SNOW CLEANERS INC.

EXPERT FINISHING • ALL LEATHER GOODS

MAIN OFFICE & PLANT
38 WEST SONORA ST
STOCKTON, CA 95203
209 / 547-1454

Since 1910

RECEIVED

4:00 pm, Dec 14, 2010

Alameda County
Environmental Health

December 2, 2010

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

SUBJECT: WELL INSTALLATION 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.

- Well Installation Report (DP1 Through DP4, VE1, VE2) dated December 2, 2010 (document 0298.R11).

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.L58

P&D ENVIRONMENTAL, INC.

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

December 2, 2010
Report 0298.R11

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

SUBJECT: WELL INSTALLATION REPORT
(DP1 THROUGH DP4, VE1, VE2)
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 installation of four dual phase extraction wells (DP1 through DP4) and two soil vapor extraction wells (VE1 and VE2) at the subject site. Well installation was performed on September 27 through 29, 2010. The wells were developed on October 5, 2010 and groundwater samples were collected from the dual phase wells on October 15, 2010. A Site Location Map is attached as Figure 1, and a Site Vicinity Map Detail showing the well locations is attached as Figure 2. Field activities were performed in accordance with the scope of work set forth in P&D's Draft Corrective Action Plan dated June 29, 2010 (document 0298.W5). The Work Plan was approved in a letter from the Alameda County Department of Environmental Health (ACDEH) dated September 9, 2010.

All work was performed under the direct supervision of an appropriately registered professional. This investigation was performed in accordance with guidelines set forth in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990 and "Appendix A - Workplan for Initial Subsurface Investigation" dated August 20, 1991; and California Code of Regulations Title 23 Sections 2720-2728.

BACKGROUND

The site is surrounded by residential properties, some of which are zoned for mixed residential and commercial use, and is located in a residential neighborhood. Peralta Creek is located approximately 500 feet to the east and approximately 400 feet to the southeast of the subject site. The site is presently used as a dry cleaning pick up and drop off facility with dry cleaning performed at an offsite location. The site was historically used as a dry cleaning plant from approximately 1907 to 1993 or 1994. It is P&D's understanding that a total of six Stoddard solvent Underground Storage Tanks (USTs) were removed from beneath the sidewalk adjacent to Davis Street in 1990. Limited excavation of the UST pit was performed to a depth of 15 feet. In January 1994 groundwater

monitoring wells MW1 and MW2 were installed. Subsurface investigation drilling resumed in September 2004 with the drilling of boreholes B3 through B7. A Preferential Pathway/Conduit Study and also a Sensitive Receptor Survey were prepared in 2005. Additional boreholes (B8 through B11, B13 and B14) were drilled in 2007, and in 2008 the following samples were collected: soil gas samples SG1 through SG18; soil and water from boreholes B12, B15 through B19 and B21 through B32; and creek samples C1 through C5 from Peralta Creek. In addition, groundwater monitoring wells MW3 and MW4 were installed in 2008 near the subject site. In 2009 it was determined that the Peralta Creek water flowing through Peralta Hacienda Historical Park (located to the southeast of the site and immediately south of Davis Street) is groundwater that originates from the storm drain that is located beneath Humboldt Street (located to the southeast of Peralta Creek and to the north of Davis Street), 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.

A detailed site history is provided in P&D's Subsurface Investigation Report dated August 19, 2009 (document 0298.R6). The 2009 report documented historical investigations and the collection and results of soil, groundwater, creek and soil gas samples, and the installation and sampling of groundwater monitoring wells MW3 and MW4. Additional subsequent document review results for historic topographic maps, City of Oakland storm drain and sanitary sewer maps, Alameda County Flood Control District maps and a creek and watershed map of Oakland and Berkeley related to Peralta Creek drainage are provided in P&D's November 24, 2009 Subsurface Investigation Work Plan (document 0298.W4). Additional subsequent soil gas and building crawl space air sample results for samples collected on February 19, 2010 are provided in P&D's March 22, 2010 Soil Gas and Crawl Space Air Investigation Report (document 0298.R8). The most recent well sampling event occurred on May 21, 2010 and is documented in P&D's Groundwater Monitoring and Sampling Report dated June 18, 2010 (document 0298.R9). The most recent building crawl space air sample results for samples collected on August 9, 2010 are provided in P&D's September 15, 2010 Crawl Space Air Sampling Report (document 0298.R10).

FIELD ACTIVITIES

Prior to performing field activities, permit W2010-0674 was obtained from the Alameda County Public Works Agency (ACPWA), drilling locations were marked with white paint, Underground Service Alert was notified for underground utility location, and a health and safety plan was prepared. Notification of the drilling dates was also provided to the ACDEH.

Well Installation

On September 27, 28 and 29, 2010 P&D personnel oversaw the installation of four dual-phase groundwater/soil vapor extraction wells (DP1 through DP4) and two soil vapor extraction wells (VE1 and VE2) at the subject site. Exploration Geoservices, Inc. of San Jose, California performed the well installation. The locations of the wells at the site are shown in Figure 2.

The boreholes for dual-phase groundwater/soil vapor extraction wells (DP1 through DP4) were drilled to total depths of 37.0, 25.0, 27.0, and 38.0 feet below the ground surface (bgs), respectively.

The boreholes for soil vapor extraction wells (VE1 and VE2) were drilled to total depths of 15.0 and 17.0 feet bgs, respectively. Each borehole was drilled using a truck-mounted drill rig with 12-inch outside diameter hollow stem augers. Soil samples were collected at geologic contacts as defined be nearby boreholes for lithologic logging purposes using a California-modified split-spoon sampler lined with brass tubes driven by a 140-pound hammer falling 30 inches. Blow counts were recorded every six inches. The soil in the brass tubes and the soil cuttings from drilling were classified lithologically in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. No soil samples were retained for laboratory analysis. Copies of the boring logs are attached with this report as Appendix A.

The wells were constructed using 4-inch diameter Schedule 40 PVC pipe with 0.020-inch factory slot placed in the bottom of the borehole to approximate total depths with screen lengths (in feet) as follows.

Well	Total Depth	Screen Length
DP1	37	14
DP2	29	14
DP3	27	14
DP4	38	15
VE1	15	5
VE2	17	7

The lowermost 4 feet of the borehole for DP2 was filled with bentonite pellets to a depth of 25.0 feet bgs prior to well construction. The annular space surrounding the slotted PVC pipe for all of the wells was filled with #2/12 RMC Pacific Materials sack sand to a height of one foot above the top of the slotted interval. A one-foot thick layer of bentonite pellets was placed above the sand and hydrated. The remaining annular space was filled with neat cement grout to approximately one foot bgs. At location DP3 the annular space was filled with neat cement grout to approximately 1.5 feet bgs. On November 10, 2010 the PVC well pipe for each well was extended to above the ground surface and the remaining annular space was filled with concrete to a height of approximately 0.2 feet above the ground surface. No permanent well covers were constructed over any of the wells because of future extraction from well.

The top of each of the PVC well pipes were secured with a watertight locking plug. Well construction specifications for dual phase extraction wells DP1 through DP4 and for the soil vapor extraction wells VE1 and VE2 are provided in Well Construction Diagrams attached with this report as Appendix B.

All drilling and sampling equipment was either previously unused clean material, or was cleaned by steam cleaning or with an Alconox solution followed by a clean water rinse prior to use in each borehole. Soil and water generated during drilling activities were stored in drums onsite, pending analysis and appropriate disposal.

Well Surveying

The elevations and horizontal locations for the top of the PVC casing for each of the new wells were surveyed in accordance with GeoTracker requirements by Kier & Wright Engineers Surveyors, Inc. of Livermore, California on October 5, 2010. The top of casing elevations for each well are provided in Table 1 and a copy of the survey information provided by the surveyor is attached with this report as Appendix C.

Well Development

On October 5, 2010 wells DP1, DP2, DP3, and DP4 were developed by surging and over-pumping by Environmental Field Services of Patterson, California. Prior to development, the wells were monitored for depth to water to the nearest 0.01 feet using an electric water level indicator. The measured depth to groundwater prior to development on October 5, 2010 in wells DP1, DP2, DP3, and DP4 was 25.42, 20.96, 19.14, and 25.03 feet, respectively. The depth to water measurements are summarized in Table 1.

During development of the wells Environmental Field Services personnel did not detect petroleum hydrocarbon or solvent odors or sheen on the water purged from wells DP2 and DP3, but did detect petroleum hydrocarbon odor and petroleum hydrocarbon sheen on the water purged from well DP1, and petroleum hydrocarbon odor, but no sheen on the water purged from well DP4. Approximately 80, 30, 40, and 70 gallons of water was purged from wells DP1, DP2, DP3, and DP4, respectively. Wells DW1 and DW3 were also noted to have purged dry during well development activities. Water removed from the wells during development was stored in drums onsite, pending characterization and appropriate disposal. Well development data sheets are attached with this report as Appendix D.

Well Sampling

On October 15, 2010, P&D personnel monitored wells DP1 through DP4 and MW1 through MW4. The wells were monitored for depth to water and the presence of free product or sheen. The depth to water was measured to the nearest 0.01 foot using an electric water level indicator and the presence of free product or sheen was evaluated using a transparent bailer. No free product or sheen was observed in any of the wells. The depth to water measurements are summarized in Table 1.

Each well was purged of a minimum of three casing volumes of water. During purging operations, the field parameters of electrical conductivity, temperature, and pH were monitored. Petroleum hydrocarbon sheen and petroleum hydrocarbon odor was detected on the purge water from all of the wells, with the odor on the water from well DP4 being described as a very slight mineral spirits-like odor, the odor from well DP1 being described as a moderate to strong mineral spirits like-odor, the odor from well DP2 being described as a moderate shoe polish-like odor, and the odor from well DP3 being described as a moderate to strong shoe polish-like odor. Once the field parameters were observed to stabilize during well purging and a minimum of three casing volumes had been purged, water samples were collected from each of the wells using a clean disposable bailer. Sheen was observed on the groundwater samples from all of the wells. 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 for wells DP1 through DP4 are attached with this report as Appendix E. The records of the field parameters measured during well purging for wells MW1 through MW4 are provided in a separate report documenting the semi-annual well sampling for the second half of 2010 for the site groundwater monitoring network.

Water levels were subsequently measured in the wells on November 12, 19 and 23 using procedures described above. The water level measurements are summarized in Table 1.

WEATHER INFORMATION

Weather data, including precipitation for the period of September 25 to November 25, 2010 is provided as Appendix F. The information provides a record of dates and amounts of rainfall in the vicinity of the site. The weather station is located at the intersection of Encinal Avenue and Lafayette Street in Alameda at an elevation of 15 feet, approximately 2.5 miles to the southeast of the subject site. The subject site is located at an elevation of approximately 135 feet above sea level. An internet link to the weather station information is provided with the weather information in Appendix F.

Review of the summary tables in Appendix F shows that precipitation occurred during the period of September 25, 2010 (shortly before installation of the wells) to November 25, 2010 (at the conclusion of water level evaluations in the new wells) as follows.

October 16 - 0.06 inches
October 22 - 0.02 inches
October 23 - 0.14 inches
October 24 - 0.24 inches
October 25 - 0.01 inches
October 29 - 0.09 inches
October 30 - 0.03 inches
November 1 - 0.01 inches
November 7 - 0.66 inches
November 9 - 0.06 inches
November 10 - 0.05 inches
November 18 - 0.01 inches
November 19 - 0.45 inches
November 20 - 0.69 inches
November 21 - 0.15 inches
November 22 - 0.09 inches
November 23 - 0.17 inches

GEOLOGY AND HYDROGEOLOGY

The hydrogeology at the site is complex and not completely understood. The interpretation of groundwater flow direction and associated contaminant movement 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 different wells). Geologic cross sections and an in-depth discussion of site geology are provided in P&D's Subsurface Investigation Report dated August 19, 2009 (document 0298.R6).

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. Although the site vicinity topography slopes to the east and south, the area between Coolidge Avenue (bordering the property on the west) and 34th Avenue (the first street encountered to the east of the site) has very little change in surface elevation. Almost all of the change in elevation between the site and Peralta Creek occurs to the east of 34th Avenue.

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 to the north of Davis Street), 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.

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 it's 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. Review of the boring logs from historical investigations and the current investigation shows that the subsurface materials encountered in the boreholes consist predominantly of fine-grained materials consisting of clay, silty clay, and silt, with lesser amounts of coarse-grained materials consisting of silty sand, sand and some gravel lenses.

Comparison of the materials encountered in the boreholes with the materials shown on the geologic cross sections provided in P&D's Draft Corrective Action Plan dated June 29, 2010 (document 0298.W5) shows very good correlation. The locations of geologic cross sections C-C' through F-F' are shown on Figure 2. The geologic cross sections are shown in Figures 3 through 6. Water levels measured in wells DP1 through DP4 and MW2 on November 23, 2010 are shown on the geologic cross-sections.

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 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-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 3 shows that there is a change in water table elevation of approximately 4.5 to 5.0 feet between wells DP2 and DP1. There is a horizontal distance of approximately 18 feet between these two wells, and the location of this change in water table elevation corresponds with the 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. Figure 3 also shows that the thickness of the water layer overlying the fine-grained materials to the southwest of DP2 is approximately 4 feet. Review of geologic cross sections D-D', E-E' and F-F' in Figures 4, 5, and 6 shows that the lowest point of the surface of the fine-grained materials is approximately coincident with C-C' at D-D', is approximately 15 feet to the northwest of C-C' at E-E', and is approximately 31 feet to the northwest of C-C' at F-F', suggesting 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 is located between wells DP2 and DP1 identified above. Although Figure 3 shows DP3 projected onto cross section C-C', Figure 5 shows that well DP3 is located approximately 15 feet to the northwest of cross section C-C' near or at the lowest point of the east-northeasterly-trending channel.

Based on water level information available through November 23, 2010, the historically measured depth to water in the monitoring wells located near the subject site has ranged from 11.49 to 18.83 feet in well MW2; 16.95 to 22.97 feet in well MW3 (after September 19, 2008); 19.07 to 23.92 feet in well MW1; and 21.18 to 25.86 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 level measurements are provided under separate cover in the semi-annual well sampling reports.

Figure 7 is a graph of water level elevations in October and November 2010 for all of the groundwater monitoring wells in the groundwater monitoring network for the subject site. Review of Figure 7 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.

- 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.
- Changes in water levels in wells MW2 and MW3 are similar in that the water levels in both of these wells increased at times when water levels in DP1 through DP4 decreased.
- The change in water level in well MW3 was substantially greater than the change in water level in any other well.
- The change in water levels in wells DP2, DP3 and MW2 was greater than in DP1 and DP4 between November 19 and 23, 2010 following more than one inch of precipitation.

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 Volatile Organic Compounds (VOCs) including Methyl tert-Butyl Ether (MTBE); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and halogenated volatile organic compounds (HVOCs) by EPA Method 8260B. The DP1 through DP4 groundwater sample results are summarized in Tables 2A and 2B, and copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

TPH-G was detected in the samples collected from groundwater extraction wells DP1, DP2, DP3, and DP4 at concentrations of 10,000, 4,800, 5,700, and 1,800 ug/L, respectively; TPH-SS was detected in the same samples at concentrations of 5,100, 2,900, 8,000, and 1,500 ug/L, respectively; TPH-D was detected in the same samples at concentrations of 9,000, 3,900, 10,000, and 1,200 ug/L, respectively; and TPH-BO was detected in the same samples at concentrations of 9,800, 2,900, 9,800, and 920 ug/L, respectively. Review of the laboratory report shows that the laboratory observed sheen on the sample collected from well DP1, and the TPH-G and TPH-SS results are both described as Stoddard solvent/mineral spirit-range compounds for the samples collected from all four groundwater extraction wells. The laboratory describes both the TPH-D and TPH-BO results as consisting of both Stoddard solvent/mineral spirit-range compounds and oil-range compounds for the groundwater sample collected from well DP1; as consisting of both Stoddard solvent/mineral spirit-range compounds and diesel-range compounds with no recognizable pattern for the samples collected from wells DP2 and DP4; and as consisting of Stoddard solvent/mineral spirit-range compounds, oil-range compounds, and diesel-range compounds with no recognizable pattern for the sample collected from well DP3.

The only additional analytes detected in the samples collected from wells DP1 and DP2 were cis-1,2-dichloroethene detected in both samples at concentrations of 17,000 and 22,000 ug/L, respectively, and vinyl chloride in the sample from well DP2 at a concentration of 2,600 ug/L. In well DP3 cis-1,2-dichloroethene, trans-1,2,-dichloroethene, and vinyl chloride were detected at concentrations of 44, 4.5, and 28 ug/L, respectively; toluene, ethylbenzene, total xylenes and naphthalene were detected at concentrations of 2.7, 4.0, 23, and 7.5 ug/L, respectively; and six other

VOCs associated with petroleum hydrocarbons were detected in the groundwater sample collected from well DP3 at concentrations ranging from 4.4 to 69 ug/L. Tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride were detected in the groundwater sample collected from well DP4 at concentrations of 22, 40, 80, 33, and 2.9 ug/L, respectively. Two other VOCs associated with petroleum hydrocarbons were detected in the groundwater sample collected from well DP4 at concentrations of 3.8 and 4.5 ug/L.

DISCUSSION AND RECOMMENDATIONS

Based upon water samples collected from new wells DP1 through DP4 and from previously existing wells MW1 through MW4 on October 15, 2010, water quality data is shown on Figures 8 through 14 for TPH-Stoddard solvent, an alternative interpretation of TPH-Stoddard solvent using TPH-D data, benzene, PCE, TCE, cis-1,2-DCE, and vinyl chloride, respectively. Review of the figures shows that the current distribution of petroleum and HVOCs in groundwater is consistent with the previous interpretation of the distribution of petroleum and HVOCs in groundwater provided in P&D's Draft Corrective Action Plan dated June 29, 2010 (document 0298.W5), with the following notable exceptions.

- Figure 8 shows that the extent of TPH-Stoddard solvent concentrations exceeding 10,000 ug/L is not as great as previously shown.
- Figure 11 and 12 show that PCE and TCE concentrations exceeding the May 2008 Table A RWQCB ESL were detected in DP4 indicating that PCE and TCE groundwater concentrations extend northward towards 2682 Coolidge Avenue and are presently not defined to the north.
- Figure 13 shows that cis-1,2-DCE concentrations exceeding 10,000 ug/L were encountered at DP1 and DP2, and exceeding 1,000 ug/L were encountered at MW2. These areas of cis-1,2-DCE concentrations exceeding 1,000 ug/L are identified on Figure 13 as two separate areas of elevated cis-1,2-DCE concentrations. Concentrations of cis-1,2-DCE exceeding the May 2008 Table A RWQCB ESL were detected in all of the wells except for MW1 and MW3. Cis-1,2-DCE concentrations have also increased in wells MW2 and MW4 since the previous sampling event. The cis-1,2-DCE concentrations in DP4 indicate that cis-1,2-DCE groundwater concentrations exceeding the ESL extend northward towards 2682 Coolidge Avenue and are presently not defined to the north.
- Figure 14 shows that vinyl chloride concentrations of 2,600 and 160 ug/L were encountered at DP1 and MW2, respectively. These two areas of vinyl chloride exceeding 100 ug/L are identified on Figure 14 as two separate areas of elevated vinyl chloride concentrations. In addition to locations DP1 and MW2, concentrations of vinyl chloride exceeding the May 2008 Table A RWQCB ESL were also detected at locations DP3 and DP4 at concentrations of 28 and 2.9 ug/L, respectively. The vinyl chloride concentration in well MW2 has increased since the previous sampling event. The vinyl chloride concentration in DP4 indicates that vinyl chloride groundwater concentrations exceeding the ESL extend northward towards 2682 Coolidge Avenue and are presently not defined to the north.

Although 2,600 ug/L vinyl chloride was detected in the groundwater sample collected from DP1, vinyl chloride has historically been detected in soil gas at location SG2 at a concentration of 60 ug/m3 (see Figure 2, see also Figure 19 of P&D's Draft Corrective Action Plan dated June 29, 2010). Similarly, P&D's September 15, 2010 Crawl Space Air Sampling Report (document 0298.R10) shows that vinyl chloride was not detected in any of the crawl space air samples that were collected from beneath 2682 Coolidge Avenue or 3320 Davis Street during either the February 19 or the August 9, 2010 air sampling events.

Table 1 and Figure 3 show that the water levels in October and November 2010 in wells DP1 and DP4 are approximately 4.5 to 5.0 feet lower than the water levels in nearby wells DP2, DP3 and MW2. In P&D's Draft Corrective Action Plan dated June 29, 2010 (document 0298.W5) P&D had proposed that a groundwater extraction test be performed at well DP1 for groundwater extraction design purposes. The objective of the groundwater extraction test was to evaluate the radius of influence and amount of drawdown that could be produced at wells DP2, DP3, DP4 and MW2 during extraction from well DP1. However, based on the differences in water levels between wells DP1 and DP4 and the nearby wells DP2, DP3 and MW2, it is presently unlikely that the effects of pumping will be measureable at locations DP2, DP3 and MW2.

P&D recommends that water level monitoring be continued on a monthly basis for all of the wells in the groundwater monitoring network to evaluate changes in water levels during the rainy season. P&D recommends that the proposed groundwater and vapor extraction feasibility tests be performed near the end of the second quarter of 2011 once water levels have been evaluated in the new wells during the rainy season and groundwater levels have receded adequately to expose the sand layer between the depths of 15 and 20 feet bgs that is shown on Figure 3.

P&D also recommends that the new wells DP1 through DP4 and previously existing well MW2 be sampled on a quarterly basis and that the previously existing wells MW1, MW3 and MW4 continue to be sampled on a semi-annual basis. P&D recommends that locations for additional groundwater grab samples to define the horizontal extent of petroleum and HVOCs in groundwater to the north of DP4 be further evaluated following a minimum of two quarterly well sampling events.

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. California Department of Water Resources well completion reports were provided to the ACPWA under separate cover.

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

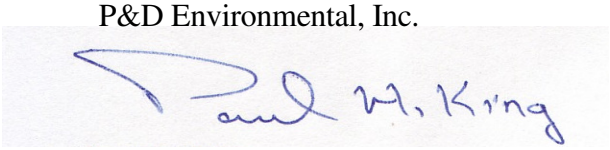
this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may not necessarily apply to the general site as a whole. If future subsurface or other conditions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

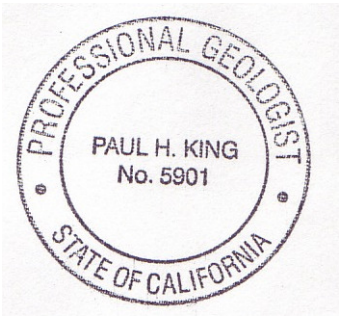
This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the 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 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: 12/31/11

Attachments:

Table 1 - Summary of Monitoring Well Groundwater Elevation Data
Table 2A - Summary of Groundwater Sample Results – DP1 through DP4 – TPH and MBTEX
Table 2B - Summary of Groundwater Sample Results – DP1 through DP4 – Chlorinated Hydrocarbons and Other VOCs
Table 3 - Summary of Groundwater Sample Results – MW1 through MW4

Figure 1 - Site Location Map
Figure 2 – Site Vicinity Map Detail Showing Sample Collection Locations and Geologic Cross Sections C-C', D-D', E-E', F-F', and G-G'
Figure 3 – Geologic Cross Section C-C' Showing TPH-Stoddard Solvent in Soil
Figure 4 – Geologic Cross Section D-D' Showing TPH-Stoddard Solvent in Soil
Figure 5 – Geologic Cross Section E-E' Showing TPH-Stoddard Solvent in Soil
Figure 6 – Geologic Cross Section F-F' Showing TPH-Stoddard Solvent in Soil
Figure 7 – Graph of Water Levels in Site Groundwater Monitoring Network Wells
Figure 8 – Site Vicinity Map Detail Showing TPH-Stoddard Solvent in Groundwater
Figure 9 – Site Vicinity Map Detail Showing Alternative Interpretation of TPH-Stoddard Solvent in Groundwater Using TPH-D Data
Figure 10 – Site Vicinity Map Detail Showing Benzene in Groundwater
Figure 11 – Site Vicinity Map Detail Showing PCE in Groundwater
Figure 12 – Site Vicinity Map Detail Showing TCE in Groundwater
Figure 13 – Site Vicinity Map Detail Showing cis-1,2-DCE in Groundwater
Figure 14 – Site Vicinity Map Detail Showing Vinyl Chloride in Groundwater

Appendix A - Boring Logs
Appendix B - Well Construction Diagrams
Appendix C - Survey Data
Appendix D - Well Development Data Sheets
Appendix E - Well Monitoring/Purge Data Sheets
Appendix F - Weather Information
Appendix G - Laboratory Analytical Reports and Chain of Custody Documentation

PHK/mld/sjc
0298.R11

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 (ft)
DP1	11/23/2010	137.22	26.47	110.75	0.24
	11/19/2010		26.71	110.51	0.13
	11/12/2010		26.84	110.38	-0.33
	10/15/2010***	136.39	25.68	110.71	-0.26
	10/5/2010*		25.42	110.97	0.33
	9/28/2010*		25.75	110.64	
DP2	11/23/2010	136.59	20.94	115.65	0.71
	11/19/2010		21.65	114.94	-0.07
	11/12/2010		21.58	115.01	0.35
	10/15/2010***	135.77	21.11	114.66	-0.15
	10/5/2010*		20.96	114.81	-1.39
	9/28/2010*		19.57	116.20	
DP3	11/23/2010	135.75	19.26	116.49	0.89
	11/19/2010		20.15	115.60	-0.09
	11/12/2010		20.06	115.69	0.47
	10/15/2010***	134.51	19.29	115.22	-0.15
	10/5/2010*		19.14	115.37	0.28
	9/28/2010*		19.42	115.09	
DP4	11/23/2010	137.60	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***	136.77	25.40	111.37	-0.37
	10/5/2010*		25.03	111.74	0.79
	9/28/2010*		25.82	110.95	
VE1	11/12/2010	136.64	No Water Encountered		
VE2	11/12/2010	137.20	17.26	119.94	N/A
MW1	11/19/2010	132.78	23.85	108.93	0.07
	10/15/2010		23.92	108.86	
MW2	11/23/2010	133.59	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	
MW3	11/19/2010	136.35	21.15	115.20	1.82
	10/15/2010		22.97	113.38	
MW4	11/19/2010	134.09	25.79	108.30	0.07
	10/15/2010		25.86	108.23	

NOTES:
* = Prior to well development.
** = Wells DP1 through DP4 surveyed on October 5, 2010.
*** = Extension added to PVC well pipe for DP1 through DP4 on November 10, 2010.
N/A = Not Applicable.

TABLE 2A
SUMMARY OF GROUNDWATER SAMPLE RESULTS - DP1 THROUGH DP4 - TPH AND MBTEX

Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-BO	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes
DP1	10/15/2010	**10,000, b,c,g**	**5,100, b,c,g**	**9,000, b,d,f**	**9,800, b,d,f**	ND<500	ND<500	ND<500	ND<500	ND<500
DP2	10/15/2010	**4,800, a,c**	**2,900, a, c**	**3,900, d,e**	**2,900, d,e**	ND<1,000	ND<1,000	ND<1,000	ND<1,000	ND<1,000
DP3	10/15/2010	**5,700, c**	**8,000, c**	**10,000, d,e,f**	**9,800, d,e,f**	ND<1.7	ND<1.7	2.7	4.0	**23**
DP4	10/15/2010	**1,800, c,g**	**1,500, c,g**	**1,200, d,e**	**920, d,e**	ND<1.7	ND<1.7	ND<1.7	ND<1.7	ND<1.7
ESL		*100*	*100*	*100*	*100*	*5.0*	*1.0*	*40*	*30*	20

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-BO = Total Petroleum Hydrocarbons as Bunker Oil
MTBE = Methyl tertiary-Butyl Ether
ND = Not Detected.
-- = 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 and Stoddard solvent consist of Stoddard Solvent/mineral spirit.
d = Laboratory Note: results reported as diesel and bunker oil consist of Stoddard Solvent/mineral spirit.
e = Laboratory Note: results reported as diesel and bunker oil consist of diesel range compounds; no recognizable pattern.
f = Laboratory Note: results reported as diesel and bunker oil consist of oil range compounds.
g = Laboratory Note: no recognizable pattern.
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.

TABLE 2B
SUMMARY OF GROUNDWATER SAMPLE RESULTS - DP1 THROUGH DP4 - CHLORINATED HYDROCARBONS AND OTHER VOCs

Well Number	Sample Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs by 8260B
DP1	10/15/2010	ND<500	ND<500	**17,000**	ND<500	**2,600**	All ND
DP2	10/15/2010	ND<1,000	ND<1,000	**22,000**	ND<1,000	ND<1,000	All ND
DP3	10/15/2010	ND<1.7	ND<1.7	**44**	4.5	**28**	ND, except: 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	10/15/2010	**22**	**40**	**80**	**33**	**2.9**	ND, except: tert-Butyl benzene = 3.8, 4-Isopropyl toluene = 4.5
ESL		*5.0*	*5.0*	*6.0*	*10*	*0.5*	Naphthalene = 17, 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

Abbreviations and Notes:
PCE = Tetrachloroethene.
TCE = Trichloroethene.
cis-1,2-DCE = cis-1,2-Dichloroethene.
trans-1,2-DCE = trans-1,2-Dichloroethene.
VOCs = Volatile Organic Compounds
ND = Not Detected.
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.

TABLE 3

SUMMARY OF GROUNDWATER SAMPLE RESULTS - MW1 THROUGH MW4

Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B
MW1	10/15/2010	ND<50	ND<50	ND<50	NA	ND<99	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	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
	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 3

SUMMARY OF GROUNDWATER SAMPLE RESULTS - MW1 THROUGH MW4

Well Number	Sample Date	TPH-G	TPH-SS	TPH-D	TPH-MO	TPH-BO	VOCs by 8260B
MW2 Continued	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	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
MW4	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
ESL		*100*	*100*	*100*	*100*	*100*	Benzene = 1.0, Toluene = 40, Ethylbenzene = 30, Xylenes = 20, Tetrachloroethene = 5.0, Trichloroethene = 5.0, 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-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

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.
-- = 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.
* = 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 analysisby 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

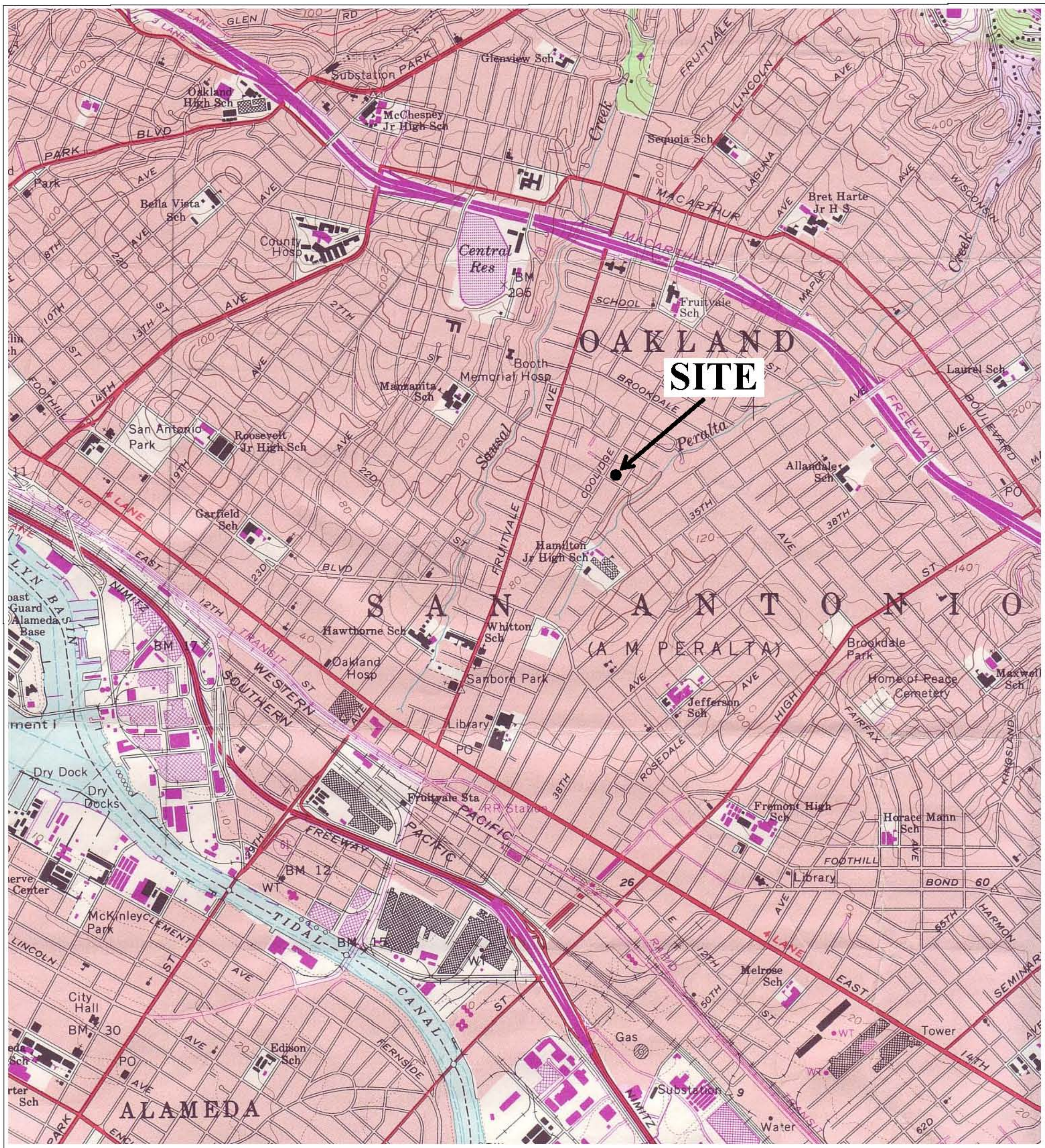


Figure 1
Site Location Map
Snow Cleaners
2678 Coolodge Avenue
Oakland, California

N

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

0 1,000 2,000
Scale In Feet

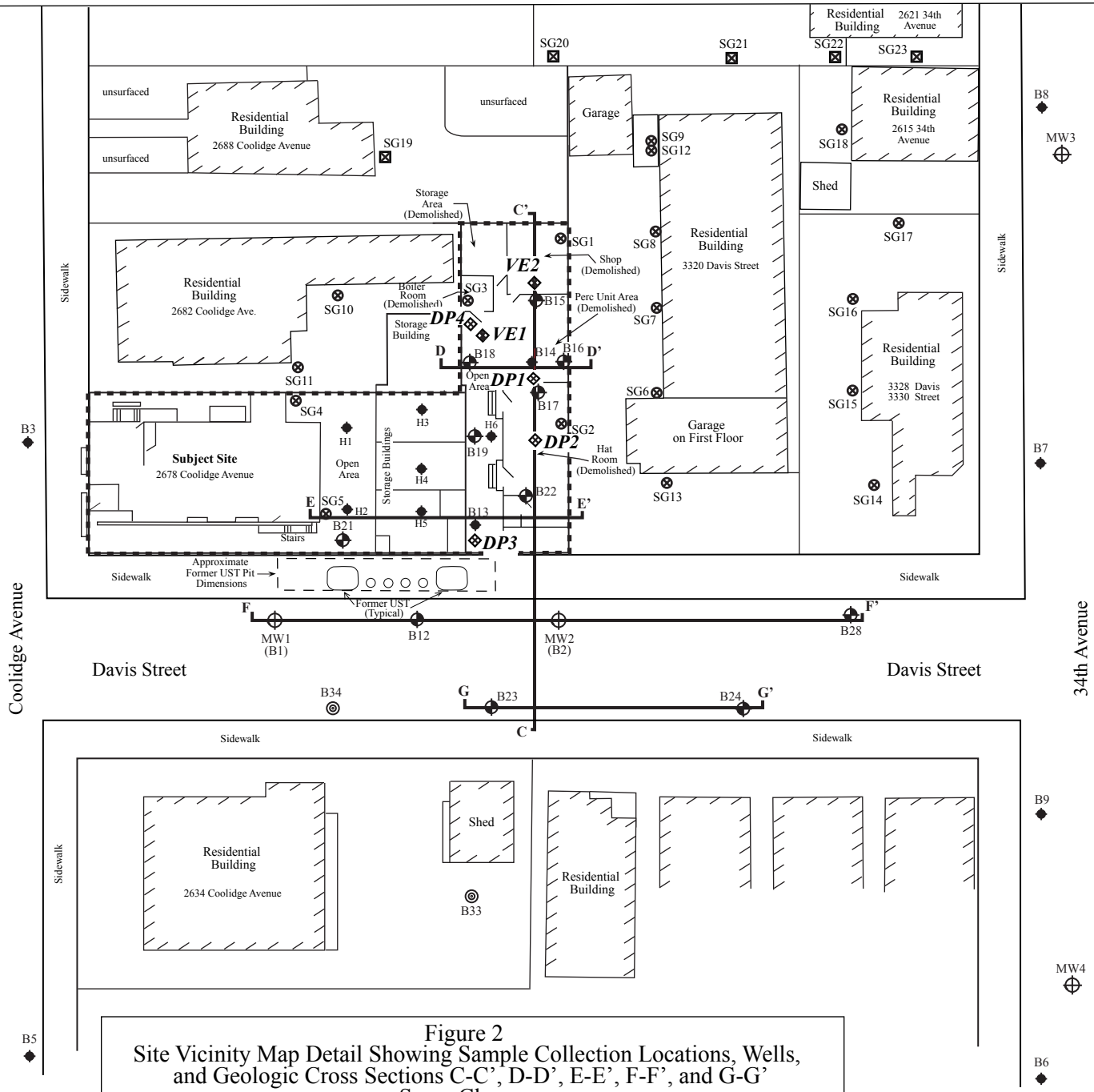


Figure 2
Site Vicinity Map Detail Showing Sample Collection Locations, Wells, and Geologic Cross Sections C-C', D-D', E-E', F-F', and G-G'
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

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

0 20 40
Scale in Feet

N

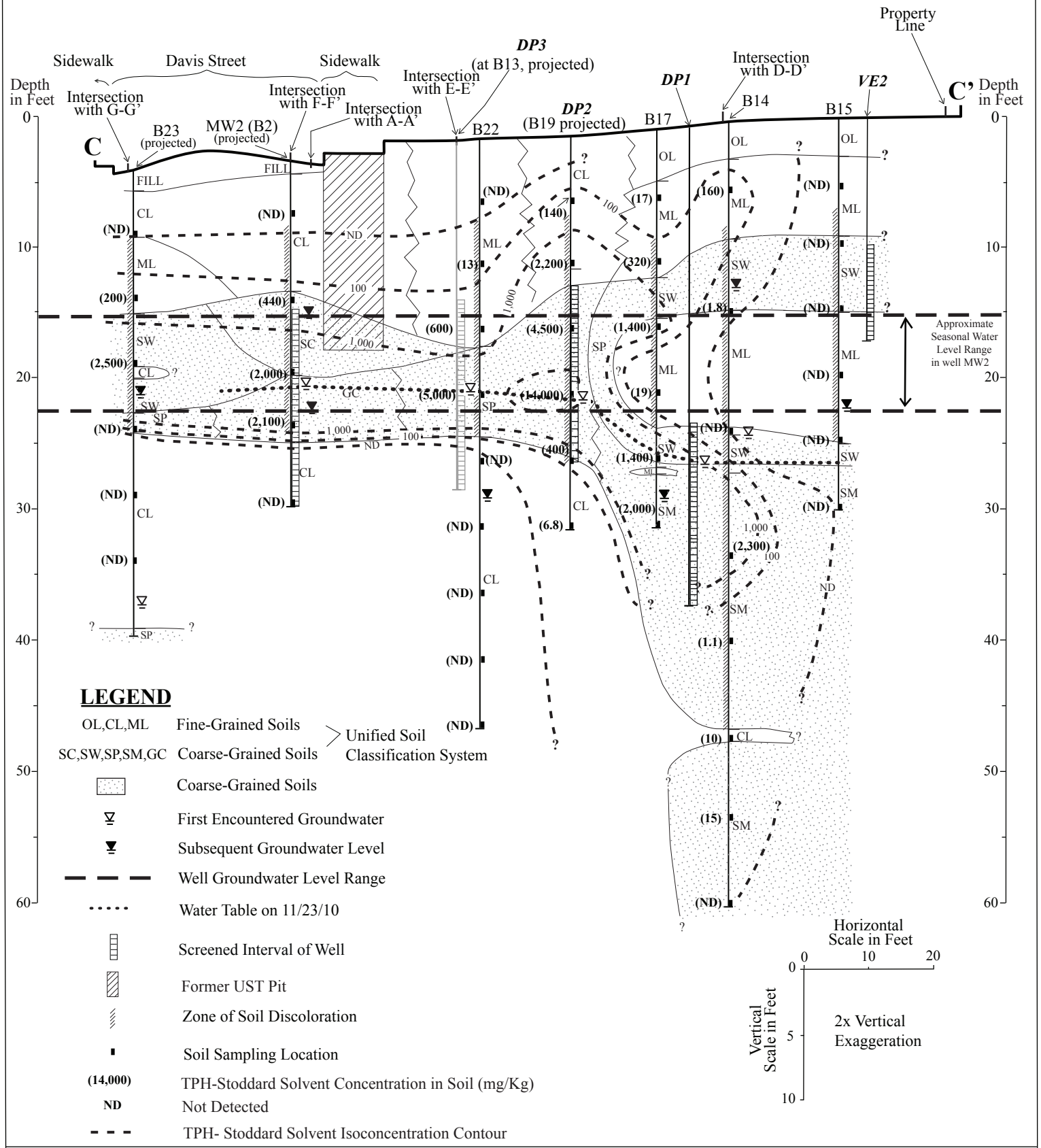


Figure 3
Geologic Cross Section C-C' Showing TPH-Stoddard Solvent in Soil
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

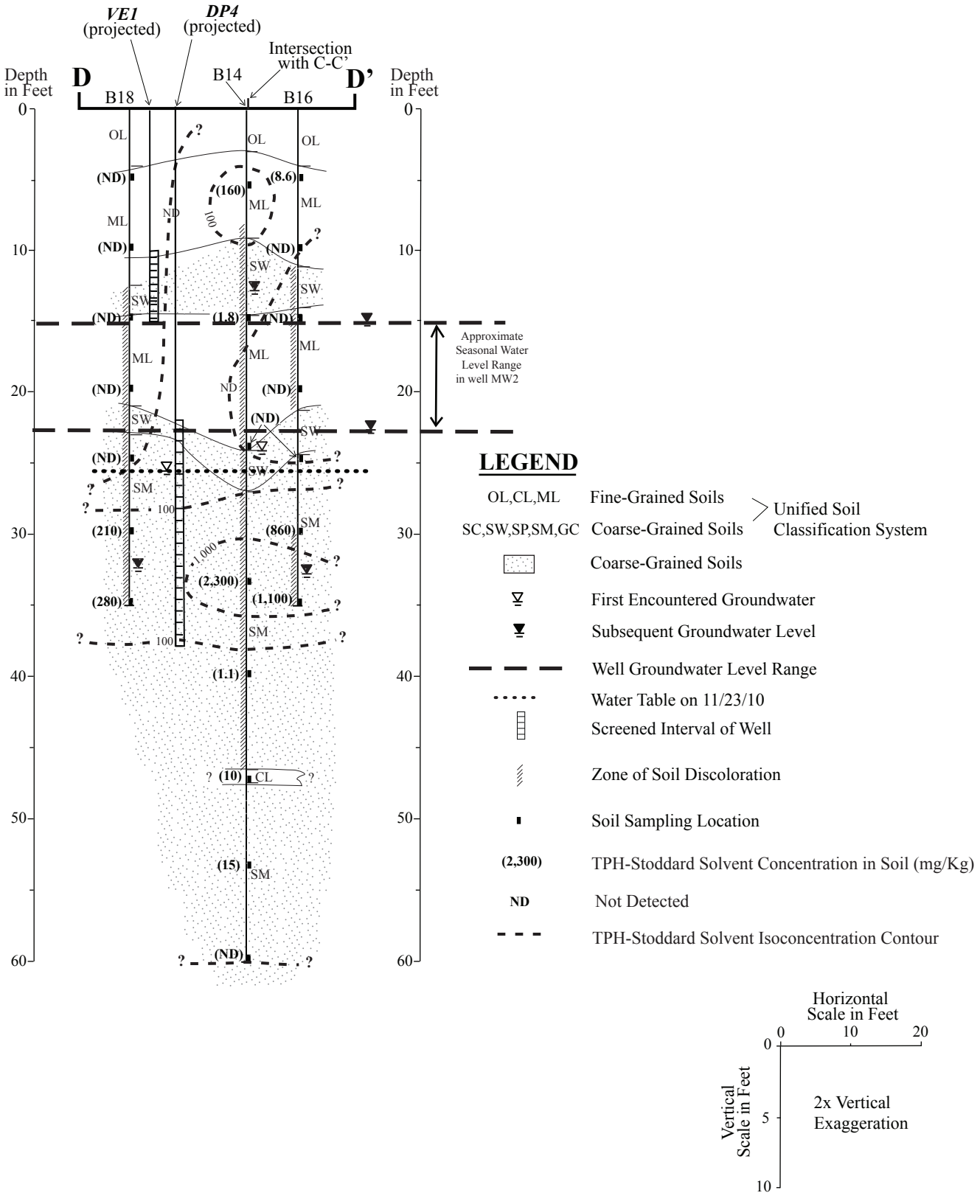


Figure 4
Geologic Cross Section D-D' Showing TPH-Stoddard Solvent in Soil
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

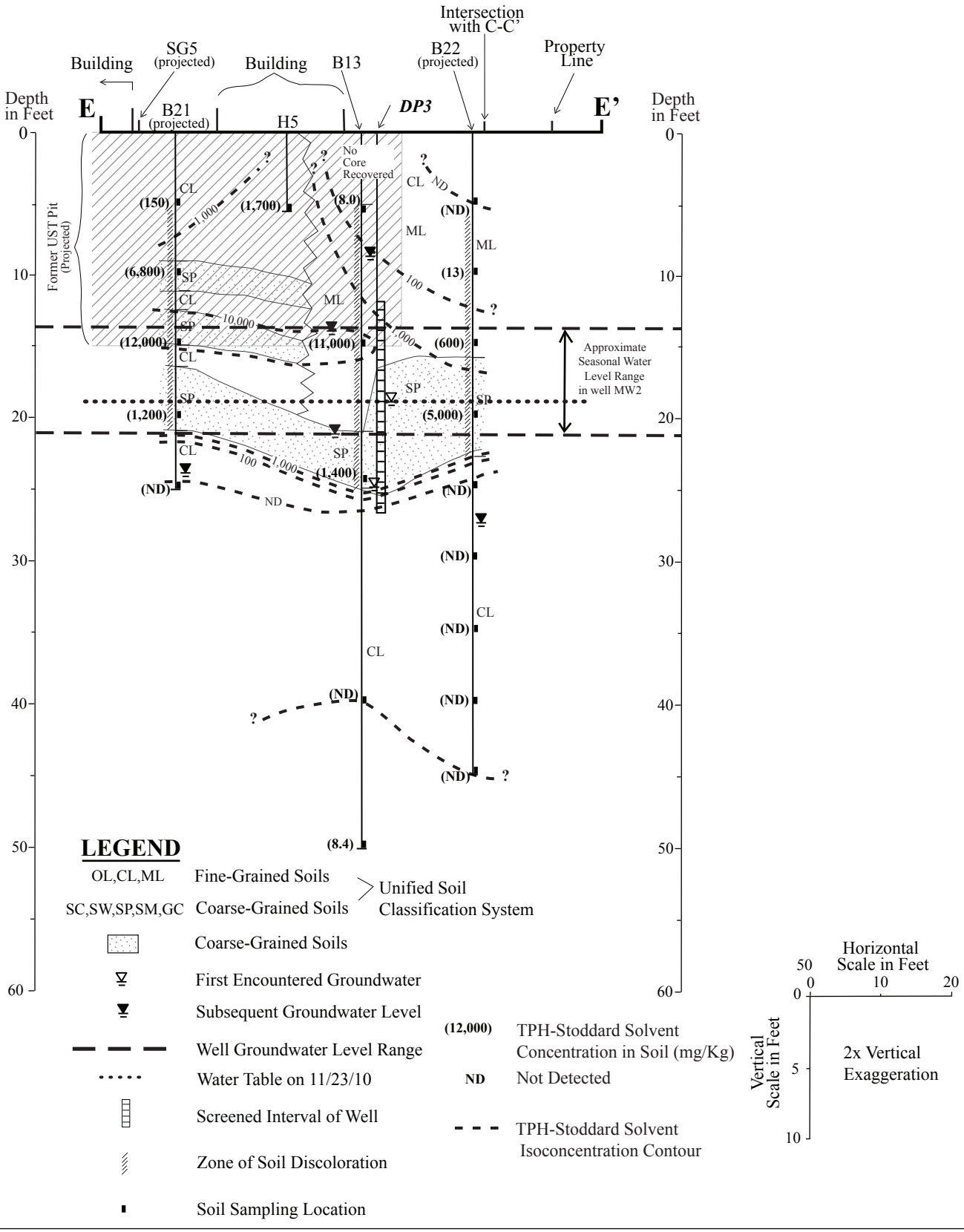


Figure 5
Geologic Cross Section E-E' Showing TPH-Stoddard Solvent in Soil
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

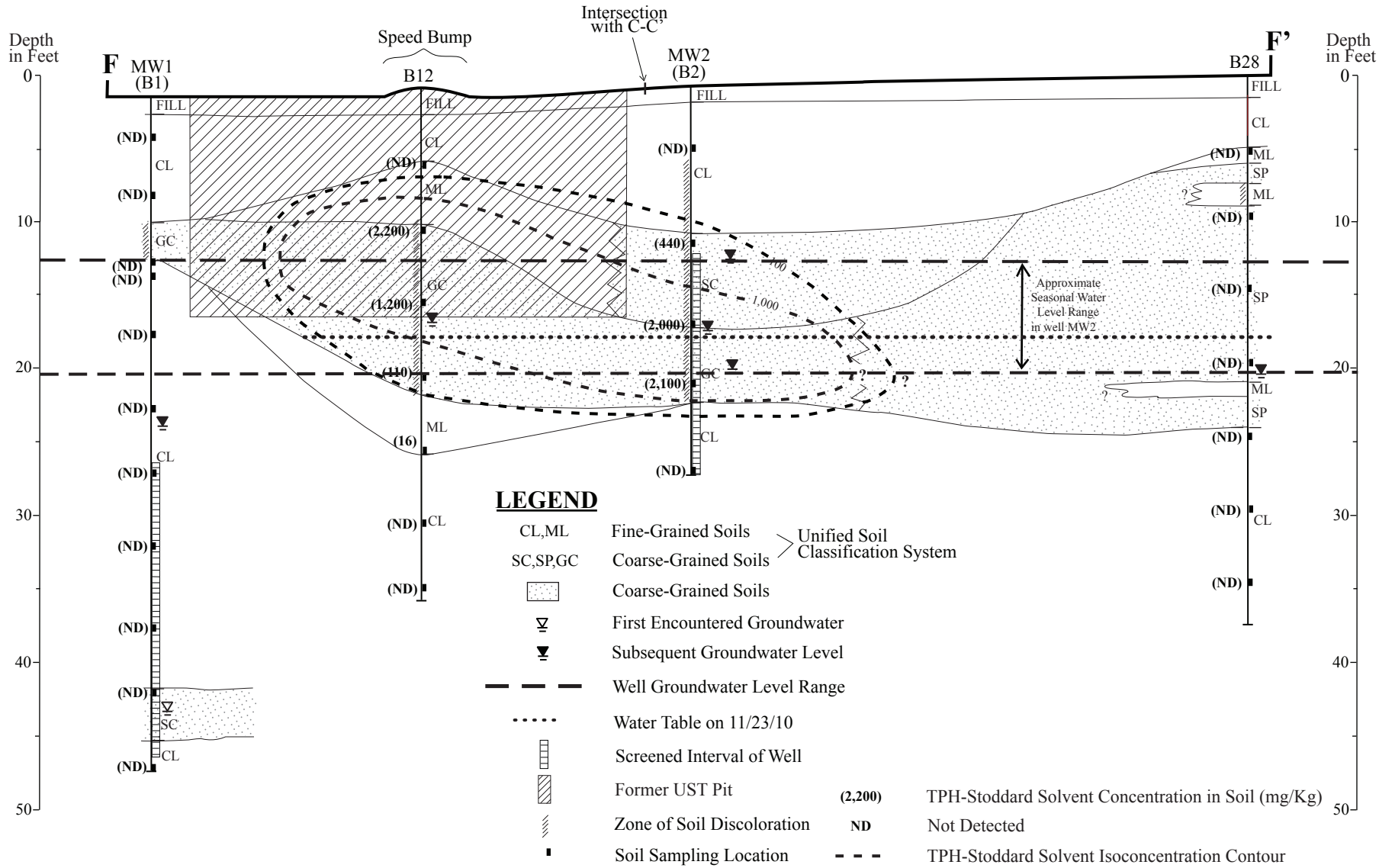
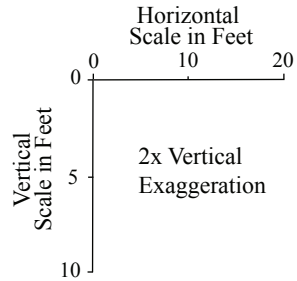


Figure 6
Geologic Cross Section F-F' Showing TPH-Stoddard Solvent in Soil
Snow Cleaners
2678 Coolidge Avenue
Oakland, California



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

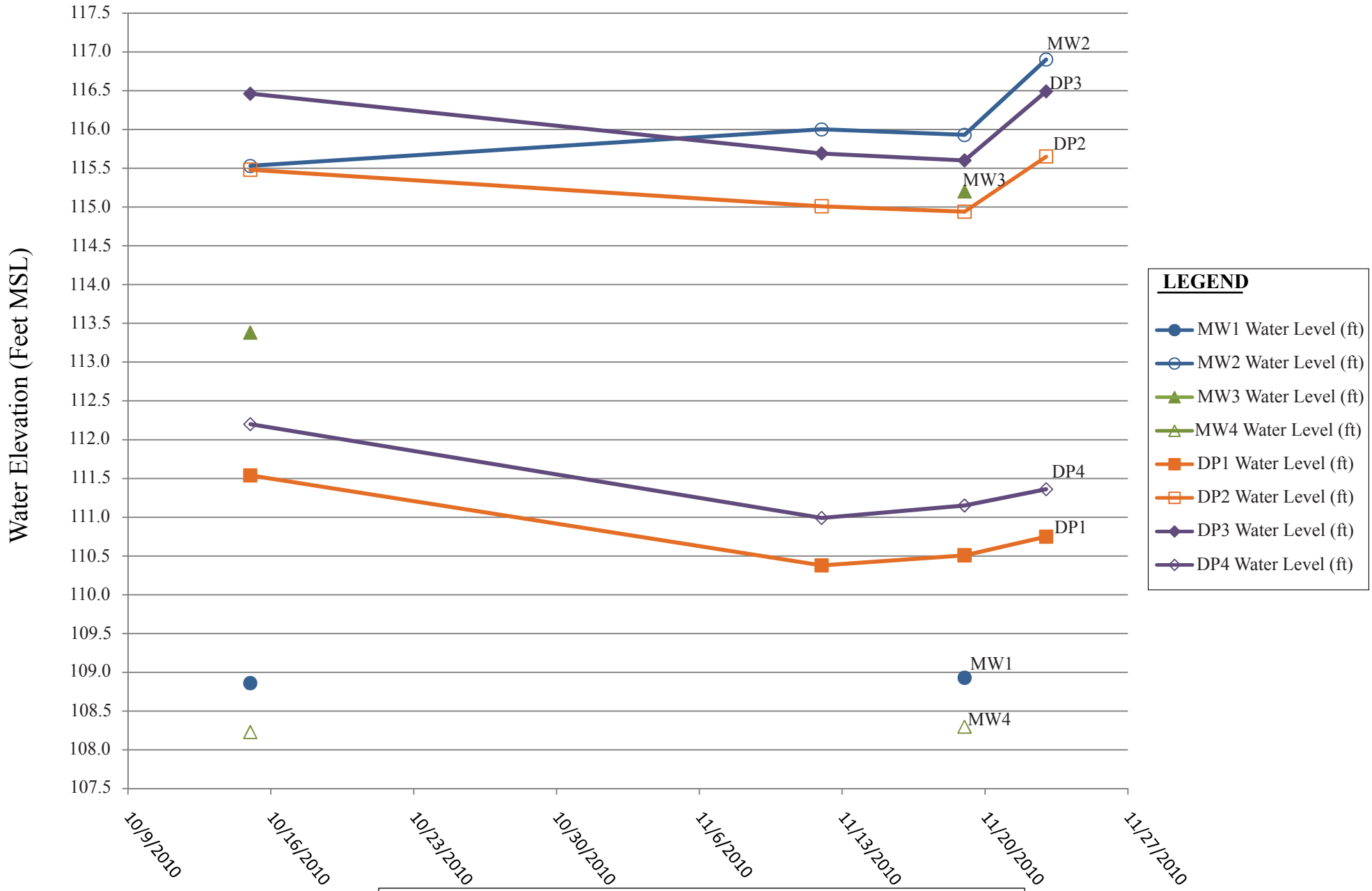


Figure 7
Graph of Water Levels in Site Groundwater Monitoring Network Wells
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

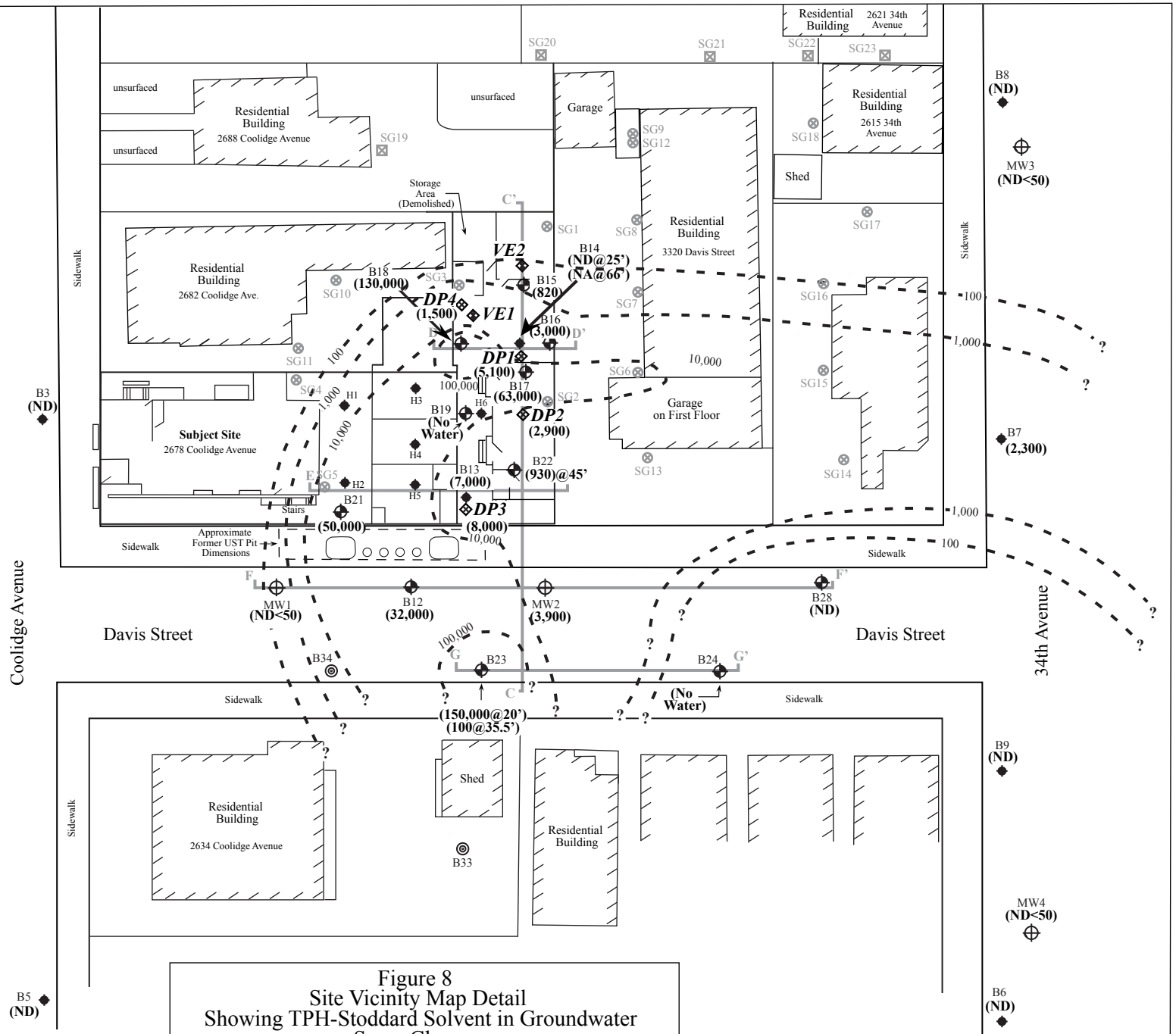


Figure 8
Site Vicinity Map Detail
Showing TPH-Stoddard Solvent in Groundwater
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

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

0 20 40
Scale in Feet

N

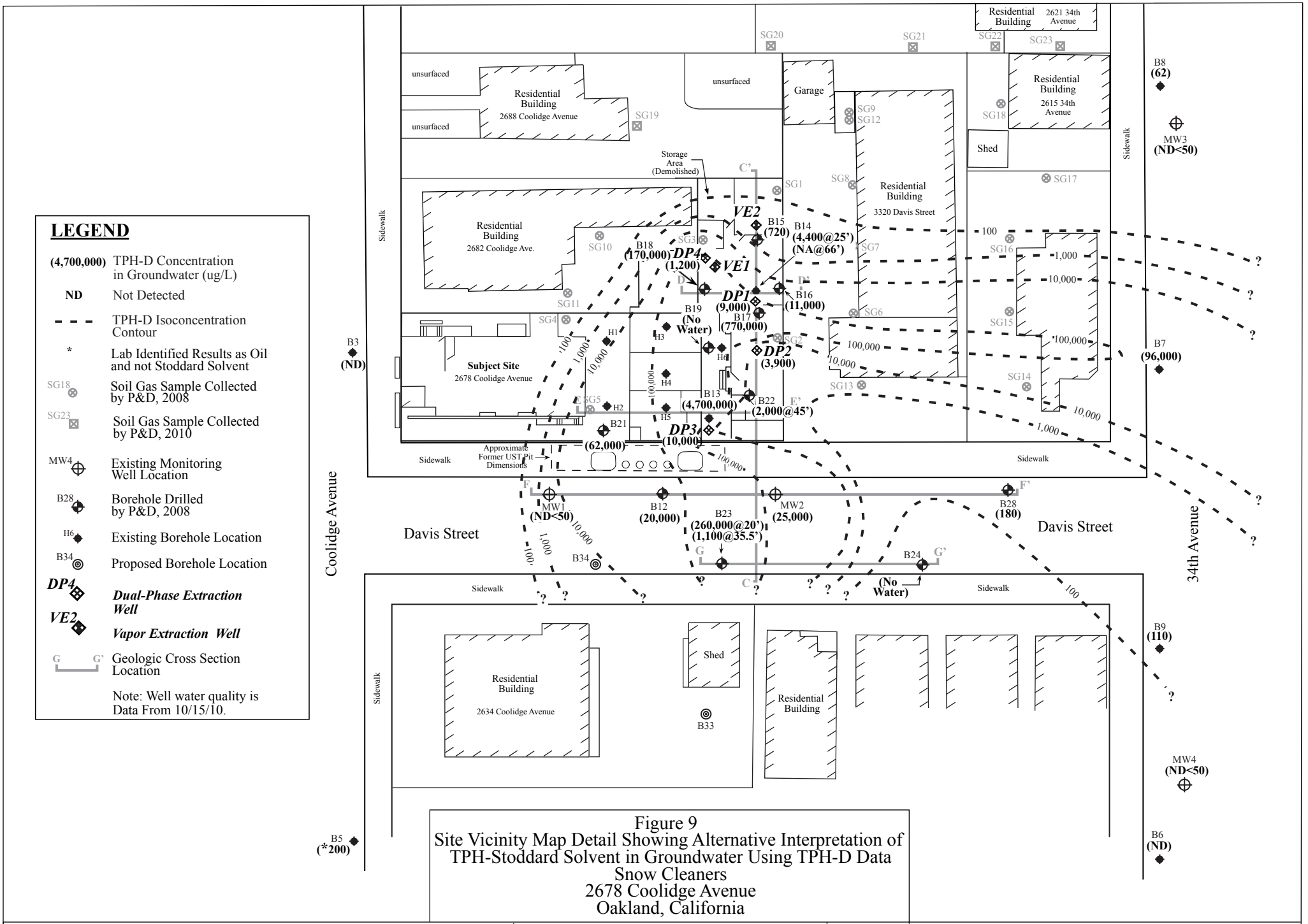


Figure 9
Site Vicinity Map Detail Showing Alternative Interpretation of TPH-Stoddard Solvent in Groundwater Using TPH-D Data
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

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

0 20 40
Scale in Feet

N

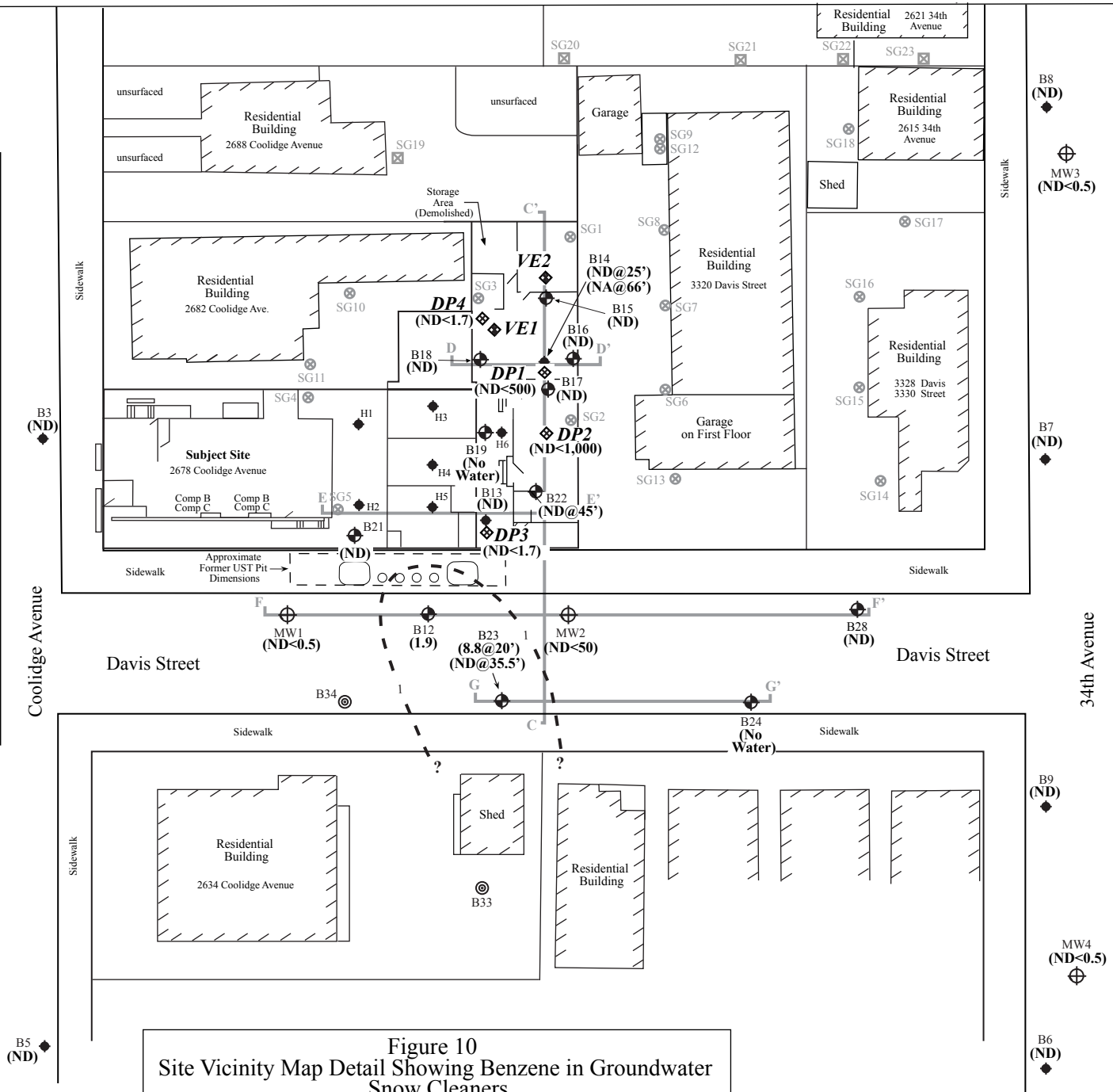


Figure 10
Site Vicinity Map Detail Showing Benzene in Groundwater
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

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

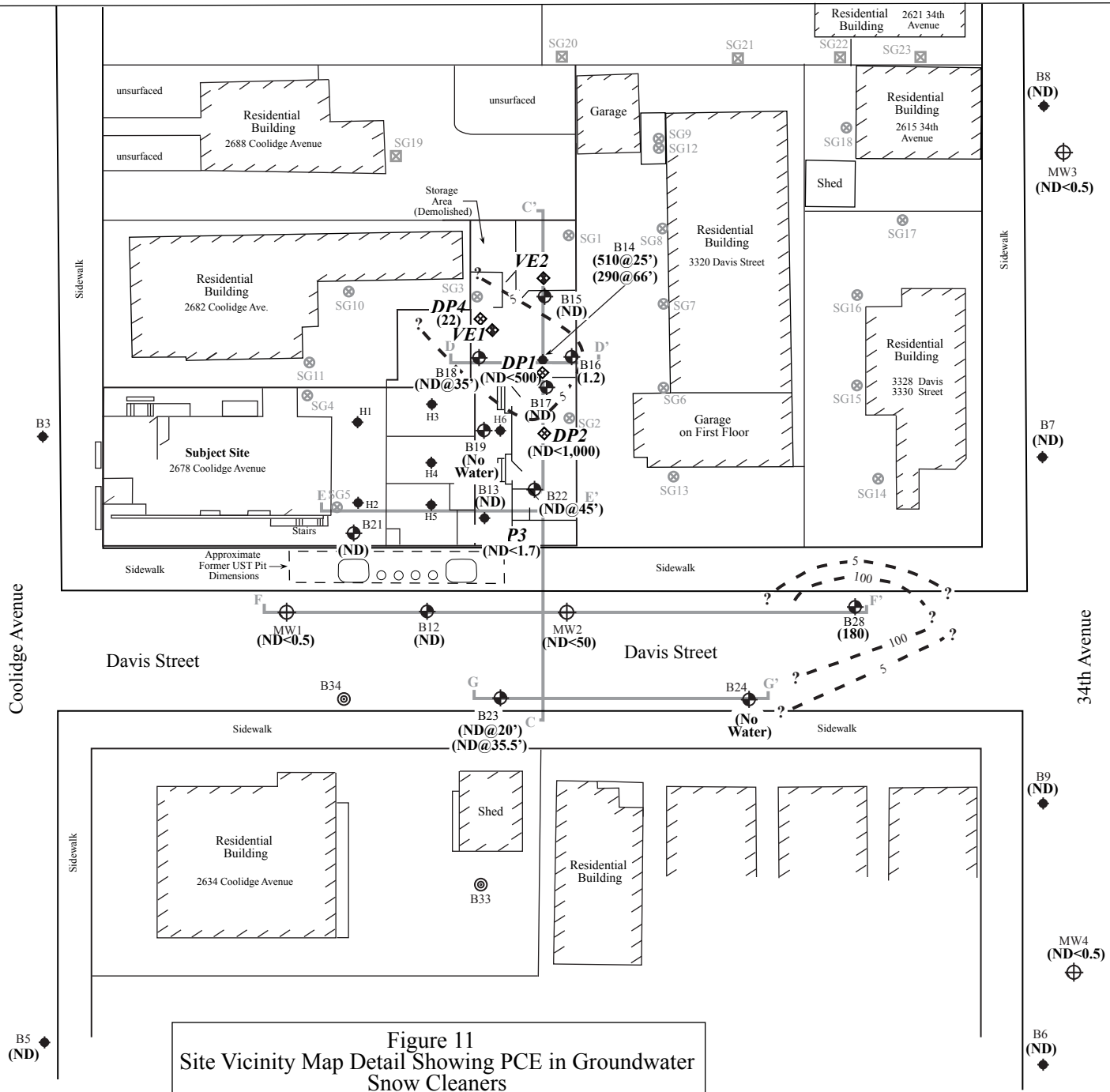


Figure 11
Site Vicinity Map Detail Showing PCE in Groundwater
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

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

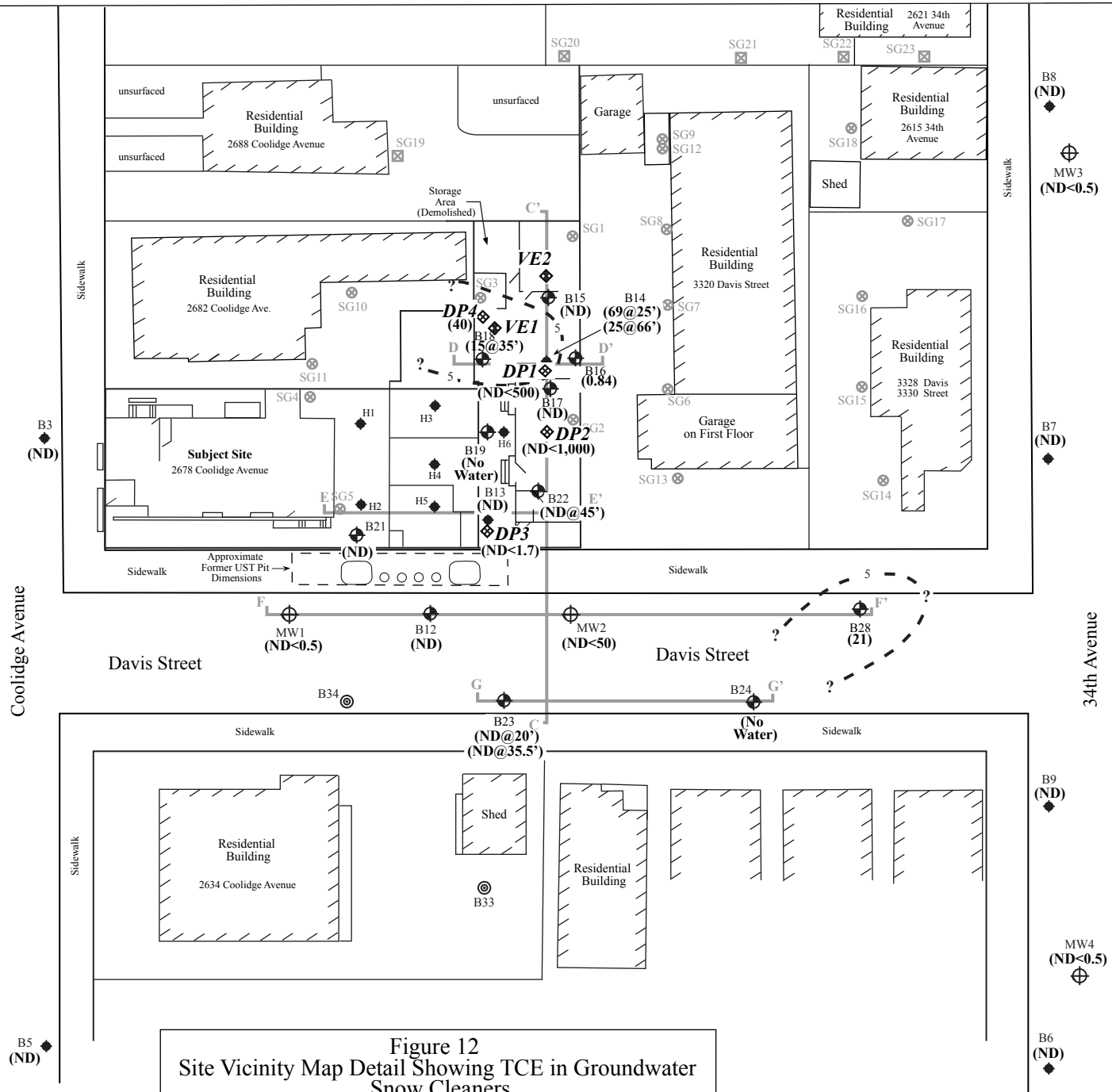


Figure 12
Site Vicinity Map Detail Showing TCE in Groundwater
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

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

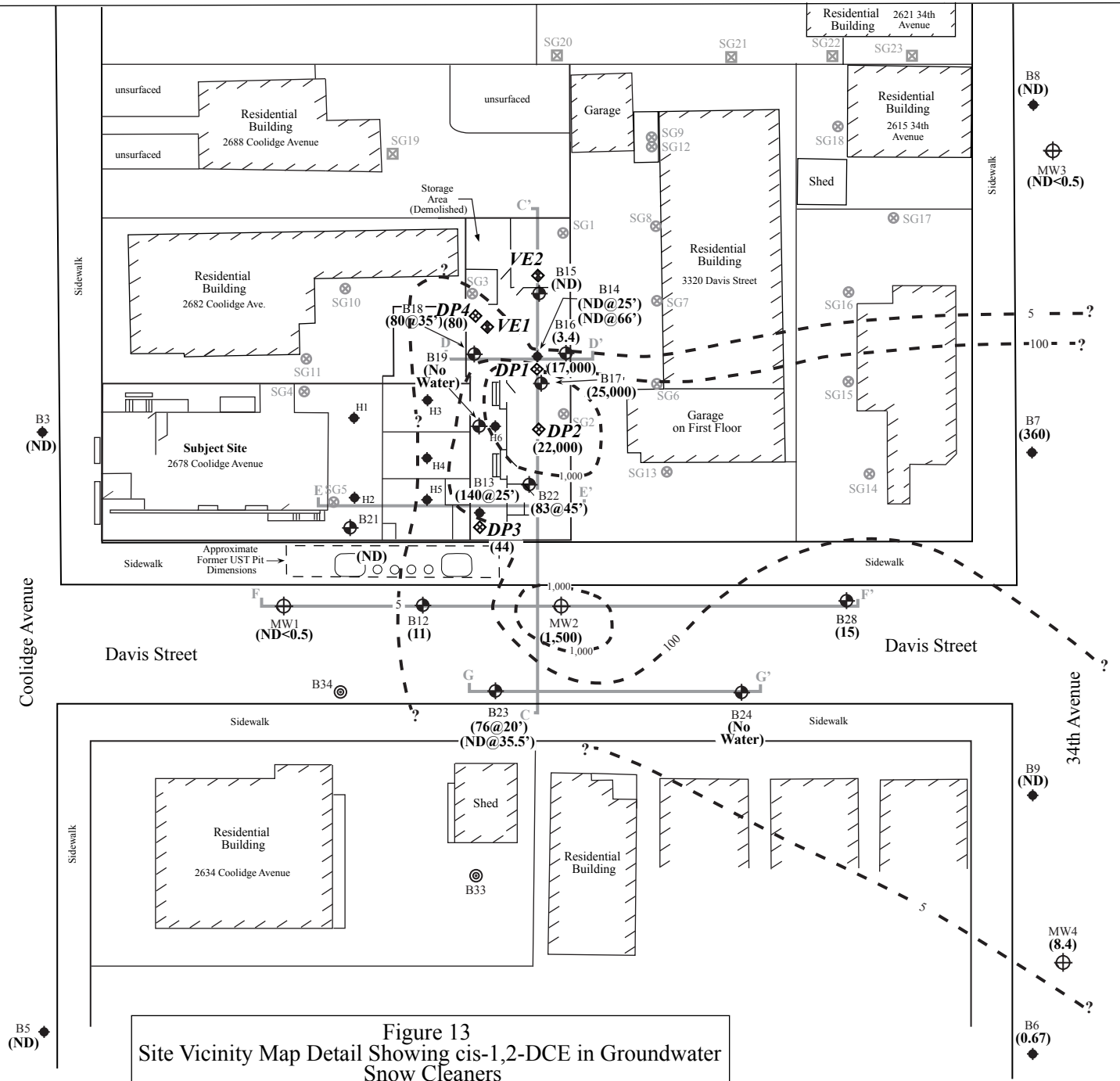


Figure 13
Site Vicinity Map Detail Showing cis-1,2-DCE in Groundwater
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

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

0 20 40
Scale in Feet

N

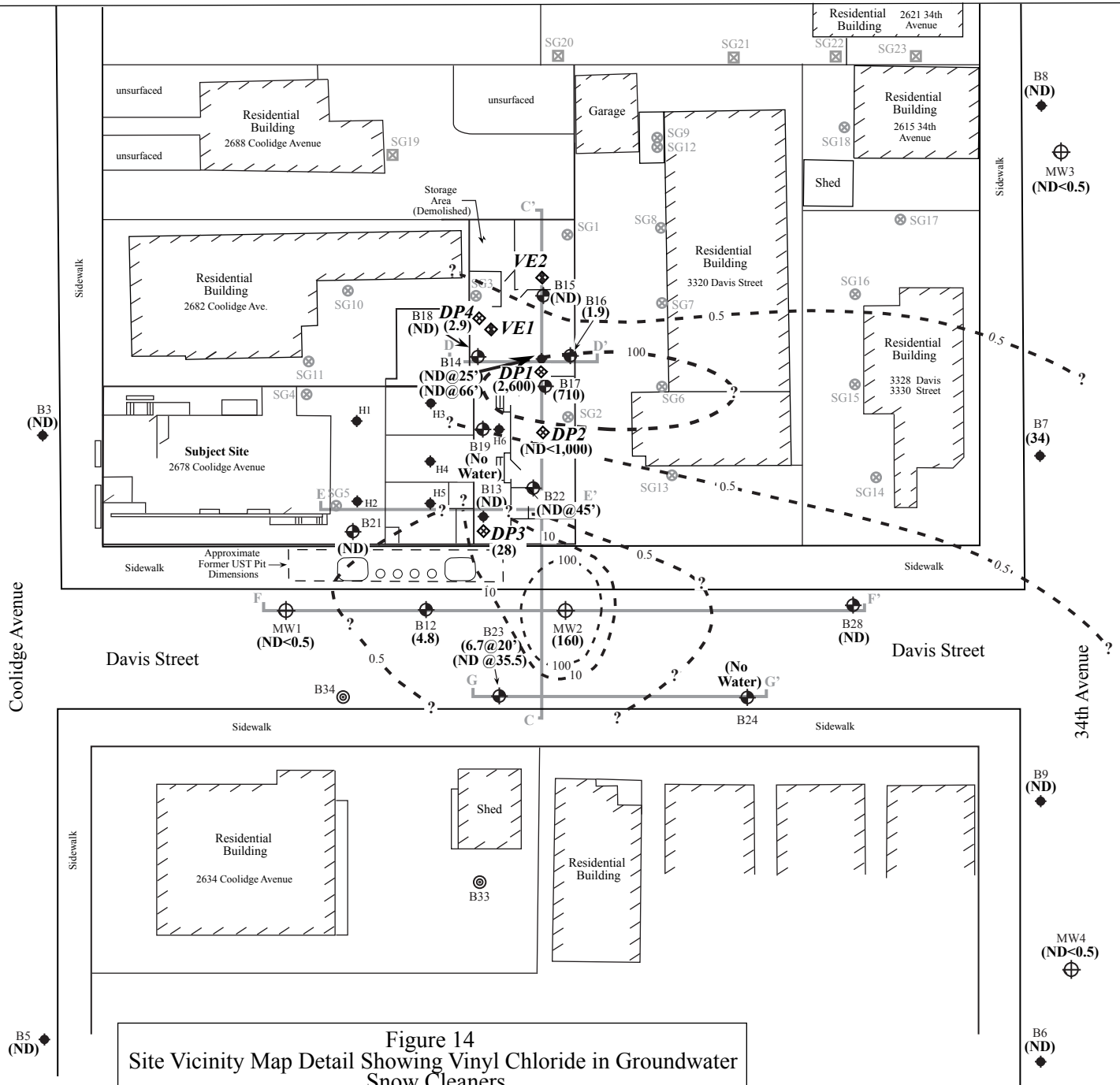


Figure 14
Site Vicinity Map Detail Showing Vinyl Chloride in Groundwater
Snow Cleaners
2678 Coolidge Avenue
Oakland, California

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

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

APPENDIX A

Boring Logs

P&D ENVIRONMENTAL, INC.

BORING NO.: DP1	PROJECT NO.: 0298	PROJECT NAME: Snow Cleaners, 2678 Coolidge Avenue, Oakland	
BORING LOCATION: In Rear Yard of Subject Site Approximately 60 feet NNE of Davis Street		ELEVATION AND DATUM: None	
DRILLING AGENCY: Exploration Geoservices	DRILLER: John	DATE & TIME STARTED: 9/28/10 1230	DATE & TIME FINISHED: 9/28/10 1500
DRILLING EQUIPMENT: Mobile B-40 Hollow Stem Auger			
COMPLETION DEPTH: 37.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLD	CHECKED BY: PMK
FIRST WATER DEPTH: 28.0 Feet	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 3.5 ft. Dark brown organic clay (OL); medium stiff, moist. No Petroleum Hydrocarbon (PHC) or Solvent odor.	OL		See Well Construction Diagram	0	Borehole drilled from 0.0 to 37.0 ft using a truck-mounted 12-inch O.D. hollow stem auger drill rig.
5	3.5 to 10.5 ft. Brown silt (ML); stiff, moist. No PHC or Solvent odor.	ML			0	Soil collected for lithologic logging using a 2-inch O.D. California Modified split spoon sampler driven by a 140-pound down-hole hammer falling 30 inches.
	8.0 ft. Bluish gray staining with slight PHC (Stoddard solvent) odor.				3	
10			8 8 9		8	
	10.5 to 15.0 ft. Greenish gray gravelly silty sand (SW); medium dense, moist, with abundant angular gravel to 1-inch diameter, and orange and black mottling. Moderate PHC (Stoddard solvent) odor.	SW				
15			4 5 8		2	
	15.0 to 22.5 ft. Greenish gray silt (ML); stiff, moist. Slight PHC (Stoddard solvent) odor at 16.0 ft.	ML				
20					0	
			10 14 23		218	
	22.5 to 26.0 ft. Orange-brown gravelly silty sand (SW); dense, moist. Strong PHC (Stoddard solvent) odor at 23.0 ft.	SW				
25				▼		Water encountered at 28.0 ft during drilling. From top of PVC well casing water level measured at 25.83 ft. at 1530 and again at 25.82 at 1550. Final water level measured at 25.75 ft at 1600.
	26.0 to 37.0 ft. Gray gravelly silty sand (SM); dense, moist, with some angular to sub-rounded gravel <0.75-inch diameter. Strong PHC (Stoddard solvent) odor. Saturated at 28.0 ft.	SM		▽	558	
30						

P&D ENVIRONMENTAL, INC.

BORING NO.: DP1	PROJECT NO.: 0298	PROJECT NAME: Snow Cleaners, 2678 Coolidge Avenue, Oakland	
BORING LOCATION: In Rear Yard of Subject Site Approximately 60 feet NNE of Davis Street		ELEVATION AND DATUM: None	
DRILLING AGENCY: Exploration Geoservices	DRILLER: John	DATE & TIME STARTED: 9/28/10 1230	DATE & TIME FINISHED: 9/28/10 1500
DRILLING EQUIPMENT: Mobile B-40 Hollow Stem Auger			
COMPLETION DEPTH: 37.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLD	CHECKED BY: PHK
FIRST WATER DEPTH: 28.0 Feet	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
30	26.0 to 37.0 ft. Gray gravelly silty sand (SM); dense, moist, with some angular to subrounded gravel <0.75-inch diameter. Strong PHC (Stoddard solvent) odor. Saturated at 28.0 ft.	SM		See Well Construction Diagram	0	
35					514	
						Borehole terminated at 37.0 ft. and well constructed in borehole on 9/28/10.

P&D ENVIRONMENTAL, INC.

BORING NO.: DP2	PROJECT NO.: 0298	PROJECT NAME: Snow Cleaners, 2678 Coolidge Avenue, Oakland	
BORING LOCATION: In Rear Yard of Subject Site Approximately 45 feet NNE of Davis Street		ELEVATION AND DATUM: None	
DRILLING AGENCY: Exploration Geoservices	DRILLER: John	DATE & TIME STARTED: 9/27/10 1230	DATE & TIME FINISHED: 9/27/10 1600
DRILLING EQUIPMENT: Mobile B-40 Hollow Stem Auger			
COMPLETION DEPTH: 29.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLD	CHECKED BY: PHK
FIRST WATER DEPTH: 24.0 Feet	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
				See Well Construction Diagram	0	Borehole drilled from 0.0 to 25.0 ft. using a truck-mounted 12-inch O.D. hollow stem auger drill rig.
	0.0 to 11.0 ft. Brown silt (ML); very stiff, dry to moist, with bluish gray mottling at 9.0 ft. Slight Petroleum Hydrocarbon (PHC) (Stoddard solvent) odor.					
5		ML			3	Soil collected for lithologic logging using a 2-inch O.D. California Modified split spoon sampler driven by a 140-pound down-hole hammer falling 30 inches.
	0.0 to 3.0 ft. Angular to sub-angular gravel to 1-inch diameter.					
			4 6 11 5			
10					3	
			7 12		123	
15						
	11.0 to 24.5 ft. Bluish gray gravelly silty sand (SW); medium dense, moist. Strong PHC (Stoddard solvent) odor.	SW				Water encountered during drilling at 24.0 ft. From top of PVC well casing water level measured at 18.49 ft. at 1442, and again at 19.44 at 1557. Final water level measured at 19.57 ft at 1620.
20				▼		Ms. Vicky Hamlin with ACPWA on site to observe and document pouring of sanitary seal.
	22.0 to 23.0 ft. Abundant sub-rounded gravel to 1-inch diameter.					
	23.5 to 24.5 ft. increase in clay content.			▽		The portion of the borehole from 25.0 to 29.0 ft that was created with the 2-inch diameter O.D. California modified split spoon sampler was backfilled to 25.0 ft. with bentonite pellets.
	Saturated at 24.0 ft.				98	
25			10 12			
	24.5 to 29.0 ft. Light brown silty clay (CL); hard, moist, with orange and black mottling. No PHC or Solvent odor at 25.5 ft.	CL	18 10 13 24 5 6 6		3 0	Borehole terminated at 25.0 ft. and well constructed in borehole on 9/27/10.
30						

P&D ENVIRONMENTAL, INC.

BORING NO.: DP3	PROJECT NO.: 0298	PROJECT NAME: Snow Cleaners, 2678 Coolidge Avenue, Oakland	
BORING LOCATION: Adjacent to Rear Yard of Subject Site Approximately 2 feet NNE of sidewalk		ELEVATION AND DATUM: None	
DRILLING AGENCY: Exploration Geoservices	DRILLER: John	DATE & TIME STARTED: 9/27/10 0850	DATE & TIME FINISHED: 9/27/10 1530
DRILLING EQUIPMENT: Mobile B-40 Hollow Stem Auger			
COMPLETION DEPTH: 27.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLD	CHECKED BY: PHK
FIRST WATER DEPTH: 23.0 Feet	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.3 ft. concrete.			See Well Construction Diagram		Borehole drilled from 0.0 to 27.0 ft. using a truck-mounted 12-inch O.D. hollow stem auger drill rig.
	0.3 to 5.0 ft. Brown clay (CL); stiff, moist. Strong Petroleum Hydrocarbon (PHC) (Stoddard solvent) odor.	CL			0	
	Bluish gray staining at 4.0 ft.				219	
5						Soil collected for lithologic logging using a 2-inch O.D. California Modified split spoon sampler driven by a 140-pound down-hole hammer falling 30 inches.
10	5.0 to 16.5 ft. Greenish gray sandy silt (ML); medium stiff, moist, with orange and black mottling. Strong PHC (Stoddard solvent) odor.	ML			103	
	Coarse sand from 5.0 to 10.0 ft.					
	Angular to sub-rounded gravel <1-inch diameter from 10.0 to 20.0 ft.					
15			8			
			8		525	
			8			
			8			
			10			
20	16.5 to 25.5 ft. Bluish gray fine sand (SP); medium stiff, moist to saturated at 23.0 ft. Strong PHC (Stoddard solvent) odor.	SP	10	▼		Water encountered during drilling at 23.0 ft. From top of PVC well casing water level measured at 20.49 ft. at 1110, and again at 19.87 at 1250. Final water level measured at 19.42 ft at 1610.
	Intervals of coarse sand and angular to sub-rounded gravel to 0.75-inch diameter. between 17.5 to 18.0 ft. and 23.0 to 25.5 ft.			▽		
			8			Ms. Vicky Hamlin with ACPWA on site to observe and document pouring of sanitary seal.
25			12		208	
			13			
			8			
			15			
	25.5 to 27.0 ft. Brown silty clay (CL); hard, moist, with orange and bluish gray mottling. Slight PHC (Stoddard solvent) odor.	CL	22		6	
						Borehole terminated at 27.0 ft. and well constructed in borehole on 9/27/10.
30						

P&D ENVIRONMENTAL, INC.

BORING NO.: DP4	PROJECT NO.: 0298	PROJECT NAME: Snow Cleaners, 2678 Coolidge Avenue, Oakland	
BORING LOCATION: In Rear Yard of Subject Site Approximately 70 feet NNE of Davis Street		ELEVATION AND DATUM: None	
DRILLING AGENCY: Exploration Geoservices	DRILLER: John	DATE & TIME STARTED: 9/28/10 0845	DATE & TIME FINISHED: 9/28/10 1600
DRILLING EQUIPMENT: Mobile B-40 Hollow Stem Auger			
COMPLETION DEPTH: 38.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLD	CHECKED BY: PHK
FIRST WATER DEPTH: 30.0 Feet	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.3 ft. concrete.					
	0.3 to 4.0 ft. Dark brown organic clay (OL); medium stiff, moist. No Petroleum Hydrocarbon (PHC) or Solvent odor.	OL		See Well Construction Diagram	0	Borehole drilled from 0.0 to 38.0 ft. using a truck-mounted 12-inch O.D. hollow stem auger drill rig.
5	4.0 to 12.5 ft. Brown silt (ML); stiff, moist. No PHC or Solvent odor.	ML			0	Soil collected for lithologic logging using a 2-inch O.D. California Modified split spoon sampler driven by a 140-pound down-hole hammer falling 30 inches.
10	6.0 to 12.5 ft. clayey.					
	12.5 to 14.5 ft. Greenish gray gravelly silty sand (SW); medium dense, moist, with angular gravel < 1-inch diameter, and orange and black mottling. No PHC or Solvent odor.	SW			0	
15	14.5 to 21.5 ft. Greenish gray silt (ML); stiff, moist. No PHC or Solvent odor .	ML				
20	18.0 to 21.5 ft. orange mottling.				0	
	21.5 to 23.0 ft. Grayish brown gravelly silty sand (SW); very dense, moist to wet at 23.0 ft., with orange mottling and abundant angular to sub-rounded gravel <1-inch diameter. No PHC or Solvent odor.	SW	18 30 32		3	
25	23.0 to 38.0 ft. Gray gravelly silty sand (SM); loose, moist to saturated, with some angular to sub-rounded gravel to 0.75-inch diameter. Strong PHC (Stoddard solvent) odor. Saturated at 30.0 ft.	SM		▼		Water encountered during drilling at 30.0 ft. From top of PVC well casing water level measured at 26.98 ft. at 1226 and again at 25.60 at 1311. Final water level measured at 25.82 ft at 1630.
30				▽	82	

P&D ENVIRONMENTAL, INC.

BORING NO.: DP4	PROJECT NO.: 0298	PROJECT NAME: Snow Cleaners, 2678 Coolidge Avenue, Oakland	
BORING LOCATION: In Rear Yard of Subject Site Approximately 70 feet NNE of Davis Street		ELEVATION AND DATUM: None	
DRILLING AGENCY: Exploration Geoservices	DRILLER: John	DATE & TIME STARTED: 9/28/10 0845	DATE & TIME FINISHED: 9/28/10 1600
DRILLING EQUIPMENT: Mobile B-40 Hollow Stem Auger			
COMPLETION DEPTH: 38.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLD	CHECKED BY: PHK
FIRST WATER DEPTH: 30.0 Feet	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
30	23.0 to 38.0 ft. Gray gravelly silty sand (SM); loose, moist to saturated, with some angular to sub-rounded gravel to 0.75-inch diameter. Strong PHC (Stoddard solvent) odor. Saturated at 30.0 ft.	SM		See Well Construction Diagram	138 281	
35						Borehole terminated at 38.0 ft. and well constructed in borehole on 9/28/10.

P&D ENVIRONMENTAL, INC.

BORING NO.: VE1	PROJECT NO.: 0298	PROJECT NAME: Snow Cleaners, 2678 Coolidge Avenue, Oakland	
BORING LOCATION: In Rear Yard of Subject Site Approximately 70 feet NNE of Davis Street		ELEVATION AND DATUM: None	
DRILLING AGENCY: Exploration Geoservices	DRILLER: John	DATE & TIME STARTED: 9/27/10 1445	DATE & TIME FINISHED: 9/27/10 1630
DRILLING EQUIPMENT: Mobile B-40 Hollow Stem Auger			
COMPLETION DEPTH: 15.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLD	CHECKED BY: PHK
FIRST WATER DEPTH: Not Encountered	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.3 ft. concrete.			See Well Construction Diagram		
	0.3 to 4.0 ft. Dark brown organic clay and silt (OL); medium stiff, moist. No Petroleum Hydrocarbon (PHC) or Solvent odor.	OL			0	Borehole drilled from 0.0 to 15.0 ft. using a truck-mounted 12-inch O.D. hollow stem auger drill rig.
5	4.0 to 8.0 ft. Brown silt (ML); medium stiff, moist. No PHC or Solvent odor.	ML			0	Soil collected for lithologic logging using a 2-inch O.D. California Modified split spoon sampler driven by a 140-pound down-hole hammer falling 30 inches.
	8.0 to 10.5 ft. Greenish brown silty clay (CL); very stiff, moist, with some angular coarse sand. Slight PHC (Stoddard solvent) odor.	CL			4	Water not encountered during drilling
10	10.5 to 11.5 ft. Greenish gray gravelly silty sand (SW); loose, moist, with angular coarse gravel to 0.5-inch diameter. Slight PHC (Stoddard solvent) odor.	SW	3 6 10			
	11.5 to 15.0 ft. Greenish gray clayey silt (ML); stiff, moist. No PHC or Solvent odor.	ML	6 5 5		4	Ms. Vicky Hamlin with ACPWA on site to observe and document pouring of sanitary seal.
15						Borehole terminated at 15.0 ft. and well constructed in borehole on 9/27/10.
20						
25						
30						

P&D ENVIRONMENTAL, INC.

BORING NO.: VE2	PROJECT NO.: 0298	PROJECT NAME: Snow Cleaners, 2678 Coolidge Avenue, Oakland	
BORING LOCATION: In Rear Yard of Subject Site Approximately 75 feet NNE of Davis Street		ELEVATION AND DATUM: None	
DRILLING AGENCY: Exploration Geoservices	DRILLER: John	DATE & TIME STARTED: 9/29/10 0800	DATE & TIME FINISHED: 9/29/10 0930
DRILLING EQUIPMENT: Mobile B-40 Hollow Stem Auger			
COMPLETION DEPTH: 17.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLD	CHECKED BY: PHK
FIRST WATER DEPTH: Not Encountered	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.3 ft. concrete. 0.3 to 3.0 ft. Dark brown organic clay and silt (OL); stiff, moist. No Petroleum Hydrocarbon (PHC) or Solvent odor.	OL		See Well Construction Diagram	0	Borehole drilled from 0.0 to 17.0 ft. using a truck-mounted 12-inch O.D. hollow stem auger drill rig.
5	3.0 to 9.0 ft. Brown silt (ML); stiff, moist, mottled bluish gray. Slight PHC (Stoddard solvent) odor.	ML			8	Soil collected for lithologic logging using a 2-inch O.D. California Modified split spoon sampler driven by a 140-pound down-hole hammer falling 30 inches.
10	9.0 to 15.0 ft. Greenish gray gravelly silty sand (SW); medium dense, with abundant angular gravel <1-inch diameter, and orange and black mottling. Slight PHC (Stoddard solvent) odor.	SW	6 7 7		6	Water not encountered during drilling
15	15.0 to 17.0 ft. Greenish gray sandy silt (ML); stiff, moist, with minor angular gravel to 0.25-inch diameter. Slight PHC (Stoddard solvent) odor.	ML	4 4 8		2 0	
20						Borehole terminated at 17.0 ft. and well constructed in borehole on 9/29/10.
25						
30						

APPENDIX B

Well Construction Diagrams

P&D ENVIRONMENTAL, INC.

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

WELL CONSTRUCTION DIAGRAM

PROJECT NUMBER 0298

PROJECT NAME Snow Cleaners, Oakland

COUNTY Alameda

WELL PERMIT NO. W2010-0674

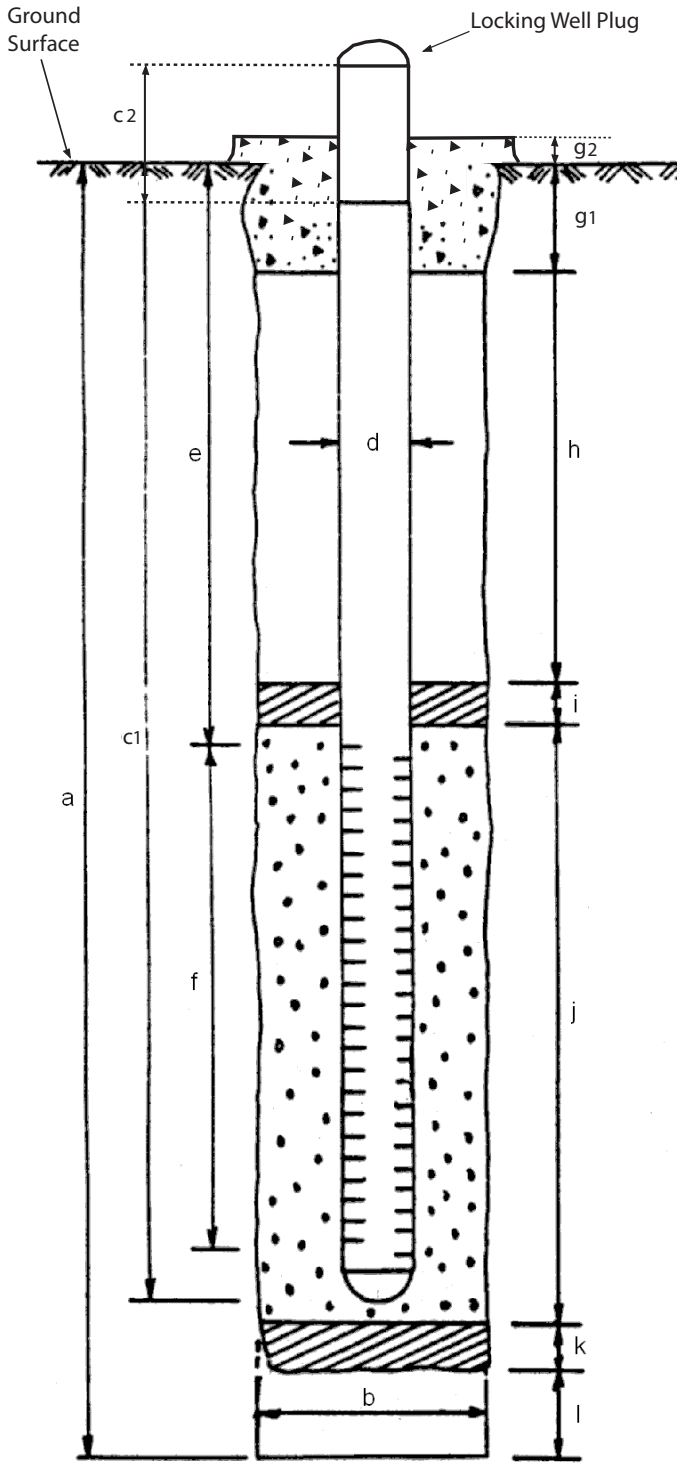
BORING/WELL NO. DP1

TOP OF CASING ELEV. 136.39 + 0.83 = 137.22

GROUND SURFACE ELEVATION 136.85

DATUM 11.5 ft., NAVD88

DATE(S) CONSTRUCTED 9/28/10, See Notes



EXPLORATORY BORING

a. Total depth 37.0* ft.

b. Diameter 12.0 in.

Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c1. Casing length 36.7 ft.

c2. Casing Extension length 0.8 ft.

Material Schedule 40 PVC

d. Diameter 4.0 in.

e. Depth to top of perforations 23.0* ft.

f. Perforated length 14.0 ft.

Perforated interval from 23.0 to 37.0 ft.*

Perforation type Factory Slotted PVC

Perforation size 0.020 in.

g1. Surface sanitary seal 1.0 ft.

g2. Surface sanitary seal 0.2 ft.

Seal material Concrete

h. Sanitary seal 20.0 ft.

Seal material Portland cement type I-II

i. Filter pack seal 1.0 ft.

Seal material Bentonite

j. Filter pack length 15.0 ft.

Filter pack interval from 22.0 to 37.0 ft.*

Pack material # 2/12 sand

k. Bottom seal 0.0 ft.

Seal material None

l. Sluff in bottom of borehole 0.0 ft.

Note 1: PVC casing extended 0.83 ft. 11/10/10. Surface sanitary seal (g1 and g2) extended from 1.0 ft. below ground surface to approximately 0.2 ft. above ground surface 11/10/10. No permanent well cover constructed over well pipe.
Note 2: * = Measured from ground surface.

P&D ENVIRONMENTAL, INC.

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

WELL CONSTRUCTION DIAGRAM

PROJECT NUMBER 0298

PROJECT NAME Snow Cleaners, Oakland

COUNTY Alameda

WELL PERMIT NO. W2010-0674

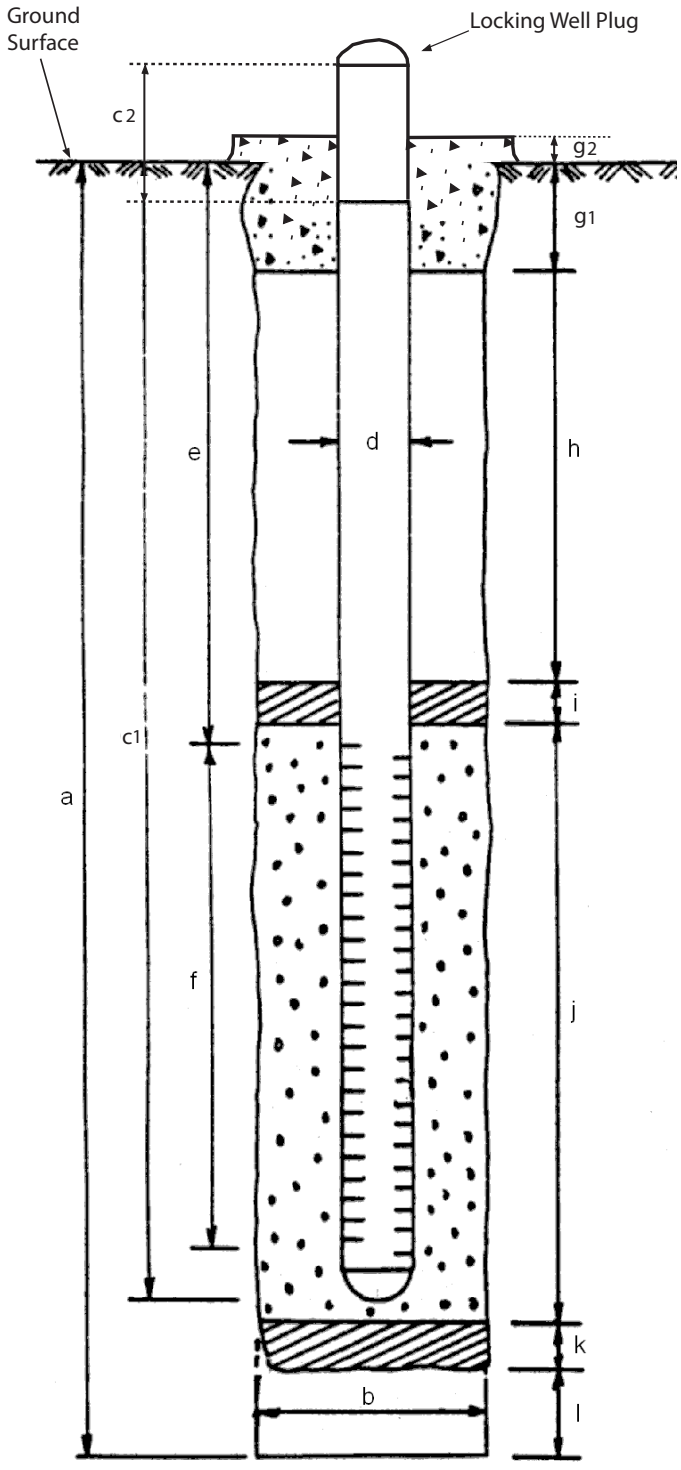
BORING/WELL NO. DP2

TOP OF CASING ELEV. 135.77 + 0.82 = 136.59

GROUND SURFACE ELEVATION 136.00

DATUM 11.5 ft., NAVD88

DATE(S) CONSTRUCTED 9/27/10, See Notes



EXPLORATORY BORING

a. Total depth 29.0* ft.

b. Diameter 12.0 in.

Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c1. Casing length 24.7 ft.

c2. Casing Extension length 0.8 ft.

Material Schedule 40 PVC

d. Diameter 4.0 in.

e. Depth to top of perforations 11.0* ft.

f. Perforated length 14.0 ft.

Perforated interval from 11.0 to 25.0 ft.*

Perforation type Factory Slotted PVC

Perforation size 0.020 in.

g1. Surface sanitary seal 1.0 ft.

g2. Surface sanitary seal 0.2 ft.

Seal material Concrete

h. Sanitary seal 8.0 ft.

Seal material Portland cement type I-II

i. Filter pack seal 1.0 ft.

Seal material Bentonite

j. Filter pack length 15.0 ft.

Filter pack interval from 10.0 to 25.0 ft.*

Pack material # 2/12 sand

k. Bottom seal 4.0 ft.

Seal material Bentonite

l. Sluff in bottom of borehole 0.0 ft.

Note 1: PVC casing extended 0.82 ft. 11/10/10. Surface sanitary seal (g1 and g2) extended from 1.0 ft. below ground surface to approximately 0.2 ft. above ground surface 11/10/10. No permanent well cover constructed over well pipe.
Note 2: * = Measured from ground surface.

P&D ENVIRONMENTAL, INC.

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

WELL CONSTRUCTION DIAGRAM

PROJECT NUMBER 0298

PROJECT NAME Snow Cleaners, Oakland

COUNTY Alameda

WELL PERMIT NO. W2010-0674

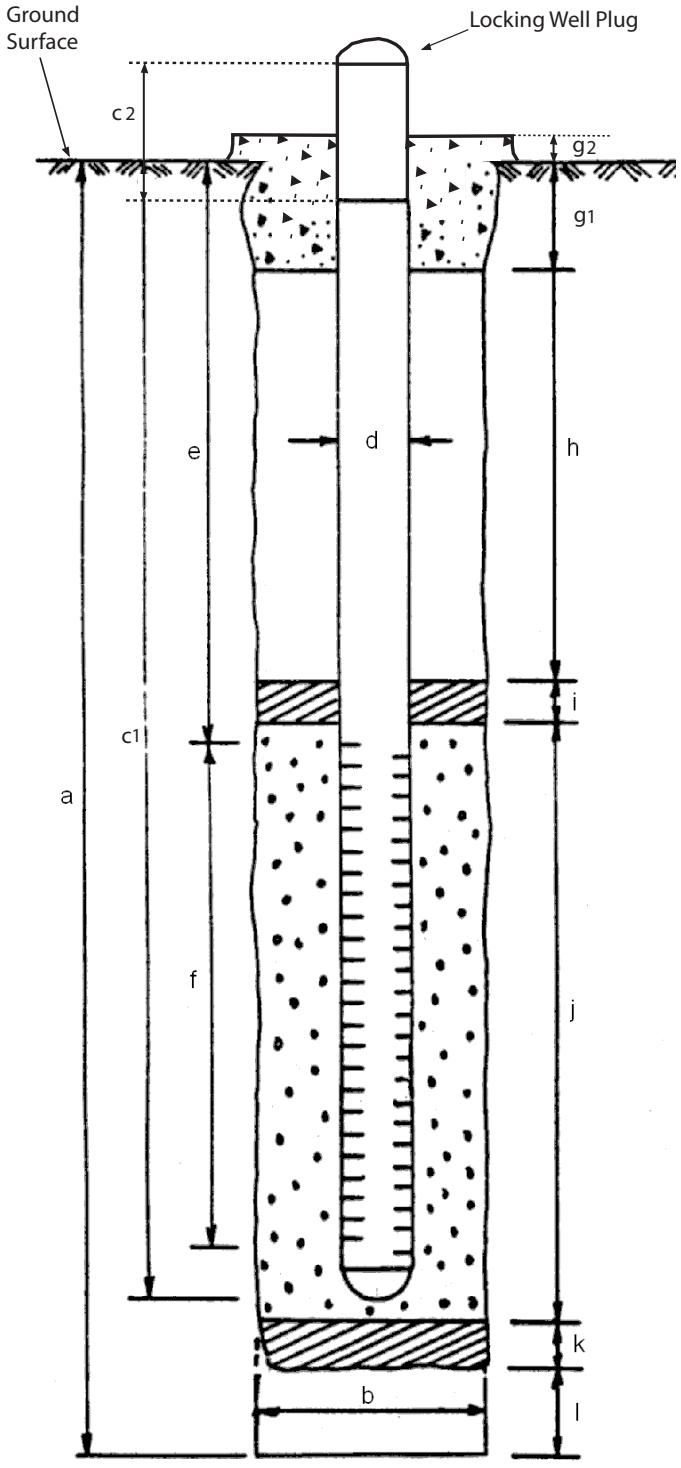
BORING/WELL NO. DP3

TOP OF CASING ELEV. 134.51 + 1.24 = 135.75

GROUND SURFACE ELEVATION 135.30

DATUM 11.5 ft., NAVD88

DATE(S) CONSTRUCTED 9/27/10, See Notes



EXPLORATORY BORING

a. Total depth 27.0* ft.

b. Diameter 12.0 in.

Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c1. Casing length 26.5 ft.

c2. Casing Extension length 1.2 ft.

Material Schedule 40 PVC

d. Diameter 4.0 in.

e. Depth to top of perforations 13.0* ft.

f. Perforated length 14.0 ft.

Perforated interval from 13.0 to 27.0 ft.*

Perforation type Factory Slotted PVC

Perforation size 0.020 in.

g1. Surface sanitary seal 1.5 ft.

g2. Surface sanitary seal 0.2 ft.

Seal material Concrete

h. Sanitary seal 9.5 ft.

Seal material Portland cement type I-II

i. Filter pack seal 1.0 ft.

Seal material Bentonite

j. Filter pack length 15.0 ft.

Filter pack interval from 12.0 to 27.0 ft.*

Pack material # 2/12 sand

k. Bottom seal 0.0 ft.

Seal material None

l. Sluff in bottom of borehole 0.0 ft.

Note 1: PVC casing extended 1.24 ft. 11/10/10. Surface sanitary seal (g1 and g2) extended from 1.5 ft. below ground surface to approximately 0.2 ft. above ground surface 11/10/10. No permanent well cover constructed over well pipe.
Note 2: * = Measured from ground surface.

P&D ENVIRONMENTAL, INC.

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

WELL CONSTRUCTION DIAGRAM

PROJECT NUMBER 0298

PROJECT NAME Snow Cleaners, Oakland

COUNTY Alameda

WELL PERMIT NO. W2010-0674

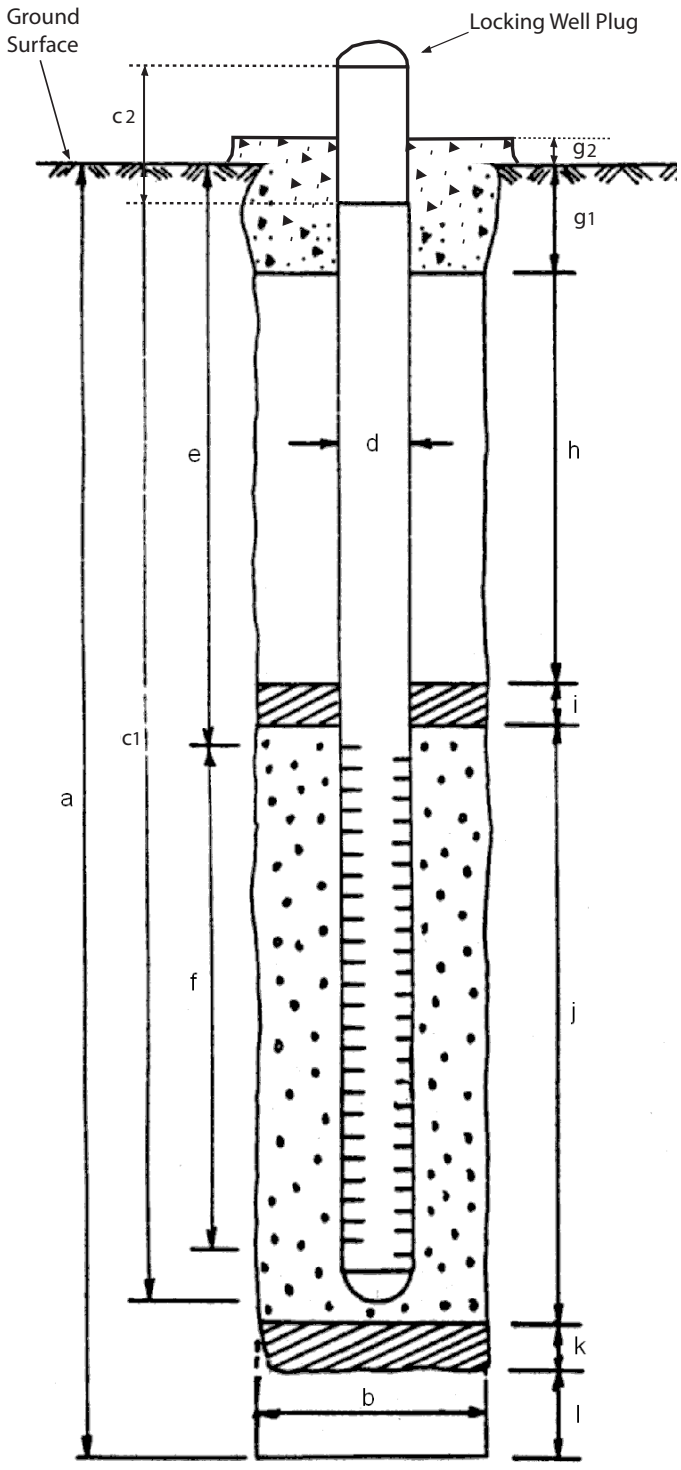
BORING/WELL NO. DP4

TOP OF CASING ELEV. 136.77 + 0.83 = 137.60

GROUND SURFACE ELEVATION 137.02

DATUM 11.5 ft., NAVD88

DATE(S) CONSTRUCTED 9/28/10, See Notes



EXPLORATORY BORING

a. Total depth 38.0* ft.

b. Diameter 12.0 in.

Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c1. Casing length 37.8 ft.

c2. Casing Extension length 0.8 ft.

Material Schedule 40 PVC

d. Diameter 4.0 in.

e. Depth to top of perforations 23.0* ft.

f. Perforated length 15.0 ft.

Perforated interval from 23.0 to 38.0 ft.*

Perforation type Factory Slotted PVC

Perforation size 0.020 in.

g1. Surface sanitary seal 1.0 ft.

g2. Surface sanitary seal 0.2 ft.

Seal material Concrete

h. Sanitary seal 20.0 ft.

Seal material Portland cement type I-II

i. Filter pack seal 1.0 ft.

Seal material Bentonite

j. Filter pack length 16.0 ft.

Filter pack interval from 22.0 to 38.0 ft.*

Pack material # 2/12 sand

k. Bottom seal 0.0 ft.

Seal material None

l. Sluff in bottom of borehole 0.0 ft.

Note 1: PVC casing extended 0.83 ft. 11/10/10. Surface sanitary seal (g1 and g2) extended from 1.0 ft. below ground surface to approximately 0.2 ft. above ground surface 11/10/10. No permanent well cover constructed over well pipe.
Note 2: * = Measured from ground surface.

P&D ENVIRONMENTAL, INC.

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

WELL CONSTRUCTION DIAGRAM

PROJECT NUMBER 0298

PROJECT NAME Snow Cleaners, Oakland

COUNTY Alameda

WELL PERMIT NO. W2010-0674

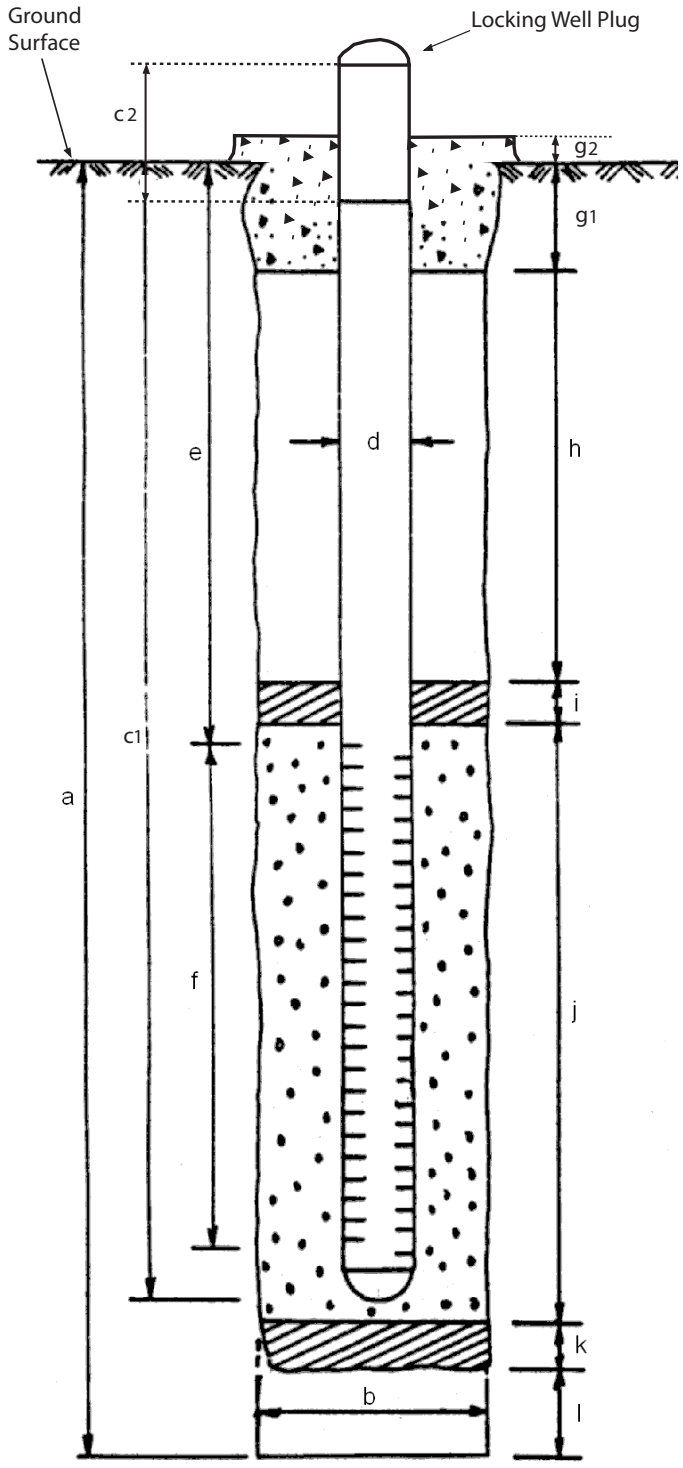
BORING/WELL NO. VE1

TOP OF CASING ELEV. 136.64 + 0.81 = 137.45

GROUND SURFACE ELEVATION 137.10

DATUM 11.5 ft., NAVD88

DATE(S) CONSTRUCTED 9/27/10, See Notes



EXPLORATORY BORING

a. Total depth 15.0* ft.

b. Diameter 12.0 in.

Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c1. Casing length 14.6 ft.

c2. Casing Extension length 0.8 ft.

Material Schedule 40 PVC

d. Diameter 4.0 in.

e. Depth to top of perforations 10.0* ft.

f. Perforated length 5.0 ft.

Perforated interval from 10.0 to 15.0 ft.*

Perforation type Factory Slotted PVC

Perforation size 0.020 in.

g1. Surface sanitary seal 1.0 ft.

g2. Surface sanitary seal 0.2 ft.

Seal material Concrete

h. Sanitary seal 7.0 ft.

Seal material Portland cement type I-II

i. Filter pack seal 1.0 ft.

Seal material Bentonite

j. Filter pack length 6.0 ft.

Filter pack interval from 9.0 to 15.0 ft.*

Pack material # 2/12 sand

k. Bottom seal 0.0 ft.

Seal material None

l. Sluff in bottom of borehole 0.0 ft.

Note 1: PVC casing extended 0.81 ft. 11/10/10. Surface sanitary seal (g1 and g2) extended from 1.0 ft. below ground surface to approximately 0.2 ft. above ground surface 11/10/10. No permanent well cover constructed over well pipe.
Note 2: * = Measured from ground surface.

P&D ENVIRONMENTAL, INC.

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

WELL CONSTRUCTION DIAGRAM

PROJECT NUMBER 0298

PROJECT NAME Snow Cleaners, Oakland

COUNTY Alameda

WELL PERMIT NO. W2010-0674

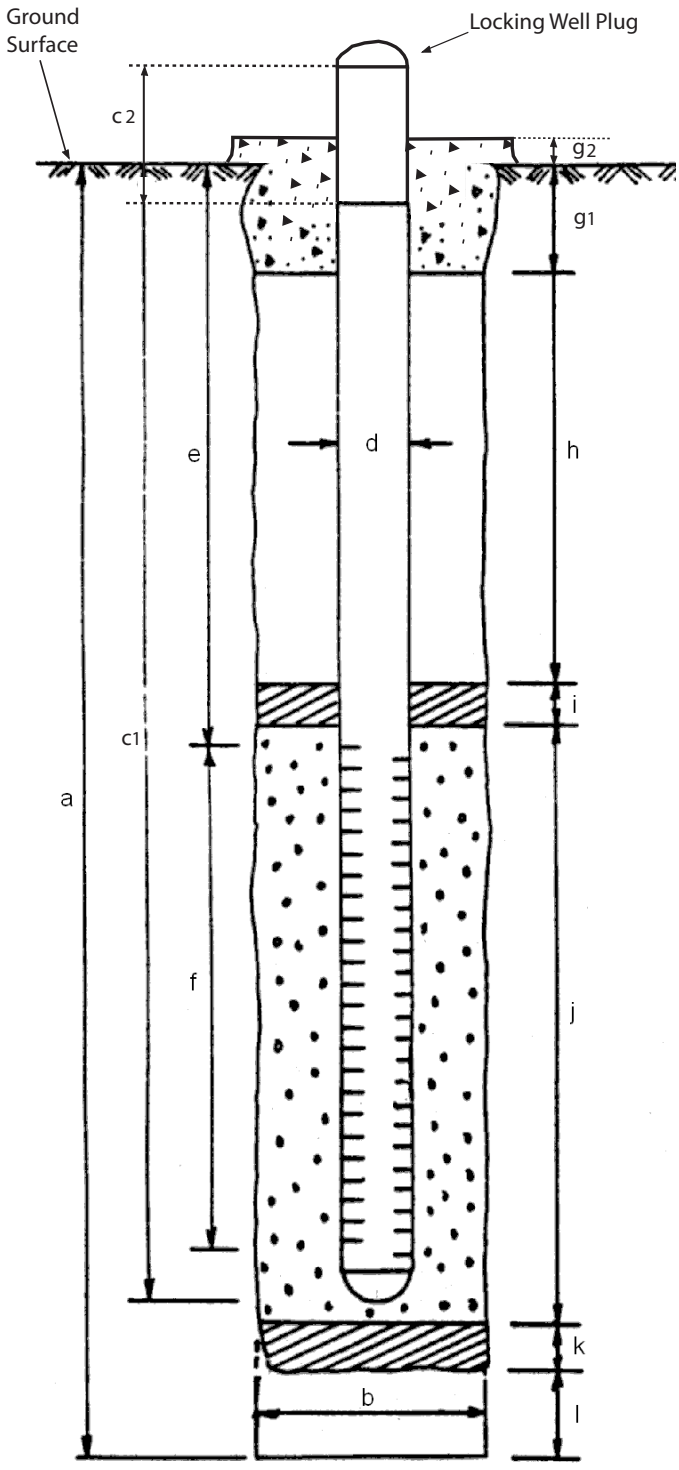
BORING/WELL NO. VE2

TOP OF CASING ELEV. 137.20 + 0.81 = 138.01

GROUND SURFACE ELEVATION 137.55

DATUM 11.5 ft., NAVD88

DATE(S) CONSTRUCTED 9/29/10, See Notes



EXPLORATORY BORING

a. Total depth 17.0* ft.

b. Diameter 12.0 in.

Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c1. Casing length 16.5 ft.

c2. Casing Extension length 0.8 ft.

Material Schedule 40 PVC

d. Diameter 4.0 in.

e. Depth to top of perforations 10.0* ft.

f. Perforated length 7.0 ft.

Perforated interval from 10.0 to 17.0 ft.*

Perforation type Factory Slotted PVC

Perforation size 0.020 in.

g1. Surface sanitary seal 1.0 ft.

g2. Surface sanitary seal 0.2 ft.

Seal material Concrete

h. Sanitary seal 7.0 ft.

Seal material Portland cement type I-II

i. Filter pack seal 1.0 ft.

Seal material Bentonite

j. Filter pack length 8.0 ft.

Filter pack interval from 9.0 to 17.0 ft.*

Pack material # 2/12 sand

k. Bottom seal 0.0 ft.

Seal material None

l. Sluff in bottom of borehole 0.0 ft.

Note 1: PVC casing extended 0.81 ft. 11/10/10. Surface sanitary seal (g1 and g2) extended from 1.0 ft. below ground surface to approximately 0.2 ft. above ground surface 11/10/10. No permanent well cover constructed over well pipe.
Note 2: * = Measured from ground surface.

APPENDIX C

Survey Data

DATE OF SURVEY:10-05-10

TABLE OF WELL ELEVATIONS & COORDINATES

JOB# A08629-1

AT

2678 COOLIDGE AVENUE

OAKLAND

FOR

P&D ENVIRONMENTAL

Survey performed by or under the direction of Kevin J. Martin, L.S. 8345

WELL ID #	CCS83, ZONE 3 (1991.35) NORTHING (FT.) / LATITUDE (DEC.)	CCS83, ZONE 3 (1991.35) EASTING (FT.) / LONGITUDE (DEC.)	NAVD 88 ELEVATION (FT.)	DESCRIPTION
DP1	2114151.4	6065646.5	136.90	GROUND 1' NORTH
	37.7885810	-122.2166156	136.39	PVC NOTCH N. SIDE
			136.85	GROUND AT N. EDGE OF HOLE
DP2	21174133.8	6065634.7	136.00	GROUND 1' NORTH
	37.7885320	-122.2166554	135.77	PVC NOTCH N. SIDE
			136.00	GROUND AT N. EDGE OF HOLE
DP3	2114124.0	6065612.7	135.41	CONCRETE 1' NORTH
	37.7885040	-122.2167308	134.51	PVC NOTCH N. SIDE
			135.30	CONC. AT N. EDGE OF HOLE
DP4	2114173.0	6065641.9	137.17	CONCRETE 1' NORTH
	37.7886400	-122.2166329	136.77	PVC NOTCH N. SIDE
			137.02	CONC. AT N. EDGE OF HOLE
VE1	2114167.7	6065640.6	137.13	CONCRETE 1' NORTH
	37.7886254	-122.2166371	136.64	PVC NOTCH N. SIDE
			137.10	CONC. AT N. EDGE OF HOLE
VE2	2114169.8	6065660.3	137.60	CONCRETE 1' NORTH
	37.7886322	-122.2165691	137.20	PVC NOTCH N. SIDE
			137.55	CONC. AT N. EDGE OF HOLE

VERTICAL CONTROL BASED ON:

BENCH MARK: SAN LEANDRO NW BASE (NGS) (PID# HT0003)

BENCH MARK DISK

EST. BY CGS IN 1947

DESCRIBED BY COAST AND GEODETIC SURVEY 1947

THE STATION IS NEAR THE CENTER LINE OF 54TH AVENUE AND IN THE NORTHEAST SIDE OF THE RAILROAD RIGHT OF WAY IN EAST OAKLAND. IT IS ABOUT 1/4 MILE SOUTHEAST OF A VERY LARGE GAS BIN AND IN A SMALL OPEN SPACE FORMED BY A Y FORK OF A SPUR TRACK.

ELEVATION = 11.5 FT. , NAVD88 (ADJUSTED +/-2CM)

Kier Wright Civil Engineers Surveyors, Inc.
2850 Collier Canyon Road, Livermore, CA 94551
Phone (925) 245-8788
Fax (925) 245-8796

APPENDIX D

Well Development Data Sheets

Field Data Sheet

Date: 10/5/2010 **Project Name:** Snow Cleaners **Project Number:** 0298

Technician: P. Arroyo **Location:** Oakland, CA

Well ID	Casing Diameter	Total Depth	DTP	DTW	Thickness	Comments
DP-1	4"	36.7	-	25.42	-	
DP-2	4"	24.7	-	20.96	-	
DP-3	4"	26.51	-	19.14	-	
DP-4	4"	35.45	-	25.03	-	

Environmental
Field Services

Well Development Record

Project Name:	Snow Cleaners	Date:	10/05/10
Project Number:	298	Well ID:	DP-1
Method Of Purging:	Honda Pump	Well Diameter:	4"
Initial Depth to Water:	25.42	Casing Volume:	7.44
Total Depth of Well:	36.7	Pump Depth:	36
Total Depth After Dvlp.:	36.7	Total Casing Vol. Removed:	10

Volume Purged (gal.)	Time	DTW	Conductivity (uS/cm)	pH	Temp. °C	Turbidity (NTU)	Comments:
Initial	1152		510	7.28	34.1	>1000	dark brown
8	1159	29.51	683	7.23	22.1	>1000	dark brown
16	1208	dry	597	6.92	26.1	>1000	dry
24	1425	dry	522	7.09	18.7	>1000	dry
32	1430	30.15	552	6.88	18.4	>1000	brown
40	1436	dry	735	7.06	18.3	>1000	dry
48	1503	33.61	477	7.16	18.7	>1000	light brown
56	1508	dry	553	7.2	18.5	>1000	dry
64	1524	dry	554	7.1	20.6	>1000	dry
72	1540	dry	545	7.22	19	>1000	dry
80	1554	dry	472	7.27	18.5	>1000	dry

pH Calibration

Buffer Solution: 3 Point Calibration: 4 , 7 , 10

Notes:

Water had odor during gauing and surging, water also has a sheen.

Well went dry after each well volume was removed.

Environmental
Field Services

Well Development Record

Project Name:	Snow Cleaners	Date:	10/05/10
Project Number:	298	Well ID:	DP-2
Method Of Purging:	Honda Pump	Well Diameter:	4"
Initial Depth to Water:	20.96	Casing Volume:	2.44
Total Depth of Well:	24.65	Pump Depth:	24.65
Total Depth After Dvlp.:	24.7	Total Casing Vol. Removed:	10

Volume Purged (gal.)	Time	DTW	Conductivity (uS/cm)	pH	Temp. °C	Turbidity (NTU)	Comments:
Initial	1350		843	8.35	22	>1000	dark brown
3	1353	24.35	944	7.87	21.7	>1000	dark brown
6	1357	24.35	743	7.55	27.8	>1000	dark brown
9	1408	24.33	640	7.38	28.4	>1000	brown
12	1422	24.35	603	7.16	25.5	>1000	light brown
15	1438	24.34	525	7.3	31.4	>1000	cloudy
18	1453	24.35	532	7.33	32.6	228	cloudy
21	1512	24.33	509	7.36	33	79.5	cloudy
24	1535	24.35	508	7.23	30	88.6	clearing
27	1603	24.33	498	6.84	28.5	244	clearing
30	1616	24.35	494	6.87	25	235	clearing

pH Calibration

Buffer Solution: 3 Point Calibration: 4 , 7 , 10

Notes:

Environmental Field Services

Well Development Record

Project Name:	Snow Cleaners	Date:	10/05/10
Project Number:	298	Well ID:	DP-3
Method Of Purging:	Honda Pump	Well Diameter:	4"
Initial Depth to Water:	19.14	Casing Volume:	4.84
Total Depth of Well:	26.48	Pump Depth:	24.65
Total Depth After Dvlp.:	26.51	Total Casing Vol. Removed:	8

Volume Purged (gal.)	Time	DTW	Conductivity (uS/cm)	pH	Temp. °C	Turbidity (NTU)	Comments:
Initial	1442		944	7.08	27.1	>1000	dark brown
5	1445	21.7	985	6.97	22.5	>1000	dark brown
10	1449	24.15	1000	6.87	22.2	>1000	dark brown
15	1453	25.89	940	6.91	22.3	>1000	dry
20	1507	25.19	553	6.74	26	382	light brown
25	1516	21.38	583	7.1	30.9	833	cloudy
30	1539	-	555	6.76	28.2	>1000	dry
35	1610	26.22	544	6.75	24	>1000	dry
40	1635	26.31	542	6.9	24.2	597	dry
45							
50							

pH Calibration

Buffer Solution: 3 Point Calibration: 4 , 7 , 10

Notes:

Environmental
Field Services

Well Development Record

Project Name:	Snow Cleaners	Date:	10/05/10
Project Number:	298	Well ID:	DP-4
Method Of Purging:	Honda Pump	Well Diameter:	4"
Initial Depth to Water:	25.03	Casing Volume:	6.62
Total Depth of Well:	35.06	Pump Depth:	35
Total Depth After Dvlp.:	35.45	Total Casing Vol. Removed:	10

Volume Purged (gal.)	Time	DTW	Conductivity (uS/cm)	pH	Temp. °C	Turbidity (NTU)	Comments:
Initial	1013		562	9.17	22.4	>1000	Dark Brown
7	1016	27.35	549	9.28	20.3	>1000	Dark Brown
14	1021	28.2	500	8.47	20.6	>1000	Dark Brown
21	1025	29.1	467	8.05	21.1	>1000	Dark Brown
28	1031	29.4	440	7.64	21.4	>1000	Brown
35	1037	29.69	436	7.52	21.8	>1000	Brown
42	1044	29.9	428	7.41	22.1	>1000	Light Brown
49	1053	30.02	420	7.26	22.6	>1000	Clearing
56	1101	30.14	415	7.18	23	873	Clearing
63	1110	30.21	411	7.1	23.3	870	Clear
70	1122	30.3	409	7.11	23.5	575	Clear

pH Calibration

Buffer Solution: 3 Point Calibration: 4 , 7 , 10

Notes:

Water had odor during gauging and surging.

Daily Field Report

Date: 10/5/2010

Company: P & D Environmental

Contact: Paul King

Project Name: Snow Cleaners

Location: Oakland, Ca

Prepared by:

Environmental Field Services, LLC

Peter Arroyo

227 Palomino Way

Patterson Ca, 95363
(209)321-6255
Fax: (209) 892-1190

Notes:

Arrive on-site, locate & open well, allow well to equilibrate.

Well was gauged using a Solonist water level meter(TD & DTW). Well were surged with a 3.66" surge block for 10 minutes. All equipment was decontaminated before arriving, using Alcanox & water.

Monitoring wells were purged with a Honda pump, speed controlled with a ball valve.

Dedicated 1/2" poly tubing was used in the wells & disposed of after use.

Purge water was contained in 55 gallon poly drums that were sealed and labelled (Non Hazardous)

Four drums were left on-site.

All wells / drums were sealed before departure, all trash generated by EFS was removed as well.

Signature:

APPENDIX E

Well Monitoring/Purge Data Sheets

(2)

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name Snow Cleaners
Job No. 0298
TOC to Water (ft.) 2.68
Well Depth (ft.) 37.0
Well Diameter 4" (0.646)
Gal./Casing Vol. 7.4
3 vol = 22.2

Well No. s.c ~~0298~~ DP-1
Date 10/15/10
Sheen yes
Free Product Thickness ∅
Sample Collection Method
Disposable bailer

TIME	GAL. PURGED	pH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY mS/cm
1550	2.5	5.91	19.4	585
1553	4.9	5.82	18.9	605
1557	7.4	5.78	18.5	599
1600	9.9	5.73	18.5	578
1603	12.3	5.69	18.5	552
1607	14.8	5.69	18.5	539
1611	17.3	5.69	18.4	527
1615	19.7	5.67	18.3	531
1621	22.2	5.70	18.3	528

NOTES: ~~Lt~~ s.c Mod - strong TPH-SS/min. spirits odor & sheen.
Sample time => 1630

PURGE10.92

(3)

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name Snow Cleaners

Well No. DP-2

Job No. 0298

Date 10/15/10

TOC to Water (ft.) 21.11

Sheen yes

Well Depth (ft.) 25.0

Free Product Thickness Ø

Well Diameter 4" (0.646)

Sample Collection Method Disposable bailer

Gal./Casing Vol. 2.6

3 vol = 7.8

TIME	GAL. PURGED	pH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY µS/cm
1640	0.8	5.76	19.5	704
1642	1.7	5.83	19.1	736
1644	2.6	5.84	18.9	768
1647	3.4	5.83	18.8	724
1649	4.3	5.83	18.8	711
1654	5.2	5.82	18.8	664
1656	6.0	sic ~~5.8~~ 5.79	18.8	659
1700	6.9	5.80	18.7	654
1703	7.8	5.80	18.7	647

↑ well dewatering ↓

NOTES: mod phc odor (like shoe polish ~~not so much SS/mineral spirits~~ sic) & sheen.

Sample time = 1710

PURGE10.92

(4)

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name Snow Cleaners
Job No. 0298
TOC to Water (ft.) 19.29
Well Depth (ft.) 27.0'
Well Diameter 4" (0.646)
Gal./Casing Vol. 5.0
3 Vol = 15.0

Well No. DP3
Date 10/15/10
Sheen yes
Free Product Thickness Ø
Sample Collection Method
Disposable bailer

TIME	GAL. PURGED	pH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY µs/cm
1730	1.6	5.78	19.8	753
1733	3.3	5.78	19.7	774
1735	5.0	5.79	19.6	790
1737	6.6	5.79	19.5	793
1739	8.3	5.79	19.5	787
1741	10.0	5.80	19.5	776
1744	11.6	5.80	19.4	769
1746	13.3	5.80	19.4	755
1749	15.0	5.80	19.4	737

NOTES: Sheen + Moderate (to strong) odor (like shoe polish)
Sample time ⇒ 1800

PURGE10.92

(1)

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name Snow Cleaners
Job No. 0298
TOC to Water (ft.) 25.40
Well Depth (ft.) 38.0
Well Diameter 4" (0.646)
Gal./Casing Vol. 8.2
3 vol = 24.6

Well No. DP-4
Date 10/15/10
Sheen yes
Free Product Thickness ∅
Sample Collection Method
Disposable bailer

TIME	GAL. PURGED	pH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY µS/cm
1447	2.8	6.09	20.5	423
1452	5.5	5.62	18.8	408
1456	8.2	5.62	18.5	412
1500	11.0	5.65	18.4	411
1504	13.7	5.71	18.3	409
1507	16.4	5.71	18.3	407
1511	19.2	5.72	18.3	409
1514	20.4	5.76	18.3	411
1521	24.6	5.79	18.3	413

NOTES: Sheen + very light-light phc (SS) odor.
Sample time ⇒ 1530hrs

PURGE10.92

APPENDIX F

Weather Information

About This PWS:

Lat: N 37 ° 46 ' 3 " (37.768 °)
Lon: W 122 ° 15 ' 18 " (-122.255 °)
Elevation (ft): 15
Hardware: Davis Vantage Pro 2

Encinal Avenue & Lafayette St., Alameda, CA

http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME1&graphspan=custom&month=9&day=25&year=2010&monthend=11&dayend=25&yearend=2010

History for KCAALAME1

Encinal & Lafayette, Alameda, CA — Current Conditions

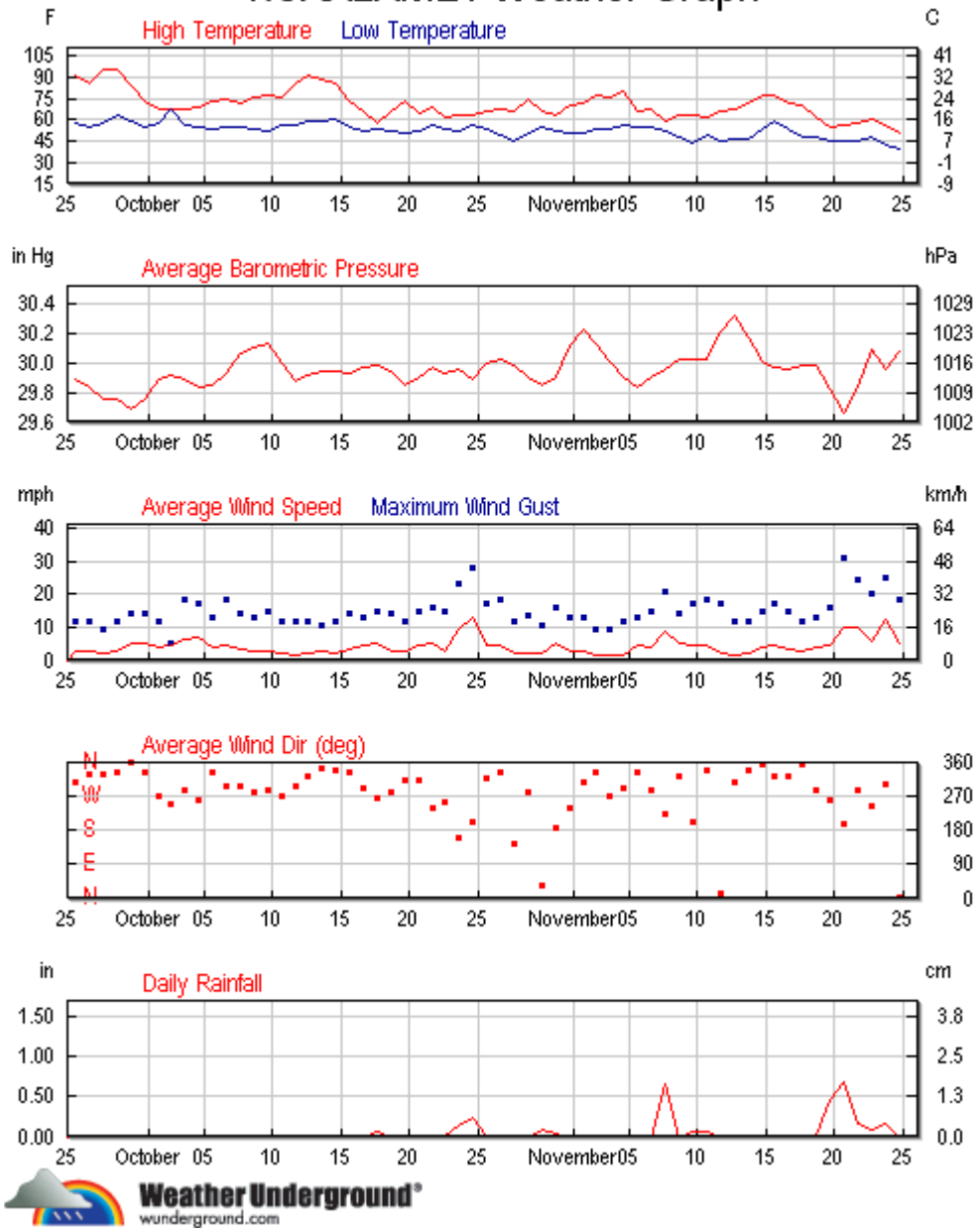
Daily Summary for September 25, 2010 - November 25, 2010

September 25 2010 - TO - November 25 2010 Go

Daily | Weekly | Monthly | Yearly | **Custom**

	High:	Low:	Average:
Temperature:	**95.9** °F	**39.6** °F	**61.8** °F
Dew Point:	**61.9** °F	**-18.2** °F	**51.1** °F
Humidity:	96.0%	15.0%	70.9%
Wind Speed:	**116.2**mph - from the West		**4.0**mph
Wind Gust:	**116.2**mph - from the West		-
Wind:	-	-	West
Pressure:	**30.39**in	**20.30**in	-
Precipitation:	**2.96**in		

KCAALAME1 Weather Graph



Custom Date Range's Tabular Data

2010	Temp. (°F)			Dew Point (°F)			Humidity (%)			Sea Level Pressure (in)			Visibility (mi)			Wind (mph)		Gust Speed (mph)	Precip (in)
September	high	avg	low	high	avg	low	high	avg	low	high	avg	low	high	avg	low	high	avg	high	sum
1	92	72	56	58	53	45	90	56	24	29.88	-	29.72	-	-	-	13	2	13	0.00
2	89	72	59	58	55	49	86	58	27	29.85	-	29.72	-	-	-	13	4	13	0.00
3	79	64	55	58	55	52	92	75	44	29.91	-	29.84	-	-	-	12	3	12	0.00
4	68	59	55	57	53	52	90	82	64	29.92	-	29.79	-	-	-	12	2	12	0.00
5	78	63	54	56	52	49	90	71	40	29.82	-	29.68	-	-	-	12	2	12	0.00
6	90	68	54	59	51	40	91	62	19	29.71	-	29.64	-	-	-	10	2	10	0.00
7	66	60	55	57	54	51	90	80	63	29.78	-	29.68	-	-	-	15	4	15	0.00
8	67	60	56	56	55	52	92	82	67	29.82	-	29.76	-	-	-	18	6	18	0.00
9	74	62	56	55	52	51	87	73	48	29.93	-	29.82	-	-	-	16	2	16	0.00
10	81	65	53	58	53	50	92	69	38	29.94	-	29.86	-	-	-	14	2	14	0.00
11	84	65	54	59	52	47	90	67	31	29.91	-	29.83	-	-	-	12	2	12	0.00
12	69	59	53	54	52	50	90	77	54	29.94	-	29.87	-	-	-	14	3	14	0.00
13	67	59	54	53	51	49	87	77	59	29.94	-	29.85	-	-	-	13	3	13	0.00
14	69	59	52	53	51	49	90	75	55	29.96	-	29.87	-	-	-	13	2	13	0.00
15	66	59	54	56	54	51	91	84	67	29.99	-	29.90	-	-	-	13	3	13	0.00
16	74	64	58	62	58	54	90	81	64	29.94	-	29.82	-	-	-	14	2	14	0.00
17	70	64	60	62	60	58	93	86	74	29.88	-	29.79	-	-	-	14	3	14	0.00
19	76	65	58	61	58	55	93	79	57	29.89	-	20.30	-	-	-	116	3	116	0.03
20	77	65	58	60	56	2	92	75	50	29.85	-	29.70	-	-	-	16	4	16	0.00
21	69	61	57	55	53	50	89	77	58	29.74	-	29.66	-	-	-	22	8	22	0.00
22	69	61	56	54	52	51	85	74	54	29.84	-	29.68	-	-	-	20	9	20	0.00
23	78	65	56	56	53	49	85	67	44	29.94	-	29.84	-	-	-	16	4	16	0.00
24	86	69	55	58	53	49	81	60	29	29.99	-	29.91	-	-	-	15	3	15	0.00
25	92	73	59	59	55	47	82	57	22	29.96	-	29.82	-	-	-	12	2	12	0.00
26	86	70	56	59	54	47	90	63	28	29.90	-	29.77	-	-	-	12	3	12	0.00
27	96	75	59	59	55	47	87	55	19	29.82	-	29.70	-	-	-	9	2	9	0.00
28	96	78	64	59	54	46	79	49	20	29.80	-	29.70	-	-	-	12	2	12	0.00
29	85	70	60	58	55	50	86	62	35	29.73	-	29.64	-	-	-	14	5	14	0.00
30	73	64	56	58	55	53	92	76	56	29.83	-	29.68	-	-	-	14	5	14	0.00

2010	Temp. (°F)			Dew Point (°F)			Humidity (%)			Sea Level Pressure (in)			Visibility (mi)			Wind (mph)		Gust Speed (mph)	Precip (in)
October	high	avg	low	high	avg	low	high	avg	low	high	avg	low	high	avg	low	high	avg	high	sum
1	69	64	59	57	56	54	86	75	64	29.95	-	29.84	-	-	-	12	4	12	0.00
2	69	69	69	56	56	56	64	64	64	29.92	-	29.92	-	-	-	5	5	5	0.00
3	68	60	57	55	53	50	89	77	59	29.92	-	29.86	-	-	-	18	7	18	0.00
4	69	61	55	53	52	49	85	71	51	29.87	-	29.81	-	-	-	17	7	17	0.00
5	74	62	54	55	52	48	86	71	43	29.88	-	29.81	-	-	-	13	4	13	0.00
6	75	62	55	55	52	50	87	71	44	30.01	-	29.86	-	-	-	18	4	18	0.00
7	72	62	55	55	52	51	90	74	49	30.11	-	30.01	-	-	-	14	4	14	0.00
8	76	63	54	55	51	44	87	69	33	30.14	-	30.07	-	-	-	13	3	13	0.00
9	78	64	53	56	53	49	88	70	37	30.19	-	30.08	-	-	-	15	3	15	0.00
10	76	65	57	59	56	54	89	75	51	30.10	-	29.90	-	-	-	12	2	12	0.00
11	86	69	56	60	55	49	91	64	29	29.93	-	29.83	-	-	-	12	2	12	0.00
12	92	74	60	56	47	34	73	45	15	29.96	-	29.87	-	-	-	12	2	12	0.00
13	90	73	59	57	52	44	74	52	23	29.98	-	29.90	-	-	-	10	3	10	0.00
14	86	70	61	59	54	46	84	61	29	29.99	-	29.90	-	-	-	12	2	12	0.00
15	74	63	56	58	55	52	88	75	54	29.96	-	29.90	-	-	-	14	3	14	0.00
16	66	58	53	53	51	49	91	78	59	30.01	-	29.94	-	-	-	13	4	13	0.00
17	58	55	54	53	50	49	87	82	76	30.04	-	29.94	-	-	-	15	5	15	0.06
18	67	58	52	53	51	48	88	76	60	29.99	-	29.89	-	-	-	14	3	14	0.00
19	73	58	51	55	52	48	93	81	51	29.91	-	29.79	-	-	-	12	3	12	0.00
20	66	57	53	53	51	49	90	81	61	29.98	-	29.84	-	-	-	15	5	15	0.00
21	70	62	57	53	51	47	83	69	47	30.00	-	29.94	-	-	-	16	5	16	0.00
22	63	58	54	57	53	51	90	83	72	29.97	-	29.90	-	-	-	15	3	15	0.02

2010	Temp. (°F)			Dew Point (°F)			Humidity (%)			Sea Level Pressure (in)			Visibility (mi)			Wind (mph)		Gust Speed (mph)	Precip (in)
23	64	58	53	55	52	48	90	82	59	29.99	-	29.92	-	-	-	23	10	23	0.14
24	64	61	57	62	58	54	96	90	82	29.95	-	29.82	-	-	-	28	13	28	0.24
25	67	58	54	57	51	46	94	77	49	30.06	-	29.95	-	-	-	17	5	17	0.01
26	69	57	50	49	45	39	83	65	35	30.07	-	29.98	-	-	-	18	5	18	0.00
27	67	58	46	47	39	-18	81	52	26	30.02	-	29.94	-	-	-	12	2	12	0.00
28	75	62	51	49	43	33	70	50	27	29.96	-	29.85	-	-	-	14	2	14	0.00
29	66	60	56	54	49	43	89	68	52	29.93	-	29.76	-	-	-	10	2	10	0.09
30	63	58	52	57	52	49	92	83	69	30.06	-	29.76	-	-	-	16	5	16	0.03
31	71	61	52	53	51	47	89	72	46	30.19	-	30.04	-	-	-	13	3	13	0.00

2010	Temp. (°F)			Dew Point (°F)			Humidity (%)			Sea Level Pressure (in)			Visibility (mi)			Wind (mph)		Gust Speed (mph)	Precip (in)
November	high	avg	low	high	avg	low	high	avg	low	high	avg	low	high	avg	low	high	avg	high	sum
1	72	62	51	58	52	48	93	74	44	30.28	-	30.18	-	-	-	13	3	13	0.01
2	77	64	54	58	53	50	90	71	45	30.24	-	30.03	-	-	-	9	2	9	0.00
3	77	65	54	60	55	51	92	73	50	30.07	-	29.96	-	-	-	9	2	9	0.00
4	80	67	57	60	57	54	92	72	41	29.99	-	29.81	-	-	-	12	2	12	0.00
5	66	60	56	58	54	52	92	81	66	29.88	-	29.79	-	-	-	13	4	13	0.00
6	68	60	56	55	53	52	89	79	61	30.00	-	29.81	-	-	-	15	4	15	0.00
7	60	57	53	57	52	45	93	85	71	30.00	-	29.93	-	-	-	21	9	21	0.66
8	64	56	49	48	45	42	84	68	46	30.08	-	29.98	-	-	-	14	5	14	0.00
9	64	54	45	51	45	37	91	75	39	30.10	-	29.95	-	-	-	17	5	17	0.06
10	63	56	50	52	47	42	93	74	48	30.08	-	29.96	-	-	-	18	4	18	0.05
11	67	56	46	46	40	30	87	60	28	30.34	-	30.08	-	-	-	17	2	17	0.00
12	68	56	47	49	45	39	85	69	38	30.39	-	30.25	-	-	-	12	2	12	0.00
13	72	59	47	50	43	33	88	59	27	30.27	-	30.07	-	-	-	12	2	12	0.00
14	78	67	54	53	49	45	76	54	38	30.09	-	29.94	-	-	-	15	4	15	0.00
15	78	70	60	54	50	46	70	50	35	30.02	-	29.93	-	-	-	17	4	17	0.00
16	73	62	54	55	51	47	86	70	40	30.01	-	29.92	-	-	-	15	3	15	0.00
17	71	57	49	51	47	41	90	71	36	30.04	-	29.94	-	-	-	12	3	12	0.00
18	63	54	48	50	47	44	92	78	58	30.06	-	29.90	-	-	-	13	4	13	0.01
19	55	51	45	51	48	43	92	88	80	29.90	-	29.75	-	-	-	16	4	16	0.45
20	57	49	46	47	44	40	92	84	64	29.77	-	29.56	-	-	-	31	10	31	0.69
21	59	51	46	47	42	39	85	73	56	30.05	-	29.63	-	-	-	24	10	24	0.15
22	60	53	49	52	46	43	88	77	58	30.16	-	30.04	-	-	-	20	6	20	0.09
23	56	51	44	51	40	26	91	67	40	30.04	-	29.89	-	-	-	25	13	25	0.17
24	51	45	40	32	27	17	67	50	28	30.12	-	30.03	-	-	-	18	5	18	0.00

APPENDIX G

Laboratory Analytical Reports and Chain of Custody Documentation

McCampbell Analytical, Inc.
"When Quality Counts"

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

P & D Environmental	Client Project ID: #0298; Snow Cleaners, Oakland	Date Sampled: 10/15/10
		Date Received: 10/18/10
55 Santa Clara, Ste.240	Client Contact: Steve Carmack	Date Reported: 10/25/10
Oakland, CA 94610	Client P.O.:	Date Completed: 10/25/10

WorkOrder: 1010484

October 25, 2010

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

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

1010484

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NUMBER:	PROJECT NAME:
0798	Snow Cleaners, Oakland

SAMPLED BY: (PRINTED AND SIGNATURE) Steve Carmack

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES): TPH Mult. (GRO/DRO)	8260B				PRESERVATIVE	REMARKS
DW-1 DP-1	10/15/10	1630	H_2O		7	X	X				ICE	Normal Turnaround
DW-2 DP-2		1710			7	X	X					
DW-3 DP-3		1800			7	X	X					
DW-4 DP-4		1530			7	X	X					

4.0

HEAD SPACE ABSENT ___ APPROPRIATE CONTAINERS ___
DECHLORINATED IN LAB ___ PRESERVED IN LAB ___
PRESERVATION: VOAS ___ O&G ___ METALS ___ OTHER ___

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	TOTAL NO. OF SAMPLES (THIS SHIPMENT)	4	LABORATORY:
	10/18/10	1552		TOTAL NO. OF CONTAINERS (THIS SHIPMENT)	28	McCampbell Analytical
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT:		LABORATORY PHONE NUMBER:
	10/18/10	1900		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: All bottles preserved w/ HCL

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1010484 **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: **10/18/2010**
Date Printed: **10/18/2010**

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
1010484-001	DP-1	Water	10/15/2010 16:30	☐	B	A	A									
1010484-002	DP-2	Water	10/15/2010 17:10	☐	B	A	A									
1010484-003	DP-3	Water	10/15/2010 18:00	☐	B	A	A									
1010484-004	DP-4	Water	10/15/2010 18:30	☐	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: 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.

McCampbell Analytical, Inc.
"When Quality Counts"

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

Sample Receipt Checklist

Client Name: **P & D Environmental**

Date and Time Received: **10/18/2010 5:00:57 PM**

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

Checklist completed and reviewed by: Maria Venegas

WorkOrder N°: **1010484** 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: 4°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:

McCampbell Analytical, Inc.
"When Quality Counts"

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

P & D Environmental	Client Project ID: #0298; Snow Cleaners, Oakland	Date Sampled: 10/15/10
		Date Received: 10/18/10
55 Santa Clara, Ste.240	Client Contact: Steve Carmack	Date Extracted: 10/22/10
Oakland, CA 94610	Client P.O.:	Date Analyzed: 10/22/10

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

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1010484

Lab ID	1010484-001B
Client ID	DP-1
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<10,000	1000	10	tert-Amyl methyl ether (TAME)	ND<500	1000	0.5
Benzene	ND<500	1000	0.5	Bromobenzene	ND<500	1000	0.5
Bromochloromethane	ND<500	1000	0.5	Bromodichloromethane	ND<500	1000	0.5
Bromoform	ND<500	1000	0.5	Bromomethane	ND<500	1000	0.5
2-Butanone (MEK)	ND<2000	1000	2.0	t-Butyl alcohol (TBA)	ND<2000	1000	2.0
n-Butyl benzene	ND<500	1000	0.5	sec-Butyl benzene	ND<500	1000	0.5
tert-Butyl benzene	ND<500	1000	0.5	Carbon Disulfide	ND<500	1000	0.5
Carbon Tetrachloride	ND<500	1000	0.5	Chlorobenzene	ND<500	1000	0.5
Chloroethane	ND<500	1000	0.5	Chloroform	ND<500	1000	0.5
Chloromethane	ND<500	1000	0.5	2-Chlorotoluene	ND<500	1000	0.5
4-Chlorotoluene	ND<500	1000	0.5	Dibromochloromethane	ND<500	1000	0.5
1,2-Dibromo-3-chloropropane	ND<200	1000	0.2	1,2-Dibromoethane (EDB)	ND<500	1000	0.5
Dibromomethane	ND<500	1000	0.5	1,2-Dichlorobenzene	ND<500	1000	0.5
1,3-Dichlorobenzene	ND<500	1000	0.5	1,4-Dichlorobenzene	ND<500	1000	0.5
Dichlorodifluoromethane	ND<500	1000	0.5	1,1-Dichloroethane	ND<500	1000	0.5
1,2-Dichloroethane (1,2-DCA)	ND<500	1000	0.5	1,1-Dichloroethene	ND<500	1000	0.5
cis-1,2-Dichloroethene	17,000	1000	0.5	trans-1,2-Dichloroethene	ND<500	1000	0.5
1,2-Dichloropropane	ND<500	1000	0.5	1,3-Dichloropropane	ND<500	1000	0.5
2,2-Dichloropropane	ND<500	1000	0.5	1,1-Dichloropropene	ND<500	1000	0.5
cis-1,3-Dichloropropene	ND<500	1000	0.5	trans-1,3-Dichloropropene	ND<500	1000	0.5
Diisopropyl ether (DIPE)	ND<500	1000	0.5	Ethylbenzene	ND<500	1000	0.5
Ethyl tert-butyl ether (ETBE)	ND<500	1000	0.5	Freon 113	ND<10,000	1000	10
Hexachlorobutadiene	ND<500	1000	0.5	Hexachloroethane	ND<500	1000	0.5
2-Hexanone	ND<500	1000	0.5	Isopropylbenzene	ND<500	1000	0.5
4-Isopropyl toluene	ND<500	1000	0.5	Methyl-t-butyl ether (MTBE)	ND<500	1000	0.5
Methylene chloride	ND<500	1000	0.5	4-Methyl-2-pentanone (MIBK)	ND<500	1000	0.5
Naphthalene	ND<500	1000	0.5	n-Propyl benzene	ND<500	1000	0.5
Styrene	ND<500	1000	0.5	1,1,1,2-Tetrachloroethane	ND<500	1000	0.5
1,1,2,2-Tetrachloroethane	ND<500	1000	0.5	Tetrachloroethene	ND<500	1000	0.5
Toluene	ND<500	1000	0.5	1,2,3-Trichlorobenzene	ND<500	1000	0.5
1,2,4-Trichlorobenzene	ND<500	1000	0.5	1,1,1-Trichloroethane	ND<500	1000	0.5
1,1,2-Trichloroethane	ND<500	1000	0.5	Trichloroethene	ND<500	1000	0.5
Trichlorofluoromethane	ND<500	1000	0.5	1,2,3-Trichloropropane	ND<500	1000	0.5
1,2,4-Trimethylbenzene	ND<500	1000	0.5	1,3,5-Trimethylbenzene	ND<500	1000	0.5
Vinyl Chloride	2600	1000	0.5	Xylenes	ND<500	1000	0.5

Surrogate Recoveries (%)

%SS1:	89	%SS2:	102
%SS3:	71		

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.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

McCampbell Analytical, Inc.
"When Quality Counts"

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

P & D Environmental	Client Project ID: #0298; Snow Cleaners, Oakland	Date Sampled: 10/15/10
		Date Received: 10/18/10
55 Santa Clara, Ste.240	Client Contact: Steve Carmack	Date Extracted: 10/22/10
Oakland, CA 94610	Client P.O.:	Date Analyzed: 10/22/10

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

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1010484

Lab ID	1010484-002B
Client ID	DP-2
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<20,000	2000	10	tert-Amyl methyl ether (TAME)	ND<1000	2000	0.5
Benzene	ND<1000	2000	0.5	Bromobenzene	ND<1000	2000	0.5
Bromochloromethane	ND<1000	2000	0.5	Bromodichloromethane	ND<1000	2000	0.5
Bromoform	ND<1000	2000	0.5	Bromomethane	ND<1000	2000	0.5
2-Butanone (MEK)	ND<4000	2000	2.0	t-Butyl alcohol (TBA)	ND<4000	2000	2.0
n-Butyl benzene	ND<1000	2000	0.5	sec-Butyl benzene	ND<1000	2000	0.5
tert-Butyl benzene	ND<1000	2000	0.5	Carbon Disulfide	ND<1000	2000	0.5
Carbon Tetrachloride	ND<1000	2000	0.5	Chlorobenzene	ND<1000	2000	0.5
Chloroethane	ND<1000	2000	0.5	Chloroform	ND<1000	2000	0.5
Chloromethane	ND<1000	2000	0.5	2-Chlorotoluene	ND<1000	2000	0.5
4-Chlorotoluene	ND<1000	2000	0.5	Dibromochloromethane	ND<1000	2000	0.5
1,2-Dibromo-3-chloropropane	ND<400	2000	0.2	1,2-Dibromoethane (EDB)	ND<1000	2000	0.5
Dibromomethane	ND<1000	2000	0.5	1,2-Dichlorobenzene	ND<1000	2000	0.5
1,3-Dichlorobenzene	ND<1000	2000	0.5	1,4-Dichlorobenzene	ND<1000	2000	0.5
Dichlorodifluoromethane	ND<1000	2000	0.5	1,1-Dichloroethane	ND<1000	2000	0.5
1,2-Dichloroethane (1,2-DCA)	ND<1000	2000	0.5	1,1-Dichloroethene	ND<1000	2000	0.5
cis-1,2-Dichloroethene	22,000	2000	0.5	trans-1,2-Dichloroethene	ND<1000	2000	0.5
1,2-Dichloropropane	ND<1000	2000	0.5	1,3-Dichloropropane	ND<1000	2000	0.5
2,2-Dichloropropane	ND<1000	2000	0.5	1,1-Dichloropropene	ND<1000	2000	0.5
cis-1,3-Dichloropropene	ND<1000	2000	0.5	trans-1,3-Dichloropropene	ND<1000	2000	0.5
Diisopropyl ether (DIPE)	ND<1000	2000	0.5	Ethylbenzene	ND<1000	2000	0.5
Ethyl tert-butyl ether (ETBE)	ND<1000	2000	0.5	Freon 113	ND<20,000	2000	10
Hexachlorobutadiene	ND<1000	2000	0.5	Hexachloroethane	ND<1000	2000	0.5
2-Hexanone	ND<1000	2000	0.5	Isopropylbenzene	ND<1000	2000	0.5
4-Isopropyl toluene	ND<1000	2000	0.5	Methyl-t-butyl ether (MTBE)	ND<1000	2000	0.5
Methylene chloride	ND<1000	2000	0.5	4-Methyl-2-pentanone (MIBK)	ND<1000	2000	0.5
Naphthalene	ND<1000	2000	0.5	n-Propyl benzene	ND<1000	2000	0.5
Styrene	ND<1000	2000	0.5	1,1,1,2-Tetrachloroethane	ND<1000	2000	0.5
1,1,2,2-Tetrachloroethane	ND<1000	2000	0.5	Tetrachloroethene	ND<1000	2000	0.5
Toluene	ND<1000	2000	0.5	1,2,3-Trichlorobenzene	ND<1000	2000	0.5
1,2,4-Trichlorobenzene	ND<1000	2000	0.5	1,1,1-Trichloroethane	ND<1000	2000	0.5
1,1,2-Trichloroethane	ND<1000	2000	0.5	Trichloroethene	ND<1000	2000	0.5
Trichlorofluoromethane	ND<1000	2000	0.5	1,2,3-Trichloropropane	ND<1000	2000	0.5
1,2,4-Trimethylbenzene	ND<1000	2000	0.5	1,3,5-Trimethylbenzene	ND<1000	2000	0.5
Vinyl Chloride	ND<1000	2000	0.5	Xylenes	ND<1000	2000	0.5

Surrogate Recoveries (%)

%SS1:	90	%SS2:	103
%SS3:	---#		

Comments: b1

* 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.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

McCampbell Analytical, Inc.
"When Quality Counts"

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

P & D Environmental	Client Project ID: #0298; Snow Cleaners, Oakland	Date Sampled: 10/15/10
		Date Received: 10/18/10
55 Santa Clara, Ste.240	Client Contact: Steve Carmack	Date Extracted: 10/22/10
Oakland, CA 94610	Client P.O.:	Date Analyzed: 10/22/10

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

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1010484

Lab ID	1010484-003B
Client ID	DP-3
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<33	3.3	10	tert-Amyl methyl ether (TAME)	ND<1.7	3.3	0.5
Benzene	ND<1.7	3.3	0.5	Bromobenzene	ND<1.7	3.3	0.5
Bromochloromethane	ND<1.7	3.3	0.5	Bromodichloromethane	ND<1.7	3.3	0.5
Bromoform	ND<1.7	3.3	0.5	Bromomethane	ND<1.7	3.3	0.5
2-Butanone (MEK)	ND<6.7	3.3	2.0	t-Butyl alcohol (TBA)	ND<6.7	3.3	2.0
n-Butyl benzene	4.4	3.3	0.5	sec-Butyl benzene	6.0	3.3	0.5
tert-Butyl benzene	ND<1.7	3.3	0.5	Carbon Disulfide	ND<1.7	3.3	0.5
Carbon Tetrachloride	ND<1.7	3.3	0.5	Chlorobenzene	ND<1.7	3.3	0.5
Chloroethane	ND<1.7	3.3	0.5	Chloroform	ND<1.7	3.3	0.5
Chloromethane	ND<1.7	3.3	0.5	2-Chlorotoluene	ND<1.7	3.3	0.5
4-Chlorotoluene	ND<1.7	3.3	0.5	Dibromochloromethane	ND<1.7	3.3	0.5
1,2-Dibromo-3-chloropropane	ND<0.67	3.3	0.2	1,2-Dibromoethane (EDB)	ND<1.7	3.3	0.5
Dibromomethane	ND<1.7	3.3	0.5	1,2-Dichlorobenzene	ND<1.7	3.3	0.5
1,3-Dichlorobenzene	ND<1.7	3.3	0.5	1,4-Dichlorobenzene	ND<1.7	3.3	0.5
Dichlorodifluoromethane	ND<1.7	3.3	0.5	1,1-Dichloroethane	ND<1.7	3.3	0.5
1,2-Dichloroethane (1,2-DCA)	ND<1.7	3.3	0.5	1,1-Dichloroethene	ND<1.7	3.3	0.5
cis-1,2-Dichloroethene	44	3.3	0.5	trans-1,2-Dichloroethene	4.5	3.3	0.5
1,2-Dichloropropane	ND<1.7	3.3	0.5	1,3-Dichloropropane	ND<1.7	3.3	0.5
2,2-Dichloropropane	ND<1.7	3.3	0.5	1,1-Dichloropropene	ND<1.7	3.3	0.5
cis-1,3-Dichloropropene	ND<1.7	3.3	0.5	trans-1,3-Dichloropropene	ND<1.7	3.3	0.5
Diisopropyl ether (DIPE)	ND<1.7	3.3	0.5	Ethylbenzene	4.0	3.3	0.5
Ethyl tert-butyl ether (ETBE)	ND<1.7	3.3	0.5	Freon 113	ND<33	3.3	10
Hexachlorobutadiene	ND<1.7	3.3	0.5	Hexachloroethane	ND<1.7	3.3	0.5
2-Hexanone	ND<1.7	3.3	0.5	Isopropylbenzene	7.2	3.3	0.5
4-Isopropyl toluene	ND<1.7	3.3	0.5	Methyl-t-butyl ether (MTBE)	ND<1.7	3.3	0.5
Methylene chloride	ND<1.7	3.3	0.5	4-Methyl-2-pentanone (MIBK)	ND<1.7	3.3	0.5
Naphthalene	7.5	3.3	0.5	n-Propyl benzene	10	3.3	0.5
Styrene	ND<1.7	3.3	0.5	1,1,1,2-Tetrachloroethane	ND<1.7	3.3	0.5
1,1,2,2-Tetrachloroethane	ND<1.7	3.3	0.5	Tetrachloroethene	ND<1.7	3.3	0.5
Toluene	2.7	3.3	0.5	1,2,3-Trichlorobenzene	ND<1.7	3.3	0.5
1,2,4-Trichlorobenzene	ND<1.7	3.3	0.5	1,1,1-Trichloroethane	ND<1.7	3.3	0.5
1,1,2-Trichloroethane	ND<1.7	3.3	0.5	Trichloroethene	ND<1.7	3.3	0.5
Trichlorofluoromethane	ND<1.7	3.3	0.5	1,2,3-Trichloropropane	ND<1.7	3.3	0.5
1,2,4-Trimethylbenzene	69	3.3	0.5	1,3,5-Trimethylbenzene	24	3.3	0.5
Vinyl Chloride	28	3.3	0.5	Xylenes	23	3.3	0.5

Surrogate Recoveries (%)

%SS1:	89	%SS2:	98
%SS3:	83		

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.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

McCampbell Analytical, Inc.
"When Quality Counts"

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

P & D Environmental	Client Project ID: #0298; Snow Cleaners, Oakland	Date Sampled: 10/15/10
		Date Received: 10/18/10
55 Santa Clara, Ste.240	Client Contact: Steve Carmack	Date Extracted: 10/23/10
Oakland, CA 94610	Client P.O.:	Date Analyzed: 10/23/10

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

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1010484

Lab ID	1010484-004B
Client ID	DP-4
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<33	3.3	10	tert-Amyl methyl ether (TAME)	ND<1.7	3.3	0.5
Benzene	ND<1.7	3.3	0.5	Bromobenzene	ND<1.7	3.3	0.5
Bromochloromethane	ND<1.7	3.3	0.5	Bromodichloromethane	ND<1.7	3.3	0.5
Bromoform	ND<1.7	3.3	0.5	Bromomethane	ND<1.7	3.3	0.5
2-Butanone (MEK)	ND<6.7	3.3	2.0	t-Butyl alcohol (TBA)	ND<6.7	3.3	2.0
n-Butyl benzene	ND<1.7	3.3	0.5	sec-Butyl benzene	ND<1.7	3.3	0.5
tert-Butyl benzene	3.8	3.3	0.5	Carbon Disulfide	ND<1.7	3.3	0.5
Carbon Tetrachloride	ND<1.7	3.3	0.5	Chlorobenzene	ND<1.7	3.3	0.5
Chloroethane	ND<1.7	3.3	0.5	Chloroform	ND<1.7	3.3	0.5
Chloromethane	ND<1.7	3.3	0.5	2-Chlorotoluene	ND<1.7	3.3	0.5
4-Chlorotoluene	ND<1.7	3.3	0.5	Dibromochloromethane	ND<1.7	3.3	0.5
1,2-Dibromo-3-chloropropane	ND<0.67	3.3	0.2	1,2-Dibromoethane (EDB)	ND<1.7	3.3	0.5
Dibromomethane	ND<1.7	3.3	0.5	1,2-Dichlorobenzene	ND<1.7	3.3	0.5
1,3-Dichlorobenzene	ND<1.7	3.3	0.5	1,4-Dichlorobenzene	ND<1.7	3.3	0.5
Dichlorodifluoromethane	ND<1.7	3.3	0.5	1,1-Dichloroethane	ND<1.7	3.3	0.5
1,2-Dichloroethane (1,2-DCA)	ND<1.7	3.3	0.5	1,1-Dichloroethene	ND<1.7	3.3	0.5
cis-1,2-Dichloroethene	80	3.3	0.5	trans-1,2-Dichloroethene	33	3.3	0.5
1,2-Dichloropropane	ND<1.7	3.3	0.5	1,3-Dichloropropane	ND<1.7	3.3	0.5
2,2-Dichloropropane	ND<1.7	3.3	0.5	1,1-Dichloropropene	ND<1.7	3.3	0.5
cis-1,3-Dichloropropene	ND<1.7	3.3	0.5	trans-1,3-Dichloropropene	ND<1.7	3.3	0.5
Diisopropyl ether (DIPE)	ND<1.7	3.3	0.5	Ethylbenzene	ND<1.7	3.3	0.5
Ethyl tert-butyl ether (ETBE)	ND<1.7	3.3	0.5	Freon 113	ND<33	3.3	10
Hexachlorobutadiene	ND<1.7	3.3	0.5	Hexachloroethane	ND<1.7	3.3	0.5
2-Hexanone	ND<1.7	3.3	0.5	Isopropylbenzene	ND<1.7	3.3	0.5
4-Isopropyl toluene	4.5	3.3	0.5	Methyl-t-butyl ether (MTBE)	ND<1.7	3.3	0.5
Methylene chloride	ND<1.7	3.3	0.5	4-Methyl-2-pentanone (MIBK)	ND<1.7	3.3	0.5
Naphthalene	ND<1.7	3.3	0.5	n-Propyl benzene	ND<1.7	3.3	0.5
Styrene	ND<1.7	3.3	0.5	1,1,1,2-Tetrachloroethane	ND<1.7	3.3	0.5
1,1,2,2-Tetrachloroethane	ND<1.7	3.3	0.5	Tetrachloroethene	22	3.3	0.5
Toluene	ND<1.7	3.3	0.5	1,2,3-Trichlorobenzene	ND<1.7	3.3	0.5
1,2,4-Trichlorobenzene	ND<1.7	3.3	0.5	1,1,1-Trichloroethane	ND<1.7	3.3	0.5
1,1,2-Trichloroethane	ND<1.7	3.3	0.5	Trichloroethene	40	3.3	0.5
Trichlorofluoromethane	ND<1.7	3.3	0.5	1,2,3-Trichloropropane	ND<1.7	3.3	0.5
1,2,4-Trimethylbenzene	ND<1.7	3.3	0.5	1,3,5-Trimethylbenzene	ND<1.7	3.3	0.5
Vinyl Chloride	2.9	3.3	0.5	Xylenes	ND<1.7	3.3	0.5

Surrogate Recoveries (%)

%SS1:	89	%SS2:	94
%SS3:	93		

Comments: b1

* 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.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

McCampbell Analytical, Inc.
"When Quality Counts"

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

P & D Environmental	Client Project ID: #0298; Snow Cleaners, Oakland	Date Sampled: 10/15/10
		Date Received: 10/18/10
55 Santa Clara, Ste.240	Client Contact: Steve Carmack	Date Extracted: 10/18/10
Oakland, CA 94610	Client P.O.:	Date Analyzed: 10/23/10

Total Extractable Petroleum Hydrocarbons*

Extraction method: SW3510C Analytical methods: SW8015B Work Order: 1010484

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Bunker Oil (C10-C36)	DF	% SS	Comments
1010484-001A	DP-1	W	9000	9800	10	91	e11,e7,b6
1010484-002A	DP-2	W	3900	2900	1	81	e11,e2,b1
1010484-003A	DP-3	W	10,000	9800	1	83	e11,e2,e7
1010484-004A	DP-4	W	1200	920	1	90	e11,e2,b1

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.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

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

b1) aqueous sample that contains greater than ~1 vol. % sediment
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 (?)

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.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: 10/15/10
		Date Received: 10/18/10
	Client Contact: Steve Carmack	Date Extracted: 10/20/10-10/21/10
	Client P.O.:	Date Analyzed: 10/20/10-10/21/10

Gasoline Range (C6-C12) and Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons as Gasoline and Stoddard Solvent*

Extraction method: SW5030B Analytical methods: SW8015Bm Work Order: 1010484

Lab ID	Client ID	Matrix	TPH(g)	TPH(ss)	DF	% SS	Comments
001A	DP-1	W	10,000	5100	33	106	d5,d9,b6
002A	DP-2	W	4800	2900	1	101	d5,d6,b1
003A	DP-3	W	5700	8000	10	97	d5
004A	DP-4	W	1800	1500	1	108	d5,d9,b1

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.

%SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

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

b1) aqueous sample that contains greater than ~1 vol. % sediment
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?)
d6) one to a few isolated non-target peaks present in the TPH(g) chromatogram
d9) no recognizable pattern

McCampbell Analytical, Inc.
"When Quality Counts"

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

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 53879 WorkOrder: 1010484

EPA Method: SW8260B **Extraction SW5030B** **Spiked Sample ID: 1010472-012B**

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	82.4	83.1	0.820	99.4	112	11.9	70 - 130	30	70 - 130	30
Benzene	ND	10	105	104	0.926	113	111	1.83	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	75.3	78.7	4.20	90.1	86.2	4.43	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	107	105	1.32	120	121	0.703	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	96	97	1.03	110	110	0	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	103	100	2.57	109	103	5.95	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	104	102	1.25	108	103	4.58	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	108	107	1.36	121	118	2.68	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	97.4	96.9	0.528	102	99.3	2.71	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	104	105	0.590	121	122	0.664	70 - 130	30	70 - 130	30
Toluene	ND	10	106	105	0.977	112	112	0	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	110	108	2.21	121	119	1.04	70 - 130	30	70 - 130	30
%SS1:	101	25	93	92	1.11	99	95	4.25	70 - 130	30	70 - 130	30
%SS2:	100	25	104	104	0	102	101	0.451	70 - 130	30	70 - 130	30
%SS3:	97	2.5	98	99	0.912	99	99	0	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 53879 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1010484-001B	10/15/10 4:30 PM	10/22/10	10/22/10 10:03 PM	1010484-002B	10/15/10 5:10 PM	10/22/10	10/22/10 10:47 PM
1010484-003B	10/15/10 6:00 PM	10/22/10	10/22/10 11:29 PM	1010484-004B	10/15/10 6:30 PM	10/23/10	10/23/10 12:12 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 conta 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.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

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

QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 53890 WorkOrder: 1010484

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	124	125	1.03	N/A	N/A	70 - 130	30
%SS:	N/A	625	N/A	N/A	N/A	110	108	1.68	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 53890 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1010484-001A	10/15/10 4:30 PM	10/18/10	10/23/10 8:10 AM	1010484-002A	10/15/10 5:10 PM	10/18/10	10/23/10 10:20 AM
1010484-003A	10/15/10 6:00 PM	10/18/10	10/23/10 7:05 AM	1010484-004A	10/15/10 6:30 PM	10/18/10	10/23/10 3:51 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 conta 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.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

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

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 53878 WorkOrder: 1010484

EPA Method: SW8015Bm **Extraction SW5030B** **Spiked Sample ID: 1010472-012A**

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(btex)£	ND	60	91.1	105	13.7	92.9	81.9	12.5	70 - 130	20	70 - 130	20
MTBE	ND	10	110	115	4.20	114	117	2.17	70 - 130	20	70 - 130	20
Benzene	ND	10	103	107	4.14	111	111	0	70 - 130	20	70 - 130	20
Toluene	ND	10	92.5	103	10.4	99.9	101	0.664	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	92.5	96	3.69	99.1	98.7	0.377	70 - 130	20	70 - 130	20
Xylenes	ND	30	105	109	4.03	111	112	0.505	70 - 130	20	70 - 130	20
%SS:	99	10	100	106	6.09	106	105	0.818	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 53878 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1010484-001A	10/15/10 4:30 PM	10/21/10	10/21/10 7:54 PM	1010484-002A	10/15/10 5:10 PM	10/20/10	10/20/10 1:10 AM
1010484-002A	10/15/10 5:10 PM	10/20/10	10/20/10 10:23 PM	1010484-003A	10/15/10 6:00 PM	10/20/10	10/20/10 2:10 AM
1010484-004A	10/15/10 6:30 PM	10/20/10	10/20/10 3:09 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 conta 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 ma or analyte content, or inconsistency in sample containers.

DHS ELAP Certification 1644

QA/QC Officer