54
1,2-Dichloropropane	ND		25	50	11/20/2013 16:54
1,3-Dichloropropane	ND		25	50	11/20/2013 16:54
2,2-Dichloropropane	ND		25	50	11/20/2013 16:54
1,1-Dichloropropene	ND		25	50	11/20/2013 16:54

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
MW2	1311564-002B	Water	11/15/2013 11:55	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		25	50	11/20/2013 16:54
trans-1,3-Dichloropropene	ND		25	50	11/20/2013 16:54
Diisopropyl ether (DIPE)	ND		25	50	11/20/2013 16:54
Ethylbenzene	ND		25	50	11/20/2013 16:54
Ethyl tert-butyl ether (ETBE)	ND		25	50	11/20/2013 16:54
Freon 113	ND		25	50	11/20/2013 16:54
Hexachlorobutadiene	ND		25	50	11/20/2013 16:54
Hexachloroethane	ND		25	50	11/20/2013 16:54
2-Hexanone	ND		25	50	11/20/2013 16:54
Isopropylbenzene	ND		25	50	11/20/2013 16:54
4-Isopropyl toluene	ND		25	50	11/20/2013 16:54
Methyl-t-butyl ether (MTBE)	ND		25	50	11/20/2013 16:54
Methylene chloride	ND		25	50	11/20/2013 16:54
4-Methyl-2-pentanone (MIBK)	ND		25	50	11/20/2013 16:54
Naphthalene	ND		25	50	11/20/2013 16:54
n-Propyl benzene	ND		25	50	11/20/2013 16:54
Styrene	ND		25	50	11/20/2013 16:54
1,1,1,2-Tetrachloroethane	ND		25	50	11/20/2013 16:54
1,1,2,2-Tetrachloroethane	ND		25	50	11/20/2013 16:54
Tetrachloroethene	ND		25	50	11/20/2013 16:54
Toluene	ND		25	50	11/20/2013 16:54
1,2,3-Trichlorobenzene	ND		25	50	11/20/2013 16:54
1,2,4-Trichlorobenzene	ND		25	50	11/20/2013 16:54
1,1,1-Trichloroethane	ND		25	50	11/20/2013 16:54
1,1,2-Trichloroethane	ND		25	50	11/20/2013 16:54
Trichloroethene	ND		25	50	11/20/2013 16:54
Trichlorofluoromethane	ND		25	50	11/20/2013 16:54
1,2,3-Trichloropropane	ND		25	50	11/20/2013 16:54
1,2,4-Trimethylbenzene	95		25	50	11/20/2013 16:54
1,3,5-Trimethylbenzene	31		25	50	11/20/2013 16:54
Vinyl Chloride	120		25	50	11/20/2013 16:54
Xylenes, Total	48		25	50	11/20/2013 16:54
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	111		70-130		11/20/2013 16:54
Toluene-d8	107		70-130		11/20/2013 16:54
4-BFB	94		70-130		11/20/2013 16:54

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
MW3	1311564-003B	Water	11/15/2013 13:55	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	11/20/2013 04:22
tert-Amyl methyl ether (TAME)	ND		0.50	1	11/20/2013 04:22
Benzene	ND		0.50	1	11/20/2013 04:22
Bromobenzene	ND		0.50	1	11/20/2013 04:22
Bromochloromethane	ND		0.50	1	11/20/2013 04:22
Bromodichloromethane	ND		0.50	1	11/20/2013 04:22
Bromoform	ND		0.50	1	11/20/2013 04:22
Bromomethane	ND		0.50	1	11/20/2013 04:22
2-Butanone (MEK)	ND		2.0	1	11/20/2013 04:22
t-Butyl alcohol (TBA)	ND		2.0	1	11/20/2013 04:22
n-Butyl benzene	ND		0.50	1	11/20/2013 04:22
sec-Butyl benzene	ND		0.50	1	11/20/2013 04:22
tert-Butyl benzene	ND		0.50	1	11/20/2013 04:22
Carbon Disulfide	ND		0.50	1	11/20/2013 04:22
Carbon Tetrachloride	ND		0.50	1	11/20/2013 04:22
Chlorobenzene	ND		0.50	1	11/20/2013 04:22
Chloroethane	ND		0.50	1	11/20/2013 04:22
Chloroform	ND		0.50	1	11/20/2013 04:22
Chloromethane	ND		0.50	1	11/20/2013 04:22
2-Chlorotoluene	ND		0.50	1	11/20/2013 04:22
4-Chlorotoluene	ND		0.50	1	11/20/2013 04:22
Dibromochloromethane	ND		0.50	1	11/20/2013 04:22
1,2-Dibromo-3-chloropropane	ND		0.20	1	11/20/2013 04:22
1,2-Dibromoethane (EDB)	ND		0.50	1	11/20/2013 04:22
Dibromomethane	ND		0.50	1	11/20/2013 04:22
1,2-Dichlorobenzene	ND		0.50	1	11/20/2013 04:22
1,3-Dichlorobenzene	ND		0.50	1	11/20/2013 04:22
1,4-Dichlorobenzene	ND		0.50	1	11/20/2013 04:22
Dichlorodifluoromethane	ND		0.50	1	11/20/2013 04:22
1,1-Dichloroethane	ND		0.50	1	11/20/2013 04:22
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	11/20/2013 04:22
1,1-Dichloroethene	ND		0.50	1	11/20/2013 04:22
cis-1,2-Dichloroethene	ND		0.50	1	11/20/2013 04:22
trans-1,2-Dichloroethene	ND		0.50	1	11/20/2013 04:22
1,2-Dichloropropane	ND		0.50	1	11/20/2013 04:22
1,3-Dichloropropane	ND		0.50	1	11/20/2013 04:22
2,2-Dichloropropane	ND		0.50	1	11/20/2013 04:22
1,1-Dichloropropene	ND		0.50	1	11/20/2013 04:22

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
MW3	1311564-003B	Water	11/15/2013 13:55	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	11/20/2013 04:22
trans-1,3-Dichloropropene	ND		0.50	1	11/20/2013 04:22
Diisopropyl ether (DIPE)	ND		0.50	1	11/20/2013 04:22
Ethylbenzene	ND		0.50	1	11/20/2013 04:22
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	11/20/2013 04:22
Freon 113	ND		0.50	1	11/20/2013 04:22
Hexachlorobutadiene	ND		0.50	1	11/20/2013 04:22
Hexachloroethane	ND		0.50	1	11/20/2013 04:22
2-Hexanone	ND		0.50	1	11/20/2013 04:22
Isopropylbenzene	ND		0.50	1	11/20/2013 04:22
4-Isopropyl toluene	ND		0.50	1	11/20/2013 04:22
Methyl-t-butyl ether (MTBE)	ND		0.50	1	11/20/2013 04:22
Methylene chloride	ND		0.50	1	11/20/2013 04:22
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	11/20/2013 04:22
Naphthalene	ND		0.50	1	11/20/2013 04:22
n-Propyl benzene	ND		0.50	1	11/20/2013 04:22
Styrene	ND		0.50	1	11/20/2013 04:22
1,1,1,2-Tetrachloroethane	ND		0.50	1	11/20/2013 04:22
1,1,2,2-Tetrachloroethane	ND		0.50	1	11/20/2013 04:22
Tetrachloroethene	ND		0.50	1	11/20/2013 04:22
Toluene	ND		0.50	1	11/20/2013 04:22
1,2,3-Trichlorobenzene	ND		0.50	1	11/20/2013 04:22
1,2,4-Trichlorobenzene	ND		0.50	1	11/20/2013 04:22
1,1,1-Trichloroethane	ND		0.50	1	11/20/2013 04:22
1,1,2-Trichloroethane	ND		0.50	1	11/20/2013 04:22
Trichloroethene	ND		0.50	1	11/20/2013 04:22
Trichlorofluoromethane	ND		0.50	1	11/20/2013 04:22
1,2,3-Trichloropropane	ND		0.50	1	11/20/2013 04:22
1,2,4-Trimethylbenzene	ND		0.50	1	11/20/2013 04:22
1,3,5-Trimethylbenzene	ND		0.50	1	11/20/2013 04:22
Vinyl Chloride	ND		0.50	1	11/20/2013 04:22
Xylenes, Total	ND		0.50	1	11/20/2013 04:22
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	112		70-130		11/20/2013 04:22
Toluene-d8	106		70-130		11/20/2013 04:22
4-BFB	97		70-130		11/20/2013 04:22

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
MW4	1311564-004B	Water	11/15/2013 15:15	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	11/20/2013 05:00
tert-Amyl methyl ether (TAME)	ND		0.50	1	11/20/2013 05:00
Benzene	ND		0.50	1	11/20/2013 05:00
Bromobenzene	ND		0.50	1	11/20/2013 05:00
Bromochloromethane	ND		0.50	1	11/20/2013 05:00
Bromodichloromethane	ND		0.50	1	11/20/2013 05:00
Bromoform	ND		0.50	1	11/20/2013 05:00
Bromomethane	ND		0.50	1	11/20/2013 05:00
2-Butanone (MEK)	ND		2.0	1	11/20/2013 05:00
t-Butyl alcohol (TBA)	ND		2.0	1	11/20/2013 05:00
n-Butyl benzene	ND		0.50	1	11/20/2013 05:00
sec-Butyl benzene	ND		0.50	1	11/20/2013 05:00
tert-Butyl benzene	ND		0.50	1	11/20/2013 05:00
Carbon Disulfide	ND		0.50	1	11/20/2013 05:00
Carbon Tetrachloride	ND		0.50	1	11/20/2013 05:00
Chlorobenzene	ND		0.50	1	11/20/2013 05:00
Chloroethane	ND		0.50	1	11/20/2013 05:00
Chloroform	2.0		0.50	1	11/20/2013 05:00
Chloromethane	ND		0.50	1	11/20/2013 05:00
2-Chlorotoluene	ND		0.50	1	11/20/2013 05:00
4-Chlorotoluene	ND		0.50	1	11/20/2013 05:00
Dibromochloromethane	ND		0.50	1	11/20/2013 05:00
1,2-Dibromo-3-chloropropane	ND		0.20	1	11/20/2013 05:00
1,2-Dibromoethane (EDB)	ND		0.50	1	11/20/2013 05:00
Dibromomethane	ND		0.50	1	11/20/2013 05:00
1,2-Dichlorobenzene	ND		0.50	1	11/20/2013 05:00
1,3-Dichlorobenzene	ND		0.50	1	11/20/2013 05:00
1,4-Dichlorobenzene	ND		0.50	1	11/20/2013 05:00
Dichlorodifluoromethane	ND		0.50	1	11/20/2013 05:00
1,1-Dichloroethane	ND		0.50	1	11/20/2013 05:00
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	11/20/2013 05:00
1,1-Dichloroethene	ND		0.50	1	11/20/2013 05:00
cis-1,2-Dichloroethene	22		0.50	1	11/20/2013 05:00
trans-1,2-Dichloroethene	ND		0.50	1	11/20/2013 05:00
1,2-Dichloropropane	ND		0.50	1	11/20/2013 05:00
1,3-Dichloropropane	ND		0.50	1	11/20/2013 05:00
2,2-Dichloropropane	ND		0.50	1	11/20/2013 05:00
1,1-Dichloropropene	ND		0.50	1	11/20/2013 05:00

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
MW4	1311564-004B	Water	11/15/2013 15:15	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	11/20/2013 05:00
trans-1,3-Dichloropropene	ND		0.50	1	11/20/2013 05:00
Diisopropyl ether (DIPE)	ND		0.50	1	11/20/2013 05:00
Ethylbenzene	ND		0.50	1	11/20/2013 05:00
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	11/20/2013 05:00
Freon 113	ND		0.50	1	11/20/2013 05:00
Hexachlorobutadiene	ND		0.50	1	11/20/2013 05:00
Hexachloroethane	ND		0.50	1	11/20/2013 05:00
2-Hexanone	ND		0.50	1	11/20/2013 05:00
Isopropylbenzene	ND		0.50	1	11/20/2013 05:00
4-Isopropyl toluene	ND		0.50	1	11/20/2013 05:00
Methyl-t-butyl ether (MTBE)	ND		0.50	1	11/20/2013 05:00
Methylene chloride	ND		0.50	1	11/20/2013 05:00
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	11/20/2013 05:00
Naphthalene	ND		0.50	1	11/20/2013 05:00
n-Propyl benzene	ND		0.50	1	11/20/2013 05:00
Styrene	ND		0.50	1	11/20/2013 05:00
1,1,1,2-Tetrachloroethane	ND		0.50	1	11/20/2013 05:00
1,1,2,2-Tetrachloroethane	ND		0.50	1	11/20/2013 05:00
Tetrachloroethene	ND		0.50	1	11/20/2013 05:00
Toluene	ND		0.50	1	11/20/2013 05:00
1,2,3-Trichlorobenzene	ND		0.50	1	11/20/2013 05:00
1,2,4-Trichlorobenzene	ND		0.50	1	11/20/2013 05:00
1,1,1-Trichloroethane	ND		0.50	1	11/20/2013 05:00
1,1,2-Trichloroethane	ND		0.50	1	11/20/2013 05:00
Trichloroethene	ND		0.50	1	11/20/2013 05:00
Trichlorofluoromethane	ND		0.50	1	11/20/2013 05:00
1,2,3-Trichloropropane	ND		0.50	1	11/20/2013 05:00
1,2,4-Trimethylbenzene	ND		0.50	1	11/20/2013 05:00
1,3,5-Trimethylbenzene	ND		0.50	1	11/20/2013 05:00
Vinyl Chloride	ND		0.50	1	11/20/2013 05:00
Xylenes, Total	ND		0.50	1	11/20/2013 05:00
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	112		70-130		11/20/2013 05:00
Toluene-d8	109		70-130		11/20/2013 05:00
4-BFB	100		70-130		11/20/2013 05:00

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
DP1	1311564-005B	Water	11/15/2013 09:50	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10,000	1000	11/20/2013 15:37
tert-Amyl methyl ether (TAME)	ND		500	1000	11/20/2013 15:37
Benzene	ND		500	1000	11/20/2013 15:37
Bromobenzene	ND		500	1000	11/20/2013 15:37
Bromochloromethane	ND		500	1000	11/20/2013 15:37
Bromodichloromethane	ND		500	1000	11/20/2013 15:37
Bromoform	ND		500	1000	11/20/2013 15:37
Bromomethane	ND		500	1000	11/20/2013 15:37
2-Butanone (MEK)	ND		2000	1000	11/20/2013 15:37
t-Butyl alcohol (TBA)	ND		2000	1000	11/20/2013 15:37
n-Butyl benzene	ND		500	1000	11/20/2013 15:37
sec-Butyl benzene	ND		500	1000	11/20/2013 15:37
tert-Butyl benzene	ND		500	1000	11/20/2013 15:37
Carbon Disulfide	ND		500	1000	11/20/2013 15:37
Carbon Tetrachloride	ND		500	1000	11/20/2013 15:37
Chlorobenzene	ND		500	1000	11/20/2013 15:37
Chloroethane	ND		500	1000	11/20/2013 15:37
Chloroform	ND		500	1000	11/20/2013 15:37
Chloromethane	ND		500	1000	11/20/2013 15:37
2-Chlorotoluene	ND		500	1000	11/20/2013 15:37
4-Chlorotoluene	ND		500	1000	11/20/2013 15:37
Dibromochloromethane	ND		500	1000	11/20/2013 15:37
1,2-Dibromo-3-chloropropane	ND		200	1000	11/20/2013 15:37
1,2-Dibromoethane (EDB)	ND		500	1000	11/20/2013 15:37
Dibromomethane	ND		500	1000	11/20/2013 15:37
1,2-Dichlorobenzene	ND		500	1000	11/20/2013 15:37
1,3-Dichlorobenzene	ND		500	1000	11/20/2013 15:37
1,4-Dichlorobenzene	ND		500	1000	11/20/2013 15:37
Dichlorodifluoromethane	ND		500	1000	11/20/2013 15:37
1,1-Dichloroethane	ND		500	1000	11/20/2013 15:37
1,2-Dichloroethane (1,2-DCA)	ND		500	1000	11/20/2013 15:37
1,1-Dichloroethene	ND		500	1000	11/20/2013 15:37
cis-1,2-Dichloroethene	14,000		500	1000	11/20/2013 15:37
trans-1,2-Dichloroethene	ND		500	1000	11/20/2013 15:37
1,2-Dichloropropane	ND		500	1000	11/20/2013 15:37
1,3-Dichloropropane	ND		500	1000	11/20/2013 15:37
2,2-Dichloropropane	ND		500	1000	11/20/2013 15:37
1,1-Dichloropropene	ND		500	1000	11/20/2013 15:37

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
DP1	1311564-005B	Water	11/15/2013 09:50	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		500	1000	11/20/2013 15:37
trans-1,3-Dichloropropene	ND		500	1000	11/20/2013 15:37
Diisopropyl ether (DIPE)	ND		500	1000	11/20/2013 15:37
Ethylbenzene	ND		500	1000	11/20/2013 15:37
Ethyl tert-butyl ether (ETBE)	ND		500	1000	11/20/2013 15:37
Freon 113	ND		500	1000	11/20/2013 15:37
Hexachlorobutadiene	ND		500	1000	11/20/2013 15:37
Hexachloroethane	ND		500	1000	11/20/2013 15:37
2-Hexanone	ND		500	1000	11/20/2013 15:37
Isopropylbenzene	ND		500	1000	11/20/2013 15:37
4-Isopropyl toluene	ND		500	1000	11/20/2013 15:37
Methyl-t-butyl ether (MTBE)	ND		500	1000	11/20/2013 15:37
Methylene chloride	ND		500	1000	11/20/2013 15:37
4-Methyl-2-pentanone (MIBK)	ND		500	1000	11/20/2013 15:37
Naphthalene	ND		500	1000	11/20/2013 15:37
n-Propyl benzene	ND		500	1000	11/20/2013 15:37
Styrene	ND		500	1000	11/20/2013 15:37
1,1,1,2-Tetrachloroethane	ND		500	1000	11/20/2013 15:37
1,1,2,2-Tetrachloroethane	ND		500	1000	11/20/2013 15:37
Tetrachloroethene	ND		500	1000	11/20/2013 15:37
Toluene	ND		500	1000	11/20/2013 15:37
1,2,3-Trichlorobenzene	ND		500	1000	11/20/2013 15:37
1,2,4-Trichlorobenzene	ND		500	1000	11/20/2013 15:37
1,1,1-Trichloroethane	ND		500	1000	11/20/2013 15:37
1,1,2-Trichloroethane	ND		500	1000	11/20/2013 15:37
Trichloroethene	ND		500	1000	11/20/2013 15:37
Trichlorofluoromethane	ND		500	1000	11/20/2013 15:37
1,2,3-Trichloropropane	ND		500	1000	11/20/2013 15:37
1,2,4-Trimethylbenzene	ND		500	1000	11/20/2013 15:37
1,3,5-Trimethylbenzene	ND		500	1000	11/20/2013 15:37
Vinyl Chloride	4400		500	1000	11/20/2013 15:37
Xylenes, Total	ND		500	1000	11/20/2013 15:37
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	112		70-130		11/20/2013 15:37
Toluene-d8	105		70-130		11/20/2013 15:37
4-BFB	92		70-130		11/20/2013 15:37

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
DP2	1311564-006B	Water	11/15/2013 14:33	GC28	84281
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		2500	250	11/20/2013 23:20
tert-Amyl methyl ether (TAME)	ND		120	250	11/20/2013 23:20
Benzene	ND		120	250	11/20/2013 23:20
Bromobenzene	ND		120	250	11/20/2013 23:20
Bromochloromethane	ND		120	250	11/20/2013 23:20
Bromodichloromethane	ND		120	250	11/20/2013 23:20
Bromoform	ND		120	250	11/20/2013 23:20
Bromomethane	ND		120	250	11/20/2013 23:20
2-Butanone (MEK)	ND		500	250	11/20/2013 23:20
t-Butyl alcohol (TBA)	ND		500	250	11/20/2013 23:20
n-Butyl benzene	ND		120	250	11/20/2013 23:20
sec-Butyl benzene	ND		120	250	11/20/2013 23:20
tert-Butyl benzene	ND		120	250	11/20/2013 23:20
Carbon Disulfide	ND		120	250	11/20/2013 23:20
Carbon Tetrachloride	ND		120	250	11/20/2013 23:20
Chlorobenzene	ND		120	250	11/20/2013 23:20
Chloroethane	ND		120	250	11/20/2013 23:20
Chloroform	ND		120	250	11/20/2013 23:20
Chloromethane	ND		120	250	11/20/2013 23:20
2-Chlorotoluene	ND		120	250	11/20/2013 23:20
4-Chlorotoluene	ND		120	250	11/20/2013 23:20
Dibromochloromethane	ND		120	250	11/20/2013 23:20
1,2-Dibromo-3-chloropropane	ND		50	250	11/20/2013 23:20
1,2-Dibromoethane (EDB)	ND		120	250	11/20/2013 23:20
Dibromomethane	ND		120	250	11/20/2013 23:20
1,2-Dichlorobenzene	ND		120	250	11/20/2013 23:20
1,3-Dichlorobenzene	ND		120	250	11/20/2013 23:20
1,4-Dichlorobenzene	ND		120	250	11/20/2013 23:20
Dichlorodifluoromethane	ND		120	250	11/20/2013 23:20
1,1-Dichloroethane	ND		120	250	11/20/2013 23:20
1,2-Dichloroethane (1,2-DCA)	ND		120	250	11/20/2013 23:20
1,1-Dichloroethene	ND		120	250	11/20/2013 23:20
cis-1,2-Dichloroethene	5900		120	250	11/20/2013 23:20
trans-1,2-Dichloroethene	ND		120	250	11/20/2013 23:20
1,2-Dichloropropane	ND		120	250	11/20/2013 23:20
1,3-Dichloropropane	ND		120	250	11/20/2013 23:20
2,2-Dichloropropane	ND		120	250	11/20/2013 23:20
1,1-Dichloropropene	ND		120	250	11/20/2013 23:20

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
DP2	1311564-006B	Water	11/15/2013 14:33	GC28	84281
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		120	250	11/20/2013 23:20
trans-1,3-Dichloropropene	ND		120	250	11/20/2013 23:20
Diisopropyl ether (DIPE)	ND		120	250	11/20/2013 23:20
Ethylbenzene	ND		120	250	11/20/2013 23:20
Ethyl tert-butyl ether (ETBE)	ND		120	250	11/20/2013 23:20
Freon 113	ND		120	250	11/20/2013 23:20
Hexachlorobutadiene	ND		120	250	11/20/2013 23:20
Hexachloroethane	ND		120	250	11/20/2013 23:20
2-Hexanone	ND		120	250	11/20/2013 23:20
Isopropylbenzene	ND		120	250	11/20/2013 23:20
4-Isopropyl toluene	ND		120	250	11/20/2013 23:20
Methyl-t-butyl ether (MTBE)	ND		120	250	11/20/2013 23:20
Methylene chloride	ND		120	250	11/20/2013 23:20
4-Methyl-2-pentanone (MIBK)	ND		120	250	11/20/2013 23:20
Naphthalene	ND		120	250	11/20/2013 23:20
n-Propyl benzene	ND		120	250	11/20/2013 23:20
Styrene	ND		120	250	11/20/2013 23:20
1,1,1,2-Tetrachloroethane	ND		120	250	11/20/2013 23:20
1,1,2,2-Tetrachloroethane	ND		120	250	11/20/2013 23:20
Tetrachloroethene	ND		120	250	11/20/2013 23:20
Toluene	ND		120	250	11/20/2013 23:20
1,2,3-Trichlorobenzene	ND		120	250	11/20/2013 23:20
1,2,4-Trichlorobenzene	ND		120	250	11/20/2013 23:20
1,1,1-Trichloroethane	ND		120	250	11/20/2013 23:20
1,1,2-Trichloroethane	ND		120	250	11/20/2013 23:20
Trichloroethene	ND		120	250	11/20/2013 23:20
Trichlorofluoromethane	ND		120	250	11/20/2013 23:20
1,2,3-Trichloropropane	ND		120	250	11/20/2013 23:20
1,2,4-Trimethylbenzene	ND		120	250	11/20/2013 23:20
1,3,5-Trimethylbenzene	ND		120	250	11/20/2013 23:20
Vinyl Chloride	580		120	250	11/20/2013 23:20
Xylenes, Total	ND		120	250	11/20/2013 23:20
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	112		70-130		11/20/2013 23:20
Toluene-d8	107		70-130		11/20/2013 23:20
4-BFB	98		70-130		11/20/2013 23:20

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
DP3	1311564-007B	Water	11/15/2013 10:57	GC28	84281
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		20	2	11/21/2013 10:25
tert-Amyl methyl ether (TAME)	ND		1.0	2	11/21/2013 10:25
Benzene	2.1		1.0	2	11/21/2013 10:25
Bromobenzene	ND		1.0	2	11/21/2013 10:25
Bromochloromethane	ND		1.0	2	11/21/2013 10:25
Bromodichloromethane	ND		1.0	2	11/21/2013 10:25
Bromoform	ND		1.0	2	11/21/2013 10:25
Bromomethane	ND		1.0	2	11/21/2013 10:25
2-Butanone (MEK)	ND		4.0	2	11/21/2013 10:25
t-Butyl alcohol (TBA)	ND		4.0	2	11/21/2013 10:25
n-Butyl benzene	3.7		1.0	2	11/21/2013 10:25
sec-Butyl benzene	4.8		1.0	2	11/21/2013 10:25
tert-Butyl benzene	ND		1.0	2	11/21/2013 10:25
Carbon Disulfide	ND		1.0	2	11/21/2013 10:25
Carbon Tetrachloride	ND		1.0	2	11/21/2013 10:25
Chlorobenzene	ND		1.0	2	11/21/2013 10:25
Chloroethane	ND		1.0	2	11/21/2013 10:25
Chloroform	ND		1.0	2	11/21/2013 10:25
Chloromethane	ND		1.0	2	11/21/2013 10:25
2-Chlorotoluene	ND		1.0	2	11/21/2013 10:25
4-Chlorotoluene	ND		1.0	2	11/21/2013 10:25
Dibromochloromethane	ND		1.0	2	11/21/2013 10:25
1,2-Dibromo-3-chloropropane	ND		0.40	2	11/21/2013 10:25
1,2-Dibromoethane (EDB)	ND		1.0	2	11/21/2013 10:25
Dibromomethane	ND		1.0	2	11/21/2013 10:25
1,2-Dichlorobenzene	ND		1.0	2	11/21/2013 10:25
1,3-Dichlorobenzene	ND		1.0	2	11/21/2013 10:25
1,4-Dichlorobenzene	ND		1.0	2	11/21/2013 10:25
Dichlorodifluoromethane	ND		1.0	2	11/21/2013 10:25
1,1-Dichloroethane	ND		1.0	2	11/21/2013 10:25
1,2-Dichloroethane (1,2-DCA)	ND		1.0	2	11/21/2013 10:25
1,1-Dichloroethene	ND		1.0	2	11/21/2013 10:25
cis-1,2-Dichloroethene	18		1.0	2	11/21/2013 10:25
trans-1,2-Dichloroethene	1.4		1.0	2	11/21/2013 10:25
1,2-Dichloropropane	ND		1.0	2	11/21/2013 10:25
1,3-Dichloropropane	ND		1.0	2	11/21/2013 10:25
2,2-Dichloropropane	ND		1.0	2	11/21/2013 10:25
1,1-Dichloropropene	ND		1.0	2	11/21/2013 10:25

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
DP3	1311564-007B	Water	11/15/2013 10:57	GC28	84281
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.0	2	11/21/2013 10:25
trans-1,3-Dichloropropene	ND		1.0	2	11/21/2013 10:25
Diisopropyl ether (DIPE)	ND		1.0	2	11/21/2013 10:25
Ethylbenzene	1.6		1.0	2	11/21/2013 10:25
Ethyl tert-butyl ether (ETBE)	ND		1.0	2	11/21/2013 10:25
Freon 113	ND		1.0	2	11/21/2013 10:25
Hexachlorobutadiene	ND		1.0	2	11/21/2013 10:25
Hexachloroethane	ND		1.0	2	11/21/2013 10:25
2-Hexanone	ND		1.0	2	11/21/2013 10:25
Isopropylbenzene	3.5		1.0	2	11/21/2013 10:25
4-Isopropyl toluene	1.6		1.0	2	11/21/2013 10:25
Methyl-t-butyl ether (MTBE)	ND		1.0	2	11/21/2013 10:25
Methylene chloride	ND		1.0	2	11/21/2013 10:25
4-Methyl-2-pentanone (MIBK)	ND		1.0	2	11/21/2013 10:25
Naphthalene	2.3		1.0	2	11/21/2013 10:25
n-Propyl benzene	5.3		1.0	2	11/21/2013 10:25
Styrene	ND		1.0	2	11/21/2013 10:25
1,1,1,2-Tetrachloroethane	ND		1.0	2	11/21/2013 10:25
1,1,2,2-Tetrachloroethane	ND		1.0	2	11/21/2013 10:25
Tetrachloroethene	ND		1.0	2	11/21/2013 10:25
Toluene	1.3		1.0	2	11/21/2013 10:25
1,2,3-Trichlorobenzene	ND		1.0	2	11/21/2013 10:25
1,2,4-Trichlorobenzene	ND		1.0	2	11/21/2013 10:25
1,1,1-Trichloroethane	ND		1.0	2	11/21/2013 10:25
1,1,2-Trichloroethane	ND		1.0	2	11/21/2013 10:25
Trichloroethene	ND		1.0	2	11/21/2013 10:25
Trichlorofluoromethane	ND		1.0	2	11/21/2013 10:25
1,2,3-Trichloropropane	ND		1.0	2	11/21/2013 10:25
1,2,4-Trimethylbenzene	34		1.0	2	11/21/2013 10:25
1,3,5-Trimethylbenzene	13		1.0	2	11/21/2013 10:25
Vinyl Chloride	16		1.0	2	11/21/2013 10:25
Xylenes, Total	9.0		1.0	2	11/21/2013 10:25
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	<u>Analytical Comments:</u> b6	
Dibromofluoromethane	106		70-130	11/21/2013 10:25	
Toluene-d8	109		70-130	11/21/2013 10:25	
4-BFB	96		70-130	11/21/2013 10:25	

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
DP4	1311564-008B	Water	11/15/2013 10:25	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		100	10	11/20/2013 18:11
tert-Amyl methyl ether (TAME)	ND		5.0	10	11/20/2013 18:11
Benzene	ND		5.0	10	11/20/2013 18:11
Bromobenzene	ND		5.0	10	11/20/2013 18:11
Bromochloromethane	ND		5.0	10	11/20/2013 18:11
Bromodichloromethane	ND		5.0	10	11/20/2013 18:11
Bromoform	ND		5.0	10	11/20/2013 18:11
Bromomethane	ND		5.0	10	11/20/2013 18:11
2-Butanone (MEK)	ND		20	10	11/20/2013 18:11
t-Butyl alcohol (TBA)	ND		20	10	11/20/2013 18:11
n-Butyl benzene	ND		5.0	10	11/20/2013 18:11
sec-Butyl benzene	ND		5.0	10	11/20/2013 18:11
tert-Butyl benzene	ND		5.0	10	11/20/2013 18:11
Carbon Disulfide	ND		5.0	10	11/20/2013 18:11
Carbon Tetrachloride	ND		5.0	10	11/20/2013 18:11
Chlorobenzene	ND		5.0	10	11/20/2013 18:11
Chloroethane	ND		5.0	10	11/20/2013 18:11
Chloroform	ND		5.0	10	11/20/2013 18:11
Chloromethane	ND		5.0	10	11/20/2013 18:11
2-Chlorotoluene	ND		5.0	10	11/20/2013 18:11
4-Chlorotoluene	ND		5.0	10	11/20/2013 18:11
Dibromochloromethane	ND		5.0	10	11/20/2013 18:11
1,2-Dibromo-3-chloropropane	ND		2.0	10	11/20/2013 18:11
1,2-Dibromoethane (EDB)	ND		5.0	10	11/20/2013 18:11
Dibromomethane	ND		5.0	10	11/20/2013 18:11
1,2-Dichlorobenzene	ND		5.0	10	11/20/2013 18:11
1,3-Dichlorobenzene	ND		5.0	10	11/20/2013 18:11
1,4-Dichlorobenzene	ND		5.0	10	11/20/2013 18:11
Dichlorodifluoromethane	ND		5.0	10	11/20/2013 18:11
1,1-Dichloroethane	ND		5.0	10	11/20/2013 18:11
1,2-Dichloroethane (1,2-DCA)	ND		5.0	10	11/20/2013 18:11
1,1-Dichloroethene	ND		5.0	10	11/20/2013 18:11
cis-1,2-Dichloroethene	210		5.0	10	11/20/2013 18:11
trans-1,2-Dichloroethene	16		5.0	10	11/20/2013 18:11
1,2-Dichloropropane	ND		5.0	10	11/20/2013 18:11
1,3-Dichloropropane	ND		5.0	10	11/20/2013 18:11
2,2-Dichloropropane	ND		5.0	10	11/20/2013 18:11
1,1-Dichloropropene	ND		5.0	10	11/20/2013 18:11

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/20/13-11/21/13

WorkOrder: 1311564
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
DP4	1311564-008B	Water	11/15/2013 10:25	GC28	84222
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		5.0	10	11/20/2013 18:11
trans-1,3-Dichloropropene	ND		5.0	10	11/20/2013 18:11
Diisopropyl ether (DIPE)	ND		5.0	10	11/20/2013 18:11
Ethylbenzene	ND		5.0	10	11/20/2013 18:11
Ethyl tert-butyl ether (ETBE)	ND		5.0	10	11/20/2013 18:11
Freon 113	ND		5.0	10	11/20/2013 18:11
Hexachlorobutadiene	ND		5.0	10	11/20/2013 18:11
Hexachloroethane	ND		5.0	10	11/20/2013 18:11
2-Hexanone	ND		5.0	10	11/20/2013 18:11
Isopropylbenzene	ND		5.0	10	11/20/2013 18:11
4-Isopropyl toluene	ND		5.0	10	11/20/2013 18:11
Methyl-t-butyl ether (MTBE)	ND		5.0	10	11/20/2013 18:11
Methylene chloride	ND		5.0	10	11/20/2013 18:11
4-Methyl-2-pentanone (MIBK)	ND		5.0	10	11/20/2013 18:11
Naphthalene	ND		5.0	10	11/20/2013 18:11
n-Propyl benzene	ND		5.0	10	11/20/2013 18:11
Styrene	ND		5.0	10	11/20/2013 18:11
1,1,1,2-Tetrachloroethane	ND		5.0	10	11/20/2013 18:11
1,1,2,2-Tetrachloroethane	ND		5.0	10	11/20/2013 18:11
Tetrachloroethene	48		5.0	10	11/20/2013 18:11
Toluene	ND		5.0	10	11/20/2013 18:11
1,2,3-Trichlorobenzene	ND		5.0	10	11/20/2013 18:11
1,2,4-Trichlorobenzene	ND		5.0	10	11/20/2013 18:11
1,1,1-Trichloroethane	ND		5.0	10	11/20/2013 18:11
1,1,2-Trichloroethane	ND		5.0	10	11/20/2013 18:11
Trichloroethene	58		5.0	10	11/20/2013 18:11
Trichlorofluoromethane	ND		5.0	10	11/20/2013 18:11
1,2,3-Trichloropropane	ND		5.0	10	11/20/2013 18:11
1,2,4-Trimethylbenzene	ND		5.0	10	11/20/2013 18:11
1,3,5-Trimethylbenzene	ND		5.0	10	11/20/2013 18:11
Vinyl Chloride	31		5.0	10	11/20/2013 18:11
Xylenes, Total	ND		5.0	10	11/20/2013 18:11
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	112		70-130		11/20/2013 18:11
Toluene-d8	105		70-130		11/20/2013 18:11
4-BFB	98		70-130		11/20/2013 18:11



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/19/13-11/20/13

WorkOrder: 1311564
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW1	1311564-001A	Water	11/15/2013 12:32	GC3	84225
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	11/19/2013 21:16
TPH(ss)	ND		50	1	11/19/2013 21:16
MTBE	---		5.0	1	11/19/2013 21:16
Benzene	---		0.50	1	11/19/2013 21:16
Toluene	---		0.50	1	11/19/2013 21:16
Ethylbenzene	---		0.50	1	11/19/2013 21:16
Xylenes	---		0.50	1	11/19/2013 21:16
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	103		70-130		11/19/2013 21:16
MW2	1311564-002A	Water	11/15/2013 11:55	GC3	84225
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	1800		500	10	11/19/2013 19:17
TPH(ss)	1700		500	10	11/19/2013 19:17
MTBE	---		50	10	11/19/2013 19:17
Benzene	---		5.0	10	11/19/2013 19:17
Toluene	---		5.0	10	11/19/2013 19:17
Ethylbenzene	---		5.0	10	11/19/2013 19:17
Xylenes	---		5.0	10	11/19/2013 19:17
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: d5	
aaa-TFT	96		70-130		11/19/2013 19:17
MW3	1311564-003A	Water	11/15/2013 13:55	GC3	84225
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	11/19/2013 21:46
TPH(ss)	ND		50	1	11/19/2013 21:46
MTBE	---		5.0	1	11/19/2013 21:46
Benzene	---		0.50	1	11/19/2013 21:46
Toluene	---		0.50	1	11/19/2013 21:46
Ethylbenzene	---		0.50	1	11/19/2013 21:46
Xylenes	---		0.50	1	11/19/2013 21:46
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	100		70-130		11/19/2013 21:46

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/19/13-11/20/13

WorkOrder: 1311564
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW4	1311564-004A	Water	11/15/2013 15:15	GC3	84225

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	11/20/2013 00:14
TPH(ss)	ND	50	1	11/20/2013 00:14
MTBE	---	5.0	1	11/20/2013 00:14
Benzene	---	0.50	1	11/20/2013 00:14
Toluene	---	0.50	1	11/20/2013 00:14
Ethylbenzene	---	0.50	1	11/20/2013 00:14
Xylenes	---	0.50	1	11/20/2013 00:14
Surrogates	REC (%)	Limits		
aaa-TFT	99	70-130		11/20/2013 00:14

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
DP1	1311564-005A	Water	11/15/2013 09:50	GC3	84225

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	2300	500	10	11/19/2013 23:44
TPH(ss)	1100	500	10	11/19/2013 23:44
MTBE	---	150	10	11/19/2013 23:44
Benzene	---	5.0	10	11/19/2013 23:44
Toluene	---	5.0	10	11/19/2013 23:44
Ethylbenzene	---	5.0	10	11/19/2013 23:44
Xylenes	---	5.0	10	11/19/2013 23:44
Surrogates	REC (%)	Qualifiers	Limits	Analytical Comments: d5,d6,c4
aaa-TFT	192	S	70-130	11/19/2013 23:44

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
DP2	1311564-006A	Water	11/15/2013 14:33	GC3	84225

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	700	50	1	11/20/2013 04:09
TPH(ss)	460	50	1	11/20/2013 04:09
MTBE	---	45	1	11/20/2013 04:09
Benzene	---	0.50	1	11/20/2013 04:09
Toluene	---	0.50	1	11/20/2013 04:09
Ethylbenzene	---	0.50	1	11/20/2013 04:09
Xylenes	---	0.50	1	11/20/2013 04:09
Surrogates	REC (%)	Qualifiers	Limits	Analytical Comments: d5,d6,c4
aaa-TFT	169	S	70-130	11/20/2013 04:09

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/19/13-11/20/13

WorkOrder: 1311564
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
DP3	1311564-007A	Water	11/15/2013 10:57	GC3	84225

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	1400	500	10	11/20/2013 00:43
TPH(ss)	1300	500	10	11/20/2013 00:43
MTBE	---	50	10	11/20/2013 00:43
Benzene	---	5.0	10	11/20/2013 00:43
Toluene	---	5.0	10	11/20/2013 00:43
Ethylbenzene	---	5.0	10	11/20/2013 00:43
Xylenes	---	5.0	10	11/20/2013 00:43
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	Analytical Comments: d5,b6	
aaa-TFT	95	70-130		11/20/2013 00:43

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
DP4	1311564-008A	Water	11/15/2013 10:25	GC3	84225

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	130	50	1	11/20/2013 05:08
TPH(ss)	70	50	1	11/20/2013 05:08
MTBE	---	5.0	1	11/20/2013 05:08
Benzene	---	0.50	1	11/20/2013 05:08
Toluene	---	0.50	1	11/20/2013 05:08
Ethylbenzene	---	0.50	1	11/20/2013 05:08
Xylenes	---	0.50	1	11/20/2013 05:08
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: d5,d6,c4
aaa-TFT	458	S	70-130	11/20/2013 05:08



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/18/13

WorkOrder: 1311564
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW1	1311564-001A	Water	11/15/2013 12:32	GC6A	84160
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	11/21/2013 08:58
TPH-Bunker Oil (C10-C36)	ND		100	1	11/21/2013 08:58
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	97		70-130		11/21/2013 08:58
MW2	1311564-002A	Water	11/15/2013 11:55	GC6A	84160
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	2800		50	1	11/21/2013 10:10
TPH-Bunker Oil (C10-C36)	2600		100	1	11/21/2013 10:10
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e8,e11	
C9	101		70-130		11/21/2013 10:10
MW3	1311564-003A	Water	11/15/2013 13:55	GC6A	84160
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	11/21/2013 07:46
TPH-Bunker Oil (C10-C36)	ND		100	1	11/21/2013 07:46
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	97		70-130		11/21/2013 07:46
MW4	1311564-004A	Water	11/15/2013 15:15	GC6A	84160
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	11/21/2013 01:46
TPH-Bunker Oil (C10-C36)	ND		100	1	11/21/2013 01:46
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	96		70-130		11/21/2013 01:46

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 11/18/13 19:33
Date Prepared: 11/18/13

WorkOrder: 1311564
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
DP1	1311564-005A	Water	11/15/2013 09:50	GC6A	84160
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	6600		50	1	11/21/2013 04:09
TPH-Bunker Oil (C10-C36)	7900		100	1	11/21/2013 04:09
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e11,e7,e2	
C9	91		70-130		11/21/2013 04:09
DP2	1311564-006A	Water	11/15/2013 14:33	GC6A	84160
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	2600		50	1	11/21/2013 02:57
TPH-Bunker Oil (C10-C36)	2400		100	1	11/21/2013 02:57
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e8	
C9	97		70-130		11/21/2013 02:57
DP3	1311564-007A	Water	11/15/2013 10:57	GC6A	84160
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	9400		50	1	11/20/2013 23:22
TPH-Bunker Oil (C10-C36)	9000		100	1	11/20/2013 23:22
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e8,e11,e7,b6	
C9	92		70-130		11/20/2013 23:22
DP4	1311564-008A	Water	11/15/2013 10:25	GC6A	84160
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	92		50	1	11/20/2013 22:10
TPH-Bunker Oil (C10-C36)	130		100	1	11/20/2013 22:10
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e2/e8	
C9	97		70-130		11/20/2013 22:10



Quality Control Report

Client: P & D Environmental
Date Prepared: 11/20/13
Date Analyzed: 11/19/13
Instrument: GC28
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1311564
BatchID: 84222
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-84222
 1311581-001CMS/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	21.57	0.50	20	-	108	70-130
Benzene	ND	21.49	0.50	20	-	107	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	84.96	2.0	80	-	106	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	21.39	0.50	20	-	107	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	20.7	0.50	20	-	103	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	21.43	0.50	20	-	107	70-130
1,1-Dichloroethene	ND	19.72	0.50	20	-	98.6	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	-	-	-	-

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Quality Control Report

Client: P & D Environmental
Date Prepared: 11/20/13
Date Analyzed: 11/19/13
Instrument: GC28
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1311564
BatchID: 84222
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-84222
 1311581-001CMS/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	21.5	0.50	20	-	107	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	22.27	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	21.41	0.50	20	-	107	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	20.51	0.50	20	-	103	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	21.04	0.50	20	-	105	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	27.55	49.19		45	110	109	70-130
Toluene-d8	26.76	47.74		45	107	106	70-130
4-BFB	2.349	4.185		4.5	94	93	70-130

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Quality Control Report

Client: P & D Environmental
Date Prepared: 11/20/13
Date Analyzed: 11/19/13
Instrument: GC28
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1311564
BatchID: 84222
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-84222
 1311581-001CMS/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)	21.03	21.87	20	ND	105	109	70-130	3.89	20
Benzene	20.66	20.76	20	ND	103	104	70-130	0.491	20
t-Butyl alcohol (TBA)	85.31	91.93	80	ND	107	115	70-130	7.48	20
Chlorobenzene	20.53	20.65	20	ND	103	103	70-130	0	20
1,2-Dibromoethane (EDB)	19.82	20.54	20	ND	99.1	103	70-130	3.55	20
1,2-Dichloroethane (1,2-DCA)	20.79	21.15	20	ND	104	106	70-130	1.72	20
1,1-Dichloroethene	19.02	18.84	20	ND	95.1	94.2	70-130	0.956	20
Diisopropyl ether (DIPE)	21.15	21.59	20	ND	106	108	70-130	2.05	20
Ethyl tert-butyl ether (ETBE)	21.72	22.14	20	ND	109	111	70-130	1.91	20
Methyl-t-butyl ether (MTBE)	21.14	21.44	20	ND	106	107	70-130	1.41	20
Toluene	19.62	19.68	20	ND	98.1	98.4	70-130	0.300	20
Trichloroethene	20.3	20.19	20	ND	102	101	70-130	0.540	20
Surrogate Recovery									
Dibromofluoromethane	48.89	48.45	45		109	108	70-130	0.896	20
Toluene-d8	47.14	47.65	45		105	106	70-130	1.08	20
4-BFB	4.149	4.163	4.5		92	93	70-130	0.324	20

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Quality Control Report

Client: P & D Environmental
Date Prepared: 11/20/13
Date Analyzed: 11/20/13
Instrument: GC28
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1311564
BatchID: 84281
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-84281
 1311614-001AMS/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	21.69	0.50	20	-	108	70-130
Benzene	ND	21.91	0.50	20	-	110	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	81.72	2.0	80	-	102	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	21.84	0.50	20	-	109	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	20.7	0.50	20	-	103	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	20.87	0.50	20	-	104	70-130
1,1-Dichloroethene	ND	20.61	0.50	20	-	103	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: 11/20/13
Date Analyzed: 11/20/13
Instrument: GC28
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1311564
BatchID: 84281
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-84281
 1311614-001AMS/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	22.25	0.50	20	-	111	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	22.27	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	21.32	0.50	20	-	107	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	21.22	0.50	20	-	106	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	21.82	0.50	20	-	109	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	27.19	49.76		45	109	111	70-130
Toluene-d8	26.71	49.55		45	107	110	70-130
4-BFB	2.472	4.271		4.5	99	95	70-130

(Cont.)



Quality Control Report

Client: P & D Environmental
Date Prepared: 11/20/13
Date Analyzed: 11/20/13
Instrument: GC28
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1311564
BatchID: 84281
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-84281
 1311614-001AMS/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)	21.76	23.08	20	ND	109	115	70-130	5.91	20
Benzene	20.73	21.53	20	ND	104	108	70-130	3.81	20
t-Butyl alcohol (TBA)	94.1	100.3	80	ND	118	125	70-130	6.41	20
Chlorobenzene	20.23	21.19	20	ND	101	106	70-130	4.67	20
1,2-Dibromoethane (EDB)	20.85	21.79	20	ND	104	109	70-130	4.42	20
1,2-Dichloroethane (1,2-DCA)	21.31	21.97	20	ND	107	110	70-130	3.08	20
1,1-Dichloroethene	18.99	20.1	20	ND	94.9	100	70-130	5.67	20
Diisopropyl ether (DIPE)	21.77	22.38	20	ND	109	112	70-130	2.79	20
Ethyl tert-butyl ether (ETBE)	22.38	23.11	20	ND	112	116	70-130	3.22	20
Methyl-t-butyl ether (MTBE)	22.11	23.01	20	ND	111	115	70-130	3.98	20
Toluene	19.26	20.15	20	ND	96.3	101	70-130	4.55	20
Trichloroethene	20.27	21.23	20	ND	101	106	70-130	4.63	20
Surrogate Recovery									
Dibromofluoromethane	49.43	50.06	45		110	111	70-130	1.27	20
Toluene-d8	46.4	47.14	45		103	105	70-130	1.59	20
4-BFB	4.014	4.185	4.5		89	93	70-130	4.19	20



Quality Control Report

Client: P & D Environmental
Date Prepared: 11/19/13
Date Analyzed: 11/19/13
Instrument: GC3
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1311564
BatchID: 84225
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-84225
 1311581-001AMS/MSD

QC SUMMARY REPORT FOR SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	61.48	40	60	-	102	70-130
MTBE	ND	11.14	5.0	10	-	111	70-130
Benzene	ND	11.07	0.50	10	-	111	70-130
Toluene	ND	11.1	0.50	10	-	111	70-130
Ethylbenzene	ND	10.89	0.50	10	-	109	70-130
Xylenes	ND	32.97	0.50	30	-	110	70-130

Surrogate Recovery

aaa-TFT	10.26	10.17		10	103	102	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	61.32	63.82	60	ND	102	106	70-130	3.99	20
MTBE	10.22	10.8	10	ND	102	108	70-130	5.58	20
Benzene	10.19	10.78	10	ND	102	108	70-130	5.62	20
Toluene	10.22	10.75	10	ND	102	108	70-130	5.10	20
Ethylbenzene	10.1	10.67	10	ND	101	107	70-130	5.49	20
Xylenes	30.65	32.36	30	ND	102	108	70-130	5.43	20

Surrogate Recovery

aaa-TFT	9.848	9.878	10		98	99	70-130	0.297	20
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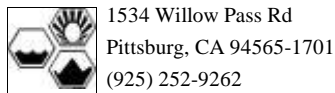
Quality Control Report

Client: P & D Environmental
Date Prepared: 11/18/13
Date Analyzed: 11/19/13
Instrument: GC11A, GC6A
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1311564
BatchID: 84160
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-84160

QC SUMMARY REPORT FOR SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1051	50	1000	-	105	70-130
Surrogate Recovery							
C9	660.1	451.4		625	106	72	70-130



CHAIN-OF-CUSTODY RECORD

WorkOrder: 1311564

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: #0298; Snow Cleaners

Bill to:

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

Requested TAT:

5 days

Date Received: 11/18/2013

Date Printed: 11/18/2013

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	
1311564-001	MW1	Water	11/15/2013 12:32	<input type="checkbox"/>	B	A											
1311564-002	MW2	Water	11/15/2013 11:55	<input type="checkbox"/>	B	A											
1311564-003	MW3	Water	11/15/2013 13:55	<input type="checkbox"/>	B	A											
1311564-004	MW4	Water	11/15/2013 15:15	<input type="checkbox"/>	B	A											
1311564-005	DP1	Water	11/15/2013 9:50	<input type="checkbox"/>	B	A											
1311564-006	DP2	Water	11/15/2013 14:33	<input type="checkbox"/>	B	A											
1311564-007	DP3	Water	11/15/2013 10:57	<input type="checkbox"/>	B	A											
1311564-008	DP4	Water	11/15/2013 10:25	<input type="checkbox"/>	B	A											

Test Legend:

1	8260B_W	2	TPH(D)_W	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: 1311564

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 11/18/2013

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
1311564-001A	MW1	Water	SW8015B (Diesel) <TPH-Bunker Oil (C10-C36), TPH-Diesel (C10-C23)> SW8021B/8015Bm (G/MBTEX) <Benzene_2, Ethylbenzene_2, MTBE_2, Toluene_2, TPH(g)_1, TPH(ss)_1, Xylenes_2>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 12:32	5 days	Present	<input type="checkbox"/>	
1311564-001B	MW1	Water	SW8260B (VOCs)	3	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 12:32	5 days	Present	<input type="checkbox"/>	
1311564-002A	MW2	Water	SW8015B (Diesel) <TPH-Bunker Oil (C10-C36), TPH-Diesel (C10-C23)> SW8021B/8015Bm (G/MBTEX) <Benzene_2, Ethylbenzene_2, MTBE_2, Toluene_2, TPH(g)_1, TPH(ss)_1, Xylenes_2>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 11:55	5 days	Present	<input type="checkbox"/>	
1311564-002B	MW2	Water	SW8260B (VOCs)	3	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 11:55	5 days	Present	<input type="checkbox"/>	
1311564-003A	MW3	Water	SW8015B (Diesel) <TPH-Bunker Oil (C10-C36), TPH-Diesel (C10-C23)> SW8021B/8015Bm (G/MBTEX) <Benzene_2, Ethylbenzene_2, MTBE_2, Toluene_2, TPH(g)_1, TPH(ss)_1, Xylenes_2>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 13:55	5 days	Present	<input type="checkbox"/>	
1311564-003B	MW3	Water	SW8260B (VOCs)	3	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 13:55	5 days	Present	<input type="checkbox"/>	
1311564-004A	MW4	Water	SW8015B (Diesel) <TPH-Bunker Oil (C10-C36), TPH-Diesel (C10-C23)>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 15:15	5 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



WORK ORDER SUMMARY

Client Name: P & D ENVIRONMENTAL

QC Level: LEVEL 2

Work Order: 1311564

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 11/18/2013

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
1311564-004A	MW4	Water	SW8021B/8015Bm (G/MBTEX) <Benzene_2, Ethylbenzene_2, MTBE_2, Toluene_2, TPH(g)_1, TPH(ss)_1, Xylenes_2>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 15:15	5 days	Present	<input type="checkbox"/>	
1311564-004B	MW4	Water	SW8260B (VOCs)	3	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 15:15	5 days	Present	<input type="checkbox"/>	
1311564-005A	DP1	Water	SW8015B (Diesel) <TPH-Bunker Oil (C10-C36), TPH-Diesel (C10-C23)> SW8021B/8015Bm (G/MBTEX) <Benzene_2, Ethylbenzene_2, MTBE_2, Toluene_2, TPH(g)_1, TPH(ss)_1, Xylenes_2>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 9:50	5 days	Present	<input type="checkbox"/>	
1311564-005B	DP1	Water	SW8260B (VOCs)	3	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 9:50	5 days	Present	<input type="checkbox"/>	
1311564-006A	DP2	Water	SW8015B (Diesel) <TPH-Bunker Oil (C10-C36), TPH-Diesel (C10-C23)> SW8021B/8015Bm (G/MBTEX) <Benzene_2, Ethylbenzene_2, MTBE_2, Toluene_2, TPH(g)_1, TPH(ss)_1, Xylenes_2>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 14:33	5 days	Present	<input type="checkbox"/>	
1311564-006B	DP2	Water	SW8260B (VOCs)	3	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 14:33	5 days	Present	<input type="checkbox"/>	
1311564-007A	DP3	Water	SW8015B (Diesel) <TPH-Bunker Oil (C10-C36), TPH-Diesel (C10-C23)>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 10:57	5 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



WORK ORDER SUMMARY

Client Name: P & D ENVIRONMENTAL

QC Level: LEVEL 2

Work Order: 1311564

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 11/18/2013

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
1311564-007A	DP3	Water	SW8021B/8015Bm (G/MBTEX) <Benzene_2, Ethylbenzene_2, MTBE_2, Toluene_2, TPH(g)_1, TPH(ss)_1, Xylenes_2>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 10:57	5 days	Present	<input type="checkbox"/>	
1311564-007B	DP3	Water	SW8260B (VOCs)	3	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 10:57	5 days	Present	<input type="checkbox"/>	
1311564-008A	DP4	Water	SW8015B (Diesel) <TPH-Bunker Oil (C10-C36), TPH-Diesel (C10-C23)> SW8021B/8015Bm (G/MBTEX) <Benzene_2, Ethylbenzene_2, MTBE_2, Toluene_2, TPH(g)_1, TPH(ss)_1, Xylenes_2>	4	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 10:25	5 days	Present	<input type="checkbox"/>	
1311564-008B	DP4	Water	SW8260B (VOCs)	3	VOA w/ HCl	<input type="checkbox"/>	11/15/2013 10:25	5 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

CHAIN OF CUSTODY RECORD

1311567

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

PROJECT NUMBER:
0298

PROJECT NAME:
Snow Cleaners
2678 Coolidge Ave.
Oakland, CA

NUMBER OF CONTAINERS

ANALYSIS(ES):
TPH-Multi Range
(G.D. 55, 80)

VOCs by 82603

PRESERVATIVE

REMARKS

SAMPLED BY: (PRINTED & SIGNATURE)

Michael Bass Dechenes *[Signature]*

+
+
+
+
+
+
+
+
+
+

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	TPH-Multi Range	G.D. 55, 80	VOCs by 82603	PRESERVATIVE	REMARKS
MW1	11/15/13	1232	H2O		7	X		X	ICE	Normal TAT
MW2	↓	1155	↓		7	X		X	↓	↓
MW3		1355			7	X		X		
MW4		1515			7	X		X		
DP1		0950			7	X		X		
DP2		1433			7	X		X		
DP3		1057			7	X		X		
DP4		1025			7	X		X		

ICE/° GOOD CONDITION APPROPRIATE
 HEAD SPACE ABSENT CONTAINERS
 DECHLORINATED IN LAB PRESERVED IN LAB

PRESERVATION: VOAS O&G METALS OTHER

RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE 11/18/13	TIME 1440	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	Total No. of Samples (This Shipment) 568	LABORATORY: McCampbell Analytical Inc.
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE 11/18/13	TIME 1600	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	Total No. of Containers (This Shipment) 56	LABORATORY CONTACT: Angela Rytelink (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: All VOAs preserved w/ HCl



Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **11/18/2013 7:33:29 PM**
 Project Name: **#0298; Snow Cleaners** Login Reviewed by: **Zoraida Cortez**
 WorkOrder N°: **1311564** 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°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:

Analytical Results

SiREM File References: **S-3048**

Client: P&D Environmental, Inc.
Client Project Number: 0298
Date Samples Received: December 16, 2013
Date Samples Analysed: December 20, 2013

Client Sample ID	SiREM Reference ID	Client sample date	Sample dilution factor	Methane mg/L	Ethene mg/L	Ethane mg/L
MW1	13-1606	11-Dec-13	2	0.05	<0.02	<0.02
DP1	13-1607	12-Dec-13	2	9.3	0.77	0.03
DP2	13-1608	12-Dec-13	2	14	0.04	<0.02
DP3	13-1609	11-Dec-13	2	14	<0.02	<0.02
DP4	13-1610	11-Dec-13	2	4.9	<0.02	<0.02
QL				0.02	0.01	0.01

Comments:

Method: GC/FID headspace
QL = Quantitation limit
J = associated value is estimated; compound positively detected
< = compound analysed for but not detected, associated value is QL. Sample QL is corrected for dilution.
E = compound exceeded calibration range
NA = not available

Analyst:

Rita Schofield

Rita Schofield
Laboratory Technician

Results approved:

Jeff Roberts

Jeff Roberts
Laboratory Manager

Date:

27-Dec-13

CHAIN OF CUSTODY RECORD

5-3048 PAGE 2 OF 2

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

PROJECT NUMBER:
0298

PROJECT NAME:
Snow Cleaners
2678 Coolidge Ave.
Oakland, CA

SAMPLED BY: (PRINTED & SIGNATURE)

Heena Dhawan *Heena Dhawan*

NUMBER OF CONTAINERS

ANALYSIS(ES):
Ethene

PRESERVATIVE

REMARKS

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES)	PRESERVATIVE	REMARKS
MW1	12/11/13	12:00	H ₂ O		2	X	Ice	Normal Turn Around
DP1	12/12/13	1438	↓		2	X	↓	↓ Time
DP2	12/12/13	1257	↓		2	X	↓	↓
DP3	12/11/13	1450	↓		2	X	↓	↓
DP4	12/11/13	1656	↓		2	X	↓	↓

RELINQUISHED BY: (SIGNATURE) <i>Heena Dhawan</i>	DATE	TIME	RECEIVED BY: (SIGNATURE) <i>Phil Dennis</i>	Total No. of Samples (This Shipment) 5	LABORATORY: 3IREM
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	Total No. of Containers (This Shipment) 10	LABORATORY PHONE NUMBER: (866) 251-1747
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:
Filters # 001373 - #001382



Microseeps
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

January 6, 2014

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

RE: **SNOW CLEANERS / 0298**

Microseeps Workorder: 10982

Dear Heena Dhawan:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, December 13, 2013. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl
CT 1/7/14

Robbin Robl 01/06/2014
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email info@microseeps.com.

Total Number of Pages 13

Report ID: 10982 - 475628

Page 1 of 12

CERTIFICATE OF ANALYSIS

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LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories	
Accreditation ID:	02-00538	
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste	
Accreditor:	NELAP: State of Florida, Department of Health, Bureau of Laboratories	
Accreditation ID:	E87832	
Scope:	Clean Water Act (CWA)	Resource Conservation and Recovery Act (RCRA)
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification	
Accreditation ID:	89009003	
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)	
Accreditor:	NELAP: State of Louisiana, Department of Environmental Quality	
Accreditation ID:	04104	
Scope:	Solid and Chemical Materials; Non-Potable Water	
Accreditor:	NELAP: New Jersey, Department of Environmental Protection	
Accreditation ID:	PA026	
Scope:	Non-Potable Water; Solid and Chemical Materials	
Accreditor:	NELAP: New York, Department of Health Wadsworth Center	
Accreditation ID:	11815	
Scope:	Non-Potable Water; Solid and Hazardous Waste	
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health	
Accreditation ID:	PH-0263	
Scope:	Clean Water Act (CWA)	Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality	
Accreditation ID:	T104704453-09-TX	
Scope:	Non-Potable Water	
Accreditor:	State of New Hampshire	
Accreditation ID:	299409	
Scope:	Non-potable water	
Accreditor:	State of Georgia	
Accreditation ID:	Chapter 391-3-26	
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).	

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Microseeps
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 10982 SNOW CLEANERS / 0298

Lab ID	Sample ID	Matrix	Date Collected	Date Received
109820001	MW1	Bubble Strip	12/11/2013 12:55	12/13/2013 10:30
109820002	DP1	Bubble Strip	12/12/2013 14:58	12/13/2013 10:30
109820003	DP2	Bubble Strip	12/12/2013 13:25	12/13/2013 10:30
109820004	DP3	Bubble Strip	12/11/2013 15:27	12/13/2013 10:30
109820005	DP4	Bubble Strip	12/11/2013 17:37	12/13/2013 10:30

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Microseeps
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 10982 SNOW CLEANERS / 0298

Lab ID: 109820001 Date Received: 12/13/2013 10:30 Matrix: Bubble Strip
Sample ID: MW1 Date Collected: 12/11/2013 12:55

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX			Analytical Method: AM20GAX						
Hydrogen	48	nM	1.2	0.098	2		1/3/2014 14:04	MM	

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Pittsburgh, PA 15238
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Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 10982 SNOW CLEANERS / 0298

Lab ID: 109820002

Date Received: 12/13/2013 10:30 Matrix: Bubble Strip

Sample ID: DP1

Date Collected: 12/12/2013 14:58

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
------------	---------	-------	-----	-----	-------------	----	----------	----	------

RISK - MICR

Analysis Desc: AM20GAX

Analytical Method: AM20GAX

Hydrogen	420	nM	24	2.0	40		1/5/2014 12:17	GT	
----------	-----	----	----	-----	----	--	----------------	----	--

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220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 10982 SNOW CLEANERS / 0298

Lab ID: 109820003 Date Received: 12/13/2013 10:30 Matrix: Bubble Strip
Sample ID: DP2 Date Collected: 12/12/2013 13:25

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX					Analytical Method: AM20GAX				
Hydrogen	460	nM	24	2.0	40		1/5/2014 12:30	GT	

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Microseeps
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Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 10982 SNOW CLEANERS / 0298

Lab ID: 109820004
Sample ID: DP3

Date Received: 12/13/2013 10:30 Matrix: Bubble Strip
Date Collected: 12/11/2013 15:27

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX					Analytical Method: AM20GAX				
Hydrogen	920	nM	24	2.0	40		1/5/2014 12:42	GT	

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Phone: (412) 826-5245
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ANALYTICAL RESULTS

Workorder: 10982 SNOW CLEANERS / 0298

Lab ID: 109820005 Date Received: 12/13/2013 10:30 Matrix: Bubble Strip
Sample ID: DP4 Date Collected: 12/11/2013 17:37

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX					Analytical Method: AM20GAX				
Hydrogen	69	nM	2.4	0.20	4		1/3/2014 14:16	MM	

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Microseeps
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
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ANALYTICAL RESULTS QUALIFIERS

Workorder: 10982 SNOW CLEANERS / 0298

DEFINITIONS/QUALIFIERS

- Disclaimer :** The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20Gax, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.
- MDL** Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL** Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND** Not detected at or above reporting limit.
- DF** Dilution Factor.
- S** Surrogate.
- RPD** Relative Percent Difference.
- % Rec** Percent Recovery.
- U** Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J** Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).

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Microseeps
 220 William Pitt Way
 Pittsburgh, PA 15238
 Phone: (412) 826-5245
 Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 10982 SNOW CLEANERS / 0298

QC Batch: DISG/3523 Analysis Method: AM20GAX
 QC Batch Method: AM20GAX
 Associated Lab Samples: 109820001, 109820005

METHOD BLANK: 25178

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK Hydrogen	nM	0.60 U	0.60

LABORATORY CONTROL SAMPLE & LCSD: 25179 25180

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
RISK Hydrogen	nM	24	24	24	100	100	80-120	0	20

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QUALITY CONTROL DATA

Workorder: 10982 SNOW CLEANERS / 0298

QC Batch: DISG/3524 Analysis Method: AM20GAX
 QC Batch Method: AM20GAX
 Associated Lab Samples: 109820002, 109820003, 109820004

METHOD BLANK: 25199

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK Hydrogen	nM	0.60 U	0.60

LABORATORY CONTROL SAMPLE & LCSD: 25200 25201

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
RISK Hydrogen	nM	24	22	22	90	90	80-120	0	20

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Microseeps
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 10982 SNOW CLEANERS / 0298

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
109820001	MW1			AM20GAX	DISG/3523
109820005	DP4			AM20GAX	DISG/3523
109820002	DP1			AM20GAX	DISG/3524
109820003	DP2			AM20GAX	DISG/3524
109820004	DP3			AM20GAX	DISG/3524

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CHAIN OF CUSTODY RECORD

P&D ENVIRONMENTAL, INC. 55 Santa Clara Ave., Suite 240 Oakland, CA 94610 (510) 658-6916					NUMBER OF CONTAINERS ANALYSIS(ES): Hydrogen										PRESERVATIVE										REMARKS									
PROJECT NUMBER: 0298																																		
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
MW1	12/11/13	1255	H2		1	X																												
DP1	12/12/13	1458	↓		1	X																												
DP2	12/12/13	1325	↓		1	X																												
DP3	12/11/13	1527	↓		1	X																												
DP4	12/11/13	1737	↓		1	X																												
RELINQUISHED BY: (SIGNATURE)					DATE	TIME	RECEIVED BY: (SIGNATURE)					Total No. of Samples (This Shipment)	5	LABORATORY:																				
Heena Dhawan					12/12	13	Heena Dhawan 12/13/13					Total No. of Containers (This Shipment)	5	Microseeps																				
RELINQUISHED BY: (SIGNATURE)					DATE	TIME	RECEIVED BY: (SIGNATURE)					LABORATORY CONTACT:					LABORATORY PHONE NUMBER:																	
							1030					Bob Perkle					(800)659-2887																	
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:																													

Certificate of Analysis: Gene-Trac® *Dehalococcoides* Assay

Customer: Heena Dhawan, P&D Environmental Inc.

SiREM Reference: S-3048

Project: Snow Cleaners

Report Date: 6-Jan-13

Customer Reference: 0298

Data Files: MyiQ-DHC-QPCR-1071
MyiQ-DB-DHC-QPCR-0433
iQ5-TBA-QPCR-0022

Table 1a: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhc *	<i>Dehalococcoides</i> Enumeration/Liter **
MW1	DHC-9894	11-Dec-13	Field Filter	NA	1 x 10 ³ U
DP1	DHC-9895	12-Dec-13	Field Filter	0.1 - 0.4 %	4 x 10 ⁵
DP2	DHC-9896	12-Dec-13	Field Filter	0.01 - 0.04 %	4 x 10 ⁴
DP3	DHC-9897	11-Dec-13	Field Filter	0.0006 - 0.002 %	1 x 10 ³
DP4	DHC-9898	11-Dec-13	Field Filter	0.005 - 0.02 %	1 x 10 ⁴

Notes:

* Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

** Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

J The associated value is an estimated quantity between the method detection limit and quantitation limit.


U Not detected, associated value is the quantification limit.

B Analyte was also detected in the method blank.

NA Not applicable as *Dehalococcoides* not detected and/or quantifiable DNA not extracted from the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

E Extracted genomic DNA was not detected in sample.

Analyst: 
Jennifer Wilkinson
Senior Laboratory Technician

Approved: 
Ximena Druar, B.Sc.
Genetic Testing Coordinator

Certificate of Analysis: Gene-Trac® VC, Vinyl Chloride Reductase (*vcrA*) Assay

Customer: Heena Dhawan, P&D Environmental Inc.

SiREM Reference: S-3048

Project: Snow Cleaners

Report Date: 6-Jan-13

Customer Reference: 0298

Data Files: MyiQ-VC-QPCR-0612
MyiQ-VC-QPCR-0613
VC-QPCR-check-gel-0626
VC-QPCR-check-gel-0627
MyiQ-DB-VC-QPCR-0337

Table 1b: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent <i>vcrA</i> *	Vinyl Chloride Reductase (<i>vcrA</i>) Gene Copies/Liter
DP1	VCR-4386	12-Dec-13	Field Filter	0.09 - 0.3 %	3 x 10 ⁵
DP2	VCR-4400	12-Dec-13	Field Filter	0.006 - 0.02 %	1 x 10 ⁴
DP3	VCR-4401	11-Dec-13	Field Filter	NA	1 x 10 ³ U
DP4	VCR-4402	11-Dec-13	Field Filter	0.003 - 0.009 %	6 x 10 ³

Notes:

* Percent *vcrA* in microbial population. This value is calculated by dividing the number of vinyl chloride reductase A (*vcrA*) gene copies quantified by the total number of bacteria estimated to be in the sample based on the mass of DNA extracted from the sample. Range represents normal variation in enumeration of *vcrA*.

J The associated value is an estimated quantity between the method detection limit and quantitation limit.


U Not detected, associated value is the quantification limit.

B Analyte was also detected in the method blank.

NA Not applicable as *vcrA* not detected and/or quantifiable DNA not extracted from the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

C Correction factor applied to correct for non-specific PCR amplification products, value is an estimated quantity.

Analyst: 
Jennifer Wilkinson
Senior Laboratory Technician

Approved: 
Ximena Druar, B.Sc.
Genetic Testing Coordinator

Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-3048

Customer Sample ID	MW1	DP1	DP2	DP3	DP4
SiREM Dhc Sample ID	DHC-9894	DHC-9895	DHC-9896	DHC-9897	DHC-9898
SiREM <i>vcrA</i> Sample ID	NA	VCR-4386	VCR-4400	VCR-4401	VCR-4402
Date Received	16-Dec-13	16-Dec-13	16-Dec-13	16-Dec-13	16-Dec-13
Sample Temperature	10 °C	10 °C	10 °C	10 °C	10 °C
Filtration Date	11-Dec-13	12-Dec-13	12-Dec-13	11-Dec-13	11-Dec-13
Volume Used for DNA Extraction	1000 mL	1000 mL	1000 mL	1000 mL	1000 mL
DNA Extraction Date	23-Dec-13	23-Dec-13	23-Dec-13	23-Dec-13	23-Dec-13
DNA Concentration in Sample (extractable)	344 ng/L	596 ng/L	498 ng/L	464 ng/L	390 ng/L
PCR Amplifiable DNA	Detected	Detected	Detected	Detected	Detected
Dhc qPCR Date Analyzed	24-Dec-13	24-Dec-13	24-Dec-13	24-Dec-13	24-Dec-13
<i>vcrA</i> qPCR Date Analyzed	NA	30-Dec-13	30-Dec-13	30-Dec-13	30-Dec-13
Laboratory Controls (see Tables 3 & 4)	Passed	Passed	Passed	Passed	Passed
Comments	Sample not tested for <i>vcrA</i> as it was ND for Dhc.	--	--	--	--

Notes:

Refer to Tables 3 & 4 for detailed results of controls.

ND = not detected

°C = degrees Celsius

DNA = Deoxyribonucleic acid

PCR = polymerase chain reaction

qPCR = quantitative PCR

Dhc = *Dehalococcoides*

ng/L = nanograms per liter

mL = milliliters

vcrA = vinyl chloride reductase

Table 3: Gene-Trac Dhc Control Results, Test Reference S-3048

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	24-Dec-13	qPCR with KB1 genomic DNA (CSLD-0709)	1.4×10^5	8.2×10^4	--
Positive Control High Concentration	24-Dec-13	qPCR with KB1 genomic DNA (CSDH-0709)	1.5×10^7	1.0×10^7	--
DNA Extraction Blank	24-Dec-13	DNA extraction sterile water (FB-2091)	0	2.6×10^3 U	--
Negative Control	24-Dec-13	Tris Reagent Blank (TBD-0668)	0	2.6×10^3 U	--

Notes:

Dhc = *Dehalococcoides*

DNA = Deoxyribonucleic acid

qPCR = quantitative PCR

16S rRNA = 16S ribosomal ribonucleic acid

U Not detected, associated value is the quantification limit.

Table 4: Gene-Trac VC Control Results, Test Reference S-3048

Laboratory Control	Analysis Date	Control Description	Spiked <i>vcrA</i> reductase Gene Copies per Liter	Recovered <i>vcrA</i> reductase Gene Copies per Liter	Comments
DNA Extraction Blank	23-Dec-13	DNA extraction sterile water (FB-2091)	0	2.6×10^3 U	--
Positive Control Low Concentration	30-Dec-13	qPCR with KB1 genomic DNA (CSLV-0480)	7.5×10^4	5.2×10^4	--
Positive Control High Concentration	30-Dec-13	qPCR with KB1 genomic DNA (CSHV-0480)	1.2×10^7	6.1×10^6	--
Negative Control	30-Dec-13	Tris Reagent Blank (TBV-0451)	0	2.4×10^3 J	See Note 1
Positive Control Low Concentration	30-Dec-13	qPCR with KB1 genomic DNA (CSLV-0481)	7.5×10^4	5.9×10^4	--
Positive Control High Concentration	30-Dec-13	qPCR with KB1 genomic DNA (CSHV-0481)	1.2×10^7	7.6×10^6	--
Negative Control	30-Dec-13	Tris Reagent Blank (TBV-0452)	0	2.6×10^3 U	--

Notes:

DNA = Deoxyribonucleic acid

qPCR = quantitative PCR

16S rRNA = 16S ribosomal ribonucleic acid

U Not detected, associated value is the quantification limit.

vcrA = vinyl chloride reductase

¹Acceptable as test result for relevant sample is greater than 1 order of magnitude above Tris Reagent Blank test result.

CHAIN OF CUSTODY RECORD

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

PROJECT NUMBER:
0298

PROJECT NAME:
**Snow Cleaners
2678 Coolidge Ave,
Oakland, CA**

SAMPLED BY: (PRINTED & SIGNATURE)

Heena Dhanan **Heena Dhanan**

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION
---------------	------	------	------	-----------------

MW1	12/11/13	1155	Filter	
DP1	12/12/13	1430	↓	
DP2	12/12/13	1953	↓	
DP3	12/11/13	1450	↓	
DP4	12/11/13	1654	↓	

NUMBER OF CONTAINERS

ANALYSIS(ES):

Gene-Trac Dhc
Gene-Trac-VC

PRESERVATIVE

REMARKS

None **Normal Turnaround Time**
↓ ↓ ↓ ↓

RELINQUISHED BY: (SIGNATURE)

Heena Dhanan

DATE TIME

12/10/13

RECEIVED BY: (SIGNATURE)

SIREM Dec 16

Total No. of Samples (This Shipment) **5**
Total No. of Containers (This Shipment) **10**

LABORATORY:
SIREM

RELINQUISHED BY: (SIGNATURE)

RECEIVED BY: (SIGNATURE)

LABORATORY CONTACT:
Phil Dennis

LABORATORY PHONE NUMBER:
(866) 251-1747

RELINQUISHED BY: (SIGNATURE)

RECEIVED FOR LABORATORY BY: (SIGNATURE)

SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES NO

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

REMARKS:
Filters #001373 - #001382



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1402723

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

Project Contact: Paul King
Project P.O.:
Project Name: #0298; Snow Cleaners

Project Received: 02/20/2014

Analytical Report reviewed & approved for release on 02/21/2014 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: #0298; Snow Cleaners
WorkOrder: 1402723

<u>Glossary</u> <u>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 (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

<u>Analytical</u> <u>Qualifier</u>	
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H	samples were analyzed out of holding time
S	spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 14:59
Date Prepared: 2/21/14

WorkOrder: 1402723
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402723-001B	Air	02/20/2014 12:50	GC16	87361

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	250,000	50	02/21/2014 14:34
tert-Amyl methyl ether (TAME)	ND	H	12,000	50	02/21/2014 14:34
Benzene	ND	H	12,000	50	02/21/2014 14:34
Bromobenzene	ND	H	12,000	50	02/21/2014 14:34
Bromochloromethane	ND	H	12,000	50	02/21/2014 14:34
Bromodichloromethane	ND	H	12,000	50	02/21/2014 14:34
Bromoform	ND	H	12,000	50	02/21/2014 14:34
Bromomethane	ND	H	12,000	50	02/21/2014 14:34
2-Butanone (MEK)	ND	H	50,000	50	02/21/2014 14:34
t-Butyl alcohol (TBA)	ND	H	120,000	50	02/21/2014 14:34
n-Butyl benzene	ND	H	12,000	50	02/21/2014 14:34
sec-Butyl benzene	ND	H	12,000	50	02/21/2014 14:34
tert-Butyl benzene	ND	H	12,000	50	02/21/2014 14:34
Carbon Disulfide	ND	H	12,000	50	02/21/2014 14:34
Carbon Tetrachloride	ND	H	12,000	50	02/21/2014 14:34
Chlorobenzene	ND	H	12,000	50	02/21/2014 14:34
Chloroethane	ND	H	12,000	50	02/21/2014 14:34
Chloroform	ND	H	12,000	50	02/21/2014 14:34
Chloromethane	ND	H	12,000	50	02/21/2014 14:34
2-Chlorotoluene	ND	H	12,000	50	02/21/2014 14:34
4-Chlorotoluene	ND	H	12,000	50	02/21/2014 14:34
Dibromochloromethane	ND	H	12,000	50	02/21/2014 14:34
1,2-Dibromo-3-chloropropane	ND	H	12,000	50	02/21/2014 14:34
1,2-Dibromoethane (EDB)	ND	H	12,000	50	02/21/2014 14:34
Dibromomethane	ND	H	12,000	50	02/21/2014 14:34
1,2-Dichlorobenzene	ND	H	12,000	50	02/21/2014 14:34
1,3-Dichlorobenzene	ND	H	12,000	50	02/21/2014 14:34
1,4-Dichlorobenzene	ND	H	12,000	50	02/21/2014 14:34
Dichlorodifluoromethane	ND	H	12,000	50	02/21/2014 14:34
1,1-Dichloroethane	ND	H	12,000	50	02/21/2014 14:34
1,2-Dichloroethane (1,2-DCA)	ND	H	12,000	50	02/21/2014 14:34
1,1-Dichloroethene	ND	H	12,000	50	02/21/2014 14:34
cis-1,2-Dichloroethene	36,000	H	12,000	50	02/21/2014 14:34
trans-1,2-Dichloroethene	ND	H	12,000	50	02/21/2014 14:34

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 14:59
Date Prepared: 2/21/14

WorkOrder: 1402723
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402723-001B	Air	02/20/2014 12:50	GC16	87361

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
1,2-Dichloropropane	ND	H	12,000	50	02/21/2014 14:34
1,3-Dichloropropane	ND	H	12,000	50	02/21/2014 14:34
2,2-Dichloropropane	ND	H	12,000	50	02/21/2014 14:34
1,1-Dichloropropene	ND	H	12,000	50	02/21/2014 14:34
cis-1,3-Dichloropropene	ND	H	12,000	50	02/21/2014 14:34
trans-1,3-Dichloropropene	ND	H	12,000	50	02/21/2014 14:34
Diisopropyl ether (DIPE)	ND	H	12,000	50	02/21/2014 14:34
Ethylbenzene	ND	H	12,000	50	02/21/2014 14:34
Ethyl tert-butyl ether (ETBE)	ND	H	12,000	50	02/21/2014 14:34
Freon 113	ND	H	250,000	50	02/21/2014 14:34
Hexachlorobutadiene	ND	H	12,000	50	02/21/2014 14:34
Hexachloroethane	ND	H	12,000	50	02/21/2014 14:34
2-Hexanone	ND	H	12,000	50	02/21/2014 14:34
Isopropylbenzene	ND	H	12,000	50	02/21/2014 14:34
4-Isopropyl toluene	ND	H	12,000	50	02/21/2014 14:34
Methyl-t-butyl ether (MTBE)	ND	H	12,000	50	02/21/2014 14:34
Methylene chloride	ND	H	12,000	50	02/21/2014 14:34
4-Methyl-2-pentanone (MIBK)	ND	H	12,000	50	02/21/2014 14:34
Naphthalene	ND	H	12,000	50	02/21/2014 14:34
n-Propyl benzene	ND	H	12,000	50	02/21/2014 14:34
Styrene	ND	H	12,000	50	02/21/2014 14:34
1,1,1,2-Tetrachloroethane	ND	H	12,000	50	02/21/2014 14:34
1,1,1,2,2-Tetrachloroethane	ND	H	12,000	50	02/21/2014 14:34
Tetrachloroethene	180,000	H	12,000	50	02/21/2014 14:34
Toluene	ND	H	12,000	50	02/21/2014 14:34
1,2,3-Trichlorobenzene	ND	H	12,000	50	02/21/2014 14:34
1,2,4-Trichlorobenzene	ND	H	12,000	50	02/21/2014 14:34
1,1,1-Trichloroethane	ND	H	12,000	50	02/21/2014 14:34
1,1,2-Trichloroethane	ND	H	12,000	50	02/21/2014 14:34
Trichloroethene	130,000	H	12,000	50	02/21/2014 14:34
Trichlorofluoromethane	ND	H	12,000	50	02/21/2014 14:34
1,2,3-Trichloropropane	ND	H	12,000	50	02/21/2014 14:34
1,2,4-Trimethylbenzene	ND	H	12,000	50	02/21/2014 14:34
1,3,5-Trimethylbenzene	ND	H	12,000	50	02/21/2014 14:34

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 14:59
Date Prepared: 2/21/14

WorkOrder: 1402723
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402723-001B	Air	02/20/2014 12:50	GC16	87361

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND	H	12,000	50	02/21/2014 14:34
Xylenes, Total	ND	H	12,000	50	02/21/2014 14:34

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	108	H	70-130	02/21/2014 14:34
Toluene-d8	95	H	70-130	02/21/2014 14:34
4-BFB	113	H	70-130	02/21/2014 14:34



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 14:59
Date Prepared: 2/21/14

WorkOrder: 1402723
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
Inlet to A1	1402723-001B	Air	02/20/2014 12:50	GC16	87361
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	250	50	02/21/2014 14:34
tert-Amyl methyl ether (TAME)	ND	H	12	50	02/21/2014 14:34
Benzene	ND	H	12	50	02/21/2014 14:34
Bromobenzene	ND	H	12	50	02/21/2014 14:34
Bromochloromethane	ND	H	12	50	02/21/2014 14:34
Bromodichloromethane	ND	H	12	50	02/21/2014 14:34
Bromoform	ND	H	12	50	02/21/2014 14:34
Bromomethane	ND	H	12	50	02/21/2014 14:34
2-Butanone (MEK)	ND	H	50	50	02/21/2014 14:34
t-Butyl alcohol (TBA)	ND	H	120	50	02/21/2014 14:34
n-Butyl benzene	ND	H	12	50	02/21/2014 14:34
sec-Butyl benzene	ND	H	12	50	02/21/2014 14:34
tert-Butyl benzene	ND	H	12	50	02/21/2014 14:34
Carbon Disulfide	ND	H	12	50	02/21/2014 14:34
Carbon Tetrachloride	ND	H	12	50	02/21/2014 14:34
Chlorobenzene	ND	H	12	50	02/21/2014 14:34
Chloroethane	ND	H	12	50	02/21/2014 14:34
Chloroform	ND	H	12	50	02/21/2014 14:34
Chloromethane	ND	H	12	50	02/21/2014 14:34
2-Chlorotoluene	ND	H	12	50	02/21/2014 14:34
4-Chlorotoluene	ND	H	12	50	02/21/2014 14:34
Dibromochloromethane	ND	H	12	50	02/21/2014 14:34
1,2-Dibromo-3-chloropropane	ND	H	12	50	02/21/2014 14:34
1,2-Dibromoethane (EDB)	ND	H	12	50	02/21/2014 14:34
Dibromomethane	ND	H	12	50	02/21/2014 14:34
1,2-Dichlorobenzene	ND	H	12	50	02/21/2014 14:34
1,3-Dichlorobenzene	ND	H	12	50	02/21/2014 14:34
1,4-Dichlorobenzene	ND	H	12	50	02/21/2014 14:34
Dichlorodifluoromethane	ND	H	12	50	02/21/2014 14:34
1,1-Dichloroethane	ND	H	12	50	02/21/2014 14:34
1,2-Dichloroethane (1,2-DCA)	ND	H	12	50	02/21/2014 14:34
1,1-Dichloroethene	ND	H	12	50	02/21/2014 14:34
cis-1,2-Dichloroethene	36	H	12	50	02/21/2014 14:34
trans-1,2-Dichloroethene	ND	H	12	50	02/21/2014 14:34
1,2-Dichloropropane	ND	H	12	50	02/21/2014 14:34
1,3-Dichloropropane	ND	H	12	50	02/21/2014 14:34
2,2-Dichloropropane	ND	H	12	50	02/21/2014 14:34
1,1-Dichloropropene	ND	H	12	50	02/21/2014 14:34

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 14:59
Date Prepared: 2/21/14

WorkOrder: 1402723
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
Inlet to A1	1402723-001B	Air	02/20/2014 12:50	GC16	87361
<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	12	50	02/21/2014 14:34
trans-1,3-Dichloropropene	ND	H	12	50	02/21/2014 14:34
Diisopropyl ether (DIPE)	ND	H	12	50	02/21/2014 14:34
Ethylbenzene	ND	H	12	50	02/21/2014 14:34
Ethyl tert-butyl ether (ETBE)	ND	H	12	50	02/21/2014 14:34
Freon 113	ND	H	250	50	02/21/2014 14:34
Hexachlorobutadiene	ND	H	12	50	02/21/2014 14:34
Hexachloroethane	ND	H	12	50	02/21/2014 14:34
2-Hexanone	ND	H	12	50	02/21/2014 14:34
Isopropylbenzene	ND	H	12	50	02/21/2014 14:34
4-Isopropyl toluene	ND	H	12	50	02/21/2014 14:34
Methyl-t-butyl ether (MTBE)	ND	H	12	50	02/21/2014 14:34
Methylene chloride	ND	H	12	50	02/21/2014 14:34
4-Methyl-2-pentanone (MIBK)	ND	H	12	50	02/21/2014 14:34
Naphthalene	ND	H	12	50	02/21/2014 14:34
n-Propyl benzene	ND	H	12	50	02/21/2014 14:34
Styrene	ND	H	12	50	02/21/2014 14:34
1,1,1,2-Tetrachloroethane	ND	H	12	50	02/21/2014 14:34
1,1,2,2-Tetrachloroethane	ND	H	12	50	02/21/2014 14:34
Tetrachloroethene	180	H	12	50	02/21/2014 14:34
Toluene	ND	H	12	50	02/21/2014 14:34
1,2,3-Trichlorobenzene	ND	H	12	50	02/21/2014 14:34
1,2,4-Trichlorobenzene	ND	H	12	50	02/21/2014 14:34
1,1,1-Trichloroethane	ND	H	12	50	02/21/2014 14:34
1,1,2-Trichloroethane	ND	H	12	50	02/21/2014 14:34
Trichloroethene	130	H	12	50	02/21/2014 14:34
Trichlorofluoromethane	ND	H	12	50	02/21/2014 14:34
1,2,3-Trichloropropane	ND	H	12	50	02/21/2014 14:34
1,2,4-Trimethylbenzene	ND	H	12	50	02/21/2014 14:34
1,3,5-Trimethylbenzene	ND	H	12	50	02/21/2014 14:34
Vinyl Chloride	ND	H	12	50	02/21/2014 14:34
Xylenes, Total	ND	H	12	50	02/21/2014 14:34
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	108	H	70-130		02/21/2014 14:34
Toluene-d8	95	H	70-130		02/21/2014 14:34
4-BFB	113	H	70-130		02/21/2014 14:34



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 14:59
Date Prepared: 2/20/14

WorkOrder: 1402723
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/m³

Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons as Stoddard Solvent

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402723-001A	Air	02/20/2014 12:50	GC7	87345
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	---		500,000	20	02/20/2014 16:39
TPH(ss)	4,300,000		500,000	20	02/20/2014 16:39
MTBE	---		50,000	20	02/20/2014 16:39
Benzene	---		5000	20	02/20/2014 16:39
Toluene	---		5000	20	02/20/2014 16:39
Ethylbenzene	---		5000	20	02/20/2014 16:39
Xylenes	---		5000	20	02/20/2014 16:39
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: d7,c4	
aaa-TFT	1548	S	70-130		02/20/2014 16:39



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 14:59
Date Prepared: 2/20/14

WorkOrder: 1402723
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Cm
Unit: µg/L

Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons as Stoddard Solvent

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402723-001A	Air	02/20/2014 12:50	GC7	87345
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	---		500	20	02/20/2014 16:39
TPH(ss)	4300		500	20	02/20/2014 16:39
MTBE	---		50	20	02/20/2014 16:39
Benzene	---		5.0	20	02/20/2014 16:39
Toluene	---		5.0	20	02/20/2014 16:39
Ethylbenzene	---		5.0	20	02/20/2014 16:39
Xylenes	---		5.0	20	02/20/2014 16:39
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: d7,c4	
aaa-TFT	1548	S	70-130		02/20/2014 16:39



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 14:59
Date Prepared: 2/20/14-2/21/14

WorkOrder: 1402723
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: uL/L

Light Gases

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402723-001B	Air	02/20/2014 12:50	GC26	87349

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetylene	ND		2.0	1	02/20/2014 20:28
Ethene	48		2.0	1	02/20/2014 20:28
Methane	45,000	H	100	100	02/21/2014 10:48
n-Butane	7.3		2.0	1	02/20/2014 19:56
n-Ethane	16		2.0	1	02/20/2014 19:56
n-Pentane	ND		2.0	1	02/20/2014 19:56
n-Propane	ND		2.0	1	02/20/2014 19:56



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/21/14
Date Analyzed: 2/21/14
Instrument: GC16
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402723
BatchID: 87361
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-87361

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	19.43	0.50	20	-	97.1	70-130
Benzene	ND	20.12	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	75.04	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	18.6	0.50	20	-	93	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	19.07	0.50	20	-	95.3	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	20.35	0.50	20	-	102	70-130
1,1-Dichloroethene	ND	20.41	0.50	20	-	102	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: 2/21/14
Date Analyzed: 2/21/14
Instrument: GC16
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402723
BatchID: 87361
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-87361

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	20.54	0.50	20	-	103	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	20.17	0.50	20	-	101	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	19.17	0.50	20	-	95.8	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	18.33	0.50	20	-	91.7	66-128
Toluene	ND	18.83	0.50	20	-	94.1	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	19.38	0.50	20	-	96.9	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	27.55	47.88		45	110	106	70-130
Toluene-d8	23.43	39.99		45	94	89	70-130
4-BFB	2.669	4.428		4.5	107	98	70-130



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/21/14
Date Analyzed: 2/20/14
Instrument: GC7
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402723
BatchID: 87345
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-87345

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	55.86	40	60	-	93.1	70-130
MTBE	ND	10.22	5.0	10	-	102	70-130
Benzene	ND	10.52	0.50	10	-	105	70-130
Toluene	ND	10.66	0.50	10	-	107	70-130
Ethylbenzene	ND	10.6	0.50	10	-	106	70-130
Xylenes	ND	32.37	0.50	30	-	108	70-130
Surrogate Recovery							
aaa-TFT	10.14	9.388		10	101	94	70-130



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/20/14
Date Analyzed: 2/20/14
Instrument: GC26
Matrix: SoilGas
Project: #0298; Snow Cleaners

WorkOrder: 1402723
BatchID: 87349
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: uL/L
Sample ID: MB/LCS-87349

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetylene	ND	1125	2.0	1000	-	112	70-130
Ethene	ND	1246	2.0	1000	-	125	70-130
n-Butane	ND	871.6	2.0	1000	-	87.2	70-130
n-Ethane	ND	749.7	2.0	1000	-	75	70-130
n-Methane	ND	932.7	2.0	1000	-	93.3	70-130
n-Pentane	ND	770.5	2.0	1000	-	77.1	70-130
n-Propane	ND	953.2	2.0	1000	-	95.3	70-130



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402723

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: #0298; Snow Cleaners

Bill to:

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

Requested TAT:

1 day

Date Received: 02/20/2014

Date Printed: 02/20/2014

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	
1402723-001	Inlet to A1	Air	2/20/2014 12:50	<input type="checkbox"/>	B	A	B										

Test Legend:

1	8260B_A	2	G-MBTEX_A	3	LG_TEDLAR_AIR	4		5	
6		7		8		9		10	
11		12							

The following SamplIDs: 001A, 001B contain testgroup.

Prepared by: Maria Venegas

Comments: 1 Day Rush

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

P&D ENVIRONMENTAL, INC.

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

1402723

PROJECT NUMBER:

0298

PROJECT NAME:

Snow Cleaners
2678 Coolidge Ave.,
Oakland, CA

NUMBER OF CONTAINERS

ANALYSIS(ES):

8260

Stoddard Solvent by 8015

ASTM D 1946 (Methane, Ethane, Propane, Pentane, Butane, acetylene)

PRESERVATIVE

RUSH

REMARKS

none

24 Hour Rush

SAMPLED BY: (PRINTED & SIGNATURE)				
Heena Dhawan <i>Heena Dhawan</i>				
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION
Inlet to A1	2/20/14	1730	AIR	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
<i>Heena Dhawan</i>	2/25/14	1300	<i>[Signature]</i>
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
<i>[Signature]</i>	2/20/14	1430	<i>Muna</i>
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)

Total No. of Samples (This Shipment)	1	LABORATORY: McCampbell Analytical, Inc.
Total No. of Containers (This Shipment)	2	
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:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1402724

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

Project Contact: Paul King
Project P.O.:
Project Name: #0298; Snow Cleaners

Project Received: 02/20/2014

Analytical Report reviewed & approved for release on 02/21/2014 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: #0298; Snow Cleaners
WorkOrder: 1402724

<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 (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

<u>Analytical Qualifier</u>

H	samples were analyzed out of holding time
---	---



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 15:04
Date Prepared: 2/21/14

WorkOrder: 1402724
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402724-001B	Air	02/20/2014 13:02	GC16	87361

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	02/21/2014 12:16
tert-Amyl methyl ether (TAME)	ND	H	250	1	02/21/2014 12:16
Benzene	ND	H	250	1	02/21/2014 12:16
Bromobenzene	ND	H	250	1	02/21/2014 12:16
Bromochloromethane	ND	H	250	1	02/21/2014 12:16
Bromodichloromethane	ND	H	250	1	02/21/2014 12:16
Bromoform	ND	H	250	1	02/21/2014 12:16
Bromomethane	ND	H	250	1	02/21/2014 12:16
2-Butanone (MEK)	ND	H	1000	1	02/21/2014 12:16
t-Butyl alcohol (TBA)	ND	H	2500	1	02/21/2014 12:16
n-Butyl benzene	ND	H	250	1	02/21/2014 12:16
sec-Butyl benzene	ND	H	250	1	02/21/2014 12:16
tert-Butyl benzene	ND	H	250	1	02/21/2014 12:16
Carbon Disulfide	ND	H	250	1	02/21/2014 12:16
Carbon Tetrachloride	ND	H	250	1	02/21/2014 12:16
Chlorobenzene	ND	H	250	1	02/21/2014 12:16
Chloroethane	ND	H	250	1	02/21/2014 12:16
Chloroform	ND	H	250	1	02/21/2014 12:16
Chloromethane	ND	H	250	1	02/21/2014 12:16
2-Chlorotoluene	ND	H	250	1	02/21/2014 12:16
4-Chlorotoluene	ND	H	250	1	02/21/2014 12:16
Dibromochloromethane	ND	H	250	1	02/21/2014 12:16
1,2-Dibromo-3-chloropropane	ND	H	250	1	02/21/2014 12:16
1,2-Dibromoethane (EDB)	ND	H	250	1	02/21/2014 12:16
Dibromomethane	ND	H	250	1	02/21/2014 12:16
1,2-Dichlorobenzene	ND	H	250	1	02/21/2014 12:16
1,3-Dichlorobenzene	ND	H	250	1	02/21/2014 12:16
1,4-Dichlorobenzene	ND	H	250	1	02/21/2014 12:16
Dichlorodifluoromethane	ND	H	250	1	02/21/2014 12:16
1,1-Dichloroethane	ND	H	250	1	02/21/2014 12:16
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	02/21/2014 12:16
1,1-Dichloroethene	ND	H	250	1	02/21/2014 12:16
cis-1,2-Dichloroethene	ND	H	250	1	02/21/2014 12:16
trans-1,2-Dichloroethene	ND	H	250	1	02/21/2014 12:16

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 15:04
Date Prepared: 2/21/14

WorkOrder: 1402724
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402724-001B	Air	02/20/2014 13:02	GC16	87361

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
1,2-Dichloropropane	ND	H	250	1	02/21/2014 12:16
1,3-Dichloropropane	ND	H	250	1	02/21/2014 12:16
2,2-Dichloropropane	ND	H	250	1	02/21/2014 12:16
1,1-Dichloropropene	ND	H	250	1	02/21/2014 12:16
cis-1,3-Dichloropropene	ND	H	250	1	02/21/2014 12:16
trans-1,3-Dichloropropene	ND	H	250	1	02/21/2014 12:16
Diisopropyl ether (DIPE)	ND	H	250	1	02/21/2014 12:16
Ethylbenzene	ND	H	250	1	02/21/2014 12:16
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	02/21/2014 12:16
Freon 113	ND	H	5000	1	02/21/2014 12:16
Hexachlorobutadiene	ND	H	250	1	02/21/2014 12:16
Hexachloroethane	ND	H	250	1	02/21/2014 12:16
2-Hexanone	ND	H	250	1	02/21/2014 12:16
Isopropylbenzene	ND	H	250	1	02/21/2014 12:16
4-Isopropyl toluene	ND	H	250	1	02/21/2014 12:16
Methyl-t-butyl ether (MTBE)	ND	H	250	1	02/21/2014 12:16
Methylene chloride	ND	H	250	1	02/21/2014 12:16
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	02/21/2014 12:16
Naphthalene	ND	H	250	1	02/21/2014 12:16
n-Propyl benzene	ND	H	250	1	02/21/2014 12:16
Styrene	ND	H	250	1	02/21/2014 12:16
1,1,1,2-Tetrachloroethane	ND	H	250	1	02/21/2014 12:16
1,1,1,2,2-Tetrachloroethane	ND	H	250	1	02/21/2014 12:16
Tetrachloroethene	430	H	250	1	02/21/2014 12:16
Toluene	ND	H	250	1	02/21/2014 12:16
1,2,3-Trichlorobenzene	ND	H	250	1	02/21/2014 12:16
1,2,4-Trichlorobenzene	ND	H	250	1	02/21/2014 12:16
1,1,1-Trichloroethane	ND	H	250	1	02/21/2014 12:16
1,1,2-Trichloroethane	ND	H	250	1	02/21/2014 12:16
Trichloroethene	ND	H	250	1	02/21/2014 12:16
Trichlorofluoromethane	ND	H	250	1	02/21/2014 12:16
1,2,3-Trichloropropane	ND	H	250	1	02/21/2014 12:16
1,2,4-Trimethylbenzene	ND	H	250	1	02/21/2014 12:16
1,3,5-Trimethylbenzene	ND	H	250	1	02/21/2014 12:16

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 15:04
Date Prepared: 2/21/14

WorkOrder: 1402724
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402724-001B	Air	02/20/2014 13:02	GC16	87361

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND	H	250	1	02/21/2014 12:16
Xylenes, Total	ND	H	250	1	02/21/2014 12:16

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	107	H	70-130	02/21/2014 12:16
Toluene-d8	95	H	70-130	02/21/2014 12:16
4-BFB	108	H	70-130	02/21/2014 12:16



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 15:04
Date Prepared: 2/21/14

WorkOrder: 1402724
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
Inlet to A2	1402724-001B	Air	02/20/2014 13:02	GC16	87361
Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5.0	1	02/21/2014 12:16
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	02/21/2014 12:16
Benzene	ND	H	0.25	1	02/21/2014 12:16
Bromobenzene	ND	H	0.25	1	02/21/2014 12:16
Bromochloromethane	ND	H	0.25	1	02/21/2014 12:16
Bromodichloromethane	ND	H	0.25	1	02/21/2014 12:16
Bromoform	ND	H	0.25	1	02/21/2014 12:16
Bromomethane	ND	H	0.25	1	02/21/2014 12:16
2-Butanone (MEK)	ND	H	1.0	1	02/21/2014 12:16
t-Butyl alcohol (TBA)	ND	H	2.5	1	02/21/2014 12:16
n-Butyl benzene	ND	H	0.25	1	02/21/2014 12:16
sec-Butyl benzene	ND	H	0.25	1	02/21/2014 12:16
tert-Butyl benzene	ND	H	0.25	1	02/21/2014 12:16
Carbon Disulfide	ND	H	0.25	1	02/21/2014 12:16
Carbon Tetrachloride	ND	H	0.25	1	02/21/2014 12:16
Chlorobenzene	ND	H	0.25	1	02/21/2014 12:16
Chloroethane	ND	H	0.25	1	02/21/2014 12:16
Chloroform	ND	H	0.25	1	02/21/2014 12:16
Chloromethane	ND	H	0.25	1	02/21/2014 12:16
2-Chlorotoluene	ND	H	0.25	1	02/21/2014 12:16
4-Chlorotoluene	ND	H	0.25	1	02/21/2014 12:16
Dibromochloromethane	ND	H	0.25	1	02/21/2014 12:16
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	02/21/2014 12:16
1,2-Dibromoethane (EDB)	ND	H	0.25	1	02/21/2014 12:16
Dibromomethane	ND	H	0.25	1	02/21/2014 12:16
1,2-Dichlorobenzene	ND	H	0.25	1	02/21/2014 12:16
1,3-Dichlorobenzene	ND	H	0.25	1	02/21/2014 12:16
1,4-Dichlorobenzene	ND	H	0.25	1	02/21/2014 12:16
Dichlorodifluoromethane	ND	H	0.25	1	02/21/2014 12:16
1,1-Dichloroethane	ND	H	0.25	1	02/21/2014 12:16
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	02/21/2014 12:16
1,1-Dichloroethene	ND	H	0.25	1	02/21/2014 12:16
cis-1,2-Dichloroethene	ND	H	0.25	1	02/21/2014 12:16
trans-1,2-Dichloroethene	ND	H	0.25	1	02/21/2014 12:16
1,2-Dichloropropane	ND	H	0.25	1	02/21/2014 12:16
1,3-Dichloropropane	ND	H	0.25	1	02/21/2014 12:16
2,2-Dichloropropane	ND	H	0.25	1	02/21/2014 12:16
1,1-Dichloropropene	ND	H	0.25	1	02/21/2014 12:16

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 15:04
Date Prepared: 2/21/14

WorkOrder: 1402724
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
Inlet to A2	1402724-001B	Air	02/20/2014 13:02	GC16	87361
<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	02/21/2014 12:16
trans-1,3-Dichloropropene	ND	H	0.25	1	02/21/2014 12:16
Diisopropyl ether (DIPE)	ND	H	0.25	1	02/21/2014 12:16
Ethylbenzene	ND	H	0.25	1	02/21/2014 12:16
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	02/21/2014 12:16
Freon 113	ND	H	5.0	1	02/21/2014 12:16
Hexachlorobutadiene	ND	H	0.25	1	02/21/2014 12:16
Hexachloroethane	ND	H	0.25	1	02/21/2014 12:16
2-Hexanone	ND	H	0.25	1	02/21/2014 12:16
Isopropylbenzene	ND	H	0.25	1	02/21/2014 12:16
4-Isopropyl toluene	ND	H	0.25	1	02/21/2014 12:16
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	02/21/2014 12:16
Methylene chloride	ND	H	0.25	1	02/21/2014 12:16
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	02/21/2014 12:16
Naphthalene	ND	H	0.25	1	02/21/2014 12:16
n-Propyl benzene	ND	H	0.25	1	02/21/2014 12:16
Styrene	ND	H	0.25	1	02/21/2014 12:16
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	02/21/2014 12:16
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	02/21/2014 12:16
Tetrachloroethene	0.43	H	0.25	1	02/21/2014 12:16
Toluene	ND	H	0.25	1	02/21/2014 12:16
1,2,3-Trichlorobenzene	ND	H	0.25	1	02/21/2014 12:16
1,2,4-Trichlorobenzene	ND	H	0.25	1	02/21/2014 12:16
1,1,1-Trichloroethane	ND	H	0.25	1	02/21/2014 12:16
1,1,2-Trichloroethane	ND	H	0.25	1	02/21/2014 12:16
Trichloroethene	ND	H	0.25	1	02/21/2014 12:16
Trichlorofluoromethane	ND	H	0.25	1	02/21/2014 12:16
1,2,3-Trichloropropane	ND	H	0.25	1	02/21/2014 12:16
1,2,4-Trimethylbenzene	ND	H	0.25	1	02/21/2014 12:16
1,3,5-Trimethylbenzene	ND	H	0.25	1	02/21/2014 12:16
Vinyl Chloride	ND	H	0.25	1	02/21/2014 12:16
Xylenes, Total	ND	H	0.25	1	02/21/2014 12:16
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	107	H	70-130		02/21/2014 12:16
Toluene-d8	95	H	70-130		02/21/2014 12:16
4-BFB	108	H	70-130		02/21/2014 12:16



Analytical Report

Client: P & D Environmental	WorkOrder: 1402724
Project: #0298; Snow Cleaners	Extraction Method: SW5030B
Date Received: 2/20/14 15:04	Analytical Method: SW8021B/8015Bm
Date Prepared: 2/20/14	Unit: µg/m ³

Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons as Stoddard Solvent

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402724-001A	Air	02/20/2014 13:02	GC7	87345
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	---		25,000	1	02/20/2014 17:09
TPH(ss)	ND		25,000	1	02/20/2014 17:09
MTBE	---		2500	1	02/20/2014 17:09
Benzene	---		250	1	02/20/2014 17:09
Toluene	---		250	1	02/20/2014 17:09
Ethylbenzene	---		250	1	02/20/2014 17:09
Xylenes	---		250	1	02/20/2014 17:09
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	84		70-130		02/20/2014 17:09



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 15:04
Date Prepared: 2/20/14

WorkOrder: 1402724
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Cm
Unit: µg/L

Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons as Stoddard Solvent

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402724-001A	Air	02/20/2014 13:02	GC7	87345
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	---		25	1	02/20/2014 17:09
TPH(ss)	ND		25	1	02/20/2014 17:09
MTBE	---		2.5	1	02/20/2014 17:09
Benzene	---		0.25	1	02/20/2014 17:09
Toluene	---		0.25	1	02/20/2014 17:09
Ethylbenzene	---		0.25	1	02/20/2014 17:09
Xylenes	---		0.25	1	02/20/2014 17:09
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	84		70-130		02/20/2014 17:09



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/20/14 15:04
Date Prepared: 2/20/14-2/21/14

WorkOrder: 1402724
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: uL/L

Light Gases

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402724-001B	Air	02/20/2014 13:02	GC26	87349

Initial Pressure (psia) **Final Pressure (psia)**

1.00	1.00
------	------

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetylene	ND		2.0	1	02/20/2014 19:24
Ethene	ND		2.0	1	02/20/2014 19:24
Methane	35,000	H	100	100	02/21/2014 10:25
n-Butane	ND		2.0	1	02/20/2014 18:52
n-Ethane	ND		2.0	1	02/20/2014 18:52
n-Pentane	ND		2.0	1	02/20/2014 18:52
n-Propane	ND		2.0	1	02/20/2014 18:52



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/21/14
Date Analyzed: 2/21/14
Instrument: GC16
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402724
BatchID: 87361
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-87361

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	19.43	0.50	20	-	97.1	70-130
Benzene	ND	20.12	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	75.04	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	18.6	0.50	20	-	93	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	19.07	0.50	20	-	95.3	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	20.35	0.50	20	-	102	70-130
1,1-Dichloroethene	ND	20.41	0.50	20	-	102	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: 2/21/14
Date Analyzed: 2/21/14
Instrument: GC16
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402724
BatchID: 87361
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-87361

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	20.54	0.50	20	-	103	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	20.17	0.50	20	-	101	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	19.17	0.50	20	-	95.8	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	18.83	0.50	20	-	94.1	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	19.38	0.50	20	-	96.9	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	27.55	47.88		45	110	106	70-130
Toluene-d8	23.43	39.99		45	94	89	70-130
4-BFB	2.669	4.428		4.5	107	98	70-130



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/21/14
Date Analyzed: 2/20/14
Instrument: GC7
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402724
BatchID: 87345
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-87345

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	55.86	40	60	-	93.1	70-130
MTBE	ND	10.22	5.0	10	-	102	70-130
Benzene	ND	10.52	0.50	10	-	105	70-130
Toluene	ND	10.66	0.50	10	-	107	70-130
Ethylbenzene	ND	10.6	0.50	10	-	106	70-130
Xylenes	ND	32.37	0.50	30	-	108	70-130
Surrogate Recovery							
aaa-TFT	10.14	9.388		10	101	94	70-130



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/20/14
Date Analyzed: 2/20/14
Instrument: GC26
Matrix: SoilGas
Project: #0298; Snow Cleaners

WorkOrder: 1402724
BatchID: 87349
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: uL/L
Sample ID: MB/LCS-87349

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetylene	ND	1125	2.0	1000	-	112	70-130
Ethene	ND	1246	2.0	1000	-	125	70-130
n-Butane	ND	871.6	2.0	1000	-	87.2	70-130
n-Ethane	ND	749.7	2.0	1000	-	75	70-130
n-Methane	ND	932.7	2.0	1000	-	93.3	70-130
n-Pentane	ND	770.5	2.0	1000	-	77.1	70-130
n-Propane	ND	953.2	2.0	1000	-	95.3	70-130



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402724

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: #0298; Snow Cleaners

Bill to:

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

Requested TAT:

1 day

Date Received: 02/20/2014

Date Printed: 02/20/2014

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	
1402724-001	Inlet to A2	Air	2/20/2014 13:02	<input type="checkbox"/>	B	A	B										

Test Legend:

1	8260B_A	2	G-MBTEX_A	3	LG_TEDLAR_AIR	4		5	
6		7		8		9		10	
11		12							

The following SamplIDs: 001A, 001B contain testgroup.

Prepared by: Maria Venegas

Comments: 1 Day Rush

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: 1402724

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 2/20/2014

Comments: 1 Day Rush

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
1402724-001A	Inlet to A2	Air	TPH(g) + MBTEX	1	Tedlar	<input type="checkbox"/>	2/20/2014 13:02	1 day		<input type="checkbox"/>	
1402724-001B	Inlet to A2	Air	ASTM D1946-90 (Light Gases) <Acetylene_4, Ethylene_4, n-Butane_4, n-Ethane_4, n-Methane_4, n-Pentane_4, n-Propane_4> VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	2/20/2014 13:02	1 day		<input type="checkbox"/>	
						<input type="checkbox"/>		1 day		<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

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

1402724

PROJECT NUMBER:

0298

PROJECT NAME:

Snow Cleaners
 2678 Coolidge Ave,
 Oakland, CA

RUSH

SAMPLED BY: (PRINTED & SIGNATURE)

Heena Dhawan Heena Dhawan

NUMBER OF CONTAINERS

ANALYSIS(ES):

8260
 Stoddard solvent by 8015
 ASTM D 1946 (methane, ethane, propane, ethane, butane, benzene, acetylene)

PRESERVATIVE

REMARKS

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES)	PRESERVATIVE	REMARKS
INLET to A2	2/20/14	1302	AIR		2	X X X	none	24 HOUR RUSH

RELINQUISHED BY: (SIGNATURE) <i>Heena Dhawan</i>	DATE 2/20/14	TIME 1305	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	Total No. of Samples (This Shipment) 1	LABORATORY: McCampbell Analytical, Inc.
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE 2/20/14	TIME 1430	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	Total No. of Containers (This Shipment) 2	LABORATORY CONTACT: 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: **2/20/2014 3:04:07 PM**
 Project Name: **#0298; Snow Cleaners** Login Reviewed by: **Maria Venegas**
 WorkOrder N°: **1402724** 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: 1402791

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

Project Contact: Paul King
Project P.O.:
Project Name: #0298; Snow Cleaners

Project Received: 02/21/2014

Analytical Report reviewed & approved for release on 02/28/2014 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: #0298; Snow Cleaners
WorkOrder: 1402791

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

e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/21/14 18:43
Date Prepared: 2/25/14

WorkOrder: 1402791
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
Effluent	1402791-001B	Water	02/21/2014 09:45	GC18	87450
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	02/25/2014 01:25
tert-Amyl methyl ether (TAME)	ND		0.50	1	02/25/2014 01:25
Benzene	ND		0.50	1	02/25/2014 01:25
Bromobenzene	ND		0.50	1	02/25/2014 01:25
Bromochloromethane	ND		0.50	1	02/25/2014 01:25
Bromodichloromethane	ND		0.50	1	02/25/2014 01:25
Bromoform	ND		0.50	1	02/25/2014 01:25
Bromomethane	ND		0.50	1	02/25/2014 01:25
2-Butanone (MEK)	ND		2.0	1	02/25/2014 01:25
t-Butyl alcohol (TBA)	ND		2.0	1	02/25/2014 01:25
n-Butyl benzene	ND		0.50	1	02/25/2014 01:25
sec-Butyl benzene	ND		0.50	1	02/25/2014 01:25
tert-Butyl benzene	ND		0.50	1	02/25/2014 01:25
Carbon Disulfide	ND		0.50	1	02/25/2014 01:25
Carbon Tetrachloride	ND		0.50	1	02/25/2014 01:25
Chlorobenzene	ND		0.50	1	02/25/2014 01:25
Chloroethane	ND		0.50	1	02/25/2014 01:25
Chloroform	ND		0.50	1	02/25/2014 01:25
Chloromethane	ND		0.50	1	02/25/2014 01:25
2-Chlorotoluene	ND		0.50	1	02/25/2014 01:25
4-Chlorotoluene	ND		0.50	1	02/25/2014 01:25
Dibromochloromethane	ND		0.50	1	02/25/2014 01:25
1,2-Dibromo-3-chloropropane	ND		0.20	1	02/25/2014 01:25
1,2-Dibromoethane (EDB)	ND		0.50	1	02/25/2014 01:25
Dibromomethane	ND		0.50	1	02/25/2014 01:25
1,2-Dichlorobenzene	ND		0.50	1	02/25/2014 01:25
1,3-Dichlorobenzene	ND		0.50	1	02/25/2014 01:25
1,4-Dichlorobenzene	ND		0.50	1	02/25/2014 01:25
Dichlorodifluoromethane	ND		0.50	1	02/25/2014 01:25
1,1-Dichloroethane	ND		0.50	1	02/25/2014 01:25
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	02/25/2014 01:25
1,1-Dichloroethene	ND		0.50	1	02/25/2014 01:25
cis-1,2-Dichloroethene	ND		0.50	1	02/25/2014 01:25
trans-1,2-Dichloroethene	ND		0.50	1	02/25/2014 01:25
1,2-Dichloropropane	ND		0.50	1	02/25/2014 01:25
1,3-Dichloropropane	ND		0.50	1	02/25/2014 01:25
2,2-Dichloropropane	ND		0.50	1	02/25/2014 01:25
1,1-Dichloropropene	ND		0.50	1	02/25/2014 01:25

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/21/14 18:43
Date Prepared: 2/25/14

WorkOrder: 1402791
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
Effluent	1402791-001B	Water	02/21/2014 09:45	GC18	87450
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	02/25/2014 01:25
trans-1,3-Dichloropropene	ND		0.50	1	02/25/2014 01:25
Diisopropyl ether (DIPE)	ND		0.50	1	02/25/2014 01:25
Ethylbenzene	ND		0.50	1	02/25/2014 01:25
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	02/25/2014 01:25
Freon 113	ND		0.50	1	02/25/2014 01:25
Hexachlorobutadiene	ND		0.50	1	02/25/2014 01:25
Hexachloroethane	ND		0.50	1	02/25/2014 01:25
2-Hexanone	ND		0.50	1	02/25/2014 01:25
Isopropylbenzene	ND		0.50	1	02/25/2014 01:25
4-Isopropyl toluene	ND		0.50	1	02/25/2014 01:25
Methyl-t-butyl ether (MTBE)	ND		0.50	1	02/25/2014 01:25
Methylene chloride	ND		0.50	1	02/25/2014 01:25
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	02/25/2014 01:25
Naphthalene	ND		0.50	1	02/25/2014 01:25
n-Propyl benzene	ND		0.50	1	02/25/2014 01:25
Styrene	ND		0.50	1	02/25/2014 01:25
1,1,1,2-Tetrachloroethane	ND		0.50	1	02/25/2014 01:25
1,1,2,2-Tetrachloroethane	ND		0.50	1	02/25/2014 01:25
Tetrachloroethene	ND		0.50	1	02/25/2014 01:25
Toluene	ND		0.50	1	02/25/2014 01:25
1,2,3-Trichlorobenzene	ND		0.50	1	02/25/2014 01:25
1,2,4-Trichlorobenzene	ND		0.50	1	02/25/2014 01:25
1,1,1-Trichloroethane	ND		0.50	1	02/25/2014 01:25
1,1,2-Trichloroethane	ND		0.50	1	02/25/2014 01:25
Trichloroethene	ND		0.50	1	02/25/2014 01:25
Trichlorofluoromethane	ND		0.50	1	02/25/2014 01:25
1,2,3-Trichloropropane	ND		0.50	1	02/25/2014 01:25
1,2,4-Trimethylbenzene	ND		0.50	1	02/25/2014 01:25
1,3,5-Trimethylbenzene	ND		0.50	1	02/25/2014 01:25
Vinyl Chloride	ND		0.50	1	02/25/2014 01:25
Xylenes, Total	ND		0.50	1	02/25/2014 01:25
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	93		70-130		02/25/2014 01:25
Toluene-d8	113		70-130		02/25/2014 01:25
4-BFB	93		70-130		02/25/2014 01:25



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/21/14 18:43
Date Prepared: 2/26/14

WorkOrder: 1402791
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range(C6-C12) & Stoddard Solvent Range(C9-C12) Volatile Hydrocarbons with BTEX & MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Effluent	1402791-001A	Water	02/21/2014 09:45	GC7	87501
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	02/26/2014 03:12
TPH(ss)	ND		50	1	02/26/2014 03:12
MTBE	---		5.0	1	02/26/2014 03:12
Benzene	---		0.50	1	02/26/2014 03:12
Toluene	---		0.50	1	02/26/2014 03:12
Ethylbenzene	---		0.50	1	02/26/2014 03:12
Xylenes	---		0.50	1	02/26/2014 03:12
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	104		70-130		02/26/2014 03:12



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/21/14 18:43
Date Prepared: 2/21/14

WorkOrder: 1402791
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Effluent	1402791-001A	Water	02/21/2014 09:45	GC9a	87343
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	120		100	2	02/28/2014 14:37
TPH-Motor Oil (C18-C36)	1400		500	2	02/28/2014 14:37
TPH-Bunker Oil (C10-C36)	1200		200	2	02/28/2014 14:37
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e7,e2	
C9	108		70-130		02/28/2014 14:37



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/24/14
Date Analyzed: 2/24/14
Instrument: GC18
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402791
BatchID: 87450
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-87450
 1402699-008BMS/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	20.78	0.50	20	-	104	70-130
Benzene	ND	19.23	0.50	20	-	96.2	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	90.22	2.0	80	-	113	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	19.2	0.50	20	-	96	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	21.55	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	19.65	0.50	20	-	98.2	70-130
1,1-Dichloroethene	ND	19.12	0.50	20	-	95.6	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: 2/24/14
Date Analyzed: 2/24/14
Instrument: GC18
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402791
BatchID: 87450
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-87450
 1402699-008BMS/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	19.11	0.50	20	-	95.6	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	20.05	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	21.1	0.50	20	-	105	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	18.74	0.50	20	-	93.7	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	19.74	0.50	20	-	98.7	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	22.78	40.58		45	91	90	70-130
Toluene-d8	28.05	48.87		45	112	109	70-130
4-BFB	2.171	3.878		4.5	87	86	70-130

(Cont.)



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/24/14
Date Analyzed: 2/24/14
Instrument: GC18
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402791
BatchID: 87450
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-87450
 1402699-008BMS/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)	21.02	20.94	20	ND	105	105	70-130	0	20
Benzene	20.06	20.27	20	ND	100	101	70-130	1.02	20
t-Butyl alcohol (TBA)	85.61	86	80	ND	107	108	70-130	0.459	20
Chlorobenzene	20.38	20.39	20	ND	102	102	70-130	0	20
1,2-Dibromoethane (EDB)	22.01	22.11	20	ND	110	111	70-130	0.464	20
1,2-Dichloroethane (1,2-DCA)	19.5	19.27	20	ND	97.5	96.3	70-130	1.18	20
1,1-Dichloroethene	19.73	19.61	20	ND	98.7	98	70-130	0.651	20
Diisopropyl ether (DIPE)	19.87	19.86	20	ND	99.3	99.3	70-130	0	20
Ethyl tert-butyl ether (ETBE)	20.17	20.06	20	ND	101	100	70-130	0.571	20
Methyl-t-butyl ether (MTBE)	20.91	20.35	20	ND	105	102	70-130	2.70	20
Toluene	19.57	19.72	20	ND	97.8	98.6	70-130	0.774	20
Trichloroethene	20.93	20.99	20	ND	105	105	70-130	0	20
Surrogate Recovery									
Dibromofluoromethane	40.93	40.53	45		91	90	70-130	0.983	20
Toluene-d8	49.85	50.02	45		111	111	70-130	0	20
4-BFB	3.887	3.906	4.5		86	87	70-130	0.488	20



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/26/14
Date Analyzed: 2/25/14
Instrument: GC7
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402791
BatchID: 87501
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-87501
 1402791-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	62.1	40	60	-	104	70-130
MTBE	ND	10.63	5.0	10	-	106	70-130
Benzene	ND	11.5	0.50	10	-	115	70-130
Toluene	ND	11.47	0.50	10	-	115	70-130
Ethylbenzene	ND	11.75	0.50	10	-	117	70-130
Xylenes	ND	35.91	0.50	30	-	120	70-130

Surrogate Recovery

aaa-TFT	9.121	9.519		10	91	95	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	57.55	57.71	60	ND	95.9	96.2	70-130	0.287	20
MTBE	9.89	9.148	10	ND	98.9	91.5	70-130	7.80	20
Benzene	10.5	9.804	10	ND	105	98	70-130	6.90	20
Toluene	10.4	10.57	10	ND	104	106	70-130	1.55	20
Ethylbenzene	10.75	9.813	10	ND	108	98.1	70-130	9.13	20
Xylenes	33.39	30.43	30	ND	111	101	70-130	9.30	20

Surrogate Recovery

aaa-TFT	9.156	9.091	10		92	91	70-130	0.702	20
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Quality Control Report

Client: P & D Environmental
Date Prepared: 2/21/14
Date Analyzed: 2/21/14
Instrument: GC11A
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402791
BatchID: 87343
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-87343

QC Summary Report for SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	842	50	1000	-	84.2	70-130
Surrogate Recovery							
C9	672.8	682.7		625	108	109	70-130



CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402791

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: #0298; Snow Cleaners

Bill to:

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

Requested TAT:

5 days

Date Received: 02/21/2014

Date Printed: 02/21/2014

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	
1402791-001	Effluent	Water	2/21/2014 9:45	<input type="checkbox"/>	B	A											

Test Legend:

1	8260B_W	2	TPH(DMO)_W	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: 1402791

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 2/21/2014

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
1402791-001A	Effluent	Water	SW8015B (Diesel & Motor Oil) <TPH-Bunker Oil (C10-C36), TPH-Diesel (C10-C23), TPH-Motor Oil (C18-C36)> SW8021B/8015Bm (G/MBTEX) <Benzene_2, Ethylbenzene_2, MTBE_2, Toluene_2, TPH(g)_1, TPH(ss)_1, Xylenes_2>	4	VOA w/ HCl	<input type="checkbox"/>	2/21/2014 9:45	5 days	Present	<input type="checkbox"/>	
						<input type="checkbox"/>		5 days	Present	<input type="checkbox"/>	
1402791-001B	Effluent	Water	SW8260B (VOCs)	4	VOA w/ HCl	<input type="checkbox"/>	2/21/2014 9:45	5 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

CHAIN OF CUSTODY RECORD

402791

PAGE 1 OF 1

P&D ENVIRONMENTAL, INC. 55 Santa Clara Ave., Suite 240 Oakland, CA 94610 (510) 658-6916					NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-G, SS, D, B, MO 8260					PRESERVATIVE	REMARKS						
PROJECT NUMBER: 0298		PROJECT NAME: Snow Cleaners 26																
SAMPLED BY: (PRINTED & SIGNATURE) Heena Dhawan Heena Dhawan																		
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	8	X	X											
X Effluent 02214	2/21/2014	0945	water															HCl Normal TAT
ICE # 2.4 GOOD CONDITION _____ APPROPRIATE _____ HEAD SPACE ABSENT _____ CONTAINERS _____ DECHLORINATED IN LAB _____ PRESERVED IN LAB _____ PRESERVATION: VOCAS O&G METALS OTHER																		
RELINQUISHED BY: (SIGNATURE) Heena Dhawan					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)	8	McCampbell Analytical, Inc.				
RELINQUISHED BY: (SIGNATURE)					DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)					LABORATORY CONTACT: Angela Rydelius (877) 252-9262						
										LABORATORY PHONE NUMBER: (877) 252-9262								
										SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES (X) NO								
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com					REMARKS: All 8 UOAs preserved w/ HCl													



Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **2/21/2014 6:43:03 PM**
 Project Name: **#0298; Snow Cleaners** Login Reviewed by: **Zoraida Cortez**
 WorkOrder N°: **1402791** 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: 3.4°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: 1402A30

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

Project Contact: Paul King
Project P.O.:
Project Name: #0298; Snow Cleaners

Project Received: 02/28/2014

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: #0298; Snow Cleaners
WorkOrder: 1402A30

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
S	spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d5	TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?)



Case Narrative

Client: P & D Environmental
Project: #0298; Snow Cleaners

Work Order: 1402A30
March 04, 2014

Open Scan Method 8260B

There were no isolated non target peaks in sample labeled Inlet to A1 . There was a conglomeration of alkanes between C8-C15 resembling Stoddard solvent.



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 15:59
Date Prepared: 2/28/14

WorkOrder: 1402A30
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402A30-001A	Air	02/28/2014 12:40	GC10	87593
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	200,000	40	02/28/2014 20:12
tert-Amyl methyl ether (TAME)	ND	H	10,000	40	02/28/2014 20:12
Benzene	ND	H	10,000	40	02/28/2014 20:12
Bromobenzene	ND	H	10,000	40	02/28/2014 20:12
Bromochloromethane	ND	H	10,000	40	02/28/2014 20:12
Bromodichloromethane	ND	H	10,000	40	02/28/2014 20:12
Bromoform	ND	H	10,000	40	02/28/2014 20:12
Bromomethane	ND	H	10,000	40	02/28/2014 20:12
2-Butanone (MEK)	ND	H	40,000	40	02/28/2014 20:12
t-Butyl alcohol (TBA)	ND	H	100,000	40	02/28/2014 20:12
n-Butyl benzene	ND	H	10,000	40	02/28/2014 20:12
sec-Butyl benzene	ND	H	10,000	40	02/28/2014 20:12
tert-Butyl benzene	ND	H	10,000	40	02/28/2014 20:12
Carbon Disulfide	ND	H	10,000	40	02/28/2014 20:12
Carbon Tetrachloride	ND	H	10,000	40	02/28/2014 20:12
Chlorobenzene	ND	H	10,000	40	02/28/2014 20:12
Chloroethane	ND	H	10,000	40	02/28/2014 20:12
Chloroform	ND	H	10,000	40	02/28/2014 20:12
Chloromethane	ND	H	10,000	40	02/28/2014 20:12
2-Chlorotoluene	ND	H	10,000	40	02/28/2014 20:12
4-Chlorotoluene	ND	H	10,000	40	02/28/2014 20:12
Dibromochloromethane	ND	H	10,000	40	02/28/2014 20:12
1,2-Dibromo-3-chloropropane	ND	H	10,000	40	02/28/2014 20:12
1,2-Dibromoethane (EDB)	ND	H	10,000	40	02/28/2014 20:12
Dibromomethane	ND	H	10,000	40	02/28/2014 20:12
1,2-Dichlorobenzene	ND	H	10,000	40	02/28/2014 20:12
1,3-Dichlorobenzene	ND	H	10,000	40	02/28/2014 20:12
1,4-Dichlorobenzene	ND	H	10,000	40	02/28/2014 20:12
Dichlorodifluoromethane	ND	H	10,000	40	02/28/2014 20:12
1,1-Dichloroethane	ND	H	10,000	40	02/28/2014 20:12
1,2-Dichloroethane (1,2-DCA)	ND	H	10,000	40	02/28/2014 20:12
1,1-Dichloroethene	ND	H	10,000	40	02/28/2014 20:12
cis-1,2-Dichloroethene	67,000	H	10,000	40	02/28/2014 20:12
trans-1,2-Dichloroethene	ND	H	10,000	40	02/28/2014 20:12
1,2-Dichloropropane	ND	H	10,000	40	02/28/2014 20:12
1,3-Dichloropropane	ND	H	10,000	40	02/28/2014 20:12
2,2-Dichloropropane	ND	H	10,000	40	02/28/2014 20:12
1,1-Dichloropropene	ND	H	10,000	40	02/28/2014 20:12

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 15:59
Date Prepared: 2/28/14

WorkOrder: 1402A30
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402A30-001A	Air	02/28/2014 12:40	GC10	87593
<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	10,000	40	02/28/2014 20:12
trans-1,3-Dichloropropene	ND	H	10,000	40	02/28/2014 20:12
Diisopropyl ether (DIPE)	ND	H	10,000	40	02/28/2014 20:12
Ethylbenzene	ND	H	10,000	40	02/28/2014 20:12
Ethyl tert-butyl ether (ETBE)	ND	H	10,000	40	02/28/2014 20:12
Freon 113	ND	H	200,000	40	02/28/2014 20:12
Hexachlorobutadiene	ND	H	10,000	40	02/28/2014 20:12
Hexachloroethane	ND	H	10,000	40	02/28/2014 20:12
2-Hexanone	ND	H	10,000	40	02/28/2014 20:12
Isopropylbenzene	ND	H	10,000	40	02/28/2014 20:12
4-Isopropyl toluene	ND	H	10,000	40	02/28/2014 20:12
Methyl-t-butyl ether (MTBE)	ND	H	10,000	40	02/28/2014 20:12
Methylene chloride	ND	H	10,000	40	02/28/2014 20:12
4-Methyl-2-pentanone (MIBK)	ND	H	10,000	40	02/28/2014 20:12
Naphthalene	ND	H	10,000	40	02/28/2014 20:12
n-Propyl benzene	ND	H	10,000	40	02/28/2014 20:12
Styrene	ND	H	10,000	40	02/28/2014 20:12
1,1,1,2-Tetrachloroethane	ND	H	10,000	40	02/28/2014 20:12
1,1,2,2-Tetrachloroethane	ND	H	10,000	40	02/28/2014 20:12
Tetrachloroethene	440,000	H	10,000	40	02/28/2014 20:12
Toluene	ND	H	10,000	40	02/28/2014 20:12
1,2,3-Trichlorobenzene	ND	H	10,000	40	02/28/2014 20:12
1,2,4-Trichlorobenzene	ND	H	10,000	40	02/28/2014 20:12
1,1,1-Trichloroethane	ND	H	10,000	40	02/28/2014 20:12
1,1,2-Trichloroethane	ND	H	10,000	40	02/28/2014 20:12
Trichloroethene	180,000	H	10,000	40	02/28/2014 20:12
Trichlorofluoromethane	ND	H	10,000	40	02/28/2014 20:12
1,2,3-Trichloropropane	ND	H	10,000	40	02/28/2014 20:12
1,2,4-Trimethylbenzene	ND	H	10,000	40	02/28/2014 20:12
1,3,5-Trimethylbenzene	ND	H	10,000	40	02/28/2014 20:12
Vinyl Chloride	10,000	H	10,000	40	02/28/2014 20:12
Xylenes, Total	ND	H	10,000	40	02/28/2014 20:12
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	92	H	70-130		02/28/2014 20:12
Toluene-d8	114	H	70-130		02/28/2014 20:12
4-BFB	86	H	70-130		02/28/2014 20:12



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 15:59
Date Prepared: 2/28/14

WorkOrder: 1402A30
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
Inlet to A1	1402A30-001A	Air	02/28/2014 12:40	GC10	87593
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	200	40	02/28/2014 20:12
tert-Amyl methyl ether (TAME)	ND	H	10	40	02/28/2014 20:12
Benzene	ND	H	10	40	02/28/2014 20:12
Bromobenzene	ND	H	10	40	02/28/2014 20:12
Bromochloromethane	ND	H	10	40	02/28/2014 20:12
Bromodichloromethane	ND	H	10	40	02/28/2014 20:12
Bromoform	ND	H	10	40	02/28/2014 20:12
Bromomethane	ND	H	10	40	02/28/2014 20:12
2-Butanone (MEK)	ND	H	40	40	02/28/2014 20:12
t-Butyl alcohol (TBA)	ND	H	100	40	02/28/2014 20:12
n-Butyl benzene	ND	H	10	40	02/28/2014 20:12
sec-Butyl benzene	ND	H	10	40	02/28/2014 20:12
tert-Butyl benzene	ND	H	10	40	02/28/2014 20:12
Carbon Disulfide	ND	H	10	40	02/28/2014 20:12
Carbon Tetrachloride	ND	H	10	40	02/28/2014 20:12
Chlorobenzene	ND	H	10	40	02/28/2014 20:12
Chloroethane	ND	H	10	40	02/28/2014 20:12
Chloroform	ND	H	10	40	02/28/2014 20:12
Chloromethane	ND	H	10	40	02/28/2014 20:12
2-Chlorotoluene	ND	H	10	40	02/28/2014 20:12
4-Chlorotoluene	ND	H	10	40	02/28/2014 20:12
Dibromochloromethane	ND	H	10	40	02/28/2014 20:12
1,2-Dibromo-3-chloropropane	ND	H	10	40	02/28/2014 20:12
1,2-Dibromoethane (EDB)	ND	H	10	40	02/28/2014 20:12
Dibromomethane	ND	H	10	40	02/28/2014 20:12
1,2-Dichlorobenzene	ND	H	10	40	02/28/2014 20:12
1,3-Dichlorobenzene	ND	H	10	40	02/28/2014 20:12
1,4-Dichlorobenzene	ND	H	10	40	02/28/2014 20:12
Dichlorodifluoromethane	ND	H	10	40	02/28/2014 20:12
1,1-Dichloroethane	ND	H	10	40	02/28/2014 20:12
1,2-Dichloroethane (1,2-DCA)	ND	H	10	40	02/28/2014 20:12
1,1-Dichloroethene	ND	H	10	40	02/28/2014 20:12
cis-1,2-Dichloroethene	67	H	10	40	02/28/2014 20:12
trans-1,2-Dichloroethene	ND	H	10	40	02/28/2014 20:12
1,2-Dichloropropane	ND	H	10	40	02/28/2014 20:12
1,3-Dichloropropane	ND	H	10	40	02/28/2014 20:12
2,2-Dichloropropane	ND	H	10	40	02/28/2014 20:12
1,1-Dichloropropene	ND	H	10	40	02/28/2014 20:12

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 15:59
Date Prepared: 2/28/14

WorkOrder: 1402A30
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
Inlet to A1	1402A30-001A	Air	02/28/2014 12:40	GC10	87593
<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	10	40	02/28/2014 20:12
trans-1,3-Dichloropropene	ND	H	10	40	02/28/2014 20:12
Diisopropyl ether (DIPE)	ND	H	10	40	02/28/2014 20:12
Ethylbenzene	ND	H	10	40	02/28/2014 20:12
Ethyl tert-butyl ether (ETBE)	ND	H	10	40	02/28/2014 20:12
Freon 113	ND	H	200	40	02/28/2014 20:12
Hexachlorobutadiene	ND	H	10	40	02/28/2014 20:12
Hexachloroethane	ND	H	10	40	02/28/2014 20:12
2-Hexanone	ND	H	10	40	02/28/2014 20:12
Isopropylbenzene	ND	H	10	40	02/28/2014 20:12
4-Isopropyl toluene	ND	H	10	40	02/28/2014 20:12
Methyl-t-butyl ether (MTBE)	ND	H	10	40	02/28/2014 20:12
Methylene chloride	ND	H	10	40	02/28/2014 20:12
4-Methyl-2-pentanone (MIBK)	ND	H	10	40	02/28/2014 20:12
Naphthalene	ND	H	10	40	02/28/2014 20:12
n-Propyl benzene	ND	H	10	40	02/28/2014 20:12
Styrene	ND	H	10	40	02/28/2014 20:12
1,1,1,2-Tetrachloroethane	ND	H	10	40	02/28/2014 20:12
1,1,2,2-Tetrachloroethane	ND	H	10	40	02/28/2014 20:12
Tetrachloroethene	440	H	10	40	02/28/2014 20:12
Toluene	ND	H	10	40	02/28/2014 20:12
1,2,3-Trichlorobenzene	ND	H	10	40	02/28/2014 20:12
1,2,4-Trichlorobenzene	ND	H	10	40	02/28/2014 20:12
1,1,1-Trichloroethane	ND	H	10	40	02/28/2014 20:12
1,1,2-Trichloroethane	ND	H	10	40	02/28/2014 20:12
Trichloroethene	180	H	10	40	02/28/2014 20:12
Trichlorofluoromethane	ND	H	10	40	02/28/2014 20:12
1,2,3-Trichloropropane	ND	H	10	40	02/28/2014 20:12
1,2,4-Trimethylbenzene	ND	H	10	40	02/28/2014 20:12
1,3,5-Trimethylbenzene	ND	H	10	40	02/28/2014 20:12
Vinyl Chloride	10	H	10	40	02/28/2014 20:12
Xylenes, Total	ND	H	10	40	02/28/2014 20:12
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	92	H	70-130		02/28/2014 20:12
Toluene-d8	114	H	70-130		02/28/2014 20:12
4-BFB	86	H	70-130		02/28/2014 20:12



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 15:59
Date Prepared: 2/28/14

WorkOrder: 1402A30
Extraction Method: SW5030B
Analytical Method: SW8015Bm
Unit: µg/m³

Gasoline (C6-C12) & Stoddard Solvent (C9-C12) Range Volatile Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402A30-001A	Air	02/28/2014 12:40	GC3	87657
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	1,500,000	H	50,000	2	02/28/2014 19:57
TPH(ss)	1,100,000	H	50,000	2	02/28/2014 19:57
MTBE	---		5000	2	02/28/2014 19:57
Benzene	---		500	2	02/28/2014 19:57
Toluene	---		500	2	02/28/2014 19:57
Ethylbenzene	---		500	2	02/28/2014 19:57
Xylenes	---		500	2	02/28/2014 19:57
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: d5,c4	
aaa-TFT	819	SH	70-130		02/28/2014 19:57



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 15:59
Date Prepared: 2/28/14

WorkOrder: 1402A30
Extraction Method: SW5030B
Analytical Method: SW8015Cm
Unit: µg/L

Gasoline (C6-C12) & Stoddard Solvent (C9-C12) Range Volatile Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402A30-001A	Air	02/28/2014 12:40	GC3	87657
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	1500	H	50	2	02/28/2014 19:57
TPH(ss)	1100	H	50	2	02/28/2014 19:57
MTBE	---		5.0	2	02/28/2014 19:57
Benzene	---		0.50	2	02/28/2014 19:57
Toluene	---		0.50	2	02/28/2014 19:57
Ethylbenzene	---		0.50	2	02/28/2014 19:57
Xylenes	---		0.50	2	02/28/2014 19:57
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: d5,c4	
aaa-TFT	819	SH	70-130		02/28/2014 19:57



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 15:59
Date Prepared: 2/28/14-3/3/14

WorkOrder: 1402A30
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: uL/L

Light Gases

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A1	1402A30-001A	Air	02/28/2014 12:40	GC26	87629
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetylene	ND	H	2.0	1	03/03/2014 12:29
Ethene	ND	H	2.0	1	03/03/2014 12:29
Hydrogen	ND		50	1	02/28/2014 16:47
Methane	3300	H	10	10	03/03/2014 14:40
n-Butane	3.3	H	2.0	1	03/03/2014 12:29
n-Ethane	2.5	H	2.0	1	03/03/2014 12:29
n-Pentane	ND	H	2.0	1	03/03/2014 12:29
n-Propane	ND	H	2.0	1	03/03/2014 12:29



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/28/14
Date Analyzed: 2/27/14
Instrument: GC16
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402A30
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	-	-	-	-

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Quality Control Report

Client: P & D Environmental
Date Prepared: 2/28/14
Date Analyzed: 2/27/14
Instrument: GC16
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402A30
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: #0298; Snow Cleaners

WorkOrder: 1402A30
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
Surrogate Recovery									
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



Quality Control Report

Client: P & D Environmental
Date Prepared: 3/3/14
Date Analyzed: 2/28/14
Instrument: GC3
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402A30
BatchID: 87657
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-87657

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	64.56	40	60	-	108	70-130
MTBE	ND	10.94	5.0	10	-	109	70-130
Benzene	ND	10.78	0.50	10	-	108	70-130
Toluene	ND	10.83	0.50	10	-	108	70-130
Ethylbenzene	ND	10.75	0.50	10	-	107	70-130
Xylenes	ND	32.35	0.50	30	-	108	70-130
Surrogate Recovery							
aaa-TFT	10.61	10.16		10	106	102	70-130



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/28/14
Date Analyzed: 2/28/14 - 3/3/14
Instrument: GC26
Matrix: SoilGas
Project: #0298; Snow Cleaners

WorkOrder: 1402A30
BatchID: 87629
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: uL/L
Sample ID: MB/LCS-87629

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetylene	ND	99.83	2.0	100	-	99.8	70-130
Ethene	ND	107.2	2.0	100	-	107	70-130
n-Butane	ND	76.02	2.0	100	-	76	70-130
n-Ethane	ND	73.66	2.0	100	-	73.7	70-130
n-Methane	ND	92.21	2.0	100	-	92.2	70-130
n-Pentane	ND	78.65	2.0	100	-	78.6	70-130
n-Propane	ND	84.85	2.0	100	-	84.9	70-130



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402A30

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: #0298; Snow Cleaners

Bill to:

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

Requested TAT:

2 days

Date Received: 02/28/2014

Date Printed: 02/28/2014

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	
1402A30-001	Inlet to A1	Air	2/28/2014 12:40	<input type="checkbox"/>	A	A	A										

Test Legend:

1	8260B_A	2	G-MBTEX_A	3	LG_TEDLAR_AIR	4		5	
6		7		8		9		10	
11		12							

The following SampID: 001A contains testgroup.

Prepared by: Maria Venegas

Comments: 2 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

QC Level: LEVEL 2

Work Order: 1402A30

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 2/28/2014

Comments: 2 Day TAT

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
1402A30-001A	Inlet to A1	Air	ASTM D1946-90 (Light Gases) <Acetylene, Ethene, n-Butane_4, n-Ethane_4, n-Methane_4, n-Pentane_4, n-Propane_4>	1	Tedlar	<input type="checkbox"/>	2/28/2014 12:40	2 days		<input type="checkbox"/>	
			TPH(g) + MBTEX			<input type="checkbox"/>		2 days		<input type="checkbox"/>	
			VOCs by PT & GCMS			<input type="checkbox"/>		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

1402A30

CHAIN OF CUSTODY RECORD

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

PROJECT NUMBER:
 0298

PROJECT NAME:
 Snow Cleaners
 2678 Coolidge Ave.
 Oakland, CA

SAMPLED BY: (PRINTED & SIGNATURE)

MICHAEL BASS-DESCHENES *Michael Bass-Deschenes*

NUMBER OF CONTAINERS

ANALYSIS(ES):

GC/MS Open Scan
 TPH Standard Scan
 ASTM-D 1946
 CAH Hydrocarbons + Hydrogenal

PRESERVATIVE

RUSH

REMARKS

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION
INLET TO A1	2/28/14	1240	AIR	

1 X X X NONE

48-HOUR RUSH

NA

GOOD CONDITION
 HEADERS READER
 DECHLORINATED IN LAB
 PRESERVATION

APPROPRIATE
 CONTAINERS
 PREPARED IN LAB
 VOAS & O&G METALS OTHER

RELINQUISHED BY: (SIGNATURE)

Michael Bass-Deschenes

DATE TIME

2/28/14 1240

RECEIVED BY: (SIGNATURE)

Memo

Total No. of Samples (This Shipment)

1

Total No. of Containers (This Shipment)

1

LABORATORY:

McCampbell Analytical, Inc.

RELINQUISHED BY: (SIGNATURE)

Michael Bass-Deschenes

DATE TIME

3/3/14 1200

RECEIVED BY: (SIGNATURE)

Memo

LABORATORY CONTACT:

Angela Rydelius

LABORATORY PHONE NUMBER:

(877) 252-9262

RELINQUISHED BY: (SIGNATURE)

Michael Bass-Deschenes

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: For Sample Inlet to A1, expect elevated results similar to WD# 1402723



Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **2/28/2014 3:59:54 PM**
 Project Name: **#0298; Snow Cleaners** Login Reviewed by: **Maria Venegas**
 WorkOrder N°: **1402A30** 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: 1402A31

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

Project Contact: Paul King
Project P.O.:
Project Name: #0298; Snow Cleaners

Project Received: 02/28/2014

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: #0298; Snow Cleaners
WorkOrder: 1402A31

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
S	spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d5	TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?)



Case Narrative

Client: P & D Environmental
Project: #0298; Snow Cleaners

Work Order: 1402A31
March 04, 2014

Open Scan Method 8260B

There were no isolated non target peaks in samples labeled Inlet to A2 and Inlet to A3 . There was a conglomeration of alkanes between C8-C15 resembling Stoddard solvent.



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402A31-001A	Air	02/28/2014 12:45	GC10	87593

Initial Pressure (psia) **Final Pressure (psia)**

1.00	1.00
------	------

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	10,000	2	02/28/2014 20:58
tert-Amyl methyl ether (TAME)	ND	H	500	2	02/28/2014 20:58
Benzene	ND	H	500	2	02/28/2014 20:58
Bromobenzene	ND	H	500	2	02/28/2014 20:58
Bromochloromethane	ND	H	500	2	02/28/2014 20:58
Bromodichloromethane	ND	H	500	2	02/28/2014 20:58
Bromoform	ND	H	500	2	02/28/2014 20:58
Bromomethane	ND	H	500	2	02/28/2014 20:58
2-Butanone (MEK)	ND	H	2000	2	02/28/2014 20:58
t-Butyl alcohol (TBA)	ND	H	5000	2	02/28/2014 20:58
n-Butyl benzene	ND	H	500	2	02/28/2014 20:58
sec-Butyl benzene	ND	H	500	2	02/28/2014 20:58
tert-Butyl benzene	ND	H	500	2	02/28/2014 20:58
Carbon Disulfide	ND	H	500	2	02/28/2014 20:58
Carbon Tetrachloride	ND	H	500	2	02/28/2014 20:58
Chlorobenzene	ND	H	500	2	02/28/2014 20:58
Chloroethane	ND	H	500	2	02/28/2014 20:58
Chloroform	ND	H	500	2	02/28/2014 20:58
Chloromethane	ND	H	500	2	02/28/2014 20:58
2-Chlorotoluene	ND	H	500	2	02/28/2014 20:58
4-Chlorotoluene	ND	H	500	2	02/28/2014 20:58
Dibromochloromethane	ND	H	500	2	02/28/2014 20:58
1,2-Dibromo-3-chloropropane	ND	H	500	2	02/28/2014 20:58
1,2-Dibromoethane (EDB)	ND	H	500	2	02/28/2014 20:58
Dibromomethane	ND	H	500	2	02/28/2014 20:58
1,2-Dichlorobenzene	ND	H	500	2	02/28/2014 20:58
1,3-Dichlorobenzene	ND	H	500	2	02/28/2014 20:58
1,4-Dichlorobenzene	ND	H	500	2	02/28/2014 20:58
Dichlorodifluoromethane	ND	H	500	2	02/28/2014 20:58
1,1-Dichloroethane	ND	H	500	2	02/28/2014 20:58
1,2-Dichloroethane (1,2-DCA)	ND	H	500	2	02/28/2014 20:58
1,1-Dichloroethene	ND	H	500	2	02/28/2014 20:58
cis-1,2-Dichloroethene	930	H	500	2	02/28/2014 20:58
trans-1,2-Dichloroethene	ND	H	500	2	02/28/2014 20:58

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402A31-001A	Air	02/28/2014 12:45	GC10	87593

Initial Pressure (psia) **Final Pressure (psia)**

1.00	1.00
------	------

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
1,2-Dichloropropane	ND	H	500	2	02/28/2014 20:58
1,3-Dichloropropane	ND	H	500	2	02/28/2014 20:58
2,2-Dichloropropane	ND	H	500	2	02/28/2014 20:58
1,1-Dichloropropene	ND	H	500	2	02/28/2014 20:58
cis-1,3-Dichloropropene	ND	H	500	2	02/28/2014 20:58
trans-1,3-Dichloropropene	ND	H	500	2	02/28/2014 20:58
Diisopropyl ether (DIPE)	ND	H	500	2	02/28/2014 20:58
Ethylbenzene	ND	H	500	2	02/28/2014 20:58
Ethyl tert-butyl ether (ETBE)	ND	H	500	2	02/28/2014 20:58
Freon 113	ND	H	10,000	2	02/28/2014 20:58
Hexachlorobutadiene	ND	H	500	2	02/28/2014 20:58
Hexachloroethane	ND	H	500	2	02/28/2014 20:58
2-Hexanone	ND	H	500	2	02/28/2014 20:58
Isopropylbenzene	ND	H	500	2	02/28/2014 20:58
4-Isopropyl toluene	ND	H	500	2	02/28/2014 20:58
Methyl-t-butyl ether (MTBE)	ND	H	500	2	02/28/2014 20:58
Methylene chloride	ND	H	500	2	02/28/2014 20:58
4-Methyl-2-pentanone (MIBK)	ND	H	500	2	02/28/2014 20:58
Naphthalene	ND	H	500	2	02/28/2014 20:58
n-Propyl benzene	ND	H	500	2	02/28/2014 20:58
Styrene	ND	H	500	2	02/28/2014 20:58
1,1,1,2-Tetrachloroethane	ND	H	500	2	02/28/2014 20:58
1,1,1,2,2-Tetrachloroethane	ND	H	500	2	02/28/2014 20:58
Tetrachloroethene	18,000	H	500	2	02/28/2014 20:58
Toluene	ND	H	500	2	02/28/2014 20:58
1,2,3-Trichlorobenzene	ND	H	500	2	02/28/2014 20:58
1,2,4-Trichlorobenzene	ND	H	500	2	02/28/2014 20:58
1,1,1-Trichloroethane	ND	H	500	2	02/28/2014 20:58
1,1,2-Trichloroethane	ND	H	500	2	02/28/2014 20:58
Trichloroethene	4300	H	500	2	02/28/2014 20:58
Trichlorofluoromethane	ND	H	500	2	02/28/2014 20:58
1,2,3-Trichloropropane	ND	H	500	2	02/28/2014 20:58
1,2,4-Trimethylbenzene	ND	H	500	2	02/28/2014 20:58
1,3,5-Trimethylbenzene	ND	H	500	2	02/28/2014 20:58

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402A31-001A	Air	02/28/2014 12:45	GC10	87593

Initial Pressure (psia) **Final Pressure (psia)**

1.00	1.00
------	------

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND	H	500	2	02/28/2014 20:58
Xylenes, Total	ND	H	500	2	02/28/2014 20:58

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	93	H	70-130	02/28/2014 20:58
Toluene-d8	111	H	70-130	02/28/2014 20:58
4-BFB	85	H	70-130	02/28/2014 20:58

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A3	1402A31-002A	Air	02/28/2014 12:50	GC18	87593

Initial Pressure (psia) **Final Pressure (psia)**

1.00	1.00
------	------

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	ND	H	5000	1	02/28/2014 20:55
tert-Amyl methyl ether (TAME)	ND	H	250	1	02/28/2014 20:55
Benzene	ND	H	250	1	02/28/2014 20:55
Bromobenzene	ND	H	250	1	02/28/2014 20:55
Bromochloromethane	ND	H	250	1	02/28/2014 20:55
Bromodichloromethane	ND	H	250	1	02/28/2014 20:55
Bromoform	ND	H	250	1	02/28/2014 20:55
Bromomethane	ND	H	250	1	02/28/2014 20:55
2-Butanone (MEK)	ND	H	1000	1	02/28/2014 20:55
t-Butyl alcohol (TBA)	7000	H	2500	1	02/28/2014 20:55
n-Butyl benzene	ND	H	250	1	02/28/2014 20:55
sec-Butyl benzene	ND	H	250	1	02/28/2014 20:55
tert-Butyl benzene	ND	H	250	1	02/28/2014 20:55
Carbon Disulfide	ND	H	250	1	02/28/2014 20:55
Carbon Tetrachloride	ND	H	250	1	02/28/2014 20:55
Chlorobenzene	ND	H	250	1	02/28/2014 20:55
Chloroethane	ND	H	250	1	02/28/2014 20:55
Chloroform	ND	H	250	1	02/28/2014 20:55
Chloromethane	ND	H	250	1	02/28/2014 20:55
2-Chlorotoluene	ND	H	250	1	02/28/2014 20:55
4-Chlorotoluene	ND	H	250	1	02/28/2014 20:55
Dibromochloromethane	ND	H	250	1	02/28/2014 20:55
1,2-Dibromo-3-chloropropane	ND	H	250	1	02/28/2014 20:55
1,2-Dibromoethane (EDB)	ND	H	250	1	02/28/2014 20:55
Dibromomethane	ND	H	250	1	02/28/2014 20:55
1,2-Dichlorobenzene	ND	H	250	1	02/28/2014 20:55
1,3-Dichlorobenzene	ND	H	250	1	02/28/2014 20:55
1,4-Dichlorobenzene	ND	H	250	1	02/28/2014 20:55
Dichlorodifluoromethane	ND	H	250	1	02/28/2014 20:55
1,1-Dichloroethane	ND	H	250	1	02/28/2014 20:55
1,2-Dichloroethane (1,2-DCA)	ND	H	250	1	02/28/2014 20:55
1,1-Dichloroethene	ND	H	250	1	02/28/2014 20:55
cis-1,2-Dichloroethene	ND	H	250	1	02/28/2014 20:55
trans-1,2-Dichloroethene	ND	H	250	1	02/28/2014 20:55

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A3	1402A31-002A	Air	02/28/2014 12:50	GC18	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	02/28/2014 20:55
1,3-Dichloropropane	ND	H	250	1	02/28/2014 20:55
2,2-Dichloropropane	ND	H	250	1	02/28/2014 20:55
1,1-Dichloropropene	ND	H	250	1	02/28/2014 20:55
cis-1,3-Dichloropropene	ND	H	250	1	02/28/2014 20:55
trans-1,3-Dichloropropene	ND	H	250	1	02/28/2014 20:55
Diisopropyl ether (DIPE)	ND	H	250	1	02/28/2014 20:55
Ethylbenzene	ND	H	250	1	02/28/2014 20:55
Ethyl tert-butyl ether (ETBE)	ND	H	250	1	02/28/2014 20:55
Freon 113	ND	H	5000	1	02/28/2014 20:55
Hexachlorobutadiene	ND	H	250	1	02/28/2014 20:55
Hexachloroethane	ND	H	250	1	02/28/2014 20:55
2-Hexanone	ND	H	250	1	02/28/2014 20:55
Isopropylbenzene	ND	H	250	1	02/28/2014 20:55
4-Isopropyl toluene	ND	H	250	1	02/28/2014 20:55
Methyl-t-butyl ether (MTBE)	ND	H	250	1	02/28/2014 20:55
Methylene chloride	ND	H	250	1	02/28/2014 20:55
4-Methyl-2-pentanone (MIBK)	ND	H	250	1	02/28/2014 20:55
Naphthalene	ND	H	250	1	02/28/2014 20:55
n-Propyl benzene	ND	H	250	1	02/28/2014 20:55
Styrene	ND	H	250	1	02/28/2014 20:55
1,1,1,2-Tetrachloroethane	ND	H	250	1	02/28/2014 20:55
1,1,1,2,2-Tetrachloroethane	ND	H	250	1	02/28/2014 20:55
Tetrachloroethene	6000	H	250	1	02/28/2014 20:55
Toluene	ND	H	250	1	02/28/2014 20:55
1,2,3-Trichlorobenzene	ND	H	250	1	02/28/2014 20:55
1,2,4-Trichlorobenzene	ND	H	250	1	02/28/2014 20:55
1,1,1-Trichloroethane	ND	H	250	1	02/28/2014 20:55
1,1,2-Trichloroethane	ND	H	250	1	02/28/2014 20:55
Trichloroethene	900	H	250	1	02/28/2014 20:55
Trichlorofluoromethane	ND	H	250	1	02/28/2014 20:55
1,2,3-Trichloropropane	ND	H	250	1	02/28/2014 20:55
1,2,4-Trimethylbenzene	ND	H	250	1	02/28/2014 20:55
1,3,5-Trimethylbenzene	ND	H	250	1	02/28/2014 20:55

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A3	1402A31-002A	Air	02/28/2014 12:50	GC18	87593

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND	H	250	1	02/28/2014 20:55
Xylenes, Total	ND	H	250	1	02/28/2014 20:55

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	94	H	70-130	02/28/2014 20:55
Toluene-d8	112	H	70-130	02/28/2014 20:55
4-BFB	87	H	70-130	02/28/2014 20:55



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
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
Inlet to A2	1402A31-001A	Air	02/28/2014 12:45	GC10	87593
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND	H	10	2	02/28/2014 20:58
tert-Amyl methyl ether (TAME)	ND	H	0.50	2	02/28/2014 20:58
Benzene	ND	H	0.50	2	02/28/2014 20:58
Bromobenzene	ND	H	0.50	2	02/28/2014 20:58
Bromochloromethane	ND	H	0.50	2	02/28/2014 20:58
Bromodichloromethane	ND	H	0.50	2	02/28/2014 20:58
Bromoform	ND	H	0.50	2	02/28/2014 20:58
Bromomethane	ND	H	0.50	2	02/28/2014 20:58
2-Butanone (MEK)	ND	H	2.0	2	02/28/2014 20:58
t-Butyl alcohol (TBA)	ND	H	5.0	2	02/28/2014 20:58
n-Butyl benzene	ND	H	0.50	2	02/28/2014 20:58
sec-Butyl benzene	ND	H	0.50	2	02/28/2014 20:58
tert-Butyl benzene	ND	H	0.50	2	02/28/2014 20:58
Carbon Disulfide	ND	H	0.50	2	02/28/2014 20:58
Carbon Tetrachloride	ND	H	0.50	2	02/28/2014 20:58
Chlorobenzene	ND	H	0.50	2	02/28/2014 20:58
Chloroethane	ND	H	0.50	2	02/28/2014 20:58
Chloroform	ND	H	0.50	2	02/28/2014 20:58
Chloromethane	ND	H	0.50	2	02/28/2014 20:58
2-Chlorotoluene	ND	H	0.50	2	02/28/2014 20:58
4-Chlorotoluene	ND	H	0.50	2	02/28/2014 20:58
Dibromochloromethane	ND	H	0.50	2	02/28/2014 20:58
1,2-Dibromo-3-chloropropane	ND	H	0.50	2	02/28/2014 20:58
1,2-Dibromoethane (EDB)	ND	H	0.50	2	02/28/2014 20:58
Dibromomethane	ND	H	0.50	2	02/28/2014 20:58
1,2-Dichlorobenzene	ND	H	0.50	2	02/28/2014 20:58
1,3-Dichlorobenzene	ND	H	0.50	2	02/28/2014 20:58
1,4-Dichlorobenzene	ND	H	0.50	2	02/28/2014 20:58
Dichlorodifluoromethane	ND	H	0.50	2	02/28/2014 20:58
1,1-Dichloroethane	ND	H	0.50	2	02/28/2014 20:58
1,2-Dichloroethane (1,2-DCA)	ND	H	0.50	2	02/28/2014 20:58
1,1-Dichloroethene	ND	H	0.50	2	02/28/2014 20:58
cis-1,2-Dichloroethene	0.93	H	0.50	2	02/28/2014 20:58
trans-1,2-Dichloroethene	ND	H	0.50	2	02/28/2014 20:58
1,2-Dichloropropane	ND	H	0.50	2	02/28/2014 20:58
1,3-Dichloropropane	ND	H	0.50	2	02/28/2014 20:58
2,2-Dichloropropane	ND	H	0.50	2	02/28/2014 20:58
1,1-Dichloropropene	ND	H	0.50	2	02/28/2014 20:58

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
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
Inlet to A2	1402A31-001A	Air	02/28/2014 12:45	GC10	87593
<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	0.50	2	02/28/2014 20:58
trans-1,3-Dichloropropene	ND	H	0.50	2	02/28/2014 20:58
Diisopropyl ether (DIPE)	ND	H	0.50	2	02/28/2014 20:58
Ethylbenzene	ND	H	0.50	2	02/28/2014 20:58
Ethyl tert-butyl ether (ETBE)	ND	H	0.50	2	02/28/2014 20:58
Freon 113	ND	H	10	2	02/28/2014 20:58
Hexachlorobutadiene	ND	H	0.50	2	02/28/2014 20:58
Hexachloroethane	ND	H	0.50	2	02/28/2014 20:58
2-Hexanone	ND	H	0.50	2	02/28/2014 20:58
Isopropylbenzene	ND	H	0.50	2	02/28/2014 20:58
4-Isopropyl toluene	ND	H	0.50	2	02/28/2014 20:58
Methyl-t-butyl ether (MTBE)	ND	H	0.50	2	02/28/2014 20:58
Methylene chloride	ND	H	0.50	2	02/28/2014 20:58
4-Methyl-2-pentanone (MIBK)	ND	H	0.50	2	02/28/2014 20:58
Naphthalene	ND	H	0.50	2	02/28/2014 20:58
n-Propyl benzene	ND	H	0.50	2	02/28/2014 20:58
Styrene	ND	H	0.50	2	02/28/2014 20:58
1,1,1,2-Tetrachloroethane	ND	H	0.50	2	02/28/2014 20:58
1,1,2,2-Tetrachloroethane	ND	H	0.50	2	02/28/2014 20:58
Tetrachloroethene	18	H	0.50	2	02/28/2014 20:58
Toluene	ND	H	0.50	2	02/28/2014 20:58
1,2,3-Trichlorobenzene	ND	H	0.50	2	02/28/2014 20:58
1,2,4-Trichlorobenzene	ND	H	0.50	2	02/28/2014 20:58
1,1,1-Trichloroethane	ND	H	0.50	2	02/28/2014 20:58
1,1,2-Trichloroethane	ND	H	0.50	2	02/28/2014 20:58
Trichloroethene	4.3	H	0.50	2	02/28/2014 20:58
Trichlorofluoromethane	ND	H	0.50	2	02/28/2014 20:58
1,2,3-Trichloropropane	ND	H	0.50	2	02/28/2014 20:58
1,2,4-Trimethylbenzene	ND	H	0.50	2	02/28/2014 20:58
1,3,5-Trimethylbenzene	ND	H	0.50	2	02/28/2014 20:58
Vinyl Chloride	ND	H	0.50	2	02/28/2014 20:58
Xylenes, Total	ND	H	0.50	2	02/28/2014 20:58
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	93	H	70-130		02/28/2014 20:58
Toluene-d8	111	H	70-130		02/28/2014 20:58
4-BFB	85	H	70-130		02/28/2014 20:58

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
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
Inlet to A3	1402A31-002A	Air	02/28/2014 12:50	GC18	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	02/28/2014 20:55
tert-Amyl methyl ether (TAME)	ND	H	0.25	1	02/28/2014 20:55
Benzene	ND	H	0.25	1	02/28/2014 20:55
Bromobenzene	ND	H	0.25	1	02/28/2014 20:55
Bromochloromethane	ND	H	0.25	1	02/28/2014 20:55
Bromodichloromethane	ND	H	0.25	1	02/28/2014 20:55
Bromoform	ND	H	0.25	1	02/28/2014 20:55
Bromomethane	ND	H	0.25	1	02/28/2014 20:55
2-Butanone (MEK)	ND	H	1.0	1	02/28/2014 20:55
t-Butyl alcohol (TBA)	7.0	H	2.5	1	02/28/2014 20:55
n-Butyl benzene	ND	H	0.25	1	02/28/2014 20:55
sec-Butyl benzene	ND	H	0.25	1	02/28/2014 20:55
tert-Butyl benzene	ND	H	0.25	1	02/28/2014 20:55
Carbon Disulfide	ND	H	0.25	1	02/28/2014 20:55
Carbon Tetrachloride	ND	H	0.25	1	02/28/2014 20:55
Chlorobenzene	ND	H	0.25	1	02/28/2014 20:55
Chloroethane	ND	H	0.25	1	02/28/2014 20:55
Chloroform	ND	H	0.25	1	02/28/2014 20:55
Chloromethane	ND	H	0.25	1	02/28/2014 20:55
2-Chlorotoluene	ND	H	0.25	1	02/28/2014 20:55
4-Chlorotoluene	ND	H	0.25	1	02/28/2014 20:55
Dibromochloromethane	ND	H	0.25	1	02/28/2014 20:55
1,2-Dibromo-3-chloropropane	ND	H	0.25	1	02/28/2014 20:55
1,2-Dibromoethane (EDB)	ND	H	0.25	1	02/28/2014 20:55
Dibromomethane	ND	H	0.25	1	02/28/2014 20:55
1,2-Dichlorobenzene	ND	H	0.25	1	02/28/2014 20:55
1,3-Dichlorobenzene	ND	H	0.25	1	02/28/2014 20:55
1,4-Dichlorobenzene	ND	H	0.25	1	02/28/2014 20:55
Dichlorodifluoromethane	ND	H	0.25	1	02/28/2014 20:55
1,1-Dichloroethane	ND	H	0.25	1	02/28/2014 20:55
1,2-Dichloroethane (1,2-DCA)	ND	H	0.25	1	02/28/2014 20:55
1,1-Dichloroethene	ND	H	0.25	1	02/28/2014 20:55
cis-1,2-Dichloroethene	ND	H	0.25	1	02/28/2014 20:55
trans-1,2-Dichloroethene	ND	H	0.25	1	02/28/2014 20:55
1,2-Dichloropropane	ND	H	0.25	1	02/28/2014 20:55
1,3-Dichloropropane	ND	H	0.25	1	02/28/2014 20:55
2,2-Dichloropropane	ND	H	0.25	1	02/28/2014 20:55
1,1-Dichloropropene	ND	H	0.25	1	02/28/2014 20:55

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
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
Inlet to A3	1402A31-002A	Air	02/28/2014 12:50	GC18	87593
Analytes	Result	Qualifiers	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	H	0.25	1	02/28/2014 20:55
trans-1,3-Dichloropropene	ND	H	0.25	1	02/28/2014 20:55
Diisopropyl ether (DIPE)	ND	H	0.25	1	02/28/2014 20:55
Ethylbenzene	ND	H	0.25	1	02/28/2014 20:55
Ethyl tert-butyl ether (ETBE)	ND	H	0.25	1	02/28/2014 20:55
Freon 113	ND	H	5.0	1	02/28/2014 20:55
Hexachlorobutadiene	ND	H	0.25	1	02/28/2014 20:55
Hexachloroethane	ND	H	0.25	1	02/28/2014 20:55
2-Hexanone	ND	H	0.25	1	02/28/2014 20:55
Isopropylbenzene	ND	H	0.25	1	02/28/2014 20:55
4-Isopropyl toluene	ND	H	0.25	1	02/28/2014 20:55
Methyl-t-butyl ether (MTBE)	ND	H	0.25	1	02/28/2014 20:55
Methylene chloride	ND	H	0.25	1	02/28/2014 20:55
4-Methyl-2-pentanone (MIBK)	ND	H	0.25	1	02/28/2014 20:55
Naphthalene	ND	H	0.25	1	02/28/2014 20:55
n-Propyl benzene	ND	H	0.25	1	02/28/2014 20:55
Styrene	ND	H	0.25	1	02/28/2014 20:55
1,1,1,2-Tetrachloroethane	ND	H	0.25	1	02/28/2014 20:55
1,1,2,2-Tetrachloroethane	ND	H	0.25	1	02/28/2014 20:55
Tetrachloroethene	6.0	H	0.25	1	02/28/2014 20:55
Toluene	ND	H	0.25	1	02/28/2014 20:55
1,2,3-Trichlorobenzene	ND	H	0.25	1	02/28/2014 20:55
1,2,4-Trichlorobenzene	ND	H	0.25	1	02/28/2014 20:55
1,1,1-Trichloroethane	ND	H	0.25	1	02/28/2014 20:55
1,1,2-Trichloroethane	ND	H	0.25	1	02/28/2014 20:55
Trichloroethene	0.90	H	0.25	1	02/28/2014 20:55
Trichlorofluoromethane	ND	H	0.25	1	02/28/2014 20:55
1,2,3-Trichloropropane	ND	H	0.25	1	02/28/2014 20:55
1,2,4-Trimethylbenzene	ND	H	0.25	1	02/28/2014 20:55
1,3,5-Trimethylbenzene	ND	H	0.25	1	02/28/2014 20:55
Vinyl Chloride	ND	H	0.25	1	02/28/2014 20:55
Xylenes, Total	ND	H	0.25	1	02/28/2014 20:55
Surrogates	REC (%)	Qualifiers	Limits		
Dibromofluoromethane	94	H	70-130		02/28/2014 20:55
Toluene-d8	112	H	70-130		02/28/2014 20:55
4-BFB	87	H	70-130		02/28/2014 20:55



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/m³

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402A31-001A	Air	02/28/2014 12:45	GC3	87657

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
TPH(g)	75,000	H	25,000	1	02/28/2014 20:26
TPH(ss)	69,000	H	25,000	1	02/28/2014 20:26
MTBE	---		2500	1	02/28/2014 20:26
Benzene	---		250	1	02/28/2014 20:26
Toluene	---		250	1	02/28/2014 20:26
Ethylbenzene	---		250	1	02/28/2014 20:26
Xylenes	---		250	1	02/28/2014 20:26

Surrogates	REC (%)	Qualifiers	Limits	Analytical Comments: d5,c4
aaa-TFT	146	SH	70-130	02/28/2014 20:26

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A3	1402A31-002A	Air	02/28/2014 12:50	GC3	87657

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
TPH(g)	37,000	H	25,000	1	02/28/2014 20:56
TPH(ss)	36,000	H	25,000	1	02/28/2014 20:56
MTBE	---		2500	1	02/28/2014 20:56
Benzene	---		250	1	02/28/2014 20:56
Toluene	---		250	1	02/28/2014 20:56
Ethylbenzene	---		250	1	02/28/2014 20:56
Xylenes	---		250	1	02/28/2014 20:56

Surrogates	REC (%)	Qualifiers	Limits	Analytical Comments: d5
aaa-TFT	107	H	70-130	02/28/2014 20:56



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14

WorkOrder: 1402A31
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Cm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402A31-001A	Air	02/28/2014 12:45	GC3	87657

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
TPH(g)	75	H	25	1	02/28/2014 20:26
TPH(ss)	69	H	25	1	02/28/2014 20:26
MTBE	---		2.5	1	02/28/2014 20:26
Benzene	---		0.25	1	02/28/2014 20:26
Toluene	---		0.25	1	02/28/2014 20:26
Ethylbenzene	---		0.25	1	02/28/2014 20:26
Xylenes	---		0.25	1	02/28/2014 20:26

Surrogates	REC (%)	Qualifiers	Limits	Analytical Comments: d5,c4
aaa-TFT	146	SH	70-130	02/28/2014 20:26

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A3	1402A31-002A	Air	02/28/2014 12:50	GC3	87657

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
TPH(g)	37	H	25	1	02/28/2014 20:56
TPH(ss)	36	H	25	1	02/28/2014 20:56
MTBE	---		2.5	1	02/28/2014 20:56
Benzene	---		0.25	1	02/28/2014 20:56
Toluene	---		0.25	1	02/28/2014 20:56
Ethylbenzene	---		0.25	1	02/28/2014 20:56
Xylenes	---		0.25	1	02/28/2014 20:56

Surrogates	REC (%)	Qualifiers	Limits	Analytical Comments: d5
aaa-TFT	107	H	70-130	02/28/2014 20:56



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 2/28/14 16:07
Date Prepared: 2/28/14-3/3/14

WorkOrder: 1402A31
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: uL/L

Light Gases

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A2	1402A31-001A	Air	02/28/2014 12:45	GC26	87629

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetylene	ND	H	2.0	1	03/03/2014 10:35
Ethene	3.1	H	2.0	1	03/03/2014 10:35
Hydrogen	ND		50	1	02/28/2014 17:00
Methane	1600	H	5.0	5	03/03/2014 14:12
n-Butane	2.9	H	2.0	1	03/03/2014 10:35
n-Ethane	16	H	2.0	1	03/03/2014 10:35
n-Pentane	ND	H	2.0	1	03/03/2014 10:35
n-Propane	ND	H	2.0	1	03/03/2014 10:35

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
Inlet to A3	1402A31-002A	Air	02/28/2014 12:50	GC26	87629

Initial Pressure (psia)	Final Pressure (psia)
1.00	1.00

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetylene	ND	H	2.0	1	03/03/2014 11:57
Ethene	ND	H	2.0	1	03/03/2014 11:57
Hydrogen	ND		50	1	02/28/2014 17:12
Methane	1700	H	5.0	5	03/03/2014 14:24
n-Butane	2.8	H	2.0	1	03/03/2014 11:57
n-Ethane	ND	H	2.0	1	03/03/2014 11:57
n-Pentane	ND	H	2.0	1	03/03/2014 11:57
n-Propane	ND	H	2.0	1	03/03/2014 11:57



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/28/14
Date Analyzed: 2/27/14
Instrument: GC16
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402A31
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: #0298; Snow Cleaners

WorkOrder: 1402A31
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: #0298; Snow Cleaners

WorkOrder: 1402A31
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
Surrogate Recovery									
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



Quality Control Report

Client: P & D Environmental
Date Prepared: 3/3/14
Date Analyzed: 2/28/14
Instrument: GC3
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1402A31
BatchID: 87657
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-87657

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	64.56	40	60	-	108	70-130
MTBE	ND	10.94	5.0	10	-	109	70-130
Benzene	ND	10.78	0.50	10	-	108	70-130
Toluene	ND	10.83	0.50	10	-	108	70-130
Ethylbenzene	ND	10.75	0.50	10	-	107	70-130
Xylenes	ND	32.35	0.50	30	-	108	70-130
Surrogate Recovery							
aaa-TFT	10.61	10.16		10	106	102	70-130



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/28/14
Date Analyzed: 2/28/14
Instrument: GC26
Matrix: SoilGas
Project: #0298; Snow Cleaners

WorkOrder: 1402A31
BatchID: 87629
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: uL/L
Sample ID: MB/LCS-87629

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Hydrogen	ND	101.9	50	100	-	102	70-130



Quality Control Report

Client: P & D Environmental
Date Prepared: 2/28/14
Date Analyzed: 2/28/14
Instrument: GC26
Matrix: SoilGas
Project: #0298; Snow Cleaners

WorkOrder: 1402A31
BatchID: 87629
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: uL/L
Sample ID: MB/LCS-87629

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Hydrogen	ND	101.9	50	100	-	102	70-130



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402A31

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: #0298; Snow Cleaners

Bill to:

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

Requested TAT:

2 days

Date Received: 02/28/2014

Date Printed: 02/28/2014

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	
1402A31-001	Inlet to A2	Air	2/28/2014 12:45	<input type="checkbox"/>	A	A	A										
1402A31-002	Inlet to A3	Air	2/28/2014 12:50	<input type="checkbox"/>	A	A	A										

Test Legend:

1	8260B_A	2	G-MBTEX_A	3	LG_TEDLAR_AIR	4		5	
6		7		8		9		10	
11		12							

The following SamplIDs: 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

QC Level: LEVEL 2

Work Order: 1402A31

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 2/28/2014

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
1402A31-001A	Inlet to A2	Air	ASTM D1946-90 (Light Gases) <Acetylene, Ethene, n-Butane_4, n-Ethane_4, n-Methane_4, n-Pentane_4, n-Propane_4> TPH(g) + MBTEX VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	2/28/2014 12:45	2 days		<input type="checkbox"/>	
1402A31-002A	Inlet to A3	Air	ASTM D1946-90 (Light Gases) <Acetylene, Ethene, n-Butane_4, n-Ethane_4, n-Methane_4, n-Pentane_4, n-Propane_4> TPH(g) + MBTEX VOCs by PT & GCMS	1	Tedlar	<input type="checkbox"/>	2/28/2014 12:50	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

1402A31

CHAIN OF CUSTODY RECORD

P&D ENVIRONMENTAL, INC.

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

PROJECT NUMBER:

0298

PROJECT NAME:

Snow Cleaners
2678 Coolidge Ave.
Oakland, CA

NUMBER OF CONTAINERS

ANALYSIS(ES):

GC/MS Open Scan
TPH Stoddard Solvent
ASTM-D 1946
(All Hydrocarbon + Hydrogen)

PRESERVATIVE

RUSH

SAMPLED BY: (PRINTED & SIGNATURE)

MICHAEL BASS-DESCHENES *Michael Bass-Deschenes*

SAMPLE NUMBER

DATE

TIME

TYPE

SAMPLE LOCATION

INLET TO A2

2/28/14

1245

Air

INLET TO A3

2/28/14

1250

AIR

1

X

X

X

None

48-Hour Rush

1

X

X

X

None

48-Hour Rush

ICE # NA

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

PRESERVATION VOAS O&G METALS OTHER

RELINQUISHED BY: (SIGNATURE)

Michael Bass-Deschenes

DATE TIME

2/28/14 1258

RECEIVED BY: (SIGNATURE)

Maria Vo

Total No. of Samples (This Shipment)

2

LABORATORY:

McCampbell Analytical, Inc.

RELINQUISHED BY: (SIGNATURE)

[Signature]

DATE TIME

2/28/14 1600

RECEIVED BY: (SIGNATURE)

Maria Vo

Total No. of Containers (This Shipment)

2

LABORATORY CONTACT: LABORATORY PHONE NUMBER:

Angela Rydellius (877) 252-9262

RELINQUISHED BY: (SIGNATURE)

[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: For Samples INLET TO A2, A3 - expect results similar to WO# 1402724



Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **2/28/2014 4:07:52 PM**
 Project Name: **#0298; Snow Cleaners** Login Reviewed by: **Maria Venegas**
 WorkOrder N°: **1402A31** 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: 1406A67

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

Project Contact: Paul King

Project P.O.:

Project Name: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, Ca

Project Received: 06/27/2014

Analytical Report reviewed & approved for release on 07/08/2014 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: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, Ca
WorkOrder: 1406A67

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
ML	Minimum Level of Quantitation
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 Qualifiers

S	spike recovery outside accepted recovery limits
a3	sample diluted due to high organic content.
b6	lighter than water immiscible sheen/product is present
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d1	weakly modified or unmodified gasoline is significant
d5	TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?)
d6	one to a few isolated non-target peaks present in the TPH(g) chromatogram
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant

Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.
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Analytical Report

Client: P & D Environmental **WorkOrder:** 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, **Extraction Method:** SW5030B
Date Received: 6/27/14 18:36 **Analytical Method:** SW8260B
Date Prepared: 7/4/14 **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
MW1	1406A67-001B	Water	06/26/2014 09:15	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	07/04/2014 03:59
tert-Amyl methyl ether (TAME)	ND		0.50	1	07/04/2014 03:59
Benzene	ND		0.50	1	07/04/2014 03:59
Bromobenzene	ND		0.50	1	07/04/2014 03:59
Bromochloromethane	ND		0.50	1	07/04/2014 03:59
Bromodichloromethane	ND		0.50	1	07/04/2014 03:59
Bromoform	ND		0.50	1	07/04/2014 03:59
Bromomethane	ND		0.50	1	07/04/2014 03:59
2-Butanone (MEK)	ND		2.0	1	07/04/2014 03:59
t-Butyl alcohol (TBA)	ND		2.0	1	07/04/2014 03:59
n-Butyl benzene	ND		0.50	1	07/04/2014 03:59
sec-Butyl benzene	ND		0.50	1	07/04/2014 03:59
tert-Butyl benzene	ND		0.50	1	07/04/2014 03:59
Carbon Disulfide	ND		0.50	1	07/04/2014 03:59
Carbon Tetrachloride	ND		0.50	1	07/04/2014 03:59
Chlorobenzene	ND		0.50	1	07/04/2014 03:59
Chloroethane	ND		0.50	1	07/04/2014 03:59
Chloroform	0.98		0.50	1	07/04/2014 03:59
Chloromethane	ND		0.50	1	07/04/2014 03:59
2-Chlorotoluene	ND		0.50	1	07/04/2014 03:59
4-Chlorotoluene	ND		0.50	1	07/04/2014 03:59
Dibromochloromethane	ND		0.50	1	07/04/2014 03:59
1,2-Dibromo-3-chloropropane	ND		0.20	1	07/04/2014 03:59
1,2-Dibromoethane (EDB)	ND		0.50	1	07/04/2014 03:59
Dibromomethane	ND		0.50	1	07/04/2014 03:59
1,2-Dichlorobenzene	ND		0.50	1	07/04/2014 03:59
1,3-Dichlorobenzene	ND		0.50	1	07/04/2014 03:59
1,4-Dichlorobenzene	ND		0.50	1	07/04/2014 03:59
Dichlorodifluoromethane	ND		0.50	1	07/04/2014 03:59
1,1-Dichloroethane	ND		0.50	1	07/04/2014 03:59
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	07/04/2014 03:59
1,1-Dichloroethene	ND		0.50	1	07/04/2014 03:59
cis-1,2-Dichloroethene	ND		0.50	1	07/04/2014 03:59
trans-1,2-Dichloroethene	ND		0.50	1	07/04/2014 03:59
1,2-Dichloropropane	ND		0.50	1	07/04/2014 03:59
1,3-Dichloropropane	ND		0.50	1	07/04/2014 03:59
2,2-Dichloropropane	ND		0.50	1	07/04/2014 03:59
1,1-Dichloropropene	ND		0.50	1	07/04/2014 03:59

(Cont.)



Analytical Report

Client: P & D Environmental	WorkOrder: 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,	Extraction Method: SW5030B
Date Received: 6/27/14 18:36	Analytical Method: SW8260B
Date Prepared: 7/4/14	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
MW1	1406A67-001B	Water	06/26/2014 09:15	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	07/04/2014 03:59
trans-1,3-Dichloropropene	ND		0.50	1	07/04/2014 03:59
Diisopropyl ether (DIPE)	ND		0.50	1	07/04/2014 03:59
Ethylbenzene	ND		0.50	1	07/04/2014 03:59
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	07/04/2014 03:59
Freon 113	ND		0.50	1	07/04/2014 03:59
Hexachlorobutadiene	ND		0.50	1	07/04/2014 03:59
Hexachloroethane	ND		0.50	1	07/04/2014 03:59
2-Hexanone	ND		0.50	1	07/04/2014 03:59
Isopropylbenzene	ND		0.50	1	07/04/2014 03:59
4-Isopropyl toluene	ND		0.50	1	07/04/2014 03:59
Methyl-t-butyl ether (MTBE)	ND		0.50	1	07/04/2014 03:59
Methylene chloride	ND		0.50	1	07/04/2014 03:59
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	07/04/2014 03:59
Naphthalene	ND		0.50	1	07/04/2014 03:59
n-Propyl benzene	ND		0.50	1	07/04/2014 03:59
Styrene	ND		0.50	1	07/04/2014 03:59
1,1,1,2-Tetrachloroethane	ND		0.50	1	07/04/2014 03:59
1,1,2,2-Tetrachloroethane	ND		0.50	1	07/04/2014 03:59
Tetrachloroethene	ND		0.50	1	07/04/2014 03:59
Toluene	ND		0.50	1	07/04/2014 03:59
1,2,3-Trichlorobenzene	ND		0.50	1	07/04/2014 03:59
1,2,4-Trichlorobenzene	ND		0.50	1	07/04/2014 03:59
1,1,1-Trichloroethane	ND		0.50	1	07/04/2014 03:59
1,1,2-Trichloroethane	ND		0.50	1	07/04/2014 03:59
Trichloroethene	ND		0.50	1	07/04/2014 03:59
Trichlorofluoromethane	ND		0.50	1	07/04/2014 03:59
1,2,3-Trichloropropane	ND		0.50	1	07/04/2014 03:59
1,2,4-Trimethylbenzene	ND		0.50	1	07/04/2014 03:59
1,3,5-Trimethylbenzene	ND		0.50	1	07/04/2014 03:59
Vinyl Chloride	ND		0.50	1	07/04/2014 03:59
Xylenes, Total	ND		0.50	1	07/04/2014 03:59
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	94		70-130		07/04/2014 03:59
Toluene-d8	92		70-130		07/04/2014 03:59
4-BFB	88		70-130		07/04/2014 03:59

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Analytical Report

Client: P & D Environmental

WorkOrder: 1406A67

Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,

Extraction Method: SW5030B

Date Received: 6/27/14 18:36

Analytical Method: SW8260B

Date Prepared: 7/4/14

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
MW2	1406A67-002B	Water	06/26/2014 09:55	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		100	10	07/04/2014 13:47
tert-Amyl methyl ether (TAME)	ND		5.0	10	07/04/2014 13:47
Benzene	ND		5.0	10	07/04/2014 13:47
Bromobenzene	ND		5.0	10	07/04/2014 13:47
Bromochloromethane	ND		5.0	10	07/04/2014 13:47
Bromodichloromethane	ND		5.0	10	07/04/2014 13:47
Bromoform	ND		5.0	10	07/04/2014 13:47
Bromomethane	ND		5.0	10	07/04/2014 13:47
2-Butanone (MEK)	ND		20	10	07/04/2014 13:47
t-Butyl alcohol (TBA)	ND		20	10	07/04/2014 13:47
n-Butyl benzene	ND		5.0	10	07/04/2014 13:47
sec-Butyl benzene	ND		5.0	10	07/04/2014 13:47
tert-Butyl benzene	ND		5.0	10	07/04/2014 13:47
Carbon Disulfide	ND		5.0	10	07/04/2014 13:47
Carbon Tetrachloride	ND		5.0	10	07/04/2014 13:47
Chlorobenzene	ND		5.0	10	07/04/2014 13:47
Chloroethane	ND		5.0	10	07/04/2014 13:47
Chloroform	ND		5.0	10	07/04/2014 13:47
Chloromethane	ND		5.0	10	07/04/2014 13:47
2-Chlorotoluene	ND		5.0	10	07/04/2014 13:47
4-Chlorotoluene	ND		5.0	10	07/04/2014 13:47
Dibromochloromethane	ND		5.0	10	07/04/2014 13:47
1,2-Dibromo-3-chloropropane	ND		2.0	10	07/04/2014 13:47
1,2-Dibromoethane (EDB)	ND		5.0	10	07/04/2014 13:47
Dibromomethane	ND		5.0	10	07/04/2014 13:47
1,2-Dichlorobenzene	ND		5.0	10	07/04/2014 13:47
1,3-Dichlorobenzene	ND		5.0	10	07/04/2014 13:47
1,4-Dichlorobenzene	ND		5.0	10	07/04/2014 13:47
Dichlorodifluoromethane	ND		5.0	10	07/04/2014 13:47
1,1-Dichloroethane	ND		5.0	10	07/04/2014 13:47
1,2-Dichloroethane (1,2-DCA)	ND		5.0	10	07/04/2014 13:47
1,1-Dichloroethene	ND		5.0	10	07/04/2014 13:47
cis-1,2-Dichloroethene	170		5.0	10	07/04/2014 13:47
trans-1,2-Dichloroethene	5.7		5.0	10	07/04/2014 13:47
1,2-Dichloropropane	ND		5.0	10	07/04/2014 13:47
1,3-Dichloropropane	ND		5.0	10	07/04/2014 13:47
2,2-Dichloropropane	ND		5.0	10	07/04/2014 13:47
1,1-Dichloropropene	ND		5.0	10	07/04/2014 13:47

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Analytical Report

Client: P & D Environmental

WorkOrder: 1406A67

Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,

Extraction Method: SW5030B

Date Received: 6/27/14 18:36

Analytical Method: SW8260B

Date Prepared: 7/4/14

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
MW2	1406A67-002B	Water	06/26/2014 09:55	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		5.0	10	07/04/2014 13:47
trans-1,3-Dichloropropene	ND		5.0	10	07/04/2014 13:47
Diisopropyl ether (DIPE)	ND		5.0	10	07/04/2014 13:47
Ethylbenzene	ND		5.0	10	07/04/2014 13:47
Ethyl tert-butyl ether (ETBE)	ND		5.0	10	07/04/2014 13:47
Freon 113	ND		5.0	10	07/04/2014 13:47
Hexachlorobutadiene	ND		5.0	10	07/04/2014 13:47
Hexachloroethane	ND		5.0	10	07/04/2014 13:47
2-Hexanone	ND		5.0	10	07/04/2014 13:47
Isopropylbenzene	ND		5.0	10	07/04/2014 13:47
4-Isopropyl toluene	ND		5.0	10	07/04/2014 13:47
Methyl-t-butyl ether (MTBE)	ND		5.0	10	07/04/2014 13:47
Methylene chloride	ND		5.0	10	07/04/2014 13:47
4-Methyl-2-pentanone (MIBK)	ND		5.0	10	07/04/2014 13:47
Naphthalene	ND		5.0	10	07/04/2014 13:47
n-Propyl benzene	ND		5.0	10	07/04/2014 13:47
Styrene	ND		5.0	10	07/04/2014 13:47
1,1,1,2-Tetrachloroethane	ND		5.0	10	07/04/2014 13:47
1,1,2,2-Tetrachloroethane	ND		5.0	10	07/04/2014 13:47
Tetrachloroethene	ND		5.0	10	07/04/2014 13:47
Toluene	ND		5.0	10	07/04/2014 13:47
1,2,3-Trichlorobenzene	ND		5.0	10	07/04/2014 13:47
1,2,4-Trichlorobenzene	ND		5.0	10	07/04/2014 13:47
1,1,1-Trichloroethane	ND		5.0	10	07/04/2014 13:47
1,1,2-Trichloroethane	ND		5.0	10	07/04/2014 13:47
Trichloroethene	ND		5.0	10	07/04/2014 13:47
Trichlorofluoromethane	ND		5.0	10	07/04/2014 13:47
1,2,3-Trichloropropane	ND		5.0	10	07/04/2014 13:47
1,2,4-Trimethylbenzene	30		5.0	10	07/04/2014 13:47
1,3,5-Trimethylbenzene	6.8		5.0	10	07/04/2014 13:47
Vinyl Chloride	16		5.0	10	07/04/2014 13:47
Xylenes, Total	18		5.0	10	07/04/2014 13:47
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	94		70-130		07/04/2014 13:47
Toluene-d8	90		70-130		07/04/2014 13:47
4-BFB	79		70-130		07/04/2014 13:47

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Analytical Report

Client: P & D Environmental **WorkOrder:** 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, **Extraction Method:** SW5030B
Date Received: 6/27/14 18:36 **Analytical Method:** SW8260B
Date Prepared: 7/4/14 **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
MW3	1406A67-003B	Water	06/26/2014 10:45	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	07/04/2014 05:16
tert-Amyl methyl ether (TAME)	ND		0.50	1	07/04/2014 05:16
Benzene	ND		0.50	1	07/04/2014 05:16
Bromobenzene	ND		0.50	1	07/04/2014 05:16
Bromochloromethane	ND		0.50	1	07/04/2014 05:16
Bromodichloromethane	ND		0.50	1	07/04/2014 05:16
Bromoform	ND		0.50	1	07/04/2014 05:16
Bromomethane	ND		0.50	1	07/04/2014 05:16
2-Butanone (MEK)	ND		2.0	1	07/04/2014 05:16
t-Butyl alcohol (TBA)	ND		2.0	1	07/04/2014 05:16
n-Butyl benzene	ND		0.50	1	07/04/2014 05:16
sec-Butyl benzene	ND		0.50	1	07/04/2014 05:16
tert-Butyl benzene	ND		0.50	1	07/04/2014 05:16
Carbon Disulfide	ND		0.50	1	07/04/2014 05:16
Carbon Tetrachloride	ND		0.50	1	07/04/2014 05:16
Chlorobenzene	ND		0.50	1	07/04/2014 05:16
Chloroethane	ND		0.50	1	07/04/2014 05:16
Chloroform	ND		0.50	1	07/04/2014 05:16
Chloromethane	ND		0.50	1	07/04/2014 05:16
2-Chlorotoluene	ND		0.50	1	07/04/2014 05:16
4-Chlorotoluene	ND		0.50	1	07/04/2014 05:16
Dibromochloromethane	ND		0.50	1	07/04/2014 05:16
1,2-Dibromo-3-chloropropane	ND		0.20	1	07/04/2014 05:16
1,2-Dibromoethane (EDB)	ND		0.50	1	07/04/2014 05:16
Dibromomethane	ND		0.50	1	07/04/2014 05:16
1,2-Dichlorobenzene	ND		0.50	1	07/04/2014 05:16
1,3-Dichlorobenzene	ND		0.50	1	07/04/2014 05:16
1,4-Dichlorobenzene	ND		0.50	1	07/04/2014 05:16
Dichlorodifluoromethane	ND		0.50	1	07/04/2014 05:16
1,1-Dichloroethane	ND		0.50	1	07/04/2014 05:16
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	07/04/2014 05:16
1,1-Dichloroethene	ND		0.50	1	07/04/2014 05:16
cis-1,2-Dichloroethene	ND		0.50	1	07/04/2014 05:16
trans-1,2-Dichloroethene	ND		0.50	1	07/04/2014 05:16
1,2-Dichloropropane	ND		0.50	1	07/04/2014 05:16
1,3-Dichloropropane	ND		0.50	1	07/04/2014 05:16
2,2-Dichloropropane	ND		0.50	1	07/04/2014 05:16
1,1-Dichloropropene	ND		0.50	1	07/04/2014 05:16

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Analytical Report

Client: P & D Environmental

WorkOrder: 1406A67

Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,

Extraction Method: SW5030B

Date Received: 6/27/14 18:36

Analytical Method: SW8260B

Date Prepared: 7/4/14

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
MW3	1406A67-003B	Water	06/26/2014 10:45	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	07/04/2014 05:16
trans-1,3-Dichloropropene	ND		0.50	1	07/04/2014 05:16
Diisopropyl ether (DIPE)	ND		0.50	1	07/04/2014 05:16
Ethylbenzene	ND		0.50	1	07/04/2014 05:16
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	07/04/2014 05:16
Freon 113	ND		0.50	1	07/04/2014 05:16
Hexachlorobutadiene	ND		0.50	1	07/04/2014 05:16
Hexachloroethane	ND		0.50	1	07/04/2014 05:16
2-Hexanone	ND		0.50	1	07/04/2014 05:16
Isopropylbenzene	ND		0.50	1	07/04/2014 05:16
4-Isopropyl toluene	ND		0.50	1	07/04/2014 05:16
Methyl-t-butyl ether (MTBE)	ND		0.50	1	07/04/2014 05:16
Methylene chloride	ND		0.50	1	07/04/2014 05:16
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	07/04/2014 05:16
Naphthalene	ND		0.50	1	07/04/2014 05:16
n-Propyl benzene	ND		0.50	1	07/04/2014 05:16
Styrene	ND		0.50	1	07/04/2014 05:16
1,1,1,2-Tetrachloroethane	ND		0.50	1	07/04/2014 05:16
1,1,2,2-Tetrachloroethane	ND		0.50	1	07/04/2014 05:16
Tetrachloroethene	ND		0.50	1	07/04/2014 05:16
Toluene	ND		0.50	1	07/04/2014 05:16
1,2,3-Trichlorobenzene	ND		0.50	1	07/04/2014 05:16
1,2,4-Trichlorobenzene	ND		0.50	1	07/04/2014 05:16
1,1,1-Trichloroethane	ND		0.50	1	07/04/2014 05:16
1,1,2-Trichloroethane	ND		0.50	1	07/04/2014 05:16
Trichloroethene	ND		0.50	1	07/04/2014 05:16
Trichlorofluoromethane	ND		0.50	1	07/04/2014 05:16
1,2,3-Trichloropropane	ND		0.50	1	07/04/2014 05:16
1,2,4-Trimethylbenzene	ND		0.50	1	07/04/2014 05:16
1,3,5-Trimethylbenzene	ND		0.50	1	07/04/2014 05:16
Vinyl Chloride	ND		0.50	1	07/04/2014 05:16
Xylenes, Total	ND		0.50	1	07/04/2014 05:16
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	94		70-130		07/04/2014 05:16
Toluene-d8	91		70-130		07/04/2014 05:16
4-BFB	86		70-130		07/04/2014 05:16

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Analytical Report

Client: P & D Environmental **WorkOrder:** 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, **Extraction Method:** SW5030B
Date Received: 6/27/14 18:36 **Analytical Method:** SW8260B
Date Prepared: 7/4/14 **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
MW4	1406A67-004B	Water	06/26/2014 11:35	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	07/04/2014 05:55
tert-Amyl methyl ether (TAME)	ND		0.50	1	07/04/2014 05:55
Benzene	ND		0.50	1	07/04/2014 05:55
Bromobenzene	ND		0.50	1	07/04/2014 05:55
Bromochloromethane	ND		0.50	1	07/04/2014 05:55
Bromodichloromethane	ND		0.50	1	07/04/2014 05:55
Bromoform	ND		0.50	1	07/04/2014 05:55
Bromomethane	ND		0.50	1	07/04/2014 05:55
2-Butanone (MEK)	ND		2.0	1	07/04/2014 05:55
t-Butyl alcohol (TBA)	ND		2.0	1	07/04/2014 05:55
n-Butyl benzene	ND		0.50	1	07/04/2014 05:55
sec-Butyl benzene	ND		0.50	1	07/04/2014 05:55
tert-Butyl benzene	ND		0.50	1	07/04/2014 05:55
Carbon Disulfide	ND		0.50	1	07/04/2014 05:55
Carbon Tetrachloride	ND		0.50	1	07/04/2014 05:55
Chlorobenzene	ND		0.50	1	07/04/2014 05:55
Chloroethane	ND		0.50	1	07/04/2014 05:55
Chloroform	1.8		0.50	1	07/04/2014 05:55
Chloromethane	ND		0.50	1	07/04/2014 05:55
2-Chlorotoluene	ND		0.50	1	07/04/2014 05:55
4-Chlorotoluene	ND		0.50	1	07/04/2014 05:55
Dibromochloromethane	ND		0.50	1	07/04/2014 05:55
1,2-Dibromo-3-chloropropane	ND		0.20	1	07/04/2014 05:55
1,2-Dibromoethane (EDB)	ND		0.50	1	07/04/2014 05:55
Dibromomethane	ND		0.50	1	07/04/2014 05:55
1,2-Dichlorobenzene	ND		0.50	1	07/04/2014 05:55
1,3-Dichlorobenzene	ND		0.50	1	07/04/2014 05:55
1,4-Dichlorobenzene	ND		0.50	1	07/04/2014 05:55
Dichlorodifluoromethane	ND		0.50	1	07/04/2014 05:55
1,1-Dichloroethane	ND		0.50	1	07/04/2014 05:55
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	07/04/2014 05:55
1,1-Dichloroethene	ND		0.50	1	07/04/2014 05:55
cis-1,2-Dichloroethene	20		0.50	1	07/04/2014 05:55
trans-1,2-Dichloroethene	ND		0.50	1	07/04/2014 05:55
1,2-Dichloropropane	ND		0.50	1	07/04/2014 05:55
1,3-Dichloropropane	ND		0.50	1	07/04/2014 05:55
2,2-Dichloropropane	ND		0.50	1	07/04/2014 05:55
1,1-Dichloropropene	ND		0.50	1	07/04/2014 05:55

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Analytical Report

Client: P & D Environmental

WorkOrder: 1406A67

Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,

Extraction Method: SW5030B

Date Received: 6/27/14 18:36

Analytical Method: SW8260B

Date Prepared: 7/4/14

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
MW4	1406A67-004B	Water	06/26/2014 11:35	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	07/04/2014 05:55
trans-1,3-Dichloropropene	ND		0.50	1	07/04/2014 05:55
Diisopropyl ether (DIPE)	ND		0.50	1	07/04/2014 05:55
Ethylbenzene	ND		0.50	1	07/04/2014 05:55
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	07/04/2014 05:55
Freon 113	ND		0.50	1	07/04/2014 05:55
Hexachlorobutadiene	ND		0.50	1	07/04/2014 05:55
Hexachloroethane	ND		0.50	1	07/04/2014 05:55
2-Hexanone	ND		0.50	1	07/04/2014 05:55
Isopropylbenzene	ND		0.50	1	07/04/2014 05:55
4-Isopropyl toluene	ND		0.50	1	07/04/2014 05:55
Methyl-t-butyl ether (MTBE)	ND		0.50	1	07/04/2014 05:55
Methylene chloride	ND		0.50	1	07/04/2014 05:55
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	07/04/2014 05:55
Naphthalene	ND		0.50	1	07/04/2014 05:55
n-Propyl benzene	ND		0.50	1	07/04/2014 05:55
Styrene	ND		0.50	1	07/04/2014 05:55
1,1,1,2-Tetrachloroethane	ND		0.50	1	07/04/2014 05:55
1,1,2,2-Tetrachloroethane	ND		0.50	1	07/04/2014 05:55
Tetrachloroethene	ND		0.50	1	07/04/2014 05:55
Toluene	ND		0.50	1	07/04/2014 05:55
1,2,3-Trichlorobenzene	ND		0.50	1	07/04/2014 05:55
1,2,4-Trichlorobenzene	ND		0.50	1	07/04/2014 05:55
1,1,1-Trichloroethane	ND		0.50	1	07/04/2014 05:55
1,1,2-Trichloroethane	ND		0.50	1	07/04/2014 05:55
Trichloroethene	ND		0.50	1	07/04/2014 05:55
Trichlorofluoromethane	ND		0.50	1	07/04/2014 05:55
1,2,3-Trichloropropane	ND		0.50	1	07/04/2014 05:55
1,2,4-Trimethylbenzene	ND		0.50	1	07/04/2014 05:55
1,3,5-Trimethylbenzene	ND		0.50	1	07/04/2014 05:55
Vinyl Chloride	ND		0.50	1	07/04/2014 05:55
Xylenes, Total	ND		0.50	1	07/04/2014 05:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	93		70-130		07/04/2014 05:55
Toluene-d8	90		70-130		07/04/2014 05:55
4-BFB	87		70-130		07/04/2014 05:55

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Analytical Report

Client: P & D Environmental **WorkOrder:** 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, **Extraction Method:** SW5030B
Date Received: 6/27/14 18:36 **Analytical Method:** SW8260B
Date Prepared: 7/4/14 **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
DP1	1406A67-005B	Water	06/26/2014 14:25	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		3300	330	07/04/2014 14:29
tert-Amyl methyl ether (TAME)	ND		170	330	07/04/2014 14:29
Benzene	ND		170	330	07/04/2014 14:29
Bromobenzene	ND		170	330	07/04/2014 14:29
Bromochloromethane	ND		170	330	07/04/2014 14:29
Bromodichloromethane	ND		170	330	07/04/2014 14:29
Bromoform	ND		170	330	07/04/2014 14:29
Bromomethane	ND		170	330	07/04/2014 14:29
2-Butanone (MEK)	ND		670	330	07/04/2014 14:29
t-Butyl alcohol (TBA)	ND		670	330	07/04/2014 14:29
n-Butyl benzene	ND		170	330	07/04/2014 14:29
sec-Butyl benzene	ND		170	330	07/04/2014 14:29
tert-Butyl benzene	ND		170	330	07/04/2014 14:29
Carbon Disulfide	ND		170	330	07/04/2014 14:29
Carbon Tetrachloride	ND		170	330	07/04/2014 14:29
Chlorobenzene	ND		170	330	07/04/2014 14:29
Chloroethane	ND		170	330	07/04/2014 14:29
Chloroform	ND		170	330	07/04/2014 14:29
Chloromethane	ND		170	330	07/04/2014 14:29
2-Chlorotoluene	ND		170	330	07/04/2014 14:29
4-Chlorotoluene	ND		170	330	07/04/2014 14:29
Dibromochloromethane	ND		170	330	07/04/2014 14:29
1,2-Dibromo-3-chloropropane	ND		67	330	07/04/2014 14:29
1,2-Dibromoethane (EDB)	ND		170	330	07/04/2014 14:29
Dibromomethane	ND		170	330	07/04/2014 14:29
1,2-Dichlorobenzene	ND		170	330	07/04/2014 14:29
1,3-Dichlorobenzene	ND		170	330	07/04/2014 14:29
1,4-Dichlorobenzene	ND		170	330	07/04/2014 14:29
Dichlorodifluoromethane	ND		170	330	07/04/2014 14:29
1,1-Dichloroethane	ND		170	330	07/04/2014 14:29
1,2-Dichloroethane (1,2-DCA)	ND		170	330	07/04/2014 14:29
1,1-Dichloroethene	ND		170	330	07/04/2014 14:29
cis-1,2-Dichloroethene	1100		170	330	07/04/2014 14:29
trans-1,2-Dichloroethene	ND		170	330	07/04/2014 14:29
1,2-Dichloropropane	ND		170	330	07/04/2014 14:29
1,3-Dichloropropane	ND		170	330	07/04/2014 14:29
2,2-Dichloropropane	ND		170	330	07/04/2014 14:29
1,1-Dichloropropene	ND		170	330	07/04/2014 14:29

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Analytical Report

Client: P & D Environmental

WorkOrder: 1406A67

Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,

Extraction Method: SW5030B

Date Received: 6/27/14 18:36

Analytical Method: SW8260B

Date Prepared: 7/4/14

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
DP1	1406A67-005B	Water	06/26/2014 14:25	GC28	92358
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		170	330	07/04/2014 14:29
trans-1,3-Dichloropropene	ND		170	330	07/04/2014 14:29
Diisopropyl ether (DIPE)	ND		170	330	07/04/2014 14:29
Ethylbenzene	ND		170	330	07/04/2014 14:29
Ethyl tert-butyl ether (ETBE)	ND		170	330	07/04/2014 14:29
Freon 113	ND		170	330	07/04/2014 14:29
Hexachlorobutadiene	ND		170	330	07/04/2014 14:29
Hexachloroethane	ND		170	330	07/04/2014 14:29
2-Hexanone	ND		170	330	07/04/2014 14:29
Isopropylbenzene	ND		170	330	07/04/2014 14:29
4-Isopropyl toluene	ND		170	330	07/04/2014 14:29
Methyl-t-butyl ether (MTBE)	ND		170	330	07/04/2014 14:29
Methylene chloride	ND		170	330	07/04/2014 14:29
4-Methyl-2-pentanone (MIBK)	ND		170	330	07/04/2014 14:29
Naphthalene	ND		170	330	07/04/2014 14:29
n-Propyl benzene	ND		170	330	07/04/2014 14:29
Styrene	ND		170	330	07/04/2014 14:29
1,1,1,2-Tetrachloroethane	ND		170	330	07/04/2014 14:29
1,1,2,2-Tetrachloroethane	ND		170	330	07/04/2014 14:29
Tetrachloroethene	5400		170	330	07/04/2014 14:29
Toluene	ND		170	330	07/04/2014 14:29
1,2,3-Trichlorobenzene	ND		170	330	07/04/2014 14:29
1,2,4-Trichlorobenzene	ND		170	330	07/04/2014 14:29
1,1,1-Trichloroethane	ND		170	330	07/04/2014 14:29
1,1,2-Trichloroethane	ND		170	330	07/04/2014 14:29
Trichloroethene	1900		170	330	07/04/2014 14:29
Trichlorofluoromethane	ND		170	330	07/04/2014 14:29
1,2,3-Trichloropropane	ND		170	330	07/04/2014 14:29
1,2,4-Trimethylbenzene	ND		170	330	07/04/2014 14:29
1,3,5-Trimethylbenzene	ND		170	330	07/04/2014 14:29
Vinyl Chloride	ND		170	330	07/04/2014 14:29
Xylenes, Total	ND		170	330	07/04/2014 14:29
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	93		70-130		07/04/2014 14:29
Toluene-d8	91		70-130		07/04/2014 14:29
4-BFB	86		70-130		07/04/2014 14:29

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Analytical Report

Client: P & D Environmental

WorkOrder: 1406A67

Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,

Extraction Method: SW5030B

Date Received: 6/27/14 18:36

Analytical Method: SW8260B

Date Prepared: 7/4/14

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
DP2	1406A67-006B	Water	06/26/2014 13:55	GC18	92399
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	2400		2000	200	07/04/2014 11:41
tert-Amyl methyl ether (TAME)	ND		100	200	07/04/2014 11:41
Benzene	ND		100	200	07/04/2014 11:41
Bromobenzene	ND		100	200	07/04/2014 11:41
Bromochloromethane	ND		100	200	07/04/2014 11:41
Bromodichloromethane	ND		100	200	07/04/2014 11:41
Bromoform	ND		100	200	07/04/2014 11:41
Bromomethane	ND		100	200	07/04/2014 11:41
2-Butanone (MEK)	ND		400	200	07/04/2014 11:41
t-Butyl alcohol (TBA)	ND		400	200	07/04/2014 11:41
n-Butyl benzene	ND		100	200	07/04/2014 11:41
sec-Butyl benzene	ND		100	200	07/04/2014 11:41
tert-Butyl benzene	ND		100	200	07/04/2014 11:41
Carbon Disulfide	ND		100	200	07/04/2014 11:41
Carbon Tetrachloride	ND		100	200	07/04/2014 11:41
Chlorobenzene	ND		100	200	07/04/2014 11:41
Chloroethane	ND		100	200	07/04/2014 11:41
Chloroform	ND		100	200	07/04/2014 11:41
Chloromethane	ND		100	200	07/04/2014 11:41
2-Chlorotoluene	ND		100	200	07/04/2014 11:41
4-Chlorotoluene	ND		100	200	07/04/2014 11:41
Dibromochloromethane	ND		100	200	07/04/2014 11:41
1,2-Dibromo-3-chloropropane	ND		40	200	07/04/2014 11:41
1,2-Dibromoethane (EDB)	ND		100	200	07/04/2014 11:41
Dibromomethane	ND		100	200	07/04/2014 11:41
1,2-Dichlorobenzene	ND		100	200	07/04/2014 11:41
1,3-Dichlorobenzene	ND		100	200	07/04/2014 11:41
1,4-Dichlorobenzene	ND		100	200	07/04/2014 11:41
Dichlorodifluoromethane	ND		100	200	07/04/2014 11:41
1,1-Dichloroethane	ND		100	200	07/04/2014 11:41
1,2-Dichloroethane (1,2-DCA)	ND		100	200	07/04/2014 11:41
1,1-Dichloroethene	ND		100	200	07/04/2014 11:41
cis-1,2-Dichloroethene	7400		100	200	07/04/2014 11:41
trans-1,2-Dichloroethene	160		100	200	07/04/2014 11:41
1,2-Dichloropropane	ND		100	200	07/04/2014 11:41
1,3-Dichloropropane	ND		100	200	07/04/2014 11:41
2,2-Dichloropropane	ND		100	200	07/04/2014 11:41
1,1-Dichloropropene	ND		100	200	07/04/2014 11:41

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Analytical Report

Client: P & D Environmental

WorkOrder: 1406A67

Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,

Extraction Method: SW5030B

Date Received: 6/27/14 18:36

Analytical Method: SW8260B

Date Prepared: 7/4/14

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
DP2	1406A67-006B	Water	06/26/2014 13:55	GC18	92399
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		100	200	07/04/2014 11:41
trans-1,3-Dichloropropene	ND		100	200	07/04/2014 11:41
Diisopropyl ether (DIPE)	ND		100	200	07/04/2014 11:41
Ethylbenzene	ND		100	200	07/04/2014 11:41
Ethyl tert-butyl ether (ETBE)	ND		100	200	07/04/2014 11:41
Freon 113	ND		100	200	07/04/2014 11:41
Hexachlorobutadiene	ND		100	200	07/04/2014 11:41
Hexachloroethane	ND		100	200	07/04/2014 11:41
2-Hexanone	ND		100	200	07/04/2014 11:41
Isopropylbenzene	ND		100	200	07/04/2014 11:41
4-Isopropyl toluene	ND		100	200	07/04/2014 11:41
Methyl-t-butyl ether (MTBE)	ND		100	200	07/04/2014 11:41
Methylene chloride	110		100	200	07/04/2014 11:41
4-Methyl-2-pentanone (MIBK)	ND		100	200	07/04/2014 11:41
Naphthalene	ND		100	200	07/04/2014 11:41
n-Propyl benzene	ND		100	200	07/04/2014 11:41
Styrene	ND		100	200	07/04/2014 11:41
1,1,1,2-Tetrachloroethane	ND		100	200	07/04/2014 11:41
1,1,2,2-Tetrachloroethane	ND		100	200	07/04/2014 11:41
Tetrachloroethene	ND		100	200	07/04/2014 11:41
Toluene	ND		100	200	07/04/2014 11:41
1,2,3-Trichlorobenzene	ND		100	200	07/04/2014 11:41
1,2,4-Trichlorobenzene	ND		100	200	07/04/2014 11:41
1,1,1-Trichloroethane	ND		100	200	07/04/2014 11:41
1,1,2-Trichloroethane	ND		100	200	07/04/2014 11:41
Trichloroethene	ND		100	200	07/04/2014 11:41
Trichlorofluoromethane	ND		100	200	07/04/2014 11:41
1,2,3-Trichloropropane	ND		100	200	07/04/2014 11:41
1,2,4-Trimethylbenzene	ND		100	200	07/04/2014 11:41
1,3,5-Trimethylbenzene	ND		100	200	07/04/2014 11:41
Vinyl Chloride	1900		100	200	07/04/2014 11:41
Xylenes, Total	ND		100	200	07/04/2014 11:41
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	120		70-130		07/04/2014 11:41
Toluene-d8	107		70-130		07/04/2014 11:41
4-BFB	101		70-130		07/04/2014 11:41

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Analytical Report

Client: P & D Environmental **WorkOrder:** 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, **Extraction Method:** SW5030B
Date Received: 6/27/14 18:36 **Analytical Method:** SW8260B
Date Prepared: 7/4/14 **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
DP3	1406A67-007B	Water	06/26/2014 13:10	GC18	92399
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		50	5	07/04/2014 12:20
tert-Amyl methyl ether (TAME)	ND		2.5	5	07/04/2014 12:20
Benzene	ND		2.5	5	07/04/2014 12:20
Bromobenzene	ND		2.5	5	07/04/2014 12:20
Bromochloromethane	ND		2.5	5	07/04/2014 12:20
Bromodichloromethane	ND		2.5	5	07/04/2014 12:20
Bromoform	ND		2.5	5	07/04/2014 12:20
Bromomethane	ND		2.5	5	07/04/2014 12:20
2-Butanone (MEK)	ND		10	5	07/04/2014 12:20
t-Butyl alcohol (TBA)	ND		10	5	07/04/2014 12:20
n-Butyl benzene	ND		2.5	5	07/04/2014 12:20
sec-Butyl benzene	ND		2.5	5	07/04/2014 12:20
tert-Butyl benzene	ND		2.5	5	07/04/2014 12:20
Carbon Disulfide	ND		2.5	5	07/04/2014 12:20
Carbon Tetrachloride	ND		2.5	5	07/04/2014 12:20
Chlorobenzene	ND		2.5	5	07/04/2014 12:20
Chloroethane	ND		2.5	5	07/04/2014 12:20
Chloroform	ND		2.5	5	07/04/2014 12:20
Chloromethane	ND		2.5	5	07/04/2014 12:20
2-Chlorotoluene	ND		2.5	5	07/04/2014 12:20
4-Chlorotoluene	ND		2.5	5	07/04/2014 12:20
Dibromochloromethane	ND		2.5	5	07/04/2014 12:20
1,2-Dibromo-3-chloropropane	ND		1.0	5	07/04/2014 12:20
1,2-Dibromoethane (EDB)	ND		2.5	5	07/04/2014 12:20
Dibromomethane	ND		2.5	5	07/04/2014 12:20
1,2-Dichlorobenzene	ND		2.5	5	07/04/2014 12:20
1,3-Dichlorobenzene	ND		2.5	5	07/04/2014 12:20
1,4-Dichlorobenzene	ND		2.5	5	07/04/2014 12:20
Dichlorodifluoromethane	ND		2.5	5	07/04/2014 12:20
1,1-Dichloroethane	ND		2.5	5	07/04/2014 12:20
1,2-Dichloroethane (1,2-DCA)	ND		2.5	5	07/04/2014 12:20
1,1-Dichloroethene	ND		2.5	5	07/04/2014 12:20
cis-1,2-Dichloroethene	18		2.5	5	07/04/2014 12:20
trans-1,2-Dichloroethene	ND		2.5	5	07/04/2014 12:20
1,2-Dichloropropane	ND		2.5	5	07/04/2014 12:20
1,3-Dichloropropane	ND		2.5	5	07/04/2014 12:20
2,2-Dichloropropane	ND		2.5	5	07/04/2014 12:20
1,1-Dichloropropene	ND		2.5	5	07/04/2014 12:20

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Analytical Report

Client: P & D Environmental

WorkOrder: 1406A67

Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,

Extraction Method: SW5030B

Date Received: 6/27/14 18:36

Analytical Method: SW8260B

Date Prepared: 7/4/14

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
DP3	1406A67-007B	Water	06/26/2014 13:10	GC18	92399
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		2.5	5	07/04/2014 12:20
trans-1,3-Dichloropropene	ND		2.5	5	07/04/2014 12:20
Diisopropyl ether (DIPE)	ND		2.5	5	07/04/2014 12:20
Ethylbenzene	3.7		2.5	5	07/04/2014 12:20
Ethyl tert-butyl ether (ETBE)	ND		2.5	5	07/04/2014 12:20
Freon 113	ND		2.5	5	07/04/2014 12:20
Hexachlorobutadiene	ND		2.5	5	07/04/2014 12:20
Hexachloroethane	ND		2.5	5	07/04/2014 12:20
2-Hexanone	ND		2.5	5	07/04/2014 12:20
Isopropylbenzene	5.7		2.5	5	07/04/2014 12:20
4-Isopropyl toluene	ND		2.5	5	07/04/2014 12:20
Methyl-t-butyl ether (MTBE)	ND		2.5	5	07/04/2014 12:20
Methylene chloride	2.6		2.5	5	07/04/2014 12:20
4-Methyl-2-pentanone (MIBK)	ND		2.5	5	07/04/2014 12:20
Naphthalene	3.8		2.5	5	07/04/2014 12:20
n-Propyl benzene	8.1		2.5	5	07/04/2014 12:20
Styrene	ND		2.5	5	07/04/2014 12:20
1,1,1,2-Tetrachloroethane	ND		2.5	5	07/04/2014 12:20
1,1,2,2-Tetrachloroethane	ND		2.5	5	07/04/2014 12:20
Tetrachloroethene	ND		2.5	5	07/04/2014 12:20
Toluene	ND		2.5	5	07/04/2014 12:20
1,2,3-Trichlorobenzene	ND		2.5	5	07/04/2014 12:20
1,2,4-Trichlorobenzene	ND		2.5	5	07/04/2014 12:20
1,1,1-Trichloroethane	ND		2.5	5	07/04/2014 12:20
1,1,2-Trichloroethane	ND		2.5	5	07/04/2014 12:20
Trichloroethene	ND		2.5	5	07/04/2014 12:20
Trichlorofluoromethane	ND		2.5	5	07/04/2014 12:20
1,2,3-Trichloropropane	ND		2.5	5	07/04/2014 12:20
1,2,4-Trimethylbenzene	54		2.5	5	07/04/2014 12:20
1,3,5-Trimethylbenzene	22		2.5	5	07/04/2014 12:20
Vinyl Chloride	13		2.5	5	07/04/2014 12:20
Xylenes, Total	21		2.5	5	07/04/2014 12:20
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	<u>Analytical Comments: a3</u>	
Dibromofluoromethane	122		70-130	07/04/2014 12:20	
Toluene-d8	102		70-130	07/04/2014 12:20	
4-BFB	96		70-130	07/04/2014 12:20	

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Analytical Report

Client: P & D Environmental **WorkOrder:** 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, **Extraction Method:** SW5030B
Date Received: 6/27/14 18:36 **Analytical Method:** SW8260B
Date Prepared: 7/4/14 **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
DP4	1406A67-008B	Water	06/26/2014 14:55	GC18	92399
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	07/04/2014 10:50
tert-Amyl methyl ether (TAME)	ND		0.50	1	07/04/2014 10:50
Benzene	ND		0.50	1	07/04/2014 10:50
Bromobenzene	ND		0.50	1	07/04/2014 10:50
Bromochloromethane	ND		0.50	1	07/04/2014 10:50
Bromodichloromethane	ND		0.50	1	07/04/2014 10:50
Bromoform	ND		0.50	1	07/04/2014 10:50
Bromomethane	ND		0.50	1	07/04/2014 10:50
2-Butanone (MEK)	ND		2.0	1	07/04/2014 10:50
t-Butyl alcohol (TBA)	ND		2.0	1	07/04/2014 10:50
n-Butyl benzene	ND		0.50	1	07/04/2014 10:50
sec-Butyl benzene	ND		0.50	1	07/04/2014 10:50
tert-Butyl benzene	ND		0.50	1	07/04/2014 10:50
Carbon Disulfide	ND		0.50	1	07/04/2014 10:50
Carbon Tetrachloride	ND		0.50	1	07/04/2014 10:50
Chlorobenzene	ND		0.50	1	07/04/2014 10:50
Chloroethane	ND		0.50	1	07/04/2014 10:50
Chloroform	1.2		0.50	1	07/04/2014 10:50
Chloromethane	ND		0.50	1	07/04/2014 10:50
2-Chlorotoluene	ND		0.50	1	07/04/2014 10:50
4-Chlorotoluene	ND		0.50	1	07/04/2014 10:50
Dibromochloromethane	ND		0.50	1	07/04/2014 10:50
1,2-Dibromo-3-chloropropane	ND		0.20	1	07/04/2014 10:50
1,2-Dibromoethane (EDB)	ND		0.50	1	07/04/2014 10:50
Dibromomethane	ND		0.50	1	07/04/2014 10:50
1,2-Dichlorobenzene	ND		0.50	1	07/04/2014 10:50
1,3-Dichlorobenzene	ND		0.50	1	07/04/2014 10:50
1,4-Dichlorobenzene	ND		0.50	1	07/04/2014 10:50
Dichlorodifluoromethane	ND		0.50	1	07/04/2014 10:50
1,1-Dichloroethane	ND		0.50	1	07/04/2014 10:50
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	07/04/2014 10:50
1,1-Dichloroethene	ND		0.50	1	07/04/2014 10:50
cis-1,2-Dichloroethene	0.96		0.50	1	07/04/2014 10:50
trans-1,2-Dichloroethene	ND		0.50	1	07/04/2014 10:50
1,2-Dichloropropane	ND		0.50	1	07/04/2014 10:50
1,3-Dichloropropane	ND		0.50	1	07/04/2014 10:50
2,2-Dichloropropane	ND		0.50	1	07/04/2014 10:50
1,1-Dichloropropene	ND		0.50	1	07/04/2014 10:50

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Analytical Report

Client:	P & D Environmental	WorkOrder:	1406A67
Project:	#0298; Snow Cleaners 2678 Coolidge Ave, Oakland,	Extraction Method:	SW5030B
Date Received:	6/27/14 18:36	Analytical Method:	SW8260B
Date Prepared:	7/4/14	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
DP4	1406A67-008B	Water	06/26/2014 14:55	GC18	92399
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		0.50	1	07/04/2014 10:50
trans-1,3-Dichloropropene	ND		0.50	1	07/04/2014 10:50
Diisopropyl ether (DIPE)	ND		0.50	1	07/04/2014 10:50
Ethylbenzene	ND		0.50	1	07/04/2014 10:50
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	07/04/2014 10:50
Freon 113	ND		0.50	1	07/04/2014 10:50
Hexachlorobutadiene	ND		0.50	1	07/04/2014 10:50
Hexachloroethane	ND		0.50	1	07/04/2014 10:50
2-Hexanone	ND		0.50	1	07/04/2014 10:50
Isopropylbenzene	ND		0.50	1	07/04/2014 10:50
4-Isopropyl toluene	ND		0.50	1	07/04/2014 10:50
Methyl-t-butyl ether (MTBE)	ND		0.50	1	07/04/2014 10:50
Methylene chloride	0.60		0.50	1	07/04/2014 10:50
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	07/04/2014 10:50
Naphthalene	ND		0.50	1	07/04/2014 10:50
n-Propyl benzene	ND		0.50	1	07/04/2014 10:50
Styrene	ND		0.50	1	07/04/2014 10:50
1,1,1,2-Tetrachloroethane	ND		0.50	1	07/04/2014 10:50
1,1,2,2-Tetrachloroethane	ND		0.50	1	07/04/2014 10:50
Tetrachloroethene	1.4		0.50	1	07/04/2014 10:50
Toluene	ND		0.50	1	07/04/2014 10:50
1,2,3-Trichlorobenzene	ND		0.50	1	07/04/2014 10:50
1,2,4-Trichlorobenzene	ND		0.50	1	07/04/2014 10:50
1,1,1-Trichloroethane	ND		0.50	1	07/04/2014 10:50
1,1,2-Trichloroethane	ND		0.50	1	07/04/2014 10:50
Trichloroethene	1.0		0.50	1	07/04/2014 10:50
Trichlorofluoromethane	ND		0.50	1	07/04/2014 10:50
1,2,3-Trichloropropane	ND		0.50	1	07/04/2014 10:50
1,2,4-Trimethylbenzene	ND		0.50	1	07/04/2014 10:50
1,3,5-Trimethylbenzene	ND		0.50	1	07/04/2014 10:50
Vinyl Chloride	ND		0.50	1	07/04/2014 10:50
Xylenes, Total	ND		0.50	1	07/04/2014 10:50
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	116		70-130		07/04/2014 10:50
Toluene-d8	106		70-130		07/04/2014 10:50
4-BFB	105		70-130		07/04/2014 10:50



Analytical Report

Client: P & D Environmental **WorkOrder:** 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, **Extraction Method:** SW5030B
Date Received: 6/27/14 18:36 **Analytical Method:** SW8021B/8015Bm
Date Prepared: 7/3/14-7/7/14 **Unit:** µg/L

Gasoline Range (C6-C12) Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons with BTEX & MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW1	1406A67-001A	Water	06/26/2014 09:15	GC19	92350
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	07/03/2014 01:41
TPH(ss)	ND		50	1	07/03/2014 01:41
MTBE	---		5.0	1	07/03/2014 01:41
Benzene	---		0.50	1	07/03/2014 01:41
Toluene	---		0.50	1	07/03/2014 01:41
Ethylbenzene	---		0.50	1	07/03/2014 01:41
Xylenes	---		0.50	1	07/03/2014 01:41
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	91		70-130		07/03/2014 01:41
MW2	1406A67-002A	Water	06/26/2014 09:55	GC19	92350
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	760		50	1	07/03/2014 02:41
TPH(ss)	1300		50	1	07/03/2014 02:41
MTBE	---		5.0	1	07/03/2014 02:41
Benzene	---		0.50	1	07/03/2014 02:41
Toluene	---		0.50	1	07/03/2014 02:41
Ethylbenzene	---		0.50	1	07/03/2014 02:41
Xylenes	---		0.50	1	07/03/2014 02:41
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: d5,d1	
aaa-TFT	109		70-130		07/03/2014 02:41
MW3	1406A67-003A	Water	06/26/2014 10:45	GC3	92350
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	07/07/2014 10:50
TPH(ss)	ND		50	1	07/07/2014 10:50
MTBE	---		5.0	1	07/07/2014 10:50
Benzene	---		0.50	1	07/07/2014 10:50
Toluene	---		0.50	1	07/07/2014 10:50
Ethylbenzene	---		0.50	1	07/07/2014 10:50
Xylenes	---		0.50	1	07/07/2014 10:50
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	98		70-130		07/07/2014 10:50

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Analytical Report

Client: P & D Environmental	WorkOrder: 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,	Extraction Method: SW5030B
Date Received: 6/27/14 18:36	Analytical Method: SW8021B/8015Bm
Date Prepared: 7/3/14-7/7/14	Unit: µg/L

Gasoline Range (C6-C12) Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons with BTEX & MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW4	1406A67-004A	Water	06/26/2014 11:35	GC19	92350
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	07/03/2014 03:40
TPH(ss)	ND		50	1	07/03/2014 03:40
MTBE	---		5.0	1	07/03/2014 03:40
Benzene	---		0.50	1	07/03/2014 03:40
Toluene	---		0.50	1	07/03/2014 03:40
Ethylbenzene	---		0.50	1	07/03/2014 03:40
Xylenes	---		0.50	1	07/03/2014 03:40
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	91		70-130		07/03/2014 03:40
DP1	1406A67-005A	Water	06/26/2014 14:25	GC3	92350
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	2200		250	5	07/03/2014 23:44
TPH(ss)	390		250	5	07/03/2014 23:44
MTBE	---		25	5	07/03/2014 23:44
Benzene	---		2.5	5	07/03/2014 23:44
Toluene	---		2.5	5	07/03/2014 23:44
Ethylbenzene	---		2.5	5	07/03/2014 23:44
Xylenes	---		2.5	5	07/03/2014 23:44
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: d6,c4	
aaa-TFT	1423	S	70-130		07/03/2014 23:44
DP2	1406A67-006A	Water	06/26/2014 13:55	GC3	92350
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	550		50	1	07/04/2014 05:39
TPH(ss)	390		50	1	07/04/2014 05:39
MTBE	---		15	1	07/04/2014 05:39
Benzene	---		0.50	1	07/04/2014 05:39
Toluene	---		0.50	1	07/04/2014 05:39
Ethylbenzene	---		0.50	1	07/04/2014 05:39
Xylenes	---		0.50	1	07/04/2014 05:39
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: d5,b6	
aaa-TFT	114		70-130		07/04/2014 05:39

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Analytical Report

Client: P & D Environmental	WorkOrder: 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,	Extraction Method: SW5030B
Date Received: 6/27/14 18:36	Analytical Method: SW8021B/8015Bm
Date Prepared: 7/3/14-7/7/14	Unit: µg/L

Gasoline Range (C6-C12) Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons with BTEX & MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
DP3	1406A67-007A	Water	06/26/2014 13:10	GC3	92350

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	1800	170	3.3	07/04/2014 00:14
TPH(ss)	2000	170	3.3	07/04/2014 00:14
MTBE	---	17	3.3	07/04/2014 00:14
Benzene	---	1.7	3.3	07/04/2014 00:14
Toluene	---	1.7	3.3	07/04/2014 00:14
Ethylbenzene	---	1.7	3.3	07/04/2014 00:14
Xylenes	---	1.7	3.3	07/04/2014 00:14
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	Analytical Comments: d5,b6	
aaa-TFT	97	70-130		07/04/2014 00:14

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
DP4	1406A67-008A	Water	06/26/2014 14:55	GC19	92350

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	07/03/2014 07:38
TPH(ss)	ND	50	1	07/03/2014 07:38
MTBE	---	5.0	1	07/03/2014 07:38
Benzene	---	0.50	1	07/03/2014 07:38
Toluene	---	0.50	1	07/03/2014 07:38
Ethylbenzene	---	0.50	1	07/03/2014 07:38
Xylenes	---	0.50	1	07/03/2014 07:38
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	91	70-130		07/03/2014 07:38



Analytical Report

Client: P & D Environmental	WorkOrder: 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,	Extraction Method: SW3510C
Date Received: 6/27/14 18:36	Analytical Method: SW8015B
Date Prepared: 6/27/14-6/30/14	Unit: µg/L

Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW1	1406A67-001A	Water	06/26/2014 09:15	GC6A	92229
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	07/04/2014 11:53
TPH-Bunker Oil (C10-C36)	ND		100	1	07/04/2014 11:53
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	91		70-130		07/04/2014 11:53
MW2	1406A67-002A	Water	06/26/2014 09:55	GC2A	92166
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	4600		50	1	07/03/2014 01:43
TPH-Bunker Oil (C10-C36)	4400		100	1	07/03/2014 01:43
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e2,e7	
C9	109		70-130		07/03/2014 01:43
MW3	1406A67-003A	Water	06/26/2014 10:45	GC2A	92166
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	07/03/2014 00:27
TPH-Bunker Oil (C10-C36)	110		100	1	07/03/2014 00:27
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e2	
C9	108		70-130		07/03/2014 00:27
MW4	1406A67-004A	Water	06/26/2014 11:35	GC11B	92166
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	07/07/2014 12:55
TPH-Bunker Oil (C10-C36)	ND		100	1	07/07/2014 12:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	91		70-130		07/07/2014 12:55

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Analytical Report

Client: P & D Environmental	WorkOrder: 1406A67
Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland,	Extraction Method: SW3510C
Date Received: 6/27/14 18:36	Analytical Method: SW8015B
Date Prepared: 6/27/14-6/30/14	Unit: µg/L

Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
DP1	1406A67-005A	Water	06/26/2014 14:25	GC6A	92166
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	330		50	1	07/03/2014 16:37
TPH-Bunker Oil (C10-C36)	580		100	1	07/03/2014 16:37
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e7,e2	
C9	97		70-130		07/03/2014 16:37
DP2	1406A67-006A	Water	06/26/2014 13:55	GC2A	92166
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	2700		50	1	07/03/2014 02:58
TPH-Bunker Oil (C10-C36)	2700		100	1	07/03/2014 02:58
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e2,e7	
C9	109		70-130		07/03/2014 02:58
DP3	1406A67-007A	Water	06/26/2014 13:10	GC6A	92166
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	6500		50	1	07/03/2014 17:52
TPH-Bunker Oil (C10-C36)	7000		100	1	07/03/2014 17:52
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e7,e2	
C9	100		70-130		07/03/2014 17:52
DP4	1406A67-008A	Water	06/26/2014 14:55	GC2A	92166
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	65		50	1	07/03/2014 09:16
TPH-Bunker Oil (C10-C36)	160		100	1	07/03/2014 09:16
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e2	
C9	107		70-130		07/03/2014 09:16



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/3/14
Date Analyzed: 7/3/14
Instrument: GC28
Matrix: Water
Project: #0298; Snow Cleaners 2678 Coolidge Ave,
 Oakland, Ca

WorkOrder: 1406A67
BatchID: 92358
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-92358
 1407098-001BMS/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	17.2	0.50	20	-	85.8	70-130
Benzene	ND	19.4	0.50	20	-	97	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	62.9	2.0	80	-	78.7	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	19.9	0.50	20	-	99.5	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	16.2	0.50	20	-	80.8	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	16.8	0.50	20	-	83.9	70-130
1,1-Dichloroethene	ND	17.9	0.50	20	-	89.5	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: 7/3/14
Date Analyzed: 7/3/14
Instrument: GC28
Matrix: Water
Project: #0298; Snow Cleaners 2678 Coolidge Ave,
 Oakland, Ca

WorkOrder: 1406A67
BatchID: 92358
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-92358
 1407098-001BMS/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	17.0	0.50	20	-	85.2	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	17.5	0.50	20	-	87.6	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	17.2	0.50	20	-	86	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	20.1	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	20.4	0.50	20	-	102	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	22.9	40.8		45	92	91	70-130
Toluene-d8	22.8	41.7		45	91	93	70-130
4-BFB	2.09	4.16		4.5	84	93	70-130

(Cont.)



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/3/14
Date Analyzed: 7/3/14
Instrument: GC28
Matrix: Water
Project: #0298; Snow Cleaners 2678 Coolidge Ave,
 Oakland, Ca

WorkOrder: 1406A67
BatchID: 92358
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-92358
 1407098-001BMS/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)	22.8	21.8	20	ND	114	109	70-130	4.05	20
Benzene	22.3	21.9	20	ND	112	109	70-130	2.15	20
t-Butyl alcohol (TBA)	107	103	80	ND	133,F1	129	70-130	3.25	20
Chlorobenzene	23.2	22.2	20	ND	116	111	70-130	4.04	20
1,2-Dibromoethane (EDB)	20.8	20.4	20	ND	104	102	70-130	1.87	20
1,2-Dichloroethane (1,2-DCA)	20.7	20.4	20	ND	104	102	70-130	1.64	20
1,1-Dichloroethene	19.9	19.4	20	ND	99.6	96.8	70-130	2.82	20
Diisopropyl ether (DIPE)	20.9	20.0	20	ND	105	100	70-130	4.18	20
Ethyl tert-butyl ether (ETBE)	22.6	21.8	20	ND	113	109	70-130	3.49	20
Methyl-t-butyl ether (MTBE)	22.7	22.4	20	ND	113	112	70-130	1.40	20
Toluene	22.7	22.1	20	ND	114	111	70-130	2.57	20
Trichloroethene	23.5	22.7	20	ND	117	113	70-130	3.41	20
Surrogate Recovery									
Dibromofluoromethane	43.6	43.2	45		97	96	70-130	0.864	20
Toluene-d8	40.5	40.1	45		90	89	70-130	1.09	20
4-BFB	4.11	4.27	4.5		91	95	70-130	3.73	20

(Cont.)



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/5/14
Date Analyzed: 7/4/14
Instrument: GC18
Matrix: Water
Project: #0298; Snow Cleaners 2678 Coolidge Ave,
 Oakland, Ca

WorkOrder: 1406A67
BatchID: 92399
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-92399
 1407092-001AMS/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	23.3	0.50	20	-	116	70-130
Benzene	ND	19.2	0.50	20	-	96	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	98.0	2.0	80	-	123	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	20.3	0.50	20	-	102	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	20.6	0.50	20	-	103	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	21.3	0.50	20	-	106	70-130
1,1-Dichloroethene	ND	21.8	0.50	20	-	109	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: 7/5/14
Date Analyzed: 7/4/14
Instrument: GC18
Matrix: Water
Project: #0298; Snow Cleaners 2678 Coolidge Ave,
 Oakland, Ca

WorkOrder: 1406A67
BatchID: 92399
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-92399
 1407092-001AMS/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	18.2	0.50	20	-	91.1	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	18.9	0.50	20	-	94.4	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	20.8	0.50	20	-	104	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	19.4	0.50	20	-	96.9	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	19.0	0.50	20	-	95.1	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	29.5	53.2		45	118	118	70-130
Toluene-d8	26.4	43.8		45	106	97	70-130
4-BFB	2.59	4.39		4.5	104	98	70-130

(Cont.)



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/5/14
Date Analyzed: 7/4/14
Instrument: GC18
Matrix: Water
Project: #0298; Snow Cleaners 2678 Coolidge Ave,
 Oakland, Ca

WorkOrder: 1406A67
BatchID: 92399
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-92399
 1407092-001AMS/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)	25.9	26.6	20	ND	129	133,G1	70-130	2.66	20
Benzene	18.8	18.6	20	ND	93.9	93	70-130	0.907	20
t-Butyl alcohol (TBA)	133	147	80	ND	166,F1	184,F1	70-130	9.98	20
Chlorobenzene	19.9	19.8	20	ND	99.3	98.7	70-130	0.578	20
1,2-Dibromoethane (EDB)	21.4	22.1	20	ND	107	110	70-130	3.07	20
1,2-Dichloroethane (1,2-DCA)	22.5	22.5	20	ND	112	112	70-130	0	20
1,1-Dichloroethene	21.1	20.6	20	ND	105	103	70-130	2.31	20
Diisopropyl ether (DIPE)	18.7	18.7	20	ND	93.7	93.7	70-130	0	20
Ethyl tert-butyl ether (ETBE)	20.2	20.5	20	ND	101	103	70-130	1.51	20
Methyl-t-butyl ether (MTBE)	23.6	24.1	20	ND	118	121	70-130	2.49	20
Toluene	18.3	18.4	20	ND	91.6	92.1	70-130	0.632	20
Trichloroethene	18.1	18.2	20	ND	90.7	91.2	70-130	0.566	20
Surrogate Recovery									
Dibromofluoromethane	54.0	54.1	45		120	120	70-130	0	20
Toluene-d8	42.7	42.4	45		95	94	70-130	0.723	20
4-BFB	4.33	4.35	4.5		96	97	70-130	0.526	20



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/3/14
Date Analyzed: 7/2/14 - 7/3/14
Instrument: GC19
Matrix: Water
Project: #0298; Snow Cleaners 2678 Coolidge Ave,
 Oakland, Ca

WorkOrder: 1406A67
BatchID: 92350
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-92350
 1406A46-013AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	54.5	40	60	-	90.8	70-130
MTBE	ND	9.03	5.0	10	-	90.3	70-130
Benzene	ND	10.7	0.50	10	-	107	70-130
Toluene	ND	10.8	0.50	10	-	109	70-130
Ethylbenzene	ND	11.2	0.50	10	-	112	70-130
Xylenes	ND	35.1	0.50	30	-	117	70-130

Surrogate Recovery

aaa-TFT_2	9.02	9.24		10	90	92	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR	0	ND	NR	NR	-	NR	
MTBE	NR	NR	0	18	NR	NR	-	NR	
Benzene	NR	NR	0	2.4	NR	NR	-	NR	
Toluene	NR	NR	0	ND	NR	NR	-	NR	
Ethylbenzene	NR	NR	0	ND	NR	NR	-	NR	
Xylenes	NR	NR	0	7.3	NR	NR	-	NR	

Surrogate Recovery

aaa-TFT_2	NR	NR	0		NR	NR	-	NR	
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Quality Control Report

Client: P & D Environmental
Date Prepared: 6/27/14
Date Analyzed: 6/29/14
Instrument: GC11A, GC11B
Matrix: Water
Project: #0298; Snow Cleaners 2678 Coolidge Ave,
 Oakland, Ca

WorkOrder: 1406A67
BatchID: 92166
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-92166

QC Summary Report for SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	995	50	1000	-	99.5	70-130
Surrogate Recovery							
C9	616	618		625	99	99	70-130

(Cont.)



Quality Control Report

Client: P & D Environmental
Date Prepared: 6/30/14
Date Analyzed: 7/1/14
Instrument: GC9b
Matrix: Water
Project: #0298; Snow Cleaners 2678 Coolidge Ave,
 Oakland, Ca

WorkOrder: 1406A67
BatchID: 92229
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-92229

QC Summary Report for SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1070	50	1000	-	107	70-130
Surrogate Recovery							
C9	635	633		625	102	101	70-130



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1406A67

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/3rd Party:
PO:
ProjectNo: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, Ca

Bill to:

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

Requested TAT:

5 days

Date Received: 06/27/2014

Date Printed: 06/30/2014

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	
1406A67-001	MW1	Water	6/26/2014 9:15	<input type="checkbox"/>	B	A											
1406A67-002	MW2	Water	6/26/2014 9:55	<input type="checkbox"/>	B	A											
1406A67-003	MW3	Water	6/26/2014 10:45	<input type="checkbox"/>	B	A											
1406A67-004	MW4	Water	6/26/2014 11:35	<input type="checkbox"/>	B	A											
1406A67-005	DP1	Water	6/26/2014 14:25	<input type="checkbox"/>	B	A											
1406A67-006	DP2	Water	6/26/2014 13:55	<input type="checkbox"/>	B	A											
1406A67-007	DP3	Water	6/26/2014 13:10	<input type="checkbox"/>	B	A											
1406A67-008	DP4	Water	6/26/2014 14:55	<input type="checkbox"/>	B	A											

Test Legend:

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

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A contain testgroup.

Prepared by: Elisa 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

QC Level: LEVEL 2

Work Order: 1406A67

Project: #0298; Snow Cleaners 2678 Coolidge Ave, Oakland, Ca

Client Contact: Paul King

Date Received: 6/27/2014

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
1406A67-001A	MW1	Water	Multi-Range TPH(g,d,mo)	4	voa w/hcl	<input type="checkbox"/>	6/26/2014 9:15	5 days	Trace	<input type="checkbox"/>	
1406A67-001B	MW1	Water	SW8260B (VOCs)	3	voa w/hcl	<input type="checkbox"/>	6/26/2014 9:15	5 days	Trace	<input type="checkbox"/>	
1406A67-002A	MW2	Water	Multi-Range TPH(g,d,mo)	4	voa w/hcl	<input type="checkbox"/>	6/26/2014 9:55	5 days	None	<input type="checkbox"/>	
1406A67-002B	MW2	Water	SW8260B (VOCs)	3	voa w/hcl	<input type="checkbox"/>	6/26/2014 9:55	5 days	None	<input type="checkbox"/>	
1406A67-003A	MW3	Water	Multi-Range TPH(g,d,mo)	4	voa w/hcl	<input type="checkbox"/>	6/26/2014 10:45	5 days	Trace	<input type="checkbox"/>	
1406A67-003B	MW3	Water	SW8260B (VOCs)	3	voa w/hcl	<input type="checkbox"/>	6/26/2014 10:45	5 days	Trace	<input type="checkbox"/>	
1406A67-004A	MW4	Water	Multi-Range TPH(g,d,mo)	4	voa w/hcl	<input type="checkbox"/>	6/26/2014 11:35	5 days	Trace	<input type="checkbox"/>	
1406A67-004B	MW4	Water	SW8260B (VOCs)	3	voa w/hcl	<input type="checkbox"/>	6/26/2014 11:35	5 days	Trace	<input type="checkbox"/>	
1406A67-005A	DP1	Water	Multi-Range TPH(g,d,mo)	4	voa w/hcl	<input type="checkbox"/>	6/26/2014 14:25	5 days	Trace	<input type="checkbox"/>	
1406A67-005B	DP1	Water	SW8260B (VOCs)	3	voa w/hcl	<input type="checkbox"/>	6/26/2014 14:25	5 days	Trace	<input type="checkbox"/>	
1406A67-006A	DP2	Water	Multi-Range TPH(g,d,mo)	4	voa w/hcl	<input type="checkbox"/>	6/26/2014 13:55	5 days	None	<input type="checkbox"/>	
1406A67-006B	DP2	Water	SW8260B (VOCs)	3	voa w/hcl	<input type="checkbox"/>	6/26/2014 13:55	5 days	None	<input type="checkbox"/>	
1406A67-007A	DP3	Water	Multi-Range TPH(g,d,mo)	4	voa w/hcl	<input type="checkbox"/>	6/26/2014 13:10	5 days	None	<input type="checkbox"/>	
1406A67-007B	DP3	Water	SW8260B (VOCs)	3	voa w/hcl	<input type="checkbox"/>	6/26/2014 13:10	5 days	None	<input type="checkbox"/>	
1406A67-008A	DP4	Water	Multi-Range TPH(g,d,mo)	4	voa w/hcl	<input type="checkbox"/>	6/26/2014 14:55	5 days	Trace	<input type="checkbox"/>	
1406A67-008B	DP4	Water	SW8260B (VOCs)	3	voa w/hcl	<input type="checkbox"/>	6/26/2014 14:55	5 days	Trace	<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 =

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

PROJECT NUMBER:
0298

PROJECT NAME:
Snow Cleaners
2678 Cowlidge Ave,
Oakland, CA

NUMBER OF CONTAINERS

ANALYSIS(ES):

TPH-Multi Range
(G, D, SS, Bo)

VOCs by 8260B

PRESERVATIVE

REMARKS

SAMPLED BY: (PRINTED & SIGNATURE)

Michael Bass-Decheres *Michael Bass-Decheres*

+1 (510) 658-6916

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES)	TYPH-MULTI RANGE	VOCs BY 8260B	PRESERVATIVE	REMARKS
MW1	6/26/14	0915	H ₂ O		7	X	X		ICE	Normal TAT
MW2		0955			7	X	X			
MW3		1045			7	X	X			
MW4		1135			7	X	X			
DP1		1425			7	X	X			
DP2		1355			7	X	X			
DP3		1310			7	X	X			
DP4		1455			7	X	X			

ICE # 10
 GOOD CONDITION
 HEAD SPACE ABSENT
 DECHLORINATED IN LAB
 PRESERVATION
 APPROPRIATE CONTAINERS
 PRESERVED IN LAB
 VOCs O & G METALS OTHER

RELINQUISHED BY: (SIGNATURE)
Michael Bass-Decheres

DATE TIME
6/27/14 1447

RECEIVED BY: (SIGNATURE)
[Signature]

Total No. of Samples (This Shipment) 8
 Total No. of Containers (This Shipment) 56

LABORATORY:
McCampbell Analytical, Inc.

RELINQUISHED BY: (SIGNATURE)
[Signature]

DATE TIME
6/27/14 1648

RECEIVED BY: (SIGNATURE)
[Signature]

LABORATORY CONTACT: Angela Rydelius (877) 252-9262
 LABORATORY PHONE NUMBER:

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: All VOAs preserved w/ HCl.



Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **6/27/2014 6:36:58 PM**
 Project Name: **#0298; Snow Cleaners 2678 Coolidge Ave, Oakland, Ca** Login Reviewed by: **Elisa Venegas**
 WorkOrder No: **1406A67** 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: 10°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: pH<2; 522: pH<4)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: OTHERS)

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

 Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507703

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

Project Contact: Paul King
Project P.O.:
Project Name: #0298; Snow Cleaners

Project Received: 07/17/2015

Analytical Report reviewed & approved for release on 07/29/2015 by:

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: #0298; Snow Cleaners
WorkOrder: 1507703

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
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
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
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
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: P & D Environmental
Project: #0298; Snow Cleaners
WorkOrder: 1507703

Analytical Qualifiers

B	analyte detected in the associated Method Blank and in the sample
S	spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d5	TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?)
d6	one to a few isolated non-target peaks present in the TPH(g) chromatogram
d17	Reporting limit for MTBE raised due to co-elution with non-target peaks.
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
e11/e4	stoddard solvent/mineral spirit (?); and/or gasoline range compounds are significant.



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-1	1507703-001B	Water	07/15/2015 15:40	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	07/20/2015 10:58
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/20/2015 10:58
Benzene	ND	0.50	1	07/20/2015 10:58
Bromobenzene	ND	0.50	1	07/20/2015 10:58
Bromochloromethane	ND	0.50	1	07/20/2015 10:58
Bromodichloromethane	ND	0.50	1	07/20/2015 10:58
Bromoform	ND	0.50	1	07/20/2015 10:58
Bromomethane	ND	0.50	1	07/20/2015 10:58
2-Butanone (MEK)	ND	2.0	1	07/20/2015 10:58
t-Butyl alcohol (TBA)	ND	2.0	1	07/20/2015 10:58
n-Butyl benzene	ND	0.50	1	07/20/2015 10:58
sec-Butyl benzene	ND	0.50	1	07/20/2015 10:58
tert-Butyl benzene	ND	0.50	1	07/20/2015 10:58
Carbon Disulfide	ND	0.50	1	07/20/2015 10:58
Carbon Tetrachloride	ND	0.50	1	07/20/2015 10:58
Chlorobenzene	ND	0.50	1	07/20/2015 10:58
Chloroethane	ND	0.50	1	07/20/2015 10:58
Chloroform	0.95	0.50	1	07/20/2015 10:58
Chloromethane	ND	0.50	1	07/20/2015 10:58
2-Chlorotoluene	ND	0.50	1	07/20/2015 10:58
4-Chlorotoluene	ND	0.50	1	07/20/2015 10:58
Dibromochloromethane	ND	0.50	1	07/20/2015 10:58
1,2-Dibromo-3-chloropropane	ND	0.20	1	07/20/2015 10:58
1,2-Dibromoethane (EDB)	ND	0.50	1	07/20/2015 10:58
Dibromomethane	ND	0.50	1	07/20/2015 10:58
1,2-Dichlorobenzene	ND	0.50	1	07/20/2015 10:58
1,3-Dichlorobenzene	ND	0.50	1	07/20/2015 10:58
1,4-Dichlorobenzene	ND	0.50	1	07/20/2015 10:58
Dichlorodifluoromethane	ND	0.50	1	07/20/2015 10:58
1,1-Dichloroethane	ND	0.50	1	07/20/2015 10:58
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	07/20/2015 10:58
1,1-Dichloroethene	ND	0.50	1	07/20/2015 10:58
cis-1,2-Dichloroethene	ND	0.50	1	07/20/2015 10:58
trans-1,2-Dichloroethene	ND	0.50	1	07/20/2015 10:58
1,2-Dichloropropane	ND	0.50	1	07/20/2015 10:58
1,3-Dichloropropane	ND	0.50	1	07/20/2015 10:58
2,2-Dichloropropane	ND	0.50	1	07/20/2015 10:58
1,1-Dichloropropene	ND	0.50	1	07/20/2015 10:58

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-1	1507703-001B	Water	07/15/2015 15:40	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.50	1	07/20/2015 10:58
trans-1,3-Dichloropropene	ND	0.50	1	07/20/2015 10:58
Diisopropyl ether (DIPE)	ND	0.50	1	07/20/2015 10:58
Ethylbenzene	ND	0.50	1	07/20/2015 10:58
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/20/2015 10:58
Freon 113	ND	0.50	1	07/20/2015 10:58
Hexachlorobutadiene	ND	0.50	1	07/20/2015 10:58
Hexachloroethane	ND	0.50	1	07/20/2015 10:58
2-Hexanone	ND	0.50	1	07/20/2015 10:58
Isopropylbenzene	ND	0.50	1	07/20/2015 10:58
4-Isopropyl toluene	ND	0.50	1	07/20/2015 10:58
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/20/2015 10:58
Methylene chloride	ND	0.50	1	07/20/2015 10:58
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	07/20/2015 10:58
Naphthalene	ND	0.50	1	07/20/2015 10:58
n-Propyl benzene	ND	0.50	1	07/20/2015 10:58
Styrene	ND	0.50	1	07/20/2015 10:58
1,1,1,2-Tetrachloroethane	ND	0.50	1	07/20/2015 10:58
1,1,2,2-Tetrachloroethane	ND	0.50	1	07/20/2015 10:58
Tetrachloroethene	ND	0.50	1	07/20/2015 10:58
Toluene	ND	0.50	1	07/20/2015 10:58
1,2,3-Trichlorobenzene	ND	0.50	1	07/20/2015 10:58
1,2,4-Trichlorobenzene	ND	0.50	1	07/20/2015 10:58
1,1,1-Trichloroethane	ND	0.50	1	07/20/2015 10:58
1,1,2-Trichloroethane	ND	0.50	1	07/20/2015 10:58
Trichloroethene	ND	0.50	1	07/20/2015 10:58
Trichlorofluoromethane	ND	0.50	1	07/20/2015 10:58
1,2,3-Trichloropropane	ND	0.50	1	07/20/2015 10:58
1,2,4-Trimethylbenzene	ND	0.50	1	07/20/2015 10:58
1,3,5-Trimethylbenzene	ND	0.50	1	07/20/2015 10:58
Vinyl Chloride	ND	0.50	1	07/20/2015 10:58
Xylenes, Total	ND	0.50	1	07/20/2015 10:58

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-1	1507703-001B	Water	07/15/2015 15:40	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	114	70-130		07/20/2015 10:58
Toluene-d8	96	70-130		07/20/2015 10:58
4-BFB	104	70-130		07/20/2015 10:58

Analyst(s): KF



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-2	1507703-002B	Water	07/16/2015 14:20	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	50	5	07/20/2015 16:51
tert-Amyl methyl ether (TAME)	ND	2.5	5	07/20/2015 16:51
Benzene	ND	2.5	5	07/20/2015 16:51
Bromobenzene	ND	2.5	5	07/20/2015 16:51
Bromochloromethane	ND	2.5	5	07/20/2015 16:51
Bromodichloromethane	ND	2.5	5	07/20/2015 16:51
Bromoform	ND	2.5	5	07/20/2015 16:51
Bromomethane	ND	2.5	5	07/20/2015 16:51
2-Butanone (MEK)	ND	10	5	07/20/2015 16:51
t-Butyl alcohol (TBA)	ND	10	5	07/20/2015 16:51
n-Butyl benzene	ND	2.5	5	07/20/2015 16:51
sec-Butyl benzene	ND	2.5	5	07/20/2015 16:51
tert-Butyl benzene	ND	2.5	5	07/20/2015 16:51
Carbon Disulfide	ND	2.5	5	07/20/2015 16:51
Carbon Tetrachloride	ND	2.5	5	07/20/2015 16:51
Chlorobenzene	ND	2.5	5	07/20/2015 16:51
Chloroethane	ND	2.5	5	07/20/2015 16:51
Chloroform	ND	2.5	5	07/20/2015 16:51
Chloromethane	ND	2.5	5	07/20/2015 16:51
2-Chlorotoluene	ND	2.5	5	07/20/2015 16:51
4-Chlorotoluene	ND	2.5	5	07/20/2015 16:51
Dibromochloromethane	ND	2.5	5	07/20/2015 16:51
1,2-Dibromo-3-chloropropane	ND	1.0	5	07/20/2015 16:51
1,2-Dibromoethane (EDB)	ND	2.5	5	07/20/2015 16:51
Dibromomethane	ND	2.5	5	07/20/2015 16:51
1,2-Dichlorobenzene	ND	2.5	5	07/20/2015 16:51
1,3-Dichlorobenzene	ND	2.5	5	07/20/2015 16:51
1,4-Dichlorobenzene	ND	2.5	5	07/20/2015 16:51
Dichlorodifluoromethane	ND	2.5	5	07/20/2015 16:51
1,1-Dichloroethane	ND	2.5	5	07/20/2015 16:51
1,2-Dichloroethane (1,2-DCA)	ND	2.5	5	07/20/2015 16:51
1,1-Dichloroethene	ND	2.5	5	07/20/2015 16:51
cis-1,2-Dichloroethene	120	2.5	5	07/20/2015 16:51
trans-1,2-Dichloroethene	7.1	2.5	5	07/20/2015 16:51
1,2-Dichloropropane	ND	2.5	5	07/20/2015 16:51
1,3-Dichloropropane	ND	2.5	5	07/20/2015 16:51
2,2-Dichloropropane	ND	2.5	5	07/20/2015 16:51
1,1-Dichloropropene	ND	2.5	5	07/20/2015 16:51

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-2	1507703-002B	Water	07/16/2015 14:20	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	2.5	5	07/20/2015 16:51
trans-1,3-Dichloropropene	ND	2.5	5	07/20/2015 16:51
Diisopropyl ether (DIPE)	ND	2.5	5	07/20/2015 16:51
Ethylbenzene	3.1	2.5	5	07/20/2015 16:51
Ethyl tert-butyl ether (ETBE)	ND	2.5	5	07/20/2015 16:51
Freon 113	ND	2.5	5	07/20/2015 16:51
Hexachlorobutadiene	ND	2.5	5	07/20/2015 16:51
Hexachloroethane	ND	2.5	5	07/20/2015 16:51
2-Hexanone	ND	2.5	5	07/20/2015 16:51
Isopropylbenzene	ND	2.5	5	07/20/2015 16:51
4-Isopropyl toluene	ND	2.5	5	07/20/2015 16:51
Methyl-t-butyl ether (MTBE)	ND	2.5	5	07/20/2015 16:51
Methylene chloride	ND	2.5	5	07/20/2015 16:51
4-Methyl-2-pentanone (MIBK)	ND	2.5	5	07/20/2015 16:51
Naphthalene	ND	2.5	5	07/20/2015 16:51
n-Propyl benzene	3.6	2.5	5	07/20/2015 16:51
Styrene	ND	2.5	5	07/20/2015 16:51
1,1,1,2-Tetrachloroethane	ND	2.5	5	07/20/2015 16:51
1,1,2,2-Tetrachloroethane	ND	2.5	5	07/20/2015 16:51
Tetrachloroethene	ND	2.5	5	07/20/2015 16:51
Toluene	3.7	2.5	5	07/20/2015 16:51
1,2,3-Trichlorobenzene	ND	2.5	5	07/20/2015 16:51
1,2,4-Trichlorobenzene	ND	2.5	5	07/20/2015 16:51
1,1,1-Trichloroethane	ND	2.5	5	07/20/2015 16:51
1,1,2-Trichloroethane	ND	2.5	5	07/20/2015 16:51
Trichloroethene	ND	2.5	5	07/20/2015 16:51
Trichlorofluoromethane	ND	2.5	5	07/20/2015 16:51
1,2,3-Trichloropropane	ND	2.5	5	07/20/2015 16:51
1,2,4-Trimethylbenzene	ND	2.5	5	07/20/2015 16:51
1,3,5-Trimethylbenzene	11	2.5	5	07/20/2015 16:51
Vinyl Chloride	21	2.5	5	07/20/2015 16:51
Xylenes, Total	12	2.5	5	07/20/2015 16:51

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-2	1507703-002B	Water	07/16/2015 14:20	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	115	70-130		07/20/2015 16:51
Toluene-d8	90	70-130		07/20/2015 16:51
4-BFB	95	70-130		07/20/2015 16:51

Analyst(s): KF



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-3	1507703-003B	Water	07/15/2015 14:20	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	07/20/2015 12:23
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/20/2015 12:23
Benzene	ND	0.50	1	07/20/2015 12:23
Bromobenzene	ND	0.50	1	07/20/2015 12:23
Bromochloromethane	ND	0.50	1	07/20/2015 12:23
Bromodichloromethane	ND	0.50	1	07/20/2015 12:23
Bromoform	ND	0.50	1	07/20/2015 12:23
Bromomethane	ND	0.50	1	07/20/2015 12:23
2-Butanone (MEK)	ND	2.0	1	07/20/2015 12:23
t-Butyl alcohol (TBA)	ND	2.0	1	07/20/2015 12:23
n-Butyl benzene	ND	0.50	1	07/20/2015 12:23
sec-Butyl benzene	ND	0.50	1	07/20/2015 12:23
tert-Butyl benzene	ND	0.50	1	07/20/2015 12:23
Carbon Disulfide	ND	0.50	1	07/20/2015 12:23
Carbon Tetrachloride	ND	0.50	1	07/20/2015 12:23
Chlorobenzene	ND	0.50	1	07/20/2015 12:23
Chloroethane	ND	0.50	1	07/20/2015 12:23
Chloroform	ND	0.50	1	07/20/2015 12:23
Chloromethane	ND	0.50	1	07/20/2015 12:23
2-Chlorotoluene	ND	0.50	1	07/20/2015 12:23
4-Chlorotoluene	ND	0.50	1	07/20/2015 12:23
Dibromochloromethane	ND	0.50	1	07/20/2015 12:23
1,2-Dibromo-3-chloropropane	ND	0.20	1	07/20/2015 12:23
1,2-Dibromoethane (EDB)	ND	0.50	1	07/20/2015 12:23
Dibromomethane	ND	0.50	1	07/20/2015 12:23
1,2-Dichlorobenzene	ND	0.50	1	07/20/2015 12:23
1,3-Dichlorobenzene	ND	0.50	1	07/20/2015 12:23
1,4-Dichlorobenzene	ND	0.50	1	07/20/2015 12:23
Dichlorodifluoromethane	ND	0.50	1	07/20/2015 12:23
1,1-Dichloroethane	ND	0.50	1	07/20/2015 12:23
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	07/20/2015 12:23
1,1-Dichloroethene	ND	0.50	1	07/20/2015 12:23
cis-1,2-Dichloroethene	ND	0.50	1	07/20/2015 12:23
trans-1,2-Dichloroethene	ND	0.50	1	07/20/2015 12:23
1,2-Dichloropropane	ND	0.50	1	07/20/2015 12:23
1,3-Dichloropropane	ND	0.50	1	07/20/2015 12:23
2,2-Dichloropropane	ND	0.50	1	07/20/2015 12:23
1,1-Dichloropropene	ND	0.50	1	07/20/2015 12:23

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-3	1507703-003B	Water	07/15/2015 14:20	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.50	1	07/20/2015 12:23
trans-1,3-Dichloropropene	ND	0.50	1	07/20/2015 12:23
Diisopropyl ether (DIPE)	ND	0.50	1	07/20/2015 12:23
Ethylbenzene	ND	0.50	1	07/20/2015 12:23
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/20/2015 12:23
Freon 113	ND	0.50	1	07/20/2015 12:23
Hexachlorobutadiene	ND	0.50	1	07/20/2015 12:23
Hexachloroethane	ND	0.50	1	07/20/2015 12:23
2-Hexanone	ND	0.50	1	07/20/2015 12:23
Isopropylbenzene	ND	0.50	1	07/20/2015 12:23
4-Isopropyl toluene	ND	0.50	1	07/20/2015 12:23
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/20/2015 12:23
Methylene chloride	ND	0.50	1	07/20/2015 12:23
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	07/20/2015 12:23
Naphthalene	ND	0.50	1	07/20/2015 12:23
n-Propyl benzene	ND	0.50	1	07/20/2015 12:23
Styrene	ND	0.50	1	07/20/2015 12:23
1,1,1,2-Tetrachloroethane	ND	0.50	1	07/20/2015 12:23
1,1,2,2-Tetrachloroethane	ND	0.50	1	07/20/2015 12:23
Tetrachloroethene	ND	0.50	1	07/20/2015 12:23
Toluene	ND	0.50	1	07/20/2015 12:23
1,2,3-Trichlorobenzene	ND	0.50	1	07/20/2015 12:23
1,2,4-Trichlorobenzene	ND	0.50	1	07/20/2015 12:23
1,1,1-Trichloroethane	ND	0.50	1	07/20/2015 12:23
1,1,2-Trichloroethane	ND	0.50	1	07/20/2015 12:23
Trichloroethene	ND	0.50	1	07/20/2015 12:23
Trichlorofluoromethane	ND	0.50	1	07/20/2015 12:23
1,2,3-Trichloropropane	ND	0.50	1	07/20/2015 12:23
1,2,4-Trimethylbenzene	ND	0.50	1	07/20/2015 12:23
1,3,5-Trimethylbenzene	ND	0.50	1	07/20/2015 12:23
Vinyl Chloride	ND	0.50	1	07/20/2015 12:23
Xylenes, Total	ND	0.50	1	07/20/2015 12:23

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-3	1507703-003B	Water	07/15/2015 14:20	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	117	70-130		07/20/2015 12:23
Toluene-d8	94	70-130		07/20/2015 12:23
4-BFB	108	70-130		07/20/2015 12:23

Analyst(s): KF



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-4	1507703-004B	Water	07/15/2015 13:30	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	07/20/2015 13:06
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/20/2015 13:06
Benzene	ND	0.50	1	07/20/2015 13:06
Bromobenzene	ND	0.50	1	07/20/2015 13:06
Bromochloromethane	ND	0.50	1	07/20/2015 13:06
Bromodichloromethane	ND	0.50	1	07/20/2015 13:06
Bromoform	ND	0.50	1	07/20/2015 13:06
Bromomethane	ND	0.50	1	07/20/2015 13:06
2-Butanone (MEK)	ND	2.0	1	07/20/2015 13:06
t-Butyl alcohol (TBA)	ND	2.0	1	07/20/2015 13:06
n-Butyl benzene	ND	0.50	1	07/20/2015 13:06
sec-Butyl benzene	ND	0.50	1	07/20/2015 13:06
tert-Butyl benzene	ND	0.50	1	07/20/2015 13:06
Carbon Disulfide	ND	0.50	1	07/20/2015 13:06
Carbon Tetrachloride	ND	0.50	1	07/20/2015 13:06
Chlorobenzene	ND	0.50	1	07/20/2015 13:06
Chloroethane	ND	0.50	1	07/20/2015 13:06
Chloroform	2.2	0.50	1	07/20/2015 13:06
Chloromethane	ND	0.50	1	07/20/2015 13:06
2-Chlorotoluene	ND	0.50	1	07/20/2015 13:06
4-Chlorotoluene	ND	0.50	1	07/20/2015 13:06
Dibromochloromethane	ND	0.50	1	07/20/2015 13:06
1,2-Dibromo-3-chloropropane	ND	0.20	1	07/20/2015 13:06
1,2-Dibromoethane (EDB)	ND	0.50	1	07/20/2015 13:06
Dibromomethane	ND	0.50	1	07/20/2015 13:06
1,2-Dichlorobenzene	ND	0.50	1	07/20/2015 13:06
1,3-Dichlorobenzene	ND	0.50	1	07/20/2015 13:06
1,4-Dichlorobenzene	ND	0.50	1	07/20/2015 13:06
Dichlorodifluoromethane	ND	0.50	1	07/20/2015 13:06
1,1-Dichloroethane	ND	0.50	1	07/20/2015 13:06
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	07/20/2015 13:06
1,1-Dichloroethene	ND	0.50	1	07/20/2015 13:06
cis-1,2-Dichloroethene	23	0.50	1	07/20/2015 13:06
trans-1,2-Dichloroethene	ND	0.50	1	07/20/2015 13:06
1,2-Dichloropropane	ND	0.50	1	07/20/2015 13:06
1,3-Dichloropropane	ND	0.50	1	07/20/2015 13:06
2,2-Dichloropropane	ND	0.50	1	07/20/2015 13:06
1,1-Dichloropropene	ND	0.50	1	07/20/2015 13:06

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-4	1507703-004B	Water	07/15/2015 13:30	GC10	107912
Analytes	Result	RL	DF	Date Analyzed	
cis-1,3-Dichloropropene	ND	0.50	1	07/20/2015 13:06	
trans-1,3-Dichloropropene	ND	0.50	1	07/20/2015 13:06	
Diisopropyl ether (DIPE)	ND	0.50	1	07/20/2015 13:06	
Ethylbenzene	ND	0.50	1	07/20/2015 13:06	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/20/2015 13:06	
Freon 113	ND	0.50	1	07/20/2015 13:06	
Hexachlorobutadiene	ND	0.50	1	07/20/2015 13:06	
Hexachloroethane	ND	0.50	1	07/20/2015 13:06	
2-Hexanone	ND	0.50	1	07/20/2015 13:06	
Isopropylbenzene	ND	0.50	1	07/20/2015 13:06	
4-Isopropyl toluene	ND	0.50	1	07/20/2015 13:06	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/20/2015 13:06	
Methylene chloride	ND	0.50	1	07/20/2015 13:06	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	07/20/2015 13:06	
Naphthalene	ND	0.50	1	07/20/2015 13:06	
n-Propyl benzene	ND	0.50	1	07/20/2015 13:06	
Styrene	ND	0.50	1	07/20/2015 13:06	
1,1,1,2-Tetrachloroethane	ND	0.50	1	07/20/2015 13:06	
1,1,2,2-Tetrachloroethane	ND	0.50	1	07/20/2015 13:06	
Tetrachloroethene	ND	0.50	1	07/20/2015 13:06	
Toluene	ND	0.50	1	07/20/2015 13:06	
1,2,3-Trichlorobenzene	ND	0.50	1	07/20/2015 13:06	
1,2,4-Trichlorobenzene	ND	0.50	1	07/20/2015 13:06	
1,1,1-Trichloroethane	ND	0.50	1	07/20/2015 13:06	
1,1,2-Trichloroethane	ND	0.50	1	07/20/2015 13:06	
Trichloroethene	ND	0.50	1	07/20/2015 13:06	
Trichlorofluoromethane	ND	0.50	1	07/20/2015 13:06	
1,2,3-Trichloropropane	ND	0.50	1	07/20/2015 13:06	
1,2,4-Trimethylbenzene	ND	0.50	1	07/20/2015 13:06	
1,3,5-Trimethylbenzene	ND	0.50	1	07/20/2015 13:06	
Vinyl Chloride	ND	0.50	1	07/20/2015 13:06	
Xylenes, Total	ND	0.50	1	07/20/2015 13:06	

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
MW-4	1507703-004B	Water	07/15/2015 13:30	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	114	70-130		07/20/2015 13:06
Toluene-d8	96	70-130		07/20/2015 13:06
4-BFB	107	70-130		07/20/2015 13:06

Analyst(s): KF



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-1	1507703-005B	Water	07/16/2015 13:15	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	2500	250	07/20/2015 17:34
tert-Amyl methyl ether (TAME)	ND	120	250	07/20/2015 17:34
Benzene	ND	120	250	07/20/2015 17:34
Bromobenzene	ND	120	250	07/20/2015 17:34
Bromochloromethane	ND	120	250	07/20/2015 17:34
Bromodichloromethane	ND	120	250	07/20/2015 17:34
Bromoform	ND	120	250	07/20/2015 17:34
Bromomethane	ND	120	250	07/20/2015 17:34
2-Butanone (MEK)	ND	500	250	07/20/2015 17:34
t-Butyl alcohol (TBA)	ND	500	250	07/20/2015 17:34
n-Butyl benzene	ND	120	250	07/20/2015 17:34
sec-Butyl benzene	ND	120	250	07/20/2015 17:34
tert-Butyl benzene	ND	120	250	07/20/2015 17:34
Carbon Disulfide	ND	120	250	07/20/2015 17:34
Carbon Tetrachloride	ND	120	250	07/20/2015 17:34
Chlorobenzene	ND	120	250	07/20/2015 17:34
Chloroethane	ND	120	250	07/20/2015 17:34
Chloroform	ND	120	250	07/20/2015 17:34
Chloromethane	ND	120	250	07/20/2015 17:34
2-Chlorotoluene	ND	120	250	07/20/2015 17:34
4-Chlorotoluene	ND	120	250	07/20/2015 17:34
Dibromochloromethane	ND	120	250	07/20/2015 17:34
1,2-Dibromo-3-chloropropane	ND	50	250	07/20/2015 17:34
1,2-Dibromoethane (EDB)	ND	120	250	07/20/2015 17:34
Dibromomethane	ND	120	250	07/20/2015 17:34
1,2-Dichlorobenzene	ND	120	250	07/20/2015 17:34
1,3-Dichlorobenzene	ND	120	250	07/20/2015 17:34
1,4-Dichlorobenzene	ND	120	250	07/20/2015 17:34
Dichlorodifluoromethane	ND	120	250	07/20/2015 17:34
1,1-Dichloroethane	ND	120	250	07/20/2015 17:34
1,2-Dichloroethane (1,2-DCA)	ND	120	250	07/20/2015 17:34
1,1-Dichloroethene	ND	120	250	07/20/2015 17:34
cis-1,2-Dichloroethene	6800	120	250	07/20/2015 17:34
trans-1,2-Dichloroethene	ND	120	250	07/20/2015 17:34
1,2-Dichloropropane	ND	120	250	07/20/2015 17:34
1,3-Dichloropropane	ND	120	250	07/20/2015 17:34
2,2-Dichloropropane	ND	120	250	07/20/2015 17:34
1,1-Dichloropropene	ND	120	250	07/20/2015 17:34

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-1	1507703-005B	Water	07/16/2015 13:15	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	120	250	07/20/2015 17:34
trans-1,3-Dichloropropene	ND	120	250	07/20/2015 17:34
Diisopropyl ether (DIPE)	ND	120	250	07/20/2015 17:34
Ethylbenzene	ND	120	250	07/20/2015 17:34
Ethyl tert-butyl ether (ETBE)	ND	120	250	07/20/2015 17:34
Freon 113	ND	120	250	07/20/2015 17:34
Hexachlorobutadiene	ND	120	250	07/20/2015 17:34
Hexachloroethane	ND	120	250	07/20/2015 17:34
2-Hexanone	ND	120	250	07/20/2015 17:34
Isopropylbenzene	ND	120	250	07/20/2015 17:34
4-Isopropyl toluene	ND	120	250	07/20/2015 17:34
Methyl-t-butyl ether (MTBE)	ND	120	250	07/20/2015 17:34
Methylene chloride	ND	120	250	07/20/2015 17:34
4-Methyl-2-pentanone (MIBK)	ND	120	250	07/20/2015 17:34
Naphthalene	ND	120	250	07/20/2015 17:34
n-Propyl benzene	ND	120	250	07/20/2015 17:34
Styrene	ND	120	250	07/20/2015 17:34
1,1,1,2-Tetrachloroethane	ND	120	250	07/20/2015 17:34
1,1,2,2-Tetrachloroethane	ND	120	250	07/20/2015 17:34
Tetrachloroethene	650	120	250	07/20/2015 17:34
Toluene	ND	120	250	07/20/2015 17:34
1,2,3-Trichlorobenzene	ND	120	250	07/20/2015 17:34
1,2,4-Trichlorobenzene	ND	120	250	07/20/2015 17:34
1,1,1-Trichloroethane	ND	120	250	07/20/2015 17:34
1,1,2-Trichloroethane	ND	120	250	07/20/2015 17:34
Trichloroethene	7800	120	250	07/20/2015 17:34
Trichlorofluoromethane	ND	120	250	07/20/2015 17:34
1,2,3-Trichloropropane	ND	120	250	07/20/2015 17:34
1,2,4-Trimethylbenzene	ND	120	250	07/20/2015 17:34
1,3,5-Trimethylbenzene	ND	120	250	07/20/2015 17:34
Vinyl Chloride	340	120	250	07/20/2015 17:34
Xylenes, Total	ND	120	250	07/20/2015 17:34

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-1	1507703-005B	Water	07/16/2015 13:15	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	117	70-130		07/20/2015 17:34
Toluene-d8	92	70-130		07/20/2015 17:34
4-BFB	101	70-130		07/20/2015 17:34

Analyst(s): KF



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-2	1507703-006B	Water	07/16/2015 16:40	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	330	33	07/20/2015 23:21
tert-Amyl methyl ether (TAME)	ND	17	33	07/20/2015 23:21
Benzene	ND	17	33	07/20/2015 23:21
Bromobenzene	ND	17	33	07/20/2015 23:21
Bromochloromethane	ND	17	33	07/20/2015 23:21
Bromodichloromethane	ND	17	33	07/20/2015 23:21
Bromoform	ND	17	33	07/20/2015 23:21
Bromomethane	ND	17	33	07/20/2015 23:21
2-Butanone (MEK)	ND	67	33	07/20/2015 23:21
t-Butyl alcohol (TBA)	ND	67	33	07/20/2015 23:21
n-Butyl benzene	ND	17	33	07/20/2015 23:21
sec-Butyl benzene	ND	17	33	07/20/2015 23:21
tert-Butyl benzene	ND	17	33	07/20/2015 23:21
Carbon Disulfide	ND	17	33	07/20/2015 23:21
Carbon Tetrachloride	ND	17	33	07/20/2015 23:21
Chlorobenzene	ND	17	33	07/20/2015 23:21
Chloroethane	ND	17	33	07/20/2015 23:21
Chloroform	ND	17	33	07/20/2015 23:21
Chloromethane	ND	17	33	07/20/2015 23:21
2-Chlorotoluene	ND	17	33	07/20/2015 23:21
4-Chlorotoluene	ND	17	33	07/20/2015 23:21
Dibromochloromethane	ND	17	33	07/20/2015 23:21
1,2-Dibromo-3-chloropropane	ND	6.7	33	07/20/2015 23:21
1,2-Dibromoethane (EDB)	ND	17	33	07/20/2015 23:21
Dibromomethane	ND	17	33	07/20/2015 23:21
1,2-Dichlorobenzene	ND	17	33	07/20/2015 23:21
1,3-Dichlorobenzene	ND	17	33	07/20/2015 23:21
1,4-Dichlorobenzene	ND	17	33	07/20/2015 23:21
Dichlorodifluoromethane	ND	17	33	07/20/2015 23:21
1,1-Dichloroethane	ND	17	33	07/20/2015 23:21
1,2-Dichloroethane (1,2-DCA)	ND	17	33	07/20/2015 23:21
1,1-Dichloroethene	ND	17	33	07/20/2015 23:21
cis-1,2-Dichloroethene	800	17	33	07/20/2015 23:21
trans-1,2-Dichloroethene	55	17	33	07/20/2015 23:21
1,2-Dichloropropane	ND	17	33	07/20/2015 23:21
1,3-Dichloropropane	ND	17	33	07/20/2015 23:21
2,2-Dichloropropane	ND	17	33	07/20/2015 23:21
1,1-Dichloropropene	ND	17	33	07/20/2015 23:21

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-2	1507703-006B	Water	07/16/2015 16:40	GC10	107912
Analytes	Result		RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND		17	33	07/20/2015 23:21
trans-1,3-Dichloropropene	ND		17	33	07/20/2015 23:21
Diisopropyl ether (DIPE)	ND		17	33	07/20/2015 23:21
Ethylbenzene	ND		17	33	07/20/2015 23:21
Ethyl tert-butyl ether (ETBE)	ND		17	33	07/20/2015 23:21
Freon 113	ND		17	33	07/20/2015 23:21
Hexachlorobutadiene	ND		17	33	07/20/2015 23:21
Hexachloroethane	ND		17	33	07/20/2015 23:21
2-Hexanone	ND		17	33	07/20/2015 23:21
Isopropylbenzene	ND		17	33	07/20/2015 23:21
4-Isopropyl toluene	ND		17	33	07/20/2015 23:21
Methyl-t-butyl ether (MTBE)	ND		17	33	07/20/2015 23:21
Methylene chloride	ND		17	33	07/20/2015 23:21
4-Methyl-2-pentanone (MIBK)	ND		17	33	07/20/2015 23:21
Naphthalene	ND		17	33	07/20/2015 23:21
n-Propyl benzene	ND		17	33	07/20/2015 23:21
Styrene	ND		17	33	07/20/2015 23:21
1,1,1,2-Tetrachloroethane	ND		17	33	07/20/2015 23:21
1,1,2,2-Tetrachloroethane	ND		17	33	07/20/2015 23:21
Tetrachloroethene	ND		17	33	07/20/2015 23:21
Toluene	ND		17	33	07/20/2015 23:21
1,2,3-Trichlorobenzene	ND		17	33	07/20/2015 23:21
1,2,4-Trichlorobenzene	ND		17	33	07/20/2015 23:21
1,1,1-Trichloroethane	ND		17	33	07/20/2015 23:21
1,1,2-Trichloroethane	ND		17	33	07/20/2015 23:21
Trichloroethene	ND		17	33	07/20/2015 23:21
Trichlorofluoromethane	ND		17	33	07/20/2015 23:21
1,2,3-Trichloropropane	ND		17	33	07/20/2015 23:21
1,2,4-Trimethylbenzene	ND		17	33	07/20/2015 23:21
1,3,5-Trimethylbenzene	ND		17	33	07/20/2015 23:21
Vinyl Chloride	600		17	33	07/20/2015 23:21
Xylenes, Total	ND		17	33	07/20/2015 23:21

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-2	1507703-006B	Water	07/16/2015 16:40	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	116	70-130		07/20/2015 23:21
Toluene-d8	93	70-130		07/20/2015 23:21
4-BFB	102	70-130		07/20/2015 23:21

Analyst(s): KF



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-3	1507703-007B	Water	07/15/2015 16:45	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	20	2	07/20/2015 21:59
tert-Amyl methyl ether (TAME)	ND	1.0	2	07/20/2015 21:59
Benzene	ND	1.0	2	07/20/2015 21:59
Bromobenzene	ND	1.0	2	07/20/2015 21:59
Bromochloromethane	ND	1.0	2	07/20/2015 21:59
Bromodichloromethane	ND	1.0	2	07/20/2015 21:59
Bromoform	ND	1.0	2	07/20/2015 21:59
Bromomethane	ND	1.0	2	07/20/2015 21:59
2-Butanone (MEK)	ND	4.0	2	07/20/2015 21:59
t-Butyl alcohol (TBA)	ND	4.0	2	07/20/2015 21:59
n-Butyl benzene	3.1	1.0	2	07/20/2015 21:59
sec-Butyl benzene	3.4	1.0	2	07/20/2015 21:59
tert-Butyl benzene	ND	1.0	2	07/20/2015 21:59
Carbon Disulfide	ND	1.0	2	07/20/2015 21:59
Carbon Tetrachloride	ND	1.0	2	07/20/2015 21:59
Chlorobenzene	ND	1.0	2	07/20/2015 21:59
Chloroethane	ND	1.0	2	07/20/2015 21:59
Chloroform	ND	1.0	2	07/20/2015 21:59
Chloromethane	ND	1.0	2	07/20/2015 21:59
2-Chlorotoluene	ND	1.0	2	07/20/2015 21:59
4-Chlorotoluene	ND	1.0	2	07/20/2015 21:59
Dibromochloromethane	ND	1.0	2	07/20/2015 21:59
1,2-Dibromo-3-chloropropane	ND	0.40	2	07/20/2015 21:59
1,2-Dibromoethane (EDB)	ND	1.0	2	07/20/2015 21:59
Dibromomethane	ND	1.0	2	07/20/2015 21:59
1,2-Dichlorobenzene	ND	1.0	2	07/20/2015 21:59
1,3-Dichlorobenzene	ND	1.0	2	07/20/2015 21:59
1,4-Dichlorobenzene	ND	1.0	2	07/20/2015 21:59
Dichlorodifluoromethane	ND	1.0	2	07/20/2015 21:59
1,1-Dichloroethane	ND	1.0	2	07/20/2015 21:59
1,2-Dichloroethane (1,2-DCA)	ND	1.0	2	07/20/2015 21:59
1,1-Dichloroethene	ND	1.0	2	07/20/2015 21:59
cis-1,2-Dichloroethene	9.8	1.0	2	07/20/2015 21:59
trans-1,2-Dichloroethene	1.4	1.0	2	07/20/2015 21:59
1,2-Dichloropropane	ND	1.0	2	07/20/2015 21:59
1,3-Dichloropropane	ND	1.0	2	07/20/2015 21:59
2,2-Dichloropropane	ND	1.0	2	07/20/2015 21:59
1,1-Dichloropropene	ND	1.0	2	07/20/2015 21:59

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-3	1507703-007B	Water	07/15/2015 16:45	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	1.0	2	07/20/2015 21:59
trans-1,3-Dichloropropene	ND	1.0	2	07/20/2015 21:59
Diisopropyl ether (DIPE)	ND	1.0	2	07/20/2015 21:59
Ethylbenzene	2.1	1.0	2	07/20/2015 21:59
Ethyl tert-butyl ether (ETBE)	ND	1.0	2	07/20/2015 21:59
Freon 113	ND	1.0	2	07/20/2015 21:59
Hexachlorobutadiene	ND	1.0	2	07/20/2015 21:59
Hexachloroethane	ND	1.0	2	07/20/2015 21:59
2-Hexanone	ND	1.0	2	07/20/2015 21:59
Isopropylbenzene	3.5	1.0	2	07/20/2015 21:59
4-Isopropyl toluene	1.2	1.0	2	07/20/2015 21:59
Methyl-t-butyl ether (MTBE)	ND	1.0	2	07/20/2015 21:59
Methylene chloride	ND	1.0	2	07/20/2015 21:59
4-Methyl-2-pentanone (MIBK)	ND	1.0	2	07/20/2015 21:59
Naphthalene	2.3	1.0	2	07/20/2015 21:59
n-Propyl benzene	6.2	1.0	2	07/20/2015 21:59
Styrene	ND	1.0	2	07/20/2015 21:59
1,1,1,2-Tetrachloroethane	ND	1.0	2	07/20/2015 21:59
1,1,2,2-Tetrachloroethane	ND	1.0	2	07/20/2015 21:59
Tetrachloroethene	ND	1.0	2	07/20/2015 21:59
Toluene	ND	1.0	2	07/20/2015 21:59
1,2,3-Trichlorobenzene	ND	1.0	2	07/20/2015 21:59
1,2,4-Trichlorobenzene	ND	1.0	2	07/20/2015 21:59
1,1,1-Trichloroethane	ND	1.0	2	07/20/2015 21:59
1,1,2-Trichloroethane	ND	1.0	2	07/20/2015 21:59
Trichloroethene	ND	1.0	2	07/20/2015 21:59
Trichlorofluoromethane	ND	1.0	2	07/20/2015 21:59
1,2,3-Trichloropropane	ND	1.0	2	07/20/2015 21:59
1,2,4-Trimethylbenzene	34	1.0	2	07/20/2015 21:59
1,3,5-Trimethylbenzene	15	1.0	2	07/20/2015 21:59
Vinyl Chloride	8.5	1.0	2	07/20/2015 21:59
Xylenes, Total	12	1.0	2	07/20/2015 21:59

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-3	1507703-007B	Water	07/15/2015 16:45	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	116	70-130		07/20/2015 21:59
Toluene-d8	95	70-130		07/20/2015 21:59
4-BFB	97	70-130		07/20/2015 21:59

Analyst(s): KF



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-4	1507703-008B	Water	07/16/2015 15:40	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	07/20/2015 16:08
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/20/2015 16:08
Benzene	ND	0.50	1	07/20/2015 16:08
Bromobenzene	ND	0.50	1	07/20/2015 16:08
Bromochloromethane	ND	0.50	1	07/20/2015 16:08
Bromodichloromethane	ND	0.50	1	07/20/2015 16:08
Bromoform	ND	0.50	1	07/20/2015 16:08
Bromomethane	ND	0.50	1	07/20/2015 16:08
2-Butanone (MEK)	ND	2.0	1	07/20/2015 16:08
t-Butyl alcohol (TBA)	ND	2.0	1	07/20/2015 16:08
n-Butyl benzene	ND	0.50	1	07/20/2015 16:08
sec-Butyl benzene	ND	0.50	1	07/20/2015 16:08
tert-Butyl benzene	ND	0.50	1	07/20/2015 16:08
Carbon Disulfide	ND	0.50	1	07/20/2015 16:08
Carbon Tetrachloride	ND	0.50	1	07/20/2015 16:08
Chlorobenzene	ND	0.50	1	07/20/2015 16:08
Chloroethane	ND	0.50	1	07/20/2015 16:08
Chloroform	ND	0.50	1	07/20/2015 16:08
Chloromethane	ND	0.50	1	07/20/2015 16:08
2-Chlorotoluene	ND	0.50	1	07/20/2015 16:08
4-Chlorotoluene	ND	0.50	1	07/20/2015 16:08
Dibromochloromethane	ND	0.50	1	07/20/2015 16:08
1,2-Dibromo-3-chloropropane	ND	0.20	1	07/20/2015 16:08
1,2-Dibromoethane (EDB)	ND	0.50	1	07/20/2015 16:08
Dibromomethane	ND	0.50	1	07/20/2015 16:08
1,2-Dichlorobenzene	ND	0.50	1	07/20/2015 16:08
1,3-Dichlorobenzene	ND	0.50	1	07/20/2015 16:08
1,4-Dichlorobenzene	ND	0.50	1	07/20/2015 16:08
Dichlorodifluoromethane	ND	0.50	1	07/20/2015 16:08
1,1-Dichloroethane	ND	0.50	1	07/20/2015 16:08
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	07/20/2015 16:08
1,1-Dichloroethene	ND	0.50	1	07/20/2015 16:08
cis-1,2-Dichloroethene	0.97	0.50	1	07/20/2015 16:08
trans-1,2-Dichloroethene	ND	0.50	1	07/20/2015 16:08
1,2-Dichloropropane	ND	0.50	1	07/20/2015 16:08
1,3-Dichloropropane	ND	0.50	1	07/20/2015 16:08
2,2-Dichloropropane	ND	0.50	1	07/20/2015 16:08
1,1-Dichloropropene	ND	0.50	1	07/20/2015 16:08

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-4	1507703-008B	Water	07/16/2015 15:40	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.50	1	07/20/2015 16:08
trans-1,3-Dichloropropene	ND	0.50	1	07/20/2015 16:08
Diisopropyl ether (DIPE)	ND	0.50	1	07/20/2015 16:08
Ethylbenzene	ND	0.50	1	07/20/2015 16:08
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/20/2015 16:08
Freon 113	ND	0.50	1	07/20/2015 16:08
Hexachlorobutadiene	ND	0.50	1	07/20/2015 16:08
Hexachloroethane	ND	0.50	1	07/20/2015 16:08
2-Hexanone	ND	0.50	1	07/20/2015 16:08
Isopropylbenzene	ND	0.50	1	07/20/2015 16:08
4-Isopropyl toluene	ND	0.50	1	07/20/2015 16:08
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/20/2015 16:08
Methylene chloride	ND	0.50	1	07/20/2015 16:08
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	07/20/2015 16:08
Naphthalene	ND	0.50	1	07/20/2015 16:08
n-Propyl benzene	ND	0.50	1	07/20/2015 16:08
Styrene	ND	0.50	1	07/20/2015 16:08
1,1,1,2-Tetrachloroethane	ND	0.50	1	07/20/2015 16:08
1,1,2,2-Tetrachloroethane	ND	0.50	1	07/20/2015 16:08
Tetrachloroethene	1.8	0.50	1	07/20/2015 16:08
Toluene	ND	0.50	1	07/20/2015 16:08
1,2,3-Trichlorobenzene	ND	0.50	1	07/20/2015 16:08
1,2,4-Trichlorobenzene	ND	0.50	1	07/20/2015 16:08
1,1,1-Trichloroethane	ND	0.50	1	07/20/2015 16:08
1,1,2-Trichloroethane	ND	0.50	1	07/20/2015 16:08
Trichloroethene	2.1	0.50	1	07/20/2015 16:08
Trichlorofluoromethane	ND	0.50	1	07/20/2015 16:08
1,2,3-Trichloropropane	ND	0.50	1	07/20/2015 16:08
1,2,4-Trimethylbenzene	ND	0.50	1	07/20/2015 16:08
1,3,5-Trimethylbenzene	ND	0.50	1	07/20/2015 16:08
Vinyl Chloride	ND	0.50	1	07/20/2015 16:08
Xylenes, Total	ND	0.50	1	07/20/2015 16:08

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Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/20/15

WorkOrder: 1507703
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	Date Collected	Instrument	Batch ID
DP-4	1507703-008B	Water	07/16/2015 15:40	GC10	107912

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	115	70-130		07/20/2015 16:08
Toluene-d8	93	70-130		07/20/2015 16:08
4-BFB	101	70-130		07/20/2015 16:08

Analyst(s): KF



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/21/15-7/22/15

WorkOrder: 1507703
Extraction Method: SW5030B
Analytical Method: SW8015Bm
Unit: µg/L

Gasoline (C6-C12) & stoddard Solvent (C9-C12) Range Volatile Hydrocarbons

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1507703-001A	Water	07/15/2015 15:40	GC3	107913

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	07/21/2015 04:41
MTBE	---	5.0	1	07/21/2015 04:41
Benzene	---	0.50	1	07/21/2015 04:41
Toluene	---	0.50	1	07/21/2015 04:41
Ethylbenzene	---	0.50	1	07/21/2015 04:41
TPH(ss)	ND	50	1	07/21/2015 04:41
Xylenes	---	0.50	1	07/21/2015 04:41

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	110	70-130	07/21/2015 04:41

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1507703-002A	Water	07/16/2015 14:20	GC3	107960

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	1200	50	1	07/21/2015 16:54
MTBE	---	5.0	1	07/21/2015 16:54
Benzene	---	0.50	1	07/21/2015 16:54
Toluene	---	0.50	1	07/21/2015 16:54
Ethylbenzene	---	0.50	1	07/21/2015 16:54
TPH(ss)	1400	50	1	07/21/2015 16:54
Xylenes	---	0.50	1	07/21/2015 16:54

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	109	70-130	07/21/2015 16:54

Analyst(s): IA

Analytical Comments: d5,d6



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/21/15-7/22/15

WorkOrder: 1507703
Extraction Method: SW5030B
Analytical Method: SW8015Bm
Unit: µg/L

Gasoline (C6-C12) & stoddard Solvent (C9-C12) Range Volatile Hydrocarbons

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1507703-003A	Water	07/15/2015 14:20	GC3	107960

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	07/21/2015 20:32
MTBE	---	5.0	1	07/21/2015 20:32
Benzene	---	0.50	1	07/21/2015 20:32
Toluene	---	0.50	1	07/21/2015 20:32
Ethylbenzene	---	0.50	1	07/21/2015 20:32
TPH(ss)	ND	50	1	07/21/2015 20:32
Xylenes	---	0.50	1	07/21/2015 20:32

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	108	70-130	07/21/2015 20:32

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1507703-004A	Water	07/15/2015 13:30	GC3	107960

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	07/21/2015 21:02
MTBE	---	5.0	1	07/21/2015 21:02
Benzene	---	0.50	1	07/21/2015 21:02
Toluene	---	0.50	1	07/21/2015 21:02
Ethylbenzene	---	0.50	1	07/21/2015 21:02
TPH(ss)	ND	50	1	07/21/2015 21:02
Xylenes	---	0.50	1	07/21/2015 21:02

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	109	70-130	07/21/2015 21:02

Analyst(s): IA

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/21/15-7/22/15

WorkOrder: 1507703
Extraction Method: SW5030B
Analytical Method: SW8015Bm
Unit: µg/L

Gasoline (C6-C12) & stoddard Solvent (C9-C12) Range Volatile Hydrocarbons

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-1	1507703-005A	Water	07/16/2015 13:15	GC3	107960

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	970	50	1	07/21/2015 21:33
MTBE	---	20	1	07/21/2015 21:33
Benzene	---	0.50	1	07/21/2015 21:33
Toluene	---	0.50	1	07/21/2015 21:33
Ethylbenzene	---	0.50	1	07/21/2015 21:33
TPH(ss)	350	50	1	07/21/2015 21:33
Xylenes	---	0.50	1	07/21/2015 21:33

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	2937	S	70-130	07/21/2015 21:33

Analyst(s): IA

Analytical Comments: d6,d5,d17,c4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-2	1507703-006A	Water	07/16/2015 16:40	GC3	107960

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	670	50	1	07/21/2015 22:03
MTBE	---	90	1	07/21/2015 22:03
Benzene	---	0.50	1	07/21/2015 22:03
Toluene	---	0.50	1	07/21/2015 22:03
Ethylbenzene	---	0.50	1	07/21/2015 22:03
TPH(ss)	580	50	1	07/21/2015 22:03
Xylenes	---	0.50	1	07/21/2015 22:03

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	150	S	70-130	07/21/2015 22:03

Analyst(s): IA

Analytical Comments: d5,d6,d17,c4

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/21/15-7/22/15

WorkOrder: 1507703
Extraction Method: SW5030B
Analytical Method: SW8015Bm
Unit: µg/L

Gasoline (C6-C12) & stoddard Solvent (C9-C12) Range Volatile Hydrocarbons

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-3	1507703-007A	Water	07/15/2015 16:45	GC3	107960

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	1200	50	1	07/21/2015 22:33
MTBE	---	10	1	07/21/2015 22:33
Benzene	---	0.50	1	07/21/2015 22:33
Toluene	---	0.50	1	07/21/2015 22:33
Ethylbenzene	---	0.50	1	07/21/2015 22:33
TPH(ss)	1400	50	1	07/21/2015 22:33
Xylenes	---	0.50	1	07/21/2015 22:33

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	119	70-130	07/21/2015 22:33

Analyst(s): IA

Analytical Comments: d5,d6,d17

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-4	1507703-008A	Water	07/16/2015 15:40	GC3	107960

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	07/22/2015 17:31
MTBE	---	5.0	1	07/22/2015 17:31
Benzene	---	0.50	1	07/22/2015 17:31
Toluene	---	0.50	1	07/22/2015 17:31
Ethylbenzene	---	0.50	1	07/22/2015 17:31
TPH(ss)	ND	50	1	07/22/2015 17:31
Xylenes	---	0.50	1	07/22/2015 17:31

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	140	S	70-130	07/22/2015 17:31

Analyst(s): IA



Analytical Report

Client: P & D Environmental
Date Received: 7/17/15 20:13
Date Prepared: 7/28/15
Project: #0298; Snow Cleaners

WorkOrder: 1507703
Extraction Method: RSK175
Analytical Method: RSK175
Unit: µg/L

Carbon Dioxide

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1507703-001C	Water	07/15/2015 15:40	GC26	108285

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	22,000	1000	20	07/28/2015 15:30

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1507703-002C	Water	07/16/2015 14:20	GC26	108285

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	35,000	1000	20	07/28/2015 15:44

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1507703-003C	Water	07/15/2015 14:20	GC26	108285

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	6200	1000	20	07/28/2015 15:59

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1507703-004C	Water	07/15/2015 13:30	GC26	108285

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	14,000	1000	20	07/28/2015 16:11

Analyst(s): AK

(Cont.)



Analytical Report

Client: P & D Environmental
Date Received: 7/17/15 20:13
Date Prepared: 7/28/15
Project: #0298; Snow Cleaners

WorkOrder: 1507703
Extraction Method: RSK175
Analytical Method: RSK175
Unit: µg/L

Carbon Dioxide

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-1	1507703-005C	Water	07/16/2015 13:15	GC26	108285

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	13,000	1000	20	07/28/2015 16:23

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-2	1507703-006C	Water	07/16/2015 16:40	GC26	108285

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	25,000	1000	20	07/28/2015 16:34

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-3	1507703-007C	Water	07/15/2015 16:45	GC26	108285

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	37,000	1000	20	07/28/2015 16:46

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-4	1507703-008C	Water	07/16/2015 15:40	GC26	108285

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	12,000	1000	20	07/28/2015 16:57

Analyst(s): AK



Analytical Report

Client: P & D Environmental
Date Received: 7/17/15 20:13
Date Prepared: 7/29/15
Project: #0298; Snow Cleaners

WorkOrder: 1507703
Extraction Method: RSK175
Analytical Method: RSK175
Unit: µg/L

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1507703-001D	Water	07/15/2015 15:40	GC26	108286

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Ethane	ND		0.20	1	07/29/2015 08:32
Ethylene	ND		0.30	1	07/29/2015 08:32
Methane	0.13	B	0.10	1	07/29/2015 08:32

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1507703-002D	Water	07/16/2015 14:20	GC26	108286

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Ethane	ND		0.20	1	07/29/2015 08:43
Ethylene	0.33		0.30	1	07/29/2015 08:43
Methane	680	B	2.0	20	07/29/2015 08:57

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1507703-003D	Water	07/15/2015 14:20	GC26	108286

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Ethane	ND		0.20	1	07/29/2015 09:09
Ethylene	ND		0.30	1	07/29/2015 09:09
Methane	0.30	B	0.10	1	07/29/2015 09:09

Analyst(s): AK

(Cont.)



Analytical Report

Client: P & D Environmental
Date Received: 7/17/15 20:13
Date Prepared: 7/29/15
Project: #0298; Snow Cleaners

WorkOrder: 1507703
Extraction Method: RSK175
Analytical Method: RSK175
Unit: µg/L

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1507703-004D	Water	07/15/2015 13:30	GC26	108286

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Ethane	ND		0.20	1	07/29/2015 09:37
Ethylene	ND		0.30	1	07/29/2015 09:37
Methane	0.14	B	0.10	1	07/29/2015 09:37

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-1	1507703-005D	Water	07/16/2015 13:15	GC26	108286

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Ethane	2.6		0.20	1	07/29/2015 09:50
Ethylene	14		0.30	1	07/29/2015 09:50
Methane	530	B	1.0	10	07/29/2015 10:03

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-2	1507703-006D	Water	07/16/2015 16:40	GC26	108286

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Ethane	ND		0.20	1	07/29/2015 10:23
Ethylene	48		0.30	1	07/29/2015 10:23
Methane	960	B	2.0	20	07/29/2015 10:35

Analyst(s): AK

(Cont.)



Analytical Report

Client: P & D Environmental
Date Received: 7/17/15 20:13
Date Prepared: 7/29/15
Project: #0298; Snow Cleaners

WorkOrder: 1507703
Extraction Method: RSK175
Analytical Method: RSK175
Unit: µg/L

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-3	1507703-007D	Water	07/15/2015 16:45	GC26	108286

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Ethane	ND		0.20	1	07/29/2015 10:56
Ethylene	ND		0.30	1	07/29/2015 10:56
Methane	930	B	2.0	20	07/29/2015 11:07

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-4	1507703-008D	Water	07/16/2015 15:40	GC26	108286

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Ethane	ND		0.20	1	07/29/2015 11:24
Ethylene	ND		0.30	1	07/29/2015 11:24
Methane	0.84	B	0.10	1	07/29/2015 11:24

Analyst(s): AK



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/17/15

WorkOrder: 1507703
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1507703-001A	Water	07/15/2015 15:40	GC6B	107820

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	07/20/2015 16:21
TPH-Bunker Oil (C10-C36)	130	100	1	07/20/2015 16:21

Surrogates	REC (%)	Limits	Date Analyzed
C9	94	70-130	07/20/2015 16:21

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1507703-002A	Water	07/16/2015 14:20	GC6B	107820

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	730	50	1	07/20/2015 18:54
TPH-Bunker Oil (C10-C36)	840	100	1	07/20/2015 18:54

Surrogates	REC (%)	Limits	Date Analyzed
C9	97	70-130	07/20/2015 18:54

Analyst(s): TK

Analytical Comments: e11/e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1507703-003A	Water	07/15/2015 14:20	GC6B	107820

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	07/20/2015 21:23
TPH-Bunker Oil (C10-C36)	ND	100	1	07/20/2015 21:23

Surrogates	REC (%)	Limits	Date Analyzed
C9	96	70-130	07/20/2015 21:23

Analyst(s): TK

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/17/15

WorkOrder: 1507703
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1507703-004A	Water	07/15/2015 13:30	GC6B	107820

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND	50	1	07/21/2015 01:00
TPH-Bunker Oil (C10-C36)	ND	100	1	07/21/2015 01:00

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	93	70-130	07/21/2015 01:00

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-1	1507703-005A	Water	07/16/2015 13:15	GC6B	107820

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	190	50	1	07/21/2015 03:24
TPH-Bunker Oil (C10-C36)	280	100	1	07/21/2015 03:24

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	92	70-130	07/21/2015 03:24

Analyst(s): TK

Analytical Comments: e11/e4,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-2	1507703-006A	Water	07/16/2015 16:40	GC6B	107820

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	390	50	1	07/21/2015 05:47
TPH-Bunker Oil (C10-C36)	480	100	1	07/21/2015 05:47

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	96	70-130	07/21/2015 05:47

Analyst(s): TK

Analytical Comments: e11/e4,e2

(Cont.)



Analytical Report

Client: P & D Environmental
Project: #0298; Snow Cleaners
Date Received: 7/17/15 20:13
Date Prepared: 7/17/15

WorkOrder: 1507703
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-3	1507703-007A	Water	07/15/2015 16:45	GC6B	107820

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	1000	50	1	07/21/2015 08:11
TPH-Bunker Oil (C10-C36)	1700	100	1	07/21/2015 08:11

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	96	70-130	07/21/2015 08:11

Analyst(s): TK Analytical Comments: e11/e4,e2,e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DP-4	1507703-008A	Water	07/16/2015 15:40	GC6B	107820

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND	50	1	07/20/2015 17:38
TPH-Bunker Oil (C10-C36)	110	100	1	07/20/2015 17:38

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	93	70-130	07/20/2015 17:38

Analyst(s): TK



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/20/15
Date Analyzed: 7/20/15
Instrument: GC10
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1507703
BatchID: 107912
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-107912
 1507703-003BMS/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	8.87	0.50	10	-	88.7	54-140
Benzene	ND	9.62	0.50	10	-	96.2	47-158
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	37.4	2.0	40	-	93.5	42-140
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	9.33	0.50	10	-	93.3	43-157
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	9.25	0.50	10	-	92.5	44-155
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	9.68	0.50	10	-	96.8	66-125
1,1-Dichloroethene	ND	9.40	0.50	10	-	94	47-149
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: 7/20/15
Date Analyzed: 7/20/15
Instrument: GC10
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1507703
BatchID: 107912
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-107912
 1507703-003BMS/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	9.60	0.50	10	-	96	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	9.38	0.50	10	-	93.8	55-137
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	9.29	0.50	10	-	92.9	53-139
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	8.93	0.50	10	-	89.3	52-137
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	9.14	0.50	10	-	91.4	43-157
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	29.0	29.4		25	116	117	70-130
Toluene-d8	23.6	23.4		25	94	94	70-130
4-BFB	2.58	2.64		2.5	103	106	70-130

(Cont.)



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/20/15
Date Analyzed: 7/20/15
Instrument: GC10
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1507703
BatchID: 107912
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-107912
 1507703-003BMS/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)	9.45	9.55	10	ND	94.5	95.5	69-139	0.994	20
Benzene	10.2	10.2	10	ND	102	102	69-141	0	20
t-Butyl alcohol (TBA)	43.0	36.0	40	ND	107	89.9	41-152	17.9	20
Chlorobenzene	9.49	9.56	10	ND	94.9	95.6	77-120	0.697	20
1,2-Dibromoethane (EDB)	9.89	9.88	10	ND	98.9	98.8	76-135	0.0670	20
1,2-Dichloroethane (1,2-DCA)	10.3	10.6	10	ND	103	106	73-139	2.54	20
1,1-Dichloroethene	9.91	10.0	10	ND	99.1	100	59-140	0.860	20
Diisopropyl ether (DIPE)	10.3	10.3	10	ND	103	103	72-140	0	20
Ethyl tert-butyl ether (ETBE)	10.2	10.2	10	ND	102	102	71-140	0	20
Methyl-t-butyl ether (MTBE)	10.3	10.3	10	ND	103	103	73-139	0	20
Toluene	9.19	9.05	10	ND	91.9	90.5	71-128	1.57	20
Trichloroethene	9.45	9.53	10	ND	94.5	95.3	64-132	0.783	20

Surrogate Recovery

Dibromofluoromethane	29.4	29.8	25		117	119	70-130	1.47	20
Toluene-d8	23.5	23.0	25		94	92	70-130	2.15	20
4-BFB	2.39	2.46	2.5		96	98	70-130	2.76	20



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/20/15 - 7/21/15
Date Analyzed: 7/20/15 - 7/21/15
Instrument: GC3
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1507703
BatchID: 107913
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-107913
 1507705-006AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	66.1	40	60	-	110	70-130
MTBE	ND	12.2	5.0	10	-	122	70-130
Benzene	ND	11.4	0.50	10	-	114	70-130
Toluene	ND	11.5	0.50	10	-	115	70-130
Ethylbenzene	ND	11.4	0.50	10	-	114	70-130
Xylenes	ND	34.6	0.50	30	-	115	70-130
Surrogate Recovery							
aaa-TFT	10.8	10.5		10	108	105	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	62.6	59.6	60	ND	104	99.3	70-130	4.84	20
MTBE	12.4	12.6	10	ND	124	126	70-130	0.962	20
Benzene	11.2	11.0	10	ND	112	109	70-130	2.35	20
Toluene	11.3	10.9	10	ND	113	109	70-130	4.19	20
Ethylbenzene	11.2	10.7	10	ND	111	106	70-130	4.45	20
Xylenes	33.7	32.4	30	ND	111	107	70-130	4.14	20
Surrogate Recovery									
aaa-TFT	10.6	10.3	10		106	103	70-130	2.88	20

(Cont.)



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/21/15
Date Analyzed: 7/21/15
Instrument: GC3
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1507703
BatchID: 107960
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-107960
 1507703-003AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	59.9	40	60	-	99.8	70-130
MTBE	ND	11.7	5.0	10	-	117	70-130
Benzene	ND	10.6	0.50	10	-	106	70-130
Toluene	ND	10.5	0.50	10	-	105	70-130
Ethylbenzene	ND	10.3	0.50	10	-	103	70-130
Xylenes	ND	31.6	0.50	30	-	105	70-130
Surrogate Recovery							
aaa-TFT	10.9	10.3		10	109	103	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	55.9	58.4	60	ND	93.2	97.4	70-130	4.37	20
MTBE	11.1	11.0	10	ND	111	110	70-130	0.736	20
Benzene	10.3	10.2	10	ND	103	102	70-130	0.718	20
Toluene	10.2	10.0	10	ND	102	100	70-130	1.56	20
Ethylbenzene	9.92	9.85	10	ND	99.2	98.5	70-130	0.671	20
Xylenes	30.1	29.9	30	ND	100	99.8	70-130	0.652	20
Surrogate Recovery									
aaa-TFT	10.4	10.5	10		104	105	70-130	0.486	20



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/28/15
Date Analyzed: 7/28/15
Instrument: GC26
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1507703
BatchID: 108285
Extraction Method: RSK175
Analytical Method: RSK175
Unit: µg/L
Sample ID: MB/LCS-108285

QC Summary Report for RSK174/175

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Carbon Dioxide	ND	185	50	187.2	-	98.8	70-130



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/29/15
Date Analyzed: 7/29/15
Instrument: GC26
Matrix: Air
Project: #0298; Snow Cleaners

WorkOrder: 1507703
BatchID: 108286
Extraction Method: RSK175
Analytical Method: RSK175
Unit: µL/L
Sample ID: MB/LCS-108286

QC Summary Report for RSK175

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethane	ND	10.5	0.50	10	-	105	70-130
Ethylene	ND	7.21	0.50	10	-	72.1	70-130
Methane	0.892	9.52	0.50	10	-	86.2	70-130



Quality Control Report

Client: P & D Environmental
Date Prepared: 7/17/15
Date Analyzed: 7/20/15
Instrument: GC11B
Matrix: Water
Project: #0298; Snow Cleaners

WorkOrder: 1507703
BatchID: 107820
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-107820

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	994	50	1000	-	99.4	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	624	625		625	100	100	70-134

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



CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507703

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/3rd Party:
 PO:
 ProjectNo: #0298; Snow Cleaners

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

Requested TAT: 5 days;

Date Received: 07/17/2015
Date Printed: 07/17/2015

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	
1507703-001	MW-1	Water	7/15/2015 15:40	<input type="checkbox"/>	B	A	C	D	A								
1507703-002	MW-2	Water	7/16/2015 14:20	<input type="checkbox"/>	B	A	C	D	A								
1507703-003	MW-3	Water	7/15/2015 14:20	<input type="checkbox"/>	B	A	C	D	A								
1507703-004	MW-4	Water	7/15/2015 13:30	<input type="checkbox"/>	B	A	C	D	A								
1507703-005	DP-1	Water	7/16/2015 13:15	<input type="checkbox"/>	B	A	C	D	A								
1507703-006	DP-2	Water	7/16/2015 16:40	<input type="checkbox"/>	B	A	C	D	A								
1507703-007	DP-3	Water	7/15/2015 16:45	<input type="checkbox"/>	B	A	C	D	A								
1507703-008	DP-4	Water	7/16/2015 15:40	<input type="checkbox"/>	B	A	C	D	A								

Test Legend:

1	8260B_W	2	G-MBTEx_W	3	RSK175_CO2_W	4	RSK175_W	5	TPH_W
6		7		8		9		10	
11		12							

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A contain testgroup.

Prepared by: Jena Alfaro

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: 1507703

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 7/17/2015

Comments:

Contact's Email: lab@pdenviro.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507703-001A	MW-1	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA	<input type="checkbox"/>	7/15/2015 15:40	5 days	None	<input type="checkbox"/>	
1507703-001B	MW-1	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	7/15/2015 15:40	5 days	None	<input type="checkbox"/>	
1507703-001C	MW-1	Water	RSK175 (CO2)	2	VOA	<input type="checkbox"/>	7/15/2015 15:40	5 days	None	<input type="checkbox"/>	
1507703-001D	MW-1	Water	RSK175 <Ethane_4, Ethylene_4, Methane_4>	2	aVOA w/ H2SO4	<input type="checkbox"/>	7/15/2015 15:40	5 days	None	<input type="checkbox"/>	
1507703-002A	MW-2	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA	<input type="checkbox"/>	7/16/2015 14:20	5 days	None	<input type="checkbox"/>	
1507703-002B	MW-2	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	7/16/2015 14:20	5 days	None	<input type="checkbox"/>	
1507703-002C	MW-2	Water	RSK175 (CO2)	2	VOA	<input type="checkbox"/>	7/16/2015 14:20	5 days	None	<input type="checkbox"/>	
1507703-002D	MW-2	Water	RSK175 <Ethane_4, Ethylene_4, Methane_4>	2	aVOA w/ H2SO4	<input type="checkbox"/>	7/16/2015 14:20	5 days	None	<input type="checkbox"/>	
1507703-003A	MW-3	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA	<input type="checkbox"/>	7/15/2015 14:20	5 days	Present	<input type="checkbox"/>	
1507703-003B	MW-3	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	7/15/2015 14:20	5 days	Present	<input type="checkbox"/>	
1507703-003C	MW-3	Water	RSK175 (CO2)	2	VOA	<input type="checkbox"/>	7/15/2015 14:20	5 days	Present	<input type="checkbox"/>	
1507703-003D	MW-3	Water	RSK175 <Ethane_4, Ethylene_4, Methane_4>	2	aVOA w/ H2SO4	<input type="checkbox"/>	7/15/2015 14:20	5 days	Present	<input type="checkbox"/>	
1507703-004A	MW-4	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA	<input type="checkbox"/>	7/15/2015 13:30	5 days	None	<input type="checkbox"/>	
1507703-004B	MW-4	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	7/15/2015 13:30	5 days	None	<input type="checkbox"/>	
1507703-004C	MW-4	Water	RSK175 (CO2)	2	VOA	<input type="checkbox"/>	7/15/2015 13:30	5 days	None	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: P & D ENVIRONMENTAL

QC Level: LEVEL 2

Work Order: 1507703

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 7/17/2015

Comments:

Contact's Email: lab@pdenviro.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507703-004D	MW-4	Water	RSK175 <Ethane_4, Ethylene_4, Methane_4>	2	aVOA w/ H2SO4	<input type="checkbox"/>	7/15/2015 13:30	5 days	None	<input type="checkbox"/>	
1507703-005A	DP-1	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA	<input type="checkbox"/>	7/16/2015 13:15	5 days	None	<input type="checkbox"/>	
1507703-005B	DP-1	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	7/16/2015 13:15	5 days	None	<input type="checkbox"/>	
1507703-005C	DP-1	Water	RSK175 (CO2)	2	VOA	<input type="checkbox"/>	7/16/2015 13:15	5 days	None	<input type="checkbox"/>	
1507703-005D	DP-1	Water	RSK175 <Ethane_4, Ethylene_4, Methane_4>	2	aVOA w/ H2SO4	<input type="checkbox"/>	7/16/2015 13:15	5 days	None	<input type="checkbox"/>	
1507703-006A	DP-2	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA	<input type="checkbox"/>	7/16/2015 16:40	5 days	Trace	<input type="checkbox"/>	
1507703-006B	DP-2	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	7/16/2015 16:40	5 days	Trace	<input type="checkbox"/>	
1507703-006C	DP-2	Water	RSK175 (CO2)	2	VOA	<input type="checkbox"/>	7/16/2015 16:40	5 days	Trace	<input type="checkbox"/>	
1507703-006D	DP-2	Water	RSK175 <Ethane_4, Ethylene_4, Methane_4>	2	aVOA w/ H2SO4	<input type="checkbox"/>	7/16/2015 16:40	5 days	Trace	<input type="checkbox"/>	
1507703-007A	DP-3	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA	<input type="checkbox"/>	7/15/2015 16:45	5 days	Trace	<input type="checkbox"/>	
1507703-007B	DP-3	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	7/15/2015 16:45	5 days	Trace	<input type="checkbox"/>	
1507703-007C	DP-3	Water	RSK175 (CO2)	2	VOA	<input type="checkbox"/>	7/15/2015 16:45	5 days	Trace	<input type="checkbox"/>	
1507703-007D	DP-3	Water	RSK175 <Ethane_4, Ethylene_4, Methane_4>	2	aVOA w/ H2SO4	<input type="checkbox"/>	7/15/2015 16:45	5 days	Trace	<input type="checkbox"/>	
1507703-008A	DP-4	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA	<input type="checkbox"/>	7/16/2015 15:40	5 days		<input type="checkbox"/>	
1507703-008B	DP-4	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	7/16/2015 15:40	5 days		<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: P & D ENVIRONMENTAL

QC Level: LEVEL 2

Work Order: 1507703

Project: #0298; Snow Cleaners

Client Contact: Paul King

Date Received: 7/17/2015

Comments:

Contact's Email: lab@pdenviro.com

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507703-008C	DP-4	Water	RSK175 (CO2)	2	VOA	<input type="checkbox"/>	7/16/2015 15:40	5 days		<input type="checkbox"/>	
1507703-008D	DP-4	Water	RSK175 <Ethane_4, Ethylene_4, Methane_4>	2	aVOA w/ H2SO4	<input type="checkbox"/>	7/16/2015 15:40	5 days		<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

CHAIN OF CUSTODY RECORD

P&D ENVIRONMENTAL, INC.

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

1807703

PROJECT NUMBER:

0298

PROJECT NAME:

Snow Cleaners
2678 Coolidge Ave
Oakland, CA

SAMPLED BY: (PRINTED & SIGNATURE)

Steve Carmack

NUMBER OF CONTAINERS

ANALYSIS(ES):

TPH-Multi-range (G, P, SS, B, O)

VOCs by EPA 8260B

Methane, Ethane, Ethene, Ethyne, CO2 by PSK 175

PRESERVATIVE

REMARKS

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	TPH-Multi-range (G, P, SS, B, O)	VOCs by EPA 8260B	Methane, Ethane, Ethene, Ethyne, CO2 by PSK 175	PRESERVATIVE	REMARKS
MW-1	7/15/15	1540	H ₂ O		10	X	X	X	ICE	Normal Turnaround Time
MW-2	7/16/15	1420			10	X	X	X		
MW-3	7/15/15	1420			10	X	X	X		
MW-4	↓	1330			10	X	X	X		
DP-1	7/16/15	1315			10	X	X	X		
DP-2	↓	1640			10	X	X	X		
DP-3	7/15/15	1645			10	X	X	X		
DP-4	7/16/15	1540								

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	Total No. of Samples (This Shipment)	8	LABORATORY:
	7/15	1635		Total No. of Containers (This Shipment)	80	McCampbell Analytical, Inc.
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT: LABORATORY PHONE NUMBER:		
	7/12/15	1825		Angela Fydelius (877) 252-9262		
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES (X) NO		
				() YES (X) NO		

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

REMARKS: Each Bottle Set: 4 HCL Voas; 2 clear NP Voas; 2 NP amber Voas; + 2 HgSO₄ Voas



Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **7/17/2015 8:13:36 PM**
 Project Name: **#0298; Snow Cleaners** Login Reviewed by: **Jena Alfaro**
 WorkOrder No: **1507703** 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
 Sample/Temp Blank temperature Temp: 3°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No NA
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes No NA

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

 Comments:

APPENDIX F

SiREM Guidelines For Interpretation of Gene-Trac® Test Results

SiREM Technical Note 1.5:

Guidelines for Interpretation of Gene-Trac® Test Results

This document provides technical background information and guidelines for interpreting the results for the following Gene-Trac® assays:

- (1) Gene-Trac® Dhc
- (2) Gene-Trac® VC
- (3) Gene-Trac® Dhb

SiREM Technical Note 1.4 - *Quantitative Gene-Trac® Assay Test Procedure and Reporting Overview* provides detailed information on Gene-Trac® test procedures and reporting. Explanation of data qualifiers and commonly used notes is provided as Appendix A. Table 1 provides a brief interpretation for some common scenarios, more detailed interpretation information is provided in the following sections.

Table 1: Common Gene-Trac® Test Result Scenarios and Interpretation

Gene-Trac® Dhc (<i>Dehalococcoides</i>)	Gene-Trac® VC (<i>vcrA</i>)	Gene-Trac® Dhb (<i>Dehalobacter</i>)	Interpretation
>1 x10 ⁷ /L	>1 x10 ⁷ /L	Not Analyzed	Complete dechlorination to ethene likely as Dhc high and <i>vcrA</i> high
1 x10 ⁷ /L	Not Detected	Not Analyzed	VC accumulation possible as <i>vcrA</i> negative
Not Detected	Not Detected	Not Analyzed	Dhc negative/ lack of dechlorination or <i>cis</i> -DCE accumulation likely
Not Analyzed	Not Analyzed	1 x10 ⁶ /L	Dhb positive, potential for biodegradation of 1,1,1-TCA, 1,2-DCA, carbon tetrachloride and chloroform, PCE and TCE to <i>cis</i> -DCE
Not Analyzed	Not Analyzed	Not Detected	Biodegradation of 1,1,1-TCA, carbon tetrachloride and chloroform not expected as Dhb negative

Gene-Trac[®] Dhc -Total *Dehalococcoides* Test

Background:

Gene-Trac[®] Dhc is a quantitative PCR (qPCR) test for total *Dehalococcoides* (Dhc) microbes that targets Dhc specific sequences of the 16S ribosomal ribonucleic acid (rRNA) gene, a gene commonly used to identify microbes. Dhc are the only known microorganisms capable of complete dechlorination of chloroethenes (i.e., tetrachloroethene, trichloroethene, cis-1,2-dichloroethene [cis-DCE] and vinyl chloride) to non-toxic ethene. Gene-Trac[®] Dhc may also be used to assess the in situ growth of Dhc containing bioaugmentation cultures such as KB-1[®].

Negative Gene-Trac[®] Dhc Test Results (U qualified)

A non-detect in the Gene-Trac[®] Dhc assay (e.g., 4,000U) indicates that Dhc were not detected in the sample. The absence of Dhc is frequently associated with a lack of complete dechlorination or incomplete dechlorination of chlorinated ethenes. Where Dhc are absent the accumulation of cis-DCE is commonly observed, particularly after addition of electron donors. Bioaugmentation with Dhc containing cultures, such as KB-1[®], is commonly used to improve bioremediation performance at sites that lack an indigenous Dhc population.

Positive Gene-Trac[®] Dhc Test Results

The detection of Dhc has been correlated with the complete biological dechlorination of chlorinated ethenes to ethene at contaminated sites (Hendrickson et al., 2002). A positive Gene-Trac[®] Dhc test indicates that Dhc DNA was detected in the sample and is encouraging for dechlorination of chlorinated ethenes to ethene. Note not all Dhc are capable of conversion of vinyl chloride to ethene; this capability can be determined by the Gene-Trac[®] VC test (see Section 2) which is commonly performed as a follow-on analysis after positive Gene-Trac[®] Dhc tests. In most cases Dhc must be present at sufficient concentrations in order for significant dechlorination to be observed, guidelines for expected impacts at various Dhc concentrations are indicated below.

Values of 10⁴ Dhc gene copies per liter (or lower): indicates that the sample contains low concentrations of Dhc which may indicate that site conditions are suboptimal for high rates of dechlorination. Increases in Dhc concentrations at the site may be possible if conditions are optimized (e.g., electron donor addition).

Values of 10⁵-10⁶ Dhc gene copies per liter: indicates the sample contains moderate concentrations of Dhc which may, or may not, be associated with observable dechlorination activity (i.e., detectable ethene).

Values at or above 10⁷ Dhc gene copies per liter: indicates that the sample contains high concentrations of Dhc that are often associated with high rates of dechlorination (Lu et al., 2006) and the production of ethene.

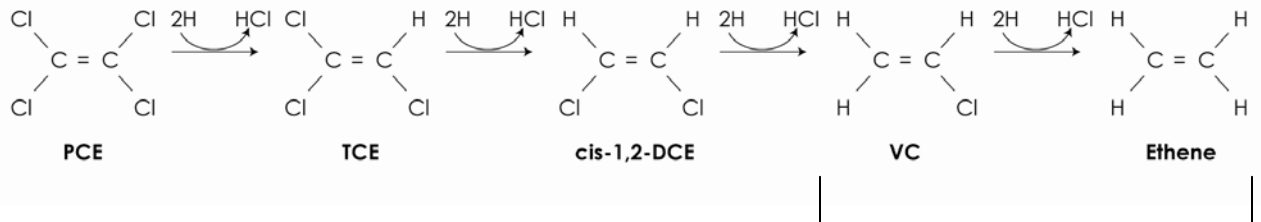
Values of 10⁹ Dhc gene copies per liter are generally the highest observed for groundwater samples with rare exceptions.

Gene-Trac[®] VC- Vinyl Chloride Reductase (*vcrA*) Test

Background

Gene-Trac[®] VC is a qPCR test for the vinyl chloride reductase (*vcrA*) gene that codes for a Dhc enzyme that converts (VC) to ethene, a critical step in reductive dechlorination of chlorinated ethenes. Gene-Trac[®] VC is commonly used where Gene-Trac[®] Dhc test results are positive to confirm that the Dhc detected are capable of complete dechlorination to ethene.#

The vinyl chloride reductase gene (*vcrA*) (Müller et al., 2004) produces an enzyme that is found in many (but not all) Dhc and is reported to be the most common identified VC reductase in the environment (van der Zaan et al., 2010).



Key activity of vinyl chloride reductase *vcrA* gene/enzyme

Interpretation of Gene-Trac[®] VC Results

Detect in Gene-Trac[®] VC Test

A detect in the Gene-Trac[®] VC test indicates that a Dhc population has the *vcrA* gene and the prospects for complete dechlorination to ethene are good. As a minimal requirement, *vcrA* copies exceeding 10^5 /L combined with observed increases over time (i.e., cell growth) are required for robust VC dechlorination (van der Zaan et al., 2010). Also the guidelines for detection of ethene provided under Gene-Trac[®] Dhc are conservative for interpretation of Gene-Trac[®] VC (i.e., $> 1 \times 10^7$ gene copies/L indicate a high likelihood of detection of ethene). In one study, more than 90% of samples where *vcrA* enumeration exceeded 1×10^7 gene copies/L had detectable ethene (Dennis, 2009). In cases where *vcrA* gene copies are lower the likelihood of detectable ethene decreases.

Non-Detect in Gene-Trac[®] VC Test (*U qualified*)

A non-detect in the Gene-Trac[®] VC test indicates that *vcrA* gene sequences in the sample are below the detection limit of the assay (typically 4×10^3 *vcrA* gene copies/L). This indicates VC accumulation (VC stall) is possible. Note negative Gene-Trac[®] VC test results do not indicate with 100% certainty that a VC-stall will occur as there are other vinyl chloride reductase genes, such as *bvcA* (van der Zaan et al., 2010) that also convert VC to ethene.

Comparing Gene-Trac® VC and Gene-Trac® Dhc Test Results

Sites may contain different types of Dhc populations. At some sites the Dhc population is homogenous while other sites have Dhc populations that are mixtures of different types of Dhc. This can lead to differing results for Gene-Trac® Dhc and Gene-Trac® VC.

In many cases, the numerical results of Gene-Trac® VC test are identical to those obtained in the Gene-Trac® Dhc test, indicating that the entire Dhc population contains the *vcrA* gene. In other cases, Gene-Trac® VC results may differ significantly (i.e., more than an order or magnitude) from the total Dhc for a number of reasons.

Table 3 provides some common scenarios for Gene-Trac® VC and Gene-Trac® Dhc test results. In general, where Gene-Trac® VC results are non-detect, or significantly lower than Gene-Trac® Dhc, accumulation of VC is more likely.

Table 2: Interpretation of Gene-Trac® VC in Relation to Gene-Trac® Dhc

Gene-Trac® Dhc (16S rRNA gene copies/ L)	Gene-Trac® VC (<i>vcrA</i> gene copies/L)	Results Summary	Interpretation	Potential Site Implications
2×10^8 /L	3×10^8 /L	Total Dhc and <i>vcrA</i> are ~the same (within 3-fold)	Entire Dhc population has <i>vcrA</i> gene	Potential for complete dechlorination high. VC stall unlikely-sites with <i>vcrA</i> above 1×10^7 /L typically have detectable ethene
1×10^8 /L	Non-detect	Total Dhc high; <i>vcrA</i> non-detect	High concentration of Dhc and entire population lacks the <i>vcrA</i> gene	Likelihood for VC accumulation high as <i>vcrA</i> non-detect
1×10^8 /L	1×10^6 /L	Total Dhc is significantly higher (100 fold) than <i>vcrA</i>	<i>Dhc</i> population consists of different types, some with the <i>vcrA</i> gene (~1%) and some without (~99%)	VC-accumulation possible; Dhc/ <i>vcrA</i> proportions may change over course of remediation
1×10^6 /L	1×10^8 /L	<i>vcrA</i> orders of magnitude higher than Dhc	Significantly higher <i>vcrA</i> may indicate the presence of populations of non-Dhc microorganisms with <i>vcrA</i> like genes	Potential for VC-stall likely low

Gene-Trac[®] Dhb-Total *Dehalobacter* Test

Gene-Trac[®] Dhb is a qPCR test targeting the 16S rRNA gene sequences unique to *Dehalobacter* (Dhb). Dhb are implicated in the biodegradation of 1,1,1-trichloroethane (to chloroethane), 1,1,2-trichloroethane and 1,2-dichloroethane to ethene (Grostern and Edwards, 2006) and chloroform (to dichloromethane) (Grostern et al., 2010) as well as incomplete dechlorination of PCE and TCE to cis-DCE (Holliger et al., 1998). Gene-Trac[®] Dhb may also be used as a tool to assess the impact of bioaugmentation with the KB-1[®] Plus cultures which contain high concentrations of Dhb.

Positive Gene-Trac[®] Dhb Test Results (Detects)

A positive Gene-Trac[®] Dhb indicates that a member of the *Dehalobacter* (Dhb) genus was detected in the sample. The detection of Dhb indicates that some or all of the dechlorination activities attributed to Dhb may be present at the subject site. Increasing concentrations of Dhb are indicative of increased potential to degrade some or all of these compounds.

Note: the Gene-Trac[®] Dhb test will not differentiate the type of Dhb; therefore, observations of the specific biodegradation pathways and end products based on chemical analytical methods in conjunction with Gene-Trac[®] Dhb will increase the interpretability of Gene-Trac[®] Dhb results.

Note: Dhb have been reported to contain multiple copies (up to 4 per cell) of the 16S rRNA gene (Grostern and Edwards, 2008). This means that, unlike Dhc, there is not a 1:1 ratio between the 16S rRNA gene copy and the number of Dhb cells in a sample. Calculating the number of Dhb cells requires dividing the Gene-Trac[®] Dhb test result by the 16S rRNA gene copy number (often 3-4 copies/cell).

Non-detect Gene-Trac[®] Dhb Results (U qualified)

In cases where Gene-Trac[®] Dhb is not detected (e.g., 4,000U) this indicates that *Dehalobacter* species were not identified in the sample and that anaerobic reductive dechlorination of 1,1,1-TCA, 1,1,2-TCA, 1,2-DCA or chloroform, which are dechlorinated by *Dehalobacter*, may not be observed. This activity can be introduced at sites through the addition of bioaugmentation cultures containing *Dehalobacter* such as KB-1[®] Plus.

Key Elements of Gene-Trac® Data

Gene-Trac® test results include two key values (a) Target Gene Enumeration, an enumeration of target gene sequence by quantitative PCR (e.g. “Dhc Enumeration” “Dhb 16S Gene Copies” or “*vcrA* gene copies”) and (b) Target gene percent (e.g. “Percent Dhc”), an estimated percentage of the microbial population comprised by microbes harboring the target gene and other microbes present in sample. Further explanation of these values is provided below.

a) Target Gene Enumeration

This value is the concentration of Dhc or Dhb 16S rRNA or *vcrA* gene copies detected in the sample. Results may be reported as either gene copies per liter (for groundwater) or per gram (for soil). In general, the greater the number of gene copies in a sample the greater the likelihood of related dechlorination activity. Dhc 16S gene copies are typically equivalent to the number of Dhc as they have 1 gene copy per cell this is not necessarily true for Dhb or *vcrA* which have the potential be present in multiple gene copies per cell. Guidelines for relating target gene presence and concentration to observable dechlorination activity for groundwater samples are provided below in previous sections.

b) Target Gene Percent (%Dhc, %Dhb, %*vcrA*)

This value estimates the percentage of the target gene (e.g., %Dhc) relative to other microorganisms in the sample based on the formulas/assumptions presented below. For example, %Dhc is a measure of the predominance of Dhc and, in general, the higher this percentage the better.

$$\%Dhc = \frac{\text{Number Dhc}}{\text{Number Dhc} + \text{Number other Bacteria}}$$

Where:

$$\text{Number other Bacteria} = \frac{\text{Total DNA in sample (ng)} - \text{DNA attributed to Dhc (ng)}}{4.0 \times 10^{-6} \text{ ng DNA per bacterial cell}}$$

*Paul and Clark, (1996).

Percent Dhc (and % *vcrA*) values can range from very low fractions of percentages, in samples with low numbers of Dhc and a high number of other bacteria (incompletely colonized by Dhc), to greater than 50% in Dhc enriched locations (highly colonized by Dhc).

In addition to determining the predominance of the target gene target gene percent is also useful for interpretation of Dhc counts from different sampling locations, or the same location over time. For example, the %Dhc value can be used to correct Dhc counts where samples are biased due to non-representative sampling. Example 1 illustrates a hypothetical scenario where the %Dhc value improved data interpretation.

Example 1, use of %Dhc to interpret enumeration data

Table 2 presents results from MW-1 sampled in April, May and June. Based on the Dhc enumeration alone one would conclude that the concentration of Dhc held steady between April and May; however, the %Dhc indicates the proportion of Dhc actually increased from April to May and the unchanged count in May could be a case of low biomass recovery during sampling or other losses such as sample degradation in transit. The higher raw count and the higher percentage of Dhc in June confirm the trend of increasing Dhc concentrations over time.

Table 3: Use of % Dhc* Value to Diagnose Sampling Bias

Sample	Dhc Enumeration	%Dhc	Interpretation Based on %Dhc
MW-1, April	1.0×10^5 /Liter	0.1%	Dhc is a low proportion of total microbial population
MW-1, May	1.0×10^5 /Liter	1%	Dhc proportion increased 10-fold from April. Dhc enumeration was unchanged possibly due to low biomass recovery from monitoring well, non-biased sample would be $[(1.0/0.1) \times 1.0 \times 10^5] = 1.0 \times 10^6$ /Liter
MW-1, June	1.0×10^7 /Liter	10%	Dhc has increased 100-fold from April and confirms May sample was likely low biased

**Note: the above approach is also applicable to the “%vcrA” and “%Dhb” values provided on their respective test certificates*

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Appendix A: Data Qualifiers

Data Qualification

Data qualifiers and notes are used to clarify Gene-Trac[®] test results. Additional explanation beyond that provided on the test certificate is provided below.

“U” Not detected, associated value is the quantitation limit. Indicates that the target gene (microbe) was not detected in the sample above the quantitation limit of the assay. Note the quantitation limit value can change between samples as the volume filtered can vary; thus, a sample in which 100 ml was tested would have a 5-fold higher quantification limit compared with a sample in which 500 ml was tested.

“J” The associated value is an estimated quantity between the method detection limit and quantitation limit. Indicates that the target gene was conclusively detected but the concentration is below the quantitation limit where it cannot be accurately quantified.

“I” Sample inhibited the test reaction. This means universal primers were incapable of amplifying DNA from this sample. The inability to amplify with universal primers suggests that the sample may be imparting matrix interference. Matrix interference is commonly attributed to humic compounds, polyphenols and metals. Non-detects with an “I” qualifier are more likely to be false negative.

“B” Analyte was also detected in the method blank. Indicates that DNA was detected in a method blank or negative control; detectable contamination of the blanks with microbes or DNA containing the gene of interest is not uncommon as the test reaction is extremely sensitive. In most cases, blank contamination is at a very low level relative to test results (often orders of magnitude lower). In these cases, blank contamination is not relevant to interpretation of test results. The potential of test samples being contaminated (i.e. false positives) should be considered in cases where blank results are within 1 order of magnitude of test results.