

# SNOW CLEANERS INC.

EXPERT FINISHING • ALL LEATHER GOODS

## MAIN OFFICE & PLANT

38 WEST SONORA ST.  
STOCKTON, CA 95203  
209 / 547-1454



January 11, 2010

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

SUBJECT: GROUNDWATER MONITORING AND SAMPLING 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.

- Groundwater Monitoring and Sampling Report (December 1, 2009 Sampling Event) dated January 11, 2010 (document 0298.R7).

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

Cc: Mr. LeRoy Griffin, Oakland Fire Department, Emergency Services, 250 Frank Ogawa Plaza, Suite 3341, Oakland, CA 94612 (with enclosure)

0298 L42

RECEIVED

2:13 pm, Jan 12, 2010

Alameda County  
Environmental Health

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

55 Santa Clara Ave, Suite 240

Oakland, CA 94610

(510) 658-6916

January 11, 2010

Report 0298.R7

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

**SUBJECT: GROUNDWATER MONITORING AND SAMPLING REPORT  
(DECEMBER 1, 2009 SAMPLING EVENT)  
ACDEH Case # RO 0000357  
Snow Cleaners  
2678 Coolidge Avenue  
Oakland, CA**

Dear Mr. Turner:

P&D Environmental Inc. (P&D) is pleased to present this report documenting the monitoring and sampling of four groundwater monitoring wells, designated as MW1 through MW4, at the subject site. Field activities were performed on December 1, 2009. A Site Location Map is attached as Figure 1, and a Site Vicinity Map showing the groundwater monitoring well locations is attached as Figure 2.

The well sampling was performed in accordance with a letter from Jerry Wickham of the Alameda County Department of Environmental Health (ACDEH) dated September 24, 2009 which included the approval of recommendations set forth in P&D's August 19, 2009 Subsurface Investigation Report (document 0298.R6). The recommendations included monitoring the existing groundwater monitoring wells on a monthly basis for water level fluctuations for one year and sampling the wells on a semi-annual basis for Total Petroleum Hydrocarbons (TPH) and Volatile Organic Compounds (VOCs).

## **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 in Davis Street approximately five feet south of the former UST pit. P&D subsequently oversaw the installation of groundwater monitoring wells MW3 and MW4 on September 9, 2008. A detailed discussion of the site background and historic monitoring, sampling, and investigation information are provided in P&D's Subsurface Investigation Report dated August 19, 2009 (document 0298.R6).

## FIELD ACTIVITIES

Since the previous monitoring and sampling event on September 18, 2008, P&D personnel monitored wells MW1, MW2, MW3, and MW4 for depth to water measurements on September 26, 2008, August 20, September 24, October 29, November 25, November 30, and December 1, 2009. The depth to water was measured to the nearest 0.01 foot using an electric water level indicator. All four monitoring wells were monitored for depth to water with the exceptions of MW1 and MW2 on November 25, 2009 and MW2 on November 30, 2009. On these dates cars were parked on top of the wells. A summary of the depth to water measurements is attached with this report as Table 1.

On December 1, 2009, P&D personnel monitored wells MW1, MW2, MW3, and MW4 for the depth to water measurements to the nearest 0.01 foot using an electric water level indicator and for the presence of free product or sheen using a transparent bailer. No free product or sheen was observed in any of the groundwater monitoring wells.

Each well was purged of a minimum of three casing volumes of water or until it was purged dry. During purging operations, the field parameters of electrical conductivity, temperature, and pH were monitored. No sheen, petroleum hydrocarbon odor, or solvent odor was detected on the purge water from any of the wells, except for well MW2, which had observable sheen and a moderate to strong petroleum hydrocarbon (mineral spirits) odor. Once the field parameters were observed to stabilize during well purging and a minimum of three casing volumes had been purged, or the well was purged dry, water samples were collected from each of the wells using a clean disposable bailer. No sheen or separate phase layers of petroleum hydrocarbons were observed on the groundwater samples from any of the wells, with the exception of the sample collected from well MW2, which was observed to have sheen. The water samples were transferred from the disposable bailers to 40-milliliter glass VOA vials and 1-liter amber glass bottles that were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to assure that no air bubbles were present. The VOA vials and bottles were then transferred to a cooler with ice, pending transport to the laboratory. Chain of custody procedures were observed for all sample handling. Records of the field parameters measured during well purging are attached with this report.

## 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.

Based on review of documents obtained from the City of Oakland and from the County Flood Control District (see P&D's November 24, 2009 Subsurface Investigation Work Plan (document 0298.W4)), it was determined that the water flowing in the creek through the Park is groundwater that originates from the storm drain that is located beneath Humboldt Street (located to the southeast of Peralta Creek), and that Peralta Creek flows in an underground concrete-lined channel beginning

at the north side of Davis Street. The water flowing in the Creek channel in the Park drains through a grate at the south end of the park into the underground concrete-lined channel that contains Peralta Creek.

Although the site vicinity topography slopes to the east and south, the area between Coolidge Avenue (bordering the property on the west) and 34<sup>th</sup> Avenue (the first street encountered to the east of the site) is remarkably flat. Almost all of the change in elevation between the site and Peralta Creek occurs to the east of 34<sup>th</sup> Avenue. Based on these observations, the anticipated groundwater flow direction in the vicinity of the site is toward the southeast, towards Peralta Creek.

Based on review of regional geologic maps from U. S. Geological Survey Professional Paper 943, "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by E. J. Helley and K. R. Lajoie, 1979, the materials underlying the subject site and its immediate vicinity consist of Late Pleistocene alluvium (Qpa). Late Pleistocene alluvium is described as weakly consolidated, slightly weathered, poorly sorted, irregularly interbedded clay, silt, sand, and gravel.

The site geology and hydrogeology is 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-aquifer in the immediate vicinity of the site towards the southeast, 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 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 A-aquifer to a confined B-aquifer in the area between the northeast side of the subject site and 34<sup>th</sup> Avenue, and then move horizontally in the B-aquifer to the south towards Peralta Creek and Peralta Hacienda Historical Park.

Review of the water levels in Table 1 and on Figure 2 shows that the water levels in wells MW1 and MW4 have been consistently similar, and that the water levels in wells MW2 and MW3 have been consistently similar, with a difference of approximately 6 feet in the elevations between the two sets of wells.

## LABORATORY RESULTS

All of the groundwater samples were analyzed at McCampbell Analytical, Inc. (McCampbell) of Pacheco, California. McCampbell is a State-accredited hazardous waste testing laboratory. The samples 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 8015C. In addition, all of the samples were analyzed for

VOCs including Methyl tert-Butyl Ether (MTBE), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260B.

No analytes were detected in the groundwater samples collected from wells MW1 and MW4, with the exceptions of chloroform in MW1 at a concentration of 0.71 micrograms per liter (ug/L), and cis-1,2-dichloroethene and chloroform in well MW4 at concentrations of 5.8 and 0.97 ug/L, respectively. No analytes were detected in well MW3 with the exception of TPH-D, TPH-BO, chloroform, and bromoform at concentrations of 63, 120, 1.3, and 0.57 ug/L, respectively. Review of the laboratory report shows that the TPH-D and TPH-BO results are both described as diesel-range compounds with no recognizable pattern. In well MW2, TPH-G, TPH-SS, TPH-D, and TPH-BO, were detected at concentrations of 34,000, 47,000, 74,000, 91,000 ug/L, respectively. Review of the laboratory report shows that the TPH-G and TPH-SS results are both described as Stoddard solvent/mineral spirit-range compounds. The TPH-D and TPH-BO results are both described as Stoddard solvent/mineral spirit-range compounds, diesel-range compounds with no recognizable pattern, and oil-range compounds. Additionally, in well MW2 cis-1,2-dichloroethene, vinyl chloride, and 1,2,4-trimethylbenzene were detected at concentrations of 1,800, 73, and 140 ug/L, respectively.

The groundwater sample results are summarized in Table 2, and copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

#### DISCUSSION AND RECOMMENDATIONS

Review of the water levels in Table 1 and on Figure 2 shows that the water levels in wells MW1 and MW4 have been consistently similar, and that the water levels in wells MW2 and MW3 have been consistently similar, with a difference of approximately 6 feet in the elevations between the two sets of wells. As discussed in the geology and hydrogeology section above, the site geology and hydrogeology are complex. However, groundwater is interpreted to generally move in an unconfined A-aquifer in the immediate vicinity of the site towards the southeast, groundwater is interpreted to move vertically in a southerly-trending paleo-channel from the A-aquifer to a confined B-aquifer in the area between the northeast side of the subject site and 34<sup>th</sup> Avenue, and then move horizontally in the B-aquifer to the south towards Peralta Creek and Peralta Hacienda Historical Park.

During well sampling, the only well where odor or sheen were detected was in well MW2. Since the previous monitoring and sampling event on September 18, 2008 TPH has remained not detected in wells MW1 and MW4, and the three VOCs detected in these wells were the same VOCs detected in 2008, with all VOC concentrations continuing to remain below their respective May 2008 Table A San Francisco Bay Regional Water Quality Control Board groundwater Environmental Screening Levels (ESLs). In well MW3, the only detected compounds were 63 ug/L TPH-D and 120 ug/L TPH-BO, with only TPH-BO exceeding the May 2008 Table A residual fuel groundwater ESL of 100 ug/L. In well MW2, all detected compound concentrations have increased since 2008, with the exception of 1,2,4-Trimethylbenzene, which remained the same.

In well MW2, TPH-G, TPH-SS, TPH-D, and TPH-BO, were detected at concentrations of 34,000, 47,000, 74,000, 91,000 ug/L, respectively. Review of the laboratory report shows that the TPH-G

and TPH-SS results are both described as Stoddard solvent/mineral spirit-range compounds. The TPH-D and TPH-BO results are both described as Stoddard solvent/mineral spirit-range compounds, diesel-range compounds with no recognizable pattern, and oil-range compounds. Additionally, in well MW2 cis-1,2-dichloroethene, vinyl chloride, and 1,2,4-trimethylbenzene were detected at concentrations of 1,800, 73, and 140 ug/L, respectively.

Based on the sample results, P&D recommends that the monthly monitoring and semi-annual sampling of the wells be continued.

### DISTRIBUTION

A copy of this report will be uploaded to the ACDEH website, in accordance with ACDEH requirements. In addition, a copy of this report will be uploaded to the GeoTracker database, and one copy of this report will be mailed to LeRoy Griffin of the City of Oakland Fire Department

### LIMITATIONS

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

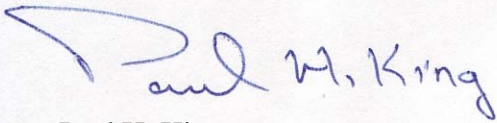
This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals 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.

January 11, 2010009  
Report 0298.R7

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

Sincerely,

P&D Environmental, Inc.



Paul H. King  
President  
Professional Geologist #5901  
Expires: 12/31/11



Attachments:

Table 1 – Summary of Groundwater Elevation Data

Table 2 - Summary of Groundwater Sample Results

Figure 1 - Site Location Map

Figure 2 - Site Vicinity Map

Groundwater Monitoring/Well Purging Data Sheets

Laboratory Reports and Chain of Custody Documentation

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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)
MW1	12/1/2009	132.78	23.36	109.42
	11/30/2009		23.42	109.36
	11/25/2009		car parked on well	could not measure
	10/29/2009		23.10	109.68
	9/24/2009		23.40	109.38
	8/20/2009		22.88	109.90
	9/26/2008		23.00	109.78
	9/18/2008		23.02	109.76
	2/20/2003		20.65	112.13
	1/18/2003		20.06	112.72
MW2	12/1/2009	133.59	18.46	115.13
	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
	9/24/2009		18.83	114.76
	8/20/2009		18.46	115.13
	9/18/2008		18.50	115.09
	2/20/2003		13.09	120.50
	1/18/2003		11.55#	122.04
	MW3		12/1/2009	136.35
11/30/2009		21.14	115.21	
11/25/2009		21.02	115.33	
10/29/2009		19.95	116.40	
9/24/2009		21.67	114.68	
8/20/2009		21.08	115.27	
9/26/2008		20.91	115.44	
9/19/2008		23.69	112.66	
9/18/2008		28.06	108.29	
9/15/2008		33.31	103.04	
9/15/2008*		26.80	109.55	
MW4	12/1/2009	134.09	25.31	108.78
	11/30/2009		25.37	108.72
	11/25/2009		25.26	108.83
	10/29/2009		25.06	109.03
	9/24/2009		25.37	108.72
	8/20/2009		24.86	109.23
	9/26/2008		25.00	109.09
	9/19/2008		25.00	109.09
	9/18/2008		25.02	109.07
	9/15/2008		25.11	108.98
	9/15/2008*		25.03	109.06

NOTES:

\* = Prior to well development.

\*\* = Wells surveyed on September 22-23, 2008.

# = Depth to water not corrected for free product thickness; free product with thickness of 0.02 feet encountered.

TABLE 2  
SUMMARY OF GROUNDWATER SAMPLE RESULTS

Table 2. Summary of Laboratory Analytical Results							
Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B
MW1	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	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

TABLE 2  
SUMMARY OF GROUNDWATER SAMPLE RESULTS

Table 2. Summary of Laboratory Analytical Results							
Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B
	7/29/1994	<b>21,000, b, c</b>	NA	NA	NA	NA	**Benzene = 21, **Toluene = 150, **Ethylbenzene = 53, **Xylenes = 150
	5/31/1994	<b>6,400, c</b>	NA	NA	NA	NA	**Benzene = 15, **Toluene = 100, **Ethylbenzene = 43, **Xylenes = 220
	1/28/1994	<b>2,800, c</b>	NA	<b>12,000, d</b>	NA	NA	ND, except: **Xylenes = 43
	1/19/1994++	<b>3,400, c</b>	NA	<b>20,000</b>	NA	NA	**Benzene = 15, **Toluene = 180, **Ethylbenzene = 39, **Xylenes = 200
<b>MW3</b>	12/1/2009	ND<50	ND<50	63, e	NA	<b>120, e</b>	ND
	9/18/2008	ND<50	ND<50	ND<50	NA	ND<100	ND, except: Bromoform = 0.57, Chloroform = 1.3
<b>MW4</b>	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
<i>ESL</i>		<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	Benzene = 1.0, Toluene = 40, Ethylbenzene = 30, Xylenes = 20, cis-1,2-Dichloroethene=6.0, trans-1,2-Dichloroethene = 10, 1,1-Dichloroethane = 5.0, Chloroethane = 12, Vinyl Chloride = 0.5, Naphthalene = 17, Chloroform = 70, Bromoform = 100, Acetone = 6,300, n-Butylbenzene = None, Isopropylbenzene = None

**Abbreviations and 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.

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.

\* = 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 (SF-RWQCB) updated May 2008, from Table A - Shallow Soil 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.

# FIGURES

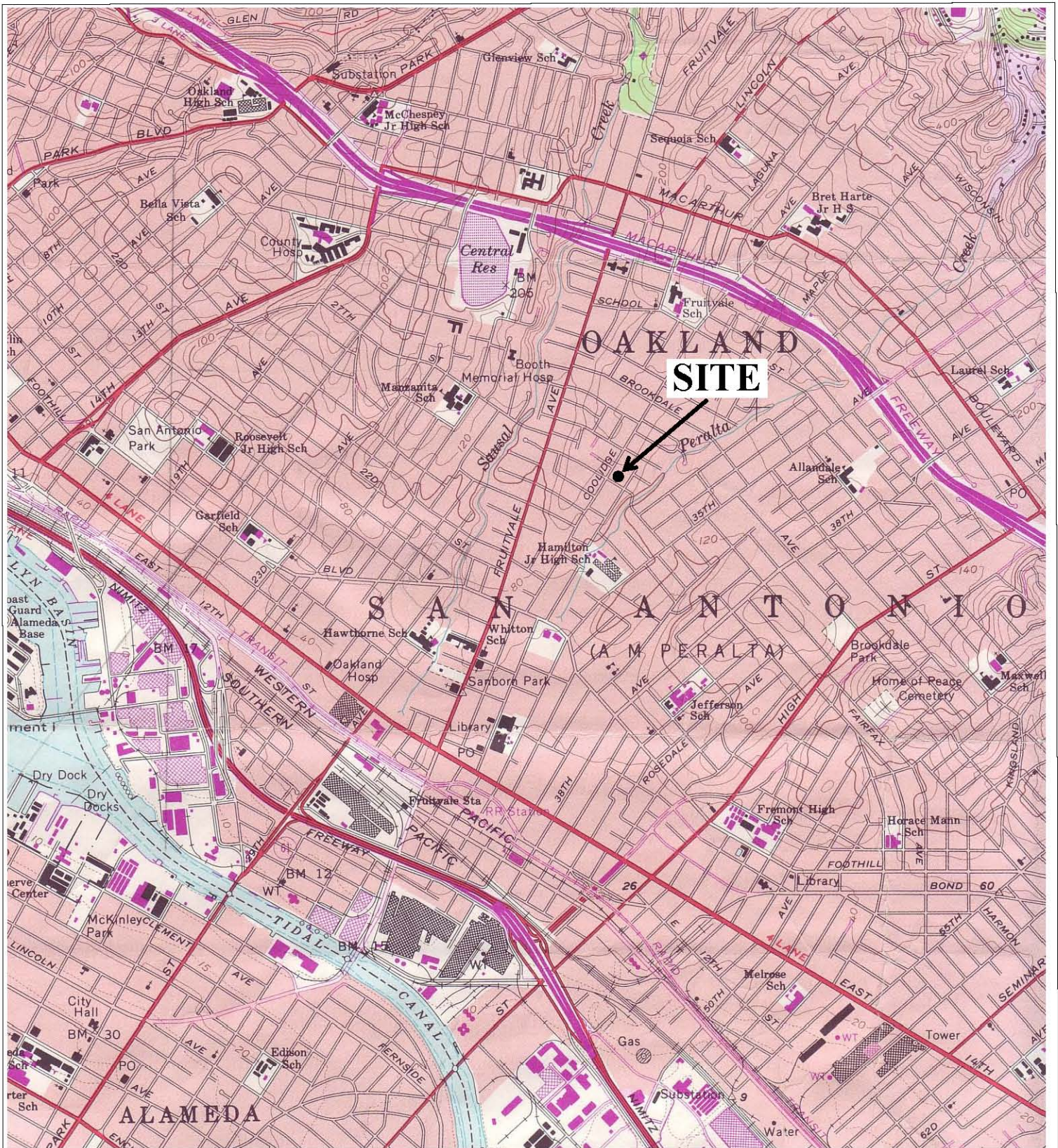
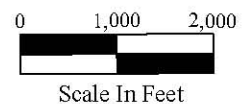


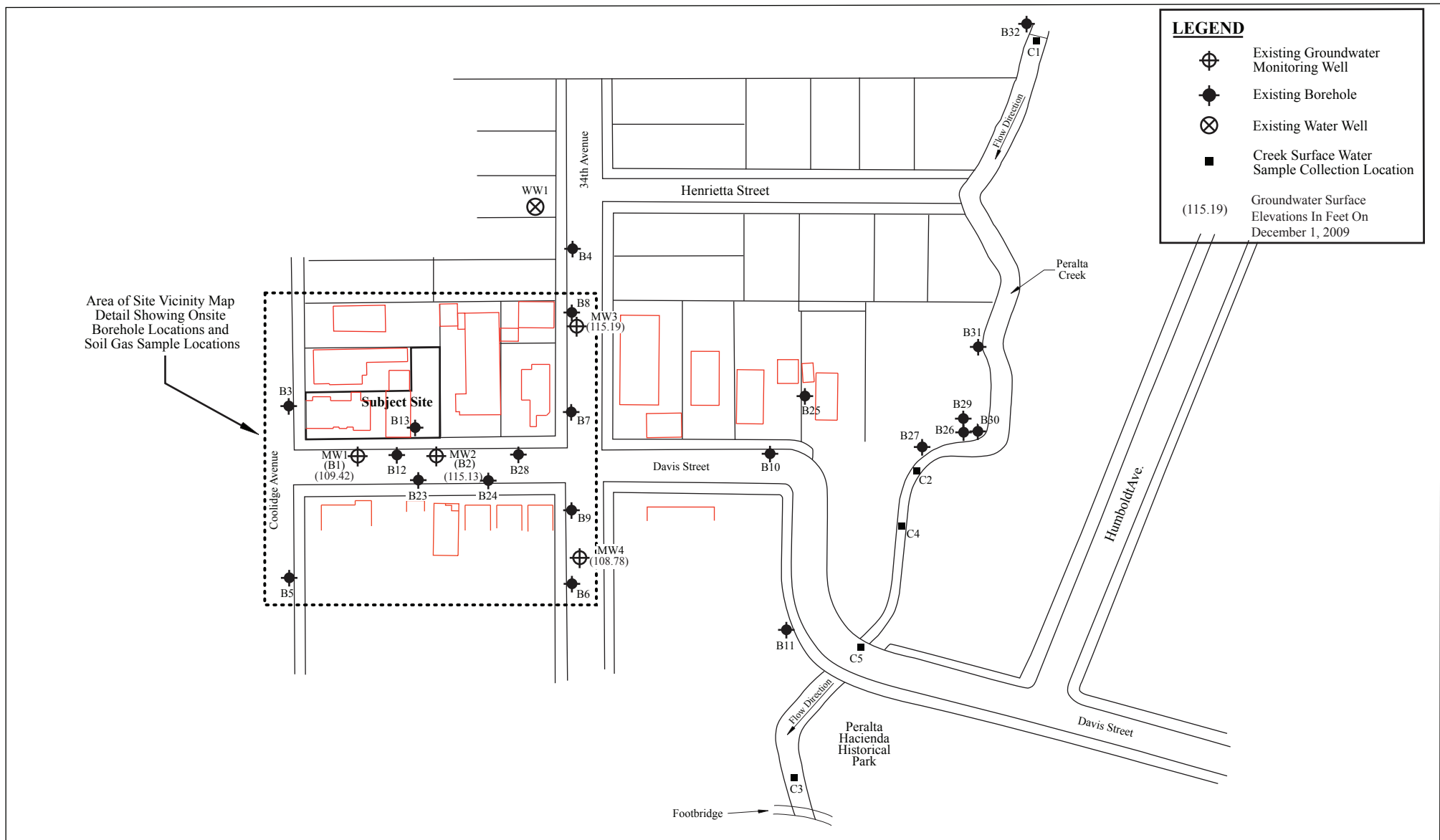
Figure 1  
 Site Location Map  
 Snow Cleaners  
 2678 Coolidge Avenue  
 Oakland, California



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



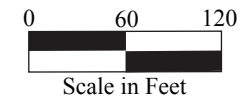


**Figure 2**  
**Site Vicinity Map Showing Monitoring Well And Offsite Sample Collection Locations**  
**Snow Cleaners**  
**2678 Coolidge Avenue**  
**Oakland, California**



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



**WELL MONITORING AND  
PURGE DATA SHEETS**

**P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET**

Site Name Snow Cleaners  
 Job No. 0298  
 TOC to Water (ft.) 23.36  
 Well Depth (ft.) 44.5  
 Well Diameter 2" (0.16)  
 Gal./Casing Vol. 3.4  
3 Vol = 10.2

Well No. MW-1  
 Date 12/1/09  
 Sheen NO  
 Free Product Thickness Ø  
 Sample Collection Method Disposable bailer

<u>TIME</u>	<u>GAL. PURGED</u>	<u>pH</u>	<u>TEMPERATURE</u> °C	<u>ELECTRICAL CONDUCTIVITY</u> µs/cm
<u>1215</u>	<u>1.1</u>	<u>6.29</u>	<u>19.2</u>	<u>608</u>
<u>1217</u>	<u>2.3</u>	<u>6.12</u>	<u>19.0</u>	<u>644</u>
<u>1220</u>	<u>3.4</u>	<u>6.04</u>	<u>19.0</u>	<u>646</u>
<u>1222</u>	<u>4.5</u>	<u>6.06</u>	<u>19.0</u>	<u>641</u>
<u>1224</u>	<u>5.7</u>	<u>6.08</u>	<u>18.9</u>	<u>631</u>
<u>1227</u>	<u>6.8</u>	<u>6.12</u>	<u>18.9</u>	<u>608</u>
<u>1232</u>	<u>7.9</u>	<u>6.17</u>	<u>18.9</u>	<u>592</u>
<u>1236</u>	<u>9.1</u>	<u>6.24</u>	<u>18.9</u>	<u>579</u>
<u>1241</u>	<u>10.2</u>	<u>6.32</u>	<u>18.4</u>	<u>557</u>
<u>1242</u>	<u>10.5</u>	<u>6.31</u>	<u>18.6</u>	<u>554</u>

NOTES: No sheen + no odor      sample time => 1250hrs



**P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET**

Site Name Snow Cleaners  
 Job No. 0298  
 TOC to Water (ft.) 18.46  
 Well Depth (ft.) 24.6  
 Well Diameter 4" (0.646)  
 Gal./Casing Vol. 4.0

Well No. MW-2  
 Date 11/30/09  
 Sheen Yes  
 Free Product Thickness Ø  
 Sample Collection Method Disposable bailer

TIME	GAL. PURGED	DH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY µs/cm
1308	1.3	6.32	20.5	650
1310	2.07	6.27	20.4	635
1312	4.0	6.29	20.4	642
1314	5.3	6.29	20.4	640
1316	6.7	6.31	20.4	636
1318	8.0	6.32	20.4	638
1320	9.3	6.32	20.3	635
1322	10.7	6.32	<del>20.2</del> 20.3	640
1324	12.0	6.33	20.0	633

NOTES: Sheen + Mod-strong Stoddard solvent/mineral spirits odor  
Sample time => 1335

**P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET**

Site Name Snow Cleaners  
 Job No. 0298  
 TOC to Water (ft.) 21.16  
 Well Depth (ft.) 35.4  
 Well Diameter 2" (0.16)  
 Gal./Casing Vol. 2.3  
3vol = 6.9

Well No. MW-3  
 Date 12/1/09  
 Sheen No  
 Free Product Thickness Ø  
 Sample Collection Method Disposable bailer

TIME	GAL. PURGED	DH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY µs/cm
1440	0.8	7.00	18.9	348
1443	1.5	6.95	18.7	367
1446	2.3	6.83	18.6	407
1448	3.1	6.83	18.6	428
1451	3.8	6.86	18.5	461
1454	4.6	6.90	18.5	487
1458	5.4	6.89	18.4	511
1507	<del>6.1</del>			
	<del>6.9</del> sic			

Well dewatered @ ~6.0 gallons

well dewatering?

NOTES: Started out mod-strong sulfur odor & decreased throughout purge  
 No phe odor; No sheen Sample time => 1520

**P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET**

Site Name Snow Cleaners  
 Job No. 0298  
 TOC to Water (ft.) 25.31  
 Well Depth (ft.) 37.2  
 Well Diameter 2" (0.16)  
 Gal./Casing Vol. 2.0  
 3vol = 6.0

Well No. MW-4  
 Date 12/1/09  
 Sheen No  
 Free Product Thickness Ø  
 Sample Collection Method Disposable bailer

TIME	GAL. PURGED	pH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY µs/cm
<u>1357</u>	<u>0.6</u>	<u>7.42</u>	<u>19.3</u>	<u>344</u>
<u>1359</u>	<u>1.3</u>	<u>6.80</u>	<u>19.1</u>	<u>395</u>
<u>1401</u>	<u>2.0</u>	<u>6.51</u>	<u>19.0</u>	<u>451</u>
<u>1403</u>	<u>2.6</u>	<u>6.50</u>	<u>19.0</u>	<u>463</u>
<u>1405</u>	<u>3.3</u>	<u>6.50</u>	<u>18.8</u>	<u>478</u>
<u>1407</u>	<u>4.0</u>	<u>6.51</u>	<u>18.8</u>	<u>488</u>
<u>1410</u>	<u>4.6</u>	<u>6.51</u>	<u>18.7</u>	<u>480</u>
<u>1412</u>	<u>5.3</u>	<u>6.50</u>	<u>18.7</u>	<u>476</u>
<u>1415</u>	<u>6.0</u>	<u>6.51</u>	<u>18.7</u>	<u>475</u>

NOTES: No sheen + No odor  
sample time => 1420hrs

**LABORATORY REPORTS  
AND CHAIN OF CUSTODY  
DOCUMENTATION**



## **McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0298; Snow Cleaners Oakland	Date Sampled: 12/01/09
		Date Received: 12/02/09
	Client Contact: Steve Carmack	Date Reported: 12/08/09
	Client P.O.:	Date Completed: 12/04/09

**WorkOrder: 0912064**

December 08, 2009

Dear Steve:

Enclosed within are:

- 1) The results of the **4** analyzed samples from your project: **#0298; Snow Cleaners Oakland,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

PROJECT NUMBER: <b>0298</b>		PROJECT NAME: <b>Snow Cleaners Oakland</b>			NUMBER OF CONTAINERS	ANALYSIS(ES): <b>TPH Metals (G, P, S, B)</b> <b>8260B</b>	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) <b>Steve Carmack</b> <i>[Signature]</i>								
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION				
+ MW-1	12/1/09	1250	H <sub>2</sub> O		7	X	X	ICE Normal Turnaround Time
+ MW-2	↓	1335	↓		7	X	X	↓ ↓ ↓ ↓
+ MW-3	↓	1520	↓		6	X	X	
+ MW-4	↓	1420	↓		7	X	X	
ICE 1" 2.60 GOOD CONDITION <input checked="" type="checkbox"/> APPROPRIATE CONTAINERS <input checked="" type="checkbox"/> HEAD SPACE ABSENT <input checked="" type="checkbox"/> PRESERVED IN LAB <input checked="" type="checkbox"/> DECHLORINATED IN LAB <input checked="" type="checkbox"/> PRESERVED IN LAB <input checked="" type="checkbox"/> PRESERVATION <input checked="" type="checkbox"/> VOAG 10 & 6 <input checked="" type="checkbox"/> METALS <input checked="" type="checkbox"/> OTHER <input checked="" type="checkbox"/>								
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE <b>12/2/09</b>	TIME <b>2:40</b>	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>		TOTAL NO. OF SAMPLES (THIS SHIPMENT) <b>4</b>	LABORATORY: <b>McCampbell Analytical</b>	
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE <b>12/2/09</b>	TIME <b>3:00</b>	RECEIVED BY: (SIGNATURE) <b>epfl Vall</b>		TOTAL NO. OF CONTAINERS (THIS SHIPMENT) <b>27</b>	LABORATORY CONTACT: <b>Angela Rydelius</b> LABORATORY PHONE NUMBER: <b>(877) 252-9262</b>	
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. lob@pdenviro.com				REMARKS: <b>All bottles preserved w/ HCL</b>				

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0912064

ClientCode: PDEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

**Report to:**

Steve Carmack  
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 Oakland

**Bill to:**

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

**Requested TAT: 5 days**

*Date Received: 12/02/2009*

*Date Printed: 12/02/2009*

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
0912064-001	MW-1	Water	12/1/2009 12:50	<input type="checkbox"/>	B	A	A									
0912064-002	MW-2	Water	12/1/2009 13:35	<input type="checkbox"/>	B	A	A									
0912064-003	MW-3	Water	12/1/2009 15:20	<input type="checkbox"/>	B	A	A									
0912064-004	MW-4	Water	12/1/2009 14:20	<input type="checkbox"/>	B	A	A									

**Test Legend:**

1	8260B_W	2	G-MBTEX_W	3	TPH_W	4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 003A, 004A contain testgroup.

**Prepared by: Melissa Valles**

**Comments:**

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



**Sample Receipt Checklist**

Client Name: **P & D Environmental**

Date and Time Received: **12/2/2009 4:32:34 PM**

Project Name: **#0298; Snow Cleaners Oakland**

Checklist completed and reviewed by: **Melissa Valles**

WorkOrder N°: **0912064** 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: 2.6°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- 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.

-----

Client contacted:

Date contacted:

Contacted by:

Comments:





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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0298; Snow Cleaners Oakland	Date Sampled: 12/01/09
	Client Contact: Steve Carmack	Date Received: 12/02/09
	Client P.O.:	Date Extracted: 12/04/09
		Date Analyzed 12/04/09

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

Extraction Method SW5030B

Analytical Method SW8260B

Work Order: 0912064

Lab ID	0912064-001B
Client ID	MW-1
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	2.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	Chloroform	0.71	1.0	0.5
Chloromethane	ND	1.0	0.5	2-Chlorotoluene	ND	1.0	0.5
4-Chlorotoluene	ND	1.0	0.5	Dibromochloromethane	ND	1.0	0.5
1,2-Dibromo-3-chloropropane	ND	1.0	0.2	1,2-Dibromoethane (EDB)	ND	1.0	0.5
Dibromomethane	ND	1.0	0.5	1,2-Dichlorobenzene	ND	1.0	0.5
1,3-Dichlorobenzene	ND	1.0	0.5	1,4-Dichlorobenzene	ND	1.0	0.5
Dichlorodifluoromethane	ND	1.0	0.5	1,1-Dichloroethane	ND	1.0	0.5
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5	1,1-Dichloroethene	ND	1.0	0.5
cis-1,2-Dichloroethene	ND	1.0	0.5	trans-1,2-Dichloroethene	ND	1.0	0.5
1,2-Dichloropropane	ND	1.0	0.5	1,3-Dichloropropane	ND	1.0	0.5
2,2-Dichloropropane	ND	1.0	0.5	1,1-Dichloropropene	ND	1.0	0.5
cis-1,3-Dichloropropene	ND	1.0	0.5	trans-1,3-Dichloropropene	ND	1.0	0.5
Diisopropyl ether (DIPE)	ND	1.0	0.5	Ethylbenzene	ND	1.0	0.5
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5	Freon 113	ND	1.0	10
Hexachlorobutadiene	ND	1.0	0.5	Hexachloroethane	ND	1.0	0.5
2-Hexanone	ND	1.0	0.5	Isopropylbenzene	ND	1.0	0.5
4-Isopropyl toluene	ND	1.0	0.5	Methyl-t-butyl ether (MTBE)	ND	1.0	0.5
Methylene chloride	ND	1.0	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

#### Surrogate Recoveries (%)

%SS1:	99	%SS2:	106
%SS3:	94		

Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b6) lighter than water immiscible sheen/product is present



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Telephone: 877-252-9262 Fax: 925-252-9269

P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0298; Snow Cleaners Oakland	Date Sampled: 12/01/09
	Client Contact: Steve Carmack	Date Received: 12/02/09
	Client P.O.:	Date Extracted: 12/04/09
		Date Analyzed 12/04/09

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

Extraction Method SW5030B

Analytical Method SW8260B

Work Order: 0912064

Lab ID	0912064-002B
Client ID	MW-2
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<1000	100	10	tert-Amyl methyl ether (TAME)	ND<50	100	0.5
Benzene	ND<50	100	0.5	Bromobenzene	ND<50	100	0.5
Bromochloromethane	ND<50	100	0.5	Bromodichloromethane	ND<50	100	0.5
Bromoform	ND<50	100	0.5	Bromomethane	ND<50	100	0.5
2-Butanone (MEK)	ND<200	100	2.0	t-Butyl alcohol (TBA)	ND<200	100	2.0
n-Butyl benzene	ND<50	100	0.5	sec-Butyl benzene	ND<50	100	0.5
tert-Butyl benzene	ND<50	100	0.5	Carbon Disulfide	ND<50	100	0.5
Carbon Tetrachloride	ND<50	100	0.5	Chlorobenzene	ND<50	100	0.5
Chloroethane	ND<50	100	0.5	Chloroform	ND<50	100	0.5
Chloromethane	ND<50	100	0.5	2-Chlorotoluene	ND<50	100	0.5
4-Chlorotoluene	ND<50	100	0.5	Dibromochloromethane	ND<50	100	0.5
1,2-Dibromo-3-chloropropane	ND<20	100	0.2	1,2-Dibromoethane (EDB)	ND<50	100	0.5
Dibromomethane	ND<50	100	0.5	1,2-Dichlorobenzene	ND<50	100	0.5
1,3-Dichlorobenzene	ND<50	100	0.5	1,4-Dichlorobenzene	ND<50	100	0.5
Dichlorodifluoromethane	ND<50	100	0.5	1,1-Dichloroethane	ND<50	100	0.5
1,2-Dichloroethane (1,2-DCA)	ND<50	100	0.5	1,1-Dichloroethene	ND<50	100	0.5
cis-1,2-Dichloroethene	1800	100	0.5	trans-1,2-Dichloroethene	ND<50	100	0.5
1,2-Dichloropropane	ND<50	100	0.5	1,3-Dichloropropane	ND<50	100	0.5
2,2-Dichloropropane	ND<50	100	0.5	1,1-Dichloropropene	ND<50	100	0.5
cis-1,3-Dichloropropene	ND<50	100	0.5	trans-1,3-Dichloropropene	ND<50	100	0.5
Diisopropyl ether (DIPE)	ND<50	100	0.5	Ethylbenzene	ND<50	100	0.5
Ethyl tert-butyl ether (ETBE)	ND<50	100	0.5	Freon 113	ND<1000	100	10
Hexachlorobutadiene	ND<50	100	0.5	Hexachloroethane	ND<50	100	0.5
2-Hexanone	ND<50	100	0.5	Isopropylbenzene	ND<50	100	0.5
4-Isopropyl toluene	ND<50	100	0.5	Methyl-t-butyl ether (MTBE)	ND<50	100	0.5
Methylene chloride	ND<50	100	0.5	4-Methyl-2-pentanone (MIBK)	ND<50	100	0.5
Naphthalene	ND<50	100	0.5	n-Propyl benzene	ND<50	100	0.5
Styrene	ND<50	100	0.5	1,1,1,2-Tetrachloroethane	ND<50	100	0.5
1,1,2,2-Tetrachloroethane	ND<50	100	0.5	Tetrachloroethene	ND<50	100	0.5
Toluene	ND<50	100	0.5	1,2,3-Trichlorobenzene	ND<50	100	0.5
1,2,4-Trichlorobenzene	ND<50	100	0.5	1,1,1-Trichloroethane	ND<50	100	0.5
1,1,2-Trichloroethane	ND<50	100	0.5	Trichloroethene	ND<50	100	0.5
Trichlorofluoromethane	ND<50	100	0.5	1,2,3-Trichloropropane	ND<50	100	0.5
1,2,4-Trimethylbenzene	140	100	0.5	1,3,5-Trimethylbenzene	ND<50	100	0.5
Vinyl Chloride	73	100	0.5	Xylenes	ND<50	100	0.5

#### Surrogate Recoveries (%)

%SS1:	102	%SS2:	105
%SS3:	92		

Comments: b6

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b6) lighter than water immiscible sheen/product is present



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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0298; Snow Cleaners Oakland	Date Sampled: 12/01/09
	Client Contact: Steve Carmack	Date Received: 12/02/09
	Client P.O.:	Date Extracted: 12/04/09
		Date Analyzed 12/04/09

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

Extraction Method SW5030B

Analytical Method SW8260B

Work Order: 0912064

Lab ID	0912064-003B
Client ID	MW-3
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	2.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	Chloroform	ND	1.0	0.5
Chloromethane	ND	1.0	0.5	2-Chlorotoluene	ND	1.0	0.5
4-Chlorotoluene	ND	1.0	0.5	Dibromochloromethane	ND	1.0	0.5
1,2-Dibromo-3-chloropropane	ND	1.0	0.2	1,2-Dibromoethane (EDB)	ND	1.0	0.5
Dibromomethane	ND	1.0	0.5	1,2-Dichlorobenzene	ND	1.0	0.5
1,3-Dichlorobenzene	ND	1.0	0.5	1,4-Dichlorobenzene	ND	1.0	0.5
Dichlorodifluoromethane	ND	1.0	0.5	1,1-Dichloroethane	ND	1.0	0.5
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5	1,1-Dichloroethene	ND	1.0	0.5
cis-1,2-Dichloroethene	ND	1.0	0.5	trans-1,2-Dichloroethene	ND	1.0	0.5
1,2-Dichloropropane	ND	1.0	0.5	1,3-Dichloropropane	ND	1.0	0.5
2,2-Dichloropropane	ND	1.0	0.5	1,1-Dichloropropene	ND	1.0	0.5
cis-1,3-Dichloropropene	ND	1.0	0.5	trans-1,3-Dichloropropene	ND	1.0	0.5
Diisopropyl ether (DIPE)	ND	1.0	0.5	Ethylbenzene	ND	1.0	0.5
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5	Freon 113	ND	1.0	10
Hexachlorobutadiene	ND	1.0	0.5	Hexachloroethane	ND	1.0	0.5
2-Hexanone	ND	1.0	0.5	Isopropylbenzene	ND	1.0	0.5
4-Isopropyl toluene	ND	1.0	0.5	Methyl-t-butyl ether (MTBE)	ND	1.0	0.5
Methylene chloride	ND	1.0	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

#### Surrogate Recoveries (%)

%SS1:	101	%SS2:	104
%SS3:	93		

Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b6) lighter than water immiscible sheen/product is present



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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0298; Snow Cleaners Oakland	Date Sampled: 12/01/09
	Client Contact: Steve Carmack	Date Received: 12/02/09
	Client P.O.:	Date Extracted: 12/04/09
		Date Analyzed 12/04/09

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

Extraction Method SW5030B

Analytical Method SW8260B

Work Order: 0912064

Lab ID	0912064-004B
Client ID	MW-4
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	2.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	Chloroform	0.97	1.0	0.5
Chloromethane	ND	1.0	0.5	2-Chlorotoluene	ND	1.0	0.5
4-Chlorotoluene	ND	1.0	0.5	Dibromochloromethane	ND	1.0	0.5
1,2-Dibromo-3-chloropropane	ND	1.0	0.2	1,2-Dibromoethane (EDB)	ND	1.0	0.5
Dibromomethane	ND	1.0	0.5	1,2-Dichlorobenzene	ND	1.0	0.5
1,3-Dichlorobenzene	ND	1.0	0.5	1,4-Dichlorobenzene	ND	1.0	0.5
Dichlorodifluoromethane	ND	1.0	0.5	1,1-Dichloroethane	ND	1.0	0.5
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5	1,1-Dichloroethene	ND	1.0	0.5
cis-1,2-Dichloroethene	5.8	1.0	0.5	trans-1,2-Dichloroethene	ND	1.0	0.5
1,2-Dichloropropane	ND	1.0	0.5	1,3-Dichloropropane	ND	1.0	0.5
2,2-Dichloropropane	ND	1.0	0.5	1,1-Dichloropropene	ND	1.0	0.5
cis-1,3-Dichloropropene	ND	1.0	0.5	trans-1,3-Dichloropropene	ND	1.0	0.5
Diisopropyl ether (DIPE)	ND	1.0	0.5	Ethylbenzene	ND	1.0	0.5
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5	Freon 113	ND	1.0	10
Hexachlorobutadiene	ND	1.0	0.5	Hexachloroethane	ND	1.0	0.5
2-Hexanone	ND	1.0	0.5	Isopropylbenzene	ND	1.0	0.5
4-Isopropyl toluene	ND	1.0	0.5	Methyl-t-butyl ether (MTBE)	ND	1.0	0.5
Methylene chloride	ND	1.0	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,1,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

#### Surrogate Recoveries (%)

%SS1:	101	%SS2:	108
%SS3:	102		

Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b6) lighter than water immiscible sheen/product is present



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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0298; Snow Cleaners Oakland	Date Sampled: 12/01/09
	Client Contact: Steve Carmack	Date Received: 12/02/09
	Client P.O.:	Date Extracted: 12/03/09
		Date Analyzed: 12/03/09

### Gasoline Range(C6-C12), Stoddard Solvent Range(C9-C12) Volatile Hydrocarbons as Gasoline & Stoddard Solvent\*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 0912064

Lab ID	Client ID	Matrix	TPH(g)	TPH(ss)	DF	% SS	Comments
001A	MW-1	W	ND	ND	1	96	
002A	MW-2	W	34,000	47,000	20	116	d5,b6
003A	MW-3	W	ND	ND	1	97	
004A	MW-4	W	ND	ND	1	99	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	50	µg/L
	S	NA	NA	NA

\* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

b6) lighter than water immiscible sheen/product is present  
d5) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?)



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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0298; Snow Cleaners Oakland	Date Sampled: 12/01/09
	Client Contact: Steve Carmack	Date Received: 12/02/09
	Client P.O.:	Date Extracted: 12/02/09
		Date Analyzed: 12/02/09-12/03/09

### Total Extractable Petroleum Hydrocarbons\*

Extraction method: SW3510C

Analytical methods: SW8015B

Work Order: 0912064

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Bunker Oil (C10-C36)	DF	% SS	Comments
0912064-001A	MW-1	W	ND	ND	1	96	
0912064-002A	MW-2	W	74,000	91,000	20	81	e11,e2,e7,b6
0912064-003A	MW-3	W	63	120	1	97	e2
0912064-004A	MW-4	W	ND	ND	1	96	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	100	µg/L
	S	NA	NA	mg/Kg

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

b6) lighter than water immiscible sheen/product is present  
 e2) diesel range compounds are significant; no recognizable pattern  
 e7) oil range compounds are significant  
 e11) stoddard solvent/mineral spirit (?)



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 47398

WorkOrder: 0912064

EPA Method SW8260B	Extraction SW5030B								Spiked Sample ID: 0912064-004B			
	Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	79.1	81.5	2.94	78.7	78.1	0.826	70 - 130	30	70 - 130	30
Benzene	ND	10	96.4	96.1	0.294	93.3	92.8	0.465	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	75.7	84.2	10.6	77.9	77.5	0.483	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	101	99.2	1.58	99.8	101	1.59	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	101	104	2.94	99.5	99.5	0	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	90.1	92	2.10	88.2	86.8	1.60	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	114	112	1.29	111	110	1.44	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	91.9	95.5	3.81	89.8	89	0.891	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	87.2	91.6	4.88	86.3	85.5	0.947	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	89.1	93.6	4.88	88.1	88.6	0.631	70 - 130	30	70 - 130	30
Toluene	ND	10	104	104	0	98.7	99.9	1.19	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	122	121	1.02	120	121	0.317	70 - 130	30	70 - 130	30
%SS1:	101	25	93	95	2.54	96	95	0.683	70 - 130	30	70 - 130	30
%SS2:	108	25	101	100	0.830	105	105	0	70 - 130	30	70 - 130	30
%SS3:	102	2.5	99	99	0	99	98	1.92	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 47398 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0912064-001B	12/01/09 12:50 PM	12/04/09	12/04/09 12:42 AM	0912064-002B	12/01/09 1:35 PM	12/04/09	12/04/09 1:21 AM
0912064-003B	12/01/09 3:20 PM	12/04/09	12/04/09 2:43 PM	0912064-004B	12/01/09 2:20 PM	12/04/09	12/04/09 2:38 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

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.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 47396

WorkOrder: 0912064

Analyte	EPA Method SW8021B/8015Bm		Extraction SW5030B						Spiked Sample ID: 0912064-004A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	60	104	107	2.65	104	103	1.44	70 - 130	20	70 - 130	20
MTBE	ND	10	97.2	110	12.1	90.5	86.4	4.62	70 - 130	20	70 - 130	20
Benzene	ND	10	102	104	2.49	103	108	4.27	70 - 130	20	70 - 130	20
Toluene	ND	10	101	104	2.89	103	107	3.92	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	99.5	102	2.82	99.9	105	5.21	70 - 130	20	70 - 130	20
Xylenes	ND	30	102	105	2.27	102	108	5.86	70 - 130	20	70 - 130	20
%SS:	99	10	100	104	3.65	105	104	1.31	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 47396 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0912064-001A	12/01/09 12:50 PM	12/03/09	12/03/09 6:19 PM	0912064-002A	12/01/09 1:35 PM	12/03/09	12/03/09 5:49 PM
0912064-003A	12/01/09 3:20 PM	12/03/09	12/03/09 4:50 PM	0912064-004A	12/01/09 2:20 PM	12/03/09	12/03/09 5:19 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/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, or inconsistency in sample containers.





**QC SUMMARY REPORT FOR SW8015B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 47369

WorkOrder 0912064

EPA Method SW8015B		Extraction SW3510C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	101	101	0	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	95	95	0	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 47369 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0912064-001A	12/01/09 12:50 PM	12/02/09	12/02/09 9:18 PM	0912064-002A	12/01/09 1:35 PM	12/02/09	12/03/09 3:45 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

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.



### QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 47397

WorkOrder 0912064

EPA Method SW8015B		Extraction SW3510C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	111	111	0	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	101	100	0.900	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 47397 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0912064-003A	12/01/09 3:20 PM	12/02/09	12/03/09 3:45 PM	0912064-004A	12/01/09 2:20 PM	12/02/09	12/03/09 12:39 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

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.