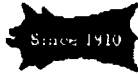


SNOW CLEANERS INC.

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MAIN OFFICE & PLANT

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8:51 am, Apr 17, 2012

Alameda County
Environmental Health

April 16, 2012

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

SUBJECT: VAPOR EXTRACTION AND GROUNDWATER EXTRACTION FEASIBILITY
TEST 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.

- Vapor Extraction and Groundwater Extraction Feasibility Test Report dated April 16, 2012 (document 0298.R13).

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.L68

P&D ENVIRONMENTAL, INC.

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

April 16, 2012
Report 0298.R13

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

**SUBJECT: VAPOR EXTRACTION AND GROUNDWATER EXTRACTION FEASIBILITY
TEST REPORT
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 a vapor extraction feasibility test performed on December 13, 2010 and a groundwater extraction feasibility test that was performed in May and June 2011 beginning on May 20, 2011. Both vapor extraction and groundwater extraction were performed at well DP1. Vacuum and changes in groundwater levels were monitored in nearby wells (DP1 through DP4, VE1, VE2, and MW2) at the site during each feasibility test. 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.

BACKGROUND

A background discussion and summary of site characterization data is provided in P&D's Draft Corrective Action Plan dated June 29, 2010 (document 0298.W5). A detailed site history is provided in P&D's Subsurface Investigation Report dated August 19, 2009 (document 0298.R6). 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 for vapor extraction, all necessary notifications were provided to the Bay Area Air Quality Management District (BAAQMD). Prior to performing field activities for

groundwater extraction, a discharge permit (No. 50651581) was obtained from East Bay Municipal Utility District (EBMUD) on November 22, 2010, a temporary discharge permit (SL1100179) was obtained from the City of Oakland, a pump was installed in well DP1, and carbon filtration was installed between the pump and the point of discharge to the sanitary sewer in accordance with EBMUD permit requirements.

Vapor Extraction Feasibility Test

On December 13, 2010 a trailer-mounted liquid ring blower capable of generating 28 inches of mercury vacuum and a flow rate of 400 cubic feet per minute (cfm) was used to evaluate vapor extraction feasibility at the site. Granular activated carbon was used as the air pollution control device. A diagram of the soil vapor extraction system is provided as Figure 3.

Prior to the beginning of the vapor extraction feasibility test, water levels were monitored in offsite groundwater monitoring well MW2, and the presence of groundwater was evaluated in onsite dual phase extraction wells (DP1 through DP4) and onsite soil vapor extraction wells (VE1 and VE2) to evaluate what portions of the well screens were not submerged. The measured depth to groundwater in the groundwater monitoring wells is summarized in Table 1. Groundwater was not detected in either of the soil vapor extraction wells VE1 or VE2.

Prior to the beginning of the vapor extraction feasibility test, monitoring ports were installed at the top of each of wells DP1 through DP4, VE1, VE2 and MW2 and a vacuum hose was connected from DP1 to the intake for the vapor extraction blower. A 10-foot long section of 3-inch diameter PVC pipe was installed in the vacuum hose approximately mid-way between well DP1 and the vapor extraction blower intake (see Figure 3). All vapor extraction was performed at well DP1. A step test with four different flow rates (50, 100, 200 and 400 cfm) was scheduled to be performed, starting with the lowest flow rate and ending with the highest flow rate. During the vapor extraction feasibility test the blower was not capable of generating a flow rate greater than approximately 50 or 60 cfm with a vacuum of either 6 or 7 inches of mercury vacuum at DP1, and for this reason only step 1 was performed during this feasibility test. At the completion of the feasibility test the blower flow rate was evaluated without the blower connected to any of the wells and the flow rate was measured to be approximately 350 cfm.

During system setup, baseline vacuum values were measured at each wellhead approximately 1 to 1.5 hours prior to the application of vacuum to the extraction well to verify baseline vacuum conditions. Vacuum for extraction well DP1 and the observation wells DP2, DP3, DP4, VE1, VE2 and MW2 was measured at each wellhead using Magnehelic pressure differential gages. Air flow and air temperature for air extracted from well DP1 were measured using a hot wire anemometer through a port installed approximately mid-way along the 10-foot length of the 3-inch diameter PVC pipe located in the vacuum hose mid-way between well DP1 and the vapor extraction blower intake. Air quality at DP1 was periodically evaluated with a PID at the port in the 3-inch diameter PVC pipe by using a dry-running articulating piston pump to move air from the pipe into a Tedlar bag, and then connecting the PID intake to the Tedlar bag. The PID was equipped with a 10.6 eV bulb and was calibrated with a 100 ppm isobutylene standard prior to the beginning of the feasibility test. The field measurements associated with the vapor extraction feasibility test are summarized in Table 2.

Vacuum was applied to well DP1 beginning at approximately 1:40 PM and continued until approximately 5:20 PM on December 13, 2010. During the vapor extraction feasibility test the measured flow rate ranged from approximately 50 to approximately 60 cfm, vacuum at the blower ranged from 6 to 7 inches of mercury, and PID values ranged from approximately 383 to 412 ppm. The vacuum values in the observation wells appeared to stabilize approximately 1.5 hours after vacuum was applied to well DP1. The range of wellhead vacuum values in inches of water during the feasibility test following the initial feasibility test startup measurements (beginning approximately 1.5 hours after vacuum was applied to well DP1), and the associated horizontal distances from extracting well DP1 in feet were as follows:

- Well VE1: 0.23 to 0.26 inches of water vacuum at a distance of 18 feet from DP1,
- Well VE2: 0.16 to 0.18 inches of water vacuum at a distance of 25 feet from DP1,
- Well DP1: 88 to 95 inches of water vacuum at the wellhead for DP1,
- Well DP2: 0.20 to 0.22 inches of water vacuum at a distance of 17 feet from DP1,
- Well DP3: 0.05 to 0.06 inches of water vacuum at a distance of 45 feet from DP1,
- Well DP4: 0.02 to 0.22 inches of water vacuum at a distance of 22 feet from DP1,
- Well MW2: 0.05 to 0.06 inches of water vacuum at a distance of 63 feet from DP1.

The baseline vacuum values ranged from 0.00 to 0.05 inches of water, with the exception of well DP4, where the baseline vacuum value was 0.010. This baseline value is considered to be suspect. Additionally, the first vacuum reading at well DP4 was 0.22 inches of water which was consistent with vacuum observed at wells with a similar distance from well DP1 approximately 1.5 hours after vacuum was applied to DP1. However, subsequent vacuum readings at DP4 ranged from 0.01 to 0.02 inches of water, suggesting that the cap was not properly secured at the wellhead. For these reasons data from well DP4 is suspect and should not be considered to be representative of conditions at well DP4 or at the site.

One air sample was collected into a 1-liter Summa canister near the end of the feasibility test (between 4:35 PM and 5:05 PM) through a port located in the 3-inch diameter PVC pipe. Prior to sample collection, the vacuum in the Summa canister was measured using a vacuum gage. The vacuum gage reading showed that the Summa canister had an initial vacuum of 30 inches of mercury. The final Summa canister vacuum equilibrated to the observed vacuum of 6 inches of mercury at DP1.

Immediately following disconnection of the blower vacuum from well DP1 at the end of the feasibility test, vacuum measurements were recorded in all of the wells. The vacuum was observed to decay immediately to near-baseline conditions at all locations (see Table 2). A summary of blower vacuum in inches of water, air flow at the blower in cubic feet per minute, and PID readings in parts per million versus time are shown in Figure 4.

Weather data for the vicinity of the site, including precipitation and barometric pressure for pressure for the date of the vapor extraction feasibility test and for the two weeks prior to and the two weeks following the vapor extraction feasibility test is provided in Appendix A of this report. The weather station is located at the intersection of Central Avenue and Paru 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 A.

Review of Appendix A shows that the only precipitation event in the week preceding the December 13, 2010 feasibility test was 0.82 inches of water on December 8, 2010. No precipitation was recorded on the day of the feasibility test. The barometric pressure during the feasibility test ranged from 29.99 inches of mercury to 29.98 inches of mercury. Prior to the feasibility test on December 13, 2010 the barometric pressure ranged from 30.09 inches of mercury at 12:25 AM to 30.08 inches of mercury at 10:47 AM, and then dropped from 30.08 inches of mercury at 10:47 AM to 29.99 inches of mercury at 1:38 PM at the beginning of the feasibility test.

Groundwater Extraction Feasibility Test

On February 17, 2011 P&D personnel were unsuccessful in locating a sewer lateral to connect the groundwater treatment system discharge to the sanitary sewer system at the original location identified on the EBMUD discharge permit. An alternate sanitary sewer lateral location was subsequently connected to the groundwater treatment system and the point of discharge was amended on the EBMUD discharge permit.

Prior to performing the groundwater extraction feasibility test, a Grundfos submersible pump was placed into well DP1 to a depth of two feet above the bottom of the well. In addition, after installation of the Grundfos pump pressure transducers were placed into onsite wells DP1, DP2, DP3, DP4 and offsite wells MW1 and MW2 on May 6, 2011 to establish baseline water level trends prior to extracting groundwater. Pumping was performed from May 23, 2011 through June 2, 2011, and again from June 8 through June 30, 2011. Water level measurements were recorded in the wells using an electric water level indicator prior to installation of the pressure transducers, and periodically during pumping activities. The water levels measured with the electric water level indicator are summarized in Table 4. Groundwater discharge volumes and flow rates are summarized in Table 5. Graphs of the pressure transducer water level measurements during the groundwater extraction feasibility test are provided in Appendix B, and are also summarized in Figure 6. The graphs are arranged on Figure 6 in a manner so as to approximately show the locations of the various wells relative to one another. The distances between the graphs in Figure 6 are not proportionate to the actual distances between the wells. Historical water level trends for all of the wells in the groundwater monitoring well network for the site between October 2010 and December 2011 are shown in Figure 7. Historical water level trends for wells MW1 through MW4 between August 2010 and December 2011 are shown in Figure 8.

After the beginning of groundwater extraction on May 23, 2011 a separate phase layer of petroleum hydrocarbons identified as Stoddard solvent (based on qualitative observations of odor and viscosity) was detected in extraction well DP1 during water level monitoring with the electric water level indicator on two monitoring events. The thickness of the separate phase layer in the extraction well was not measured. However, a polyethylene tube and a peristaltic pump were used to remove approximately 950 milliliters of Stoddard solvent from well DP1 on May 27, 2011 and approximately 450 milliliters of Stoddard solvent on June 24, 2011. No other separate phase layer of petroleum hydrocarbons was encountered during the groundwater extraction feasibility test. The

Stoddard solvent removed from well DP1 was stored in a steel drum at the site pending appropriate disposal.

The drawdown values in Table 4 are calculated relative to the water elevation in the wells on May 6, 2011, and do not account for the seasonal change in water levels in the wells that is shown to occur in Figures 7 and 8. Figure 8 only shows water level information in wells MW1 through MW4 because wells DP1 through DP4 were not installed until September 2010. Review of Figure 8 shows that water levels have consistently decreased in all of the wells during 2010 and 2011 beginning in March or April. Comparison of the drawdown in the wells shown in the graphs in Figure 6 (see also Appendix B) in conjunction with the calculated drawdown for well DP1 in Table 4 shows that drawdown was observed in all of the wells following the initiation of groundwater extraction at well DP1. Based on seasonal water level change trends and the site geology, the change in water level in well MW1 is interpreted to be related to seasonal changes only. Review of Table 5 shows that flow rates from well DP1 decreased to less than one gpm in less than one week after the beginning of groundwater extraction, and eventually decreased to approximately 0.25 gpm by the end of the feasibility test.

Figure 9 shows geologic cross section C-C' with Stoddard solvent concentrations in soil, including the screened intervals and approximate locations of wells DP1 through DP3 and MW2. The screened interval for well DP1 extends to an elevation that is below the elevation for the top of the adjacent clay shelf that has been described in previous reports as located beneath Davis Street and to the south of well DP2 at a depth of approximately 23 feet below the ground surface in the southern portion of the site. Review of the water elevations in the wells in Table 4 shows that during groundwater extraction at DP1 the water elevations in well DP1 were lower than in the surrounding wells, and at times of maximum drawdown were below the approximate elevation of 114 feet for the top of the clay bench.

LABORATORY RESULTS

The air sample collected from air extracted from well DP1 shortly before the blower was turned off at the end of the vapor extraction feasibility test was analyzed at Air Toxics Limited of Folsom California for Total Petroleum Hydrocarbons as Stoddard solvent (TPH-SS) using EPA Method TO-3 and for Halogenated Volatile Organic Compounds (HVOCs) by EPA Method TO-15. The air sample results are summarized in Table 4. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report as Appendix C.

Review of Table 3 shows that Tetrachloroethene (PCE), Trichloroethene (TCE), cis-1,2-Dichloroethene (cis-1,2-DCE), trans-1,2-Dichloroethene (trans-1,2-DCE), and Vinyl Chloride (VC) were detected at concentrations of 3,900,000 $\mu\text{g}/\text{m}^3$, 4,100,000 $\mu\text{g}/\text{m}^3$, 260,000 $\mu\text{g}/\text{m}^3$, 27,000 $\mu\text{g}/\text{m}^3$, and 47,000 $\mu\text{g}/\text{m}^3$, respectively. TPH-SS was detected at a concentration of 3,000,000 $\mu\text{g}/\text{m}^3$, and no other compounds were detected in the sample.

DISCUSSION AND RECOMMENDATIONS

The results of the soil vapor extraction feasibility test show that within 1.5 hours of the application of vacuum to one extraction well (DP1) that blower flow rates of 50 to 60 cfm at vacuums of 6 to 7

inches of mercury vacuum resulted in vacuums in observation wells of greater than 0.2 inches of water in wells at a distance of approximately 20 feet from the extracting well, vacuums of greater than 0.15 inches of water in a well located 25 feet from the extracting well, and vacuums of 0.05 to 0.06 inches of water in wells located 47 and 63 feet from the extracting well. Based on PID readings, vapor concentrations appeared relatively constant for the duration of the pilot test, with the results of an air sample collected at the end of the pilot test showing PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, VC, and TPH-SS concentrations of 3,900,000 $\mu\text{g}/\text{m}^3$, 4,100,000 $\mu\text{g}/\text{m}^3$, 260,000 $\mu\text{g}/\text{m}^3$, 27,000 $\mu\text{g}/\text{m}^3$, 47,000 $\mu\text{g}/\text{m}^3$, and 3,000,000 $\mu\text{g}/\text{m}^3$, respectively. The feasibility test results show that vapor extraction is feasible at the site. Based on the test results, P&D recommends that a BAAQMD permit be obtained and that vapor extraction remediation be performed at the site with extraction performed initially at well DP1 and periodic monitoring of vacuum and vapor concentrations at the observation wells used during the feasibility test. All vapor extraction will be performed in accordance with BAAQMD permit requirements.

The results of the groundwater extraction feasibility test show that groundwater extraction at well DP1 resulted in the accumulation of recoverable quantities of separate phase Stoddard solvent, and resulted in the detected lowering of water levels in nearby observation wells DP2, DP3, DP4 and MW2. Long term flow rates of approximately 0.25 gpm were observed flowing stabilization of the cone of depression in the vicinity of the extracting well. Based on the test results, P&D recommends that the EBMUD permit for discharge be continued and that groundwater extraction be performed during dry weather months from approximately July through December of each year. P&D recommends that monthly monitoring of the extracting well for the presence of separate phase layers of Stoddard solvent be performed during groundwater extraction and that any detected separate phase layers be removed and stored in a drum at the site pending appropriate disposal. P&D also recommends that a record be maintained for dates that separate phase layers are detected and any volumes of separate phase material that are removed from the well.

DISTRIBUTION

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

LIMITATIONS

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

April 16, 2012
Report 0298.R13

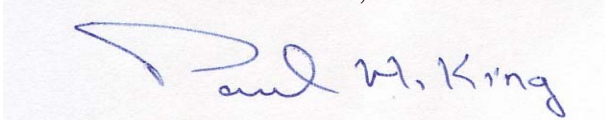
This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the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

April 16, 2012
Report 0298.R13

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: 12/31/13



Attachments:

Table 1 - Summary of Depth to Groundwater Data Prior to Vapor Extraction Feasibility Test

Table 2 - Summary of Vapor Extraction Feasibility Test Field Data

Table 3 - Summary of Air Sample Results

Table 4 - Groundwater Extraction Well Water Level Monitoring Data

Table 3 - Groundwater Discharge Volumes and Flow Rates

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 - Vapor Extraction Feasibility Test System Diagram

Figure 4 - Vacuum, Air Flow, And PID Readings Versus Time In Extraction Well DP1

Figure 5 - Vacuum Versus Time In Observation Wells DP2 Through DP4, VE1, VE2, And MW2

Figure 6 - Pressure Transducer Water Level Data Graphs For Wells DP1 Through DP4, MW1 And MW2

Figure 7 - Graph Of Water Levels In Site Groundwater Monitoring Network Wells For October 2010 Through December 2011

Figure 8 - Graph Of Water Levels In Groundwater Monitoring Wells MW1 Through MW4 For August 2009 Through December 2011

Figure 9 - Geologic Cross Section C-C' Showing TPH-Stoddard Solvent In Soil

Appendix A - Weather Information

Appendix B - Pressure Transducer Water Level Data Graphs for Wells DP1 Through DP4, MW1 and MW2

Appendix C - Laboratory Analytical Reports and Chain of Custody Documentation

PHK/hd/mld/sjc
0298.R13

TABLES

Table 1
Summary of Depth to Groundwater Data Prior to Vapor Extraction Feasibility Test

<u>Well No</u>	<u>Date</u>	<u>Depth To Water (ft)</u>	<u>Top of Casing Elevation (ft)</u>	<u>Groundwater Surface Elevation (ft)</u>	<u>Well Screen Interval (ft)</u>
DP1	12/13/2010	24.91	137.22	112.31	23.0 to 37.0
DP2	12/13/2010	20.14	136.59	116.45	11.0 to 25.0
DP3	12/13/2010	18.24	135.75	117.51	13.0 to 27.0
DP4	12/13/2010	23.85	137.60	113.75	23.0 to 38.0
VE1	12/13/2010	No Water Encountered	136.64	No Water Encountered	10.0 to 15.0
VE2	12/13/2010	No Water Encountered	137.20	No Water Encountered	10.0 to 17.0
MW2	12/13/2010	15.78	133.59	117.81	11.0 to 26.0

Table 2
Summary of Vapor Extraction Feasibility Test Field Data

Date		12/13/2010								Summa	Summa	NOTES	
P&D Sampler		MLD								Canister	Canister		
Extracting Well		DP1								<u>Initial</u>	<u>Final</u>		
Blower	vac	vac 7	vac 6	vac 6	vac 6	vac 7	vac	vac	vac 30	vac 7	Blower vacuum in inches of mercury. Flow measurements taken from 3 inch diameter pipe. Vacuum started at approximately 13:40. Vacuum discontinued at 17:19.		
	time	time 1346	time 1510	time 1535	time 1600	time 1705	time	time	time 16:35:30	time 17:05:20			
	PID	PID 0	PID 412	PID 387	PID 406	PID 383	PID	PID	PID	PID 383			
	time	time 1347	time 1511	time 1537	time 1604	time	time	time	time	time			
	cfm	cfm 49.23	cfm 49.52	cfm 51.09	cfm 61.27	cfm	cfm	cfm	cfm	cfm			
	time	time 1348	time 1512	time 1538	time 1605	time	time	time	time	time			
	temp	temp 62.8	temp 60.9	temp 60.2	temp 62.2	temp	temp	temp	temp	temp			
	time	time 1348	time 1513	time 1539	time 1606	time	time	time	time	time			
	VE1	vac 0.03	vac 0.14	vac 0.26	vac 0.23	vac 0.23	vac 0.01	vac	vac	vac		vac	Vacuum in inches of water. For first and last reading blower was off.
		time 1217	time 1349	time 1515	time 1540	time 1607	time 1719	time	time	time		time	
VE2	vac 0.02	vac 0.10	vac 0.16	vac 0.17	vac 0.18	vac 0.00	vac	vac	vac	vac	Vacuum in inches of water. For first and last reading blower was off.		
	time 1223	time 1350	time 1517	time 1541	time 1608	time 1720	time	time	time	time			
DP1	vac 0.00	vac 95	vac 88	vac 88	vac 95	vac 0.07	vac	vac	vac 30	vac 7	Vacuum in inches of water. For first and last reading blower was off.		
	time 1227	time 1351	time 1518	time 1542	time 1609	time 1722	time	time	time 16:35:30	time 17:05:20			
DP2	vac 0.05	vac 0.10	vac 0.20	vac 0.21	vac 0.22	vac 0.01	vac	vac	vac	vac	Vacuum in inches of water. For first and last reading blower was off.		
	time 1229	time 1352	time 1520	time 1543	time 1610	time 1721	time	time	time	time			
DP3	vac 0.00	vac 0.03	vac 0.05	vac 0.05	vac 0.06	vac 0.00	vac	vac	vac	vac	Vacuum in inches of water. For first and last reading blower was off.		
	time 1233	time 1353	time 1522	time 1543	time 1612	time 1723	time	time	time	time			
DP4	vac 0.10	vac 0.22	vac 0.01	vac 0.01	vac 0.02	vac 0.02	vac	vac	vac	vac	Vacuum in inches of water. For first and last reading blower was off.		
	time 1219	time 1354	time 1516	time 1542	time 1608	time 1719	time	time	time	time			
MW2	vac 0.00	vac 0.02	vac 0.05	vac 0.05	vac 0.06	vac 0.00	vac	vac	vac	vac	Vacuum in inches of water. For first and last reading blower was off.		
	time 1234	time 1355	time 1518	time 1545	time 1610	time 1725	time	time	time	time			

Table 3
Summary of Well DP1 Air Sample Results

Sample ID	Sample Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	TPH-SS	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylenes
DP1	12/13/2010	3,900,000	4,100,000	260,000	27,000	47,000	3,000,000	ND<6,500	ND<7,700	ND<8,900	ND<8,900	ND<8,900

Abbreviations and Notes:
PCE = Tetrachloroethene
TCE = Trichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.
ND = Not Detected.
Results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), unless otherwise indicated

Table 4
Groundwater Extraction Well Water Level Monitoring Data

Well ID	Date	Pump Rate at DP1 (gpm)	Depth to Water (ft)	Top of Casing Elevation (ft)	Groundwater Elevation (ft)	Drawdown Relative to 5/6/2011 Water Level (ft)	Comments	Horizontal Distance from well DP1 (ft)
MW1	5/6/2011	0.0	20.41	132.78	112.37	--	Before pump started 5/23/11	92
	6/1/2011	0.7	20.93		111.85	0.52	After pump started 5/23/11	
MW2	5/6/2011	0.0	14.03	133.59	119.56	--	Before pump started 5/23/11	63
	6/1/2011	0.7	15.07		118.52	1.04	After pump started 5/23/11	
DP1	5/6/2011	0.00	16.45	137.22	120.77	--	Before pump started 5/23/11	0
	5/27/2011	1.00	--		--	Approx. 900 mL of free product removed.		
	6/1/2011	0.70	23.69		113.53	7.24		
	6/2/2011	0.60	23.56		113.66	7.11	Before pump stopped 6/2/11	
	6/2/2011	0.00	19.43		117.79	2.98	After pump stopped 6/2/11	
	6/8/2011	0.00	18.49		118.73	2.04	Before pump started 6/8/11	
	6/17/2011	0.47	23.33		113.89	6.88		
	6/24/2011	0.29	22.41*		114.81	5.96	Approx. 450 mL of free product removed.	
	6/30/2011	0.25	21.95		115.27	5.50	Before pump stopped 6/30/11	
DP2	5/6/2011	0.00	15.58	136.59	121.01	--	Before pump started 5/23/11	17
	6/1/2011	0.70	18.48		118.11	2.90		
	6/2/2011	0.60	18.49		118.10	2.91	Before pump stopped 6/2/11	
	6/2/2011	0.00	18.48		118.11	2.90	After pump stopped 6/2/11	
	6/8/2011	0.00	17.13		119.46	1.55	Before pump started 6/8/11	
	6/17/2011	0.47	18.30		118.29	2.72		
	6/24/2011	0.29	18.52		118.07	2.94		
	6/30/2011	0.25	18.30		118.29	2.72	Before pump stopped 6/30/11	
DP3	5/6/2011	0.00	14.88	135.75	120.87	--	Before pump started 5/23/11	45
	6/1/2011	0.70	17.09		118.66	2.21		
	6/2/2011	0.60	17.11		118.64	2.23	Before pump stopped 6/2/11	
	6/2/2011	0.00	17.10		118.65	2.22	After pump stopped 6/2/11	
	6/8/2011	0.00	16.09		119.66	1.21	Before pump started 6/8/11	
	6/17/2011	0.47	16.94		118.81	2.06		
	6/24/2011	0.29	17.26		118.49	2.38		
	6/30/2011	0.25	19.31		116.44	4.43	Before pump stopped 6/30/11	
DP4	5/6/2011	0.00	15.52	137.60	122.08	--	Before pump started 5/23/11	22
	6/1/2011	0.70	19.31		118.29	3.79		
	6/2/2011	0.60	19.33		118.27	3.81	Before pump stopped 6/2/11	
	6/2/2011	0.00	19.24		118.36	3.72	After pump stopped 6/2/11	
	6/8/2011	0.00	17.61		119.99	2.09	Before pump started 6/8/11	
	6/17/2011	0.47	19.19		118.41	3.67		
	6/24/2011	0.29	19.23		118.37	3.71		
	6/30/2011	0.25	19.31		118.29	3.79	Before pump stopped 6/30/11	
VE1	5/6/2011	0.00	15.18	136.64	122.29	--	Before pump started 5/23/11	18
	6/1/2011	0.70	No water encountered			0.65		
	6/2/2011	0.60	No water encountered			0.00	Before pump stopped 6/2/11	
	6/2/2011	0.00	No water encountered			0.00	After pump stopped 6/2/11	
	6/8/2011	0.00	No water encountered			0.00	Before pump started 6/8/11	
	6/17/2011	0.47	No water encountered			0.00		
	6/24/2011	0.29	No water encountered			0.00		
	6/30/2011	0.25	No water encountered			0.00	Before pump stopped 6/30/11	
VE2	5/6/2011	0.00	15.34	137.20	122.67	--	Before pump started 5/23/11	25
	6/1/2011	0.70	16.56		121.45	1.22		
	6/2/2011	0.60	16.58		121.43	1.24	Before pump stopped 6/2/11	
	6/2/2011	0.00	16.58		121.43	1.24	After pump stopped 6/2/11	
	6/8/2011	0.00	16.70		121.31	1.36	Before pump started 6/8/11	
	6/17/2011	0.47	16.85		121.16	1.51		
	6/24/2011	0.29	16.94		121.07	1.60		
	6/30/2011	0.25	17.01		121.00	1.67	Before pump stopped 6/30/11	

NOTES

gpm = gallons per minute

ft = Feet

mL = milliliters

*= measured prior to removal of free product

Groundwater Discharge Volumes and Flow Rates

<u>Date</u>	<u>Time</u>	<u>Totalizer Reading (gallons)</u>	<u>Total Volume Discharged (gallons)</u>	<u>Incremental Volume Discharged (gallons)</u>	<u>Comments</u>	<u>Calculated Flow Rate (gpm)</u>
5/23/2011	10:36:00 AM	215,766	0		system turned on	
5/23/2011	10:58:12 AM	215,821	55	55	55 gallons per 22 minutes	2.5
5/23/2011	2:56:15 PM	216,221	455	400	400 gallons per 238 minutes	1.7
5/23/2011	3:36:00 PM	216,265	499	44	44 gallons per 40 minute	1.1
5/24/2011	7:57:00 AM	217,564	1,798	1,299	1,299 gallons per 981 minute	1.3
5/24/2011	8:17:00 AM	217,687	1,921	123	123 gallons per 20 minute	6.2
5/27/2011	1:53:00 PM	222,370	6,604	4,683	4,683 gallons per 4,656 minute	1
6/1/2011	12:24:00 PM	227,750	11,984	5,380	5,380 gallons per 7,289 minutes	0.7
6/2/2011	11:20:00 AM	228,558	12,792	808	808 gallons per 1,376 minutes (pump turned off)	0.6
6/8/2011					pump turned on 6.8.11	
6/17/2011	11:35:00 AM	238,039	22,273	9,481	calculated with stop watch & bucket, totalizer not spinning	0.47
6/24/2011	12:01:17 PM	238,039	32,379	10,106	calculated with stop watch & bucket, totalizer not spinning	0.29
6/30/2011	3:00:00 PM	238,039	34,937	2,558	totalizer not spinning, system shut down (5 gallons per 20 minutes)	0.25

NOTES

gpm = gallons per minute

FIGURES

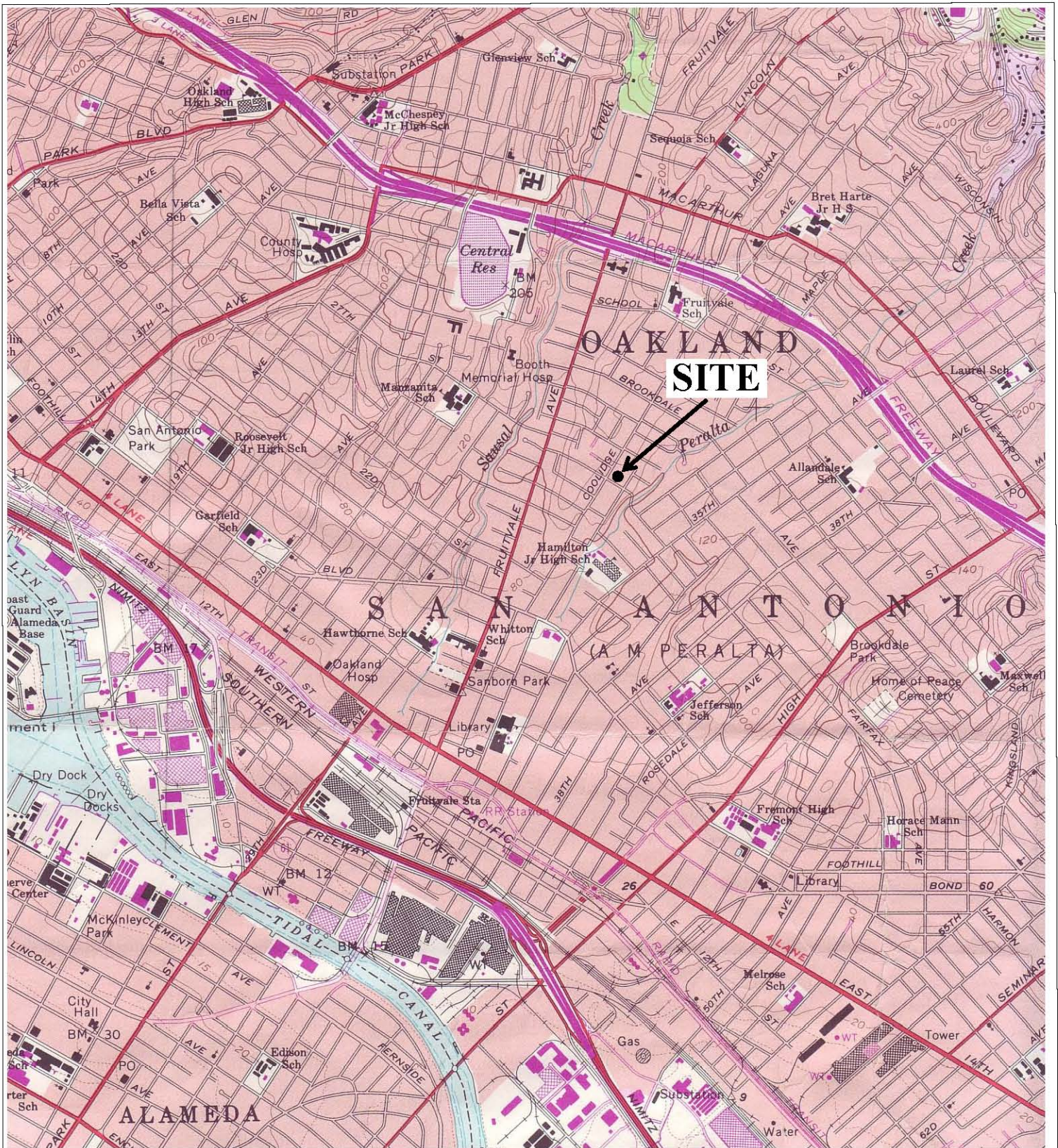
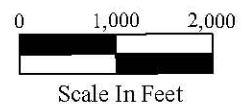


Figure 1
 Site Location Map
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California



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

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



LEGEND

- SG18 ⊗ Soil Gas Sample Collected by P&D, 2008
- SG23 ⊠ Soil Gas Sample Collected by P&D, 2010
- MW4 ⊕ Existing Monitoring Well Location
- B28 ◆ Borehole Drilled by P&D, 2008
- H6 ◆ Existing Borehole Location
- B34 ⊙ Proposed Borehole Location
- DP4 ⊠ *Dual-Phase Extraction Well*
- VE2 ⊠ *Vapor Extraction Well*
- Outline of Site
- G G' Geologic Cross Section Location

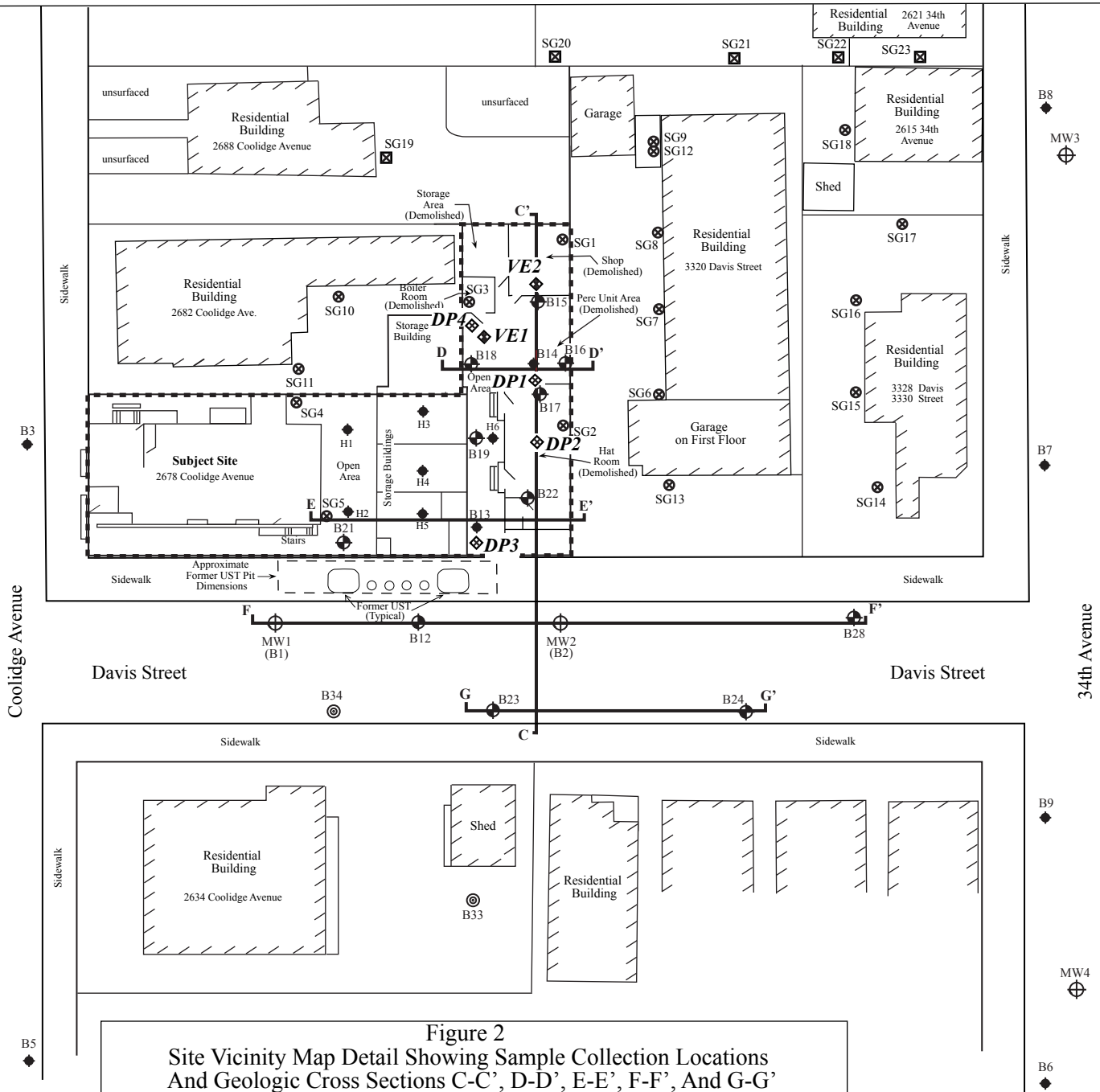
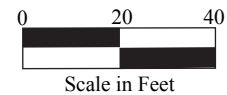


Figure 2
 Site Vicinity Map Detail Showing Sample Collection Locations
 And Geologic Cross Sections C-C', D-D', E-E', F-F', And G-G'
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

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

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



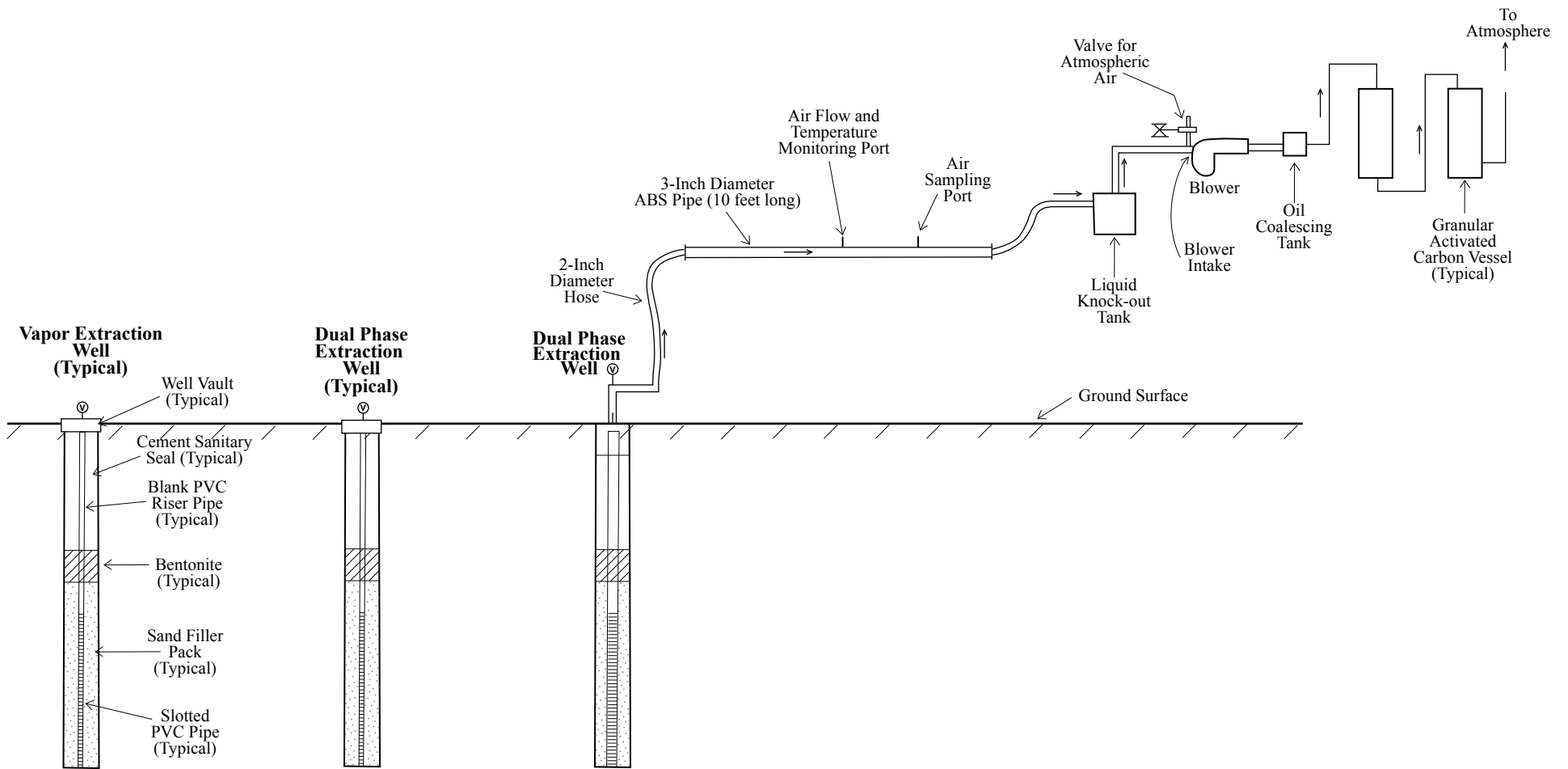


Figure 3
 Vapor Extraction Feasibility Test System Diagram
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

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

NO SCALE

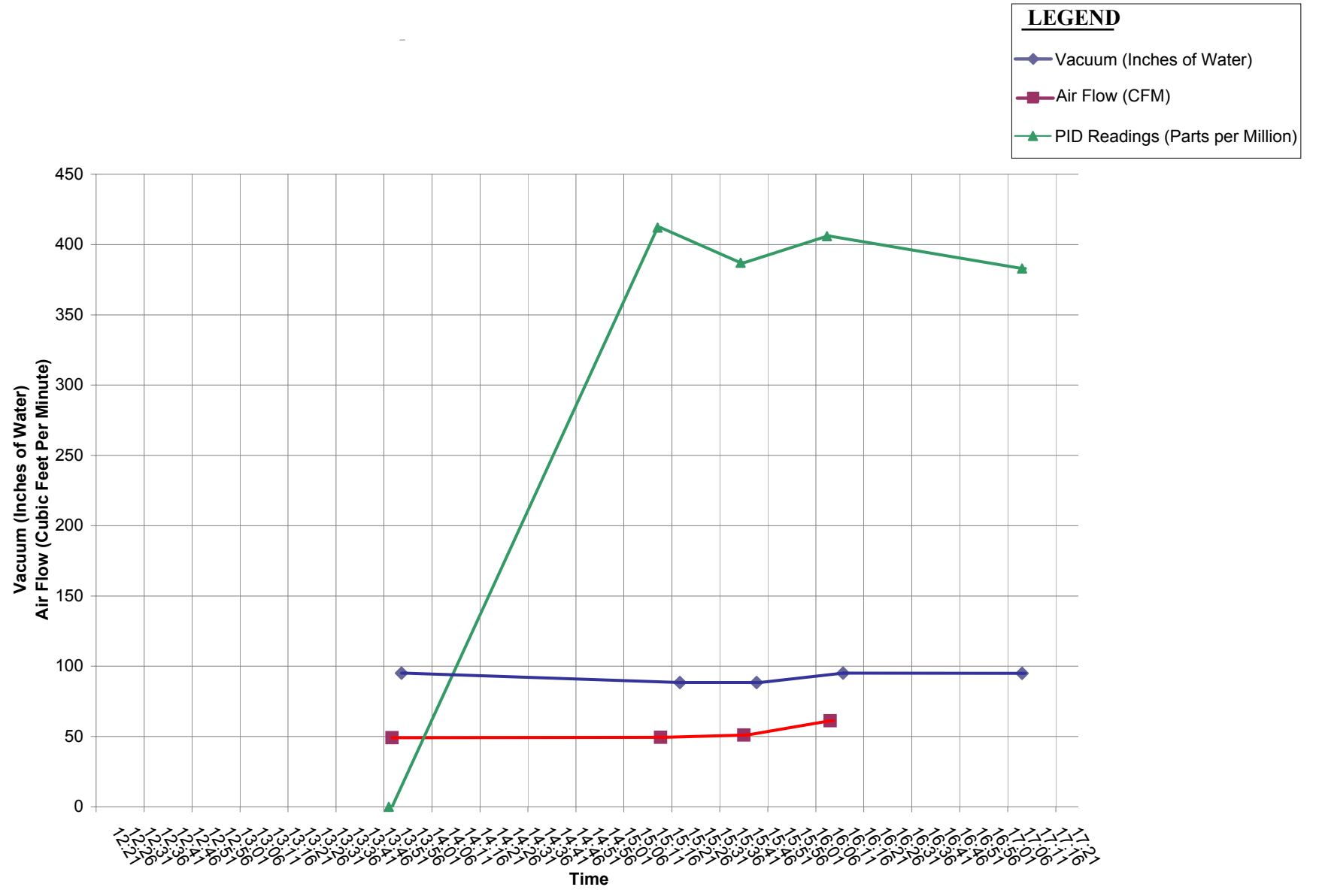


Figure 4
 Vacuum, Air Flow, And PID Readings Versus Time In Extraction Well DP1
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

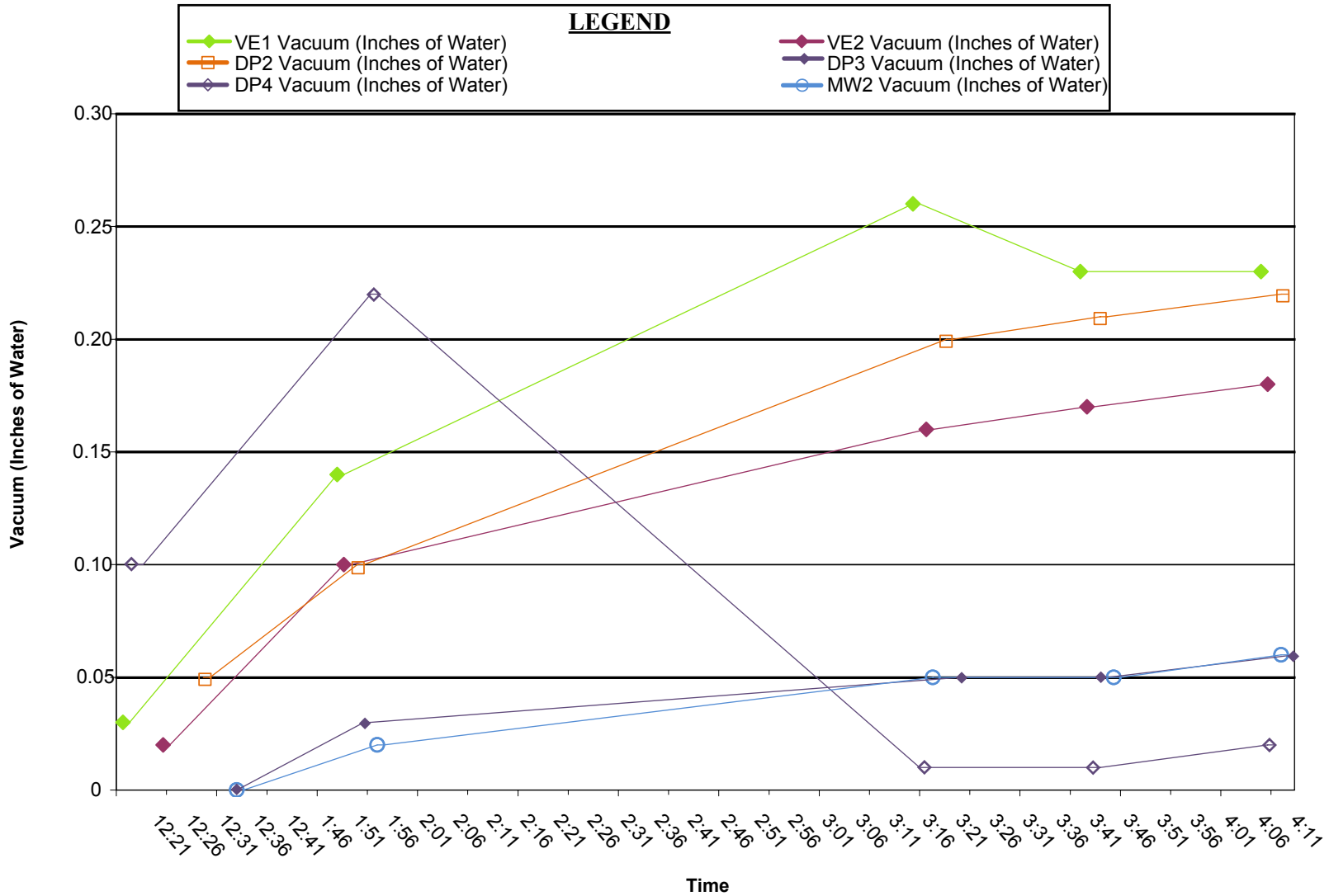


Figure 5
 Vacuum Versus Time In Observation Wells DP2 Through DP4, VE1, VE2, And MW2
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

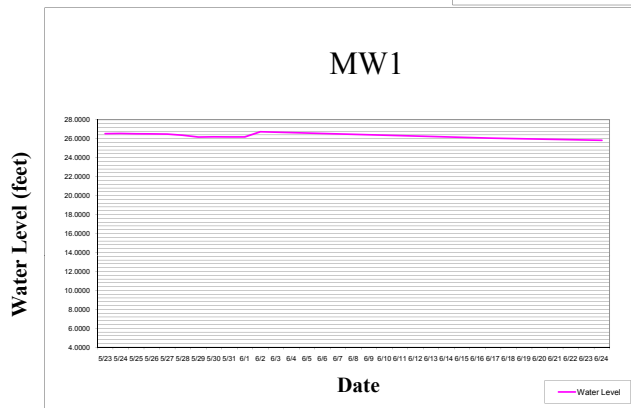
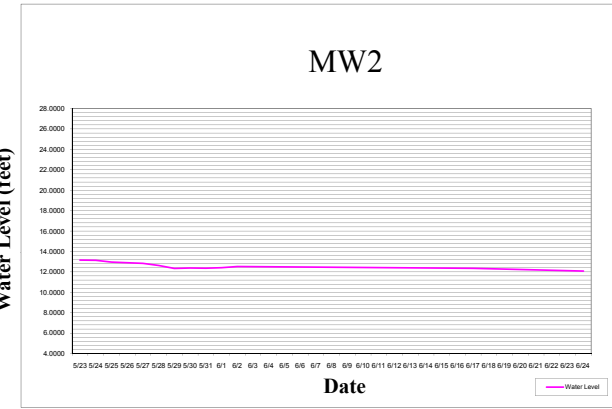
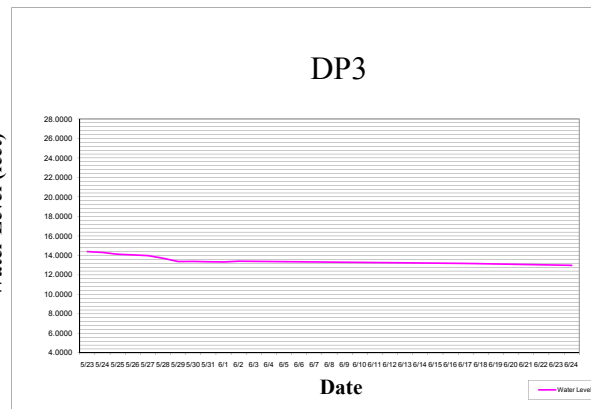
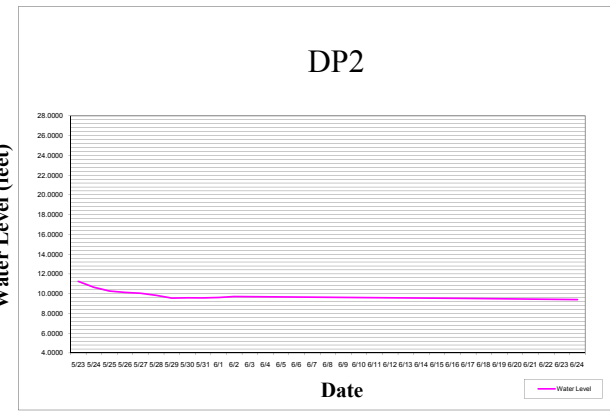
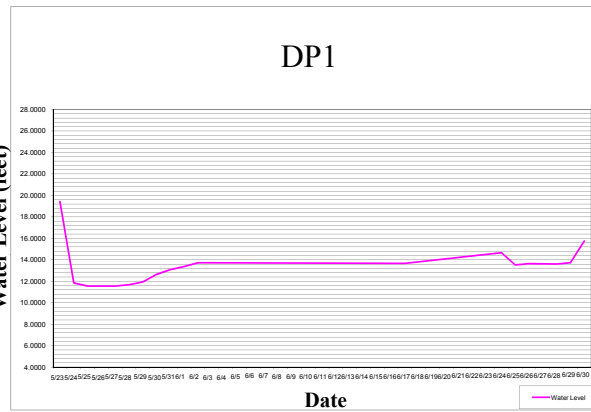
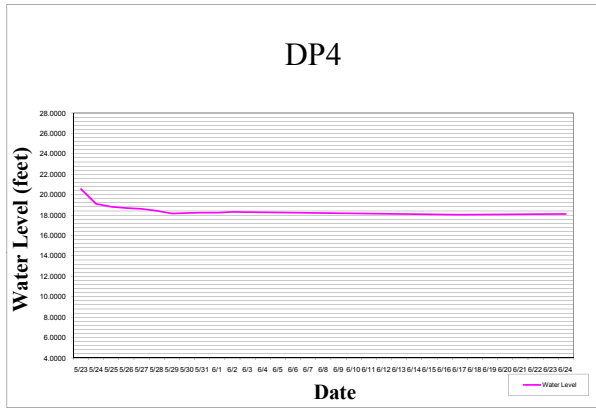


Figure 6
 Pressure Transducer Water Level Data Graphs For Wells DP1 Through DP4, MW1 And MW2
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

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

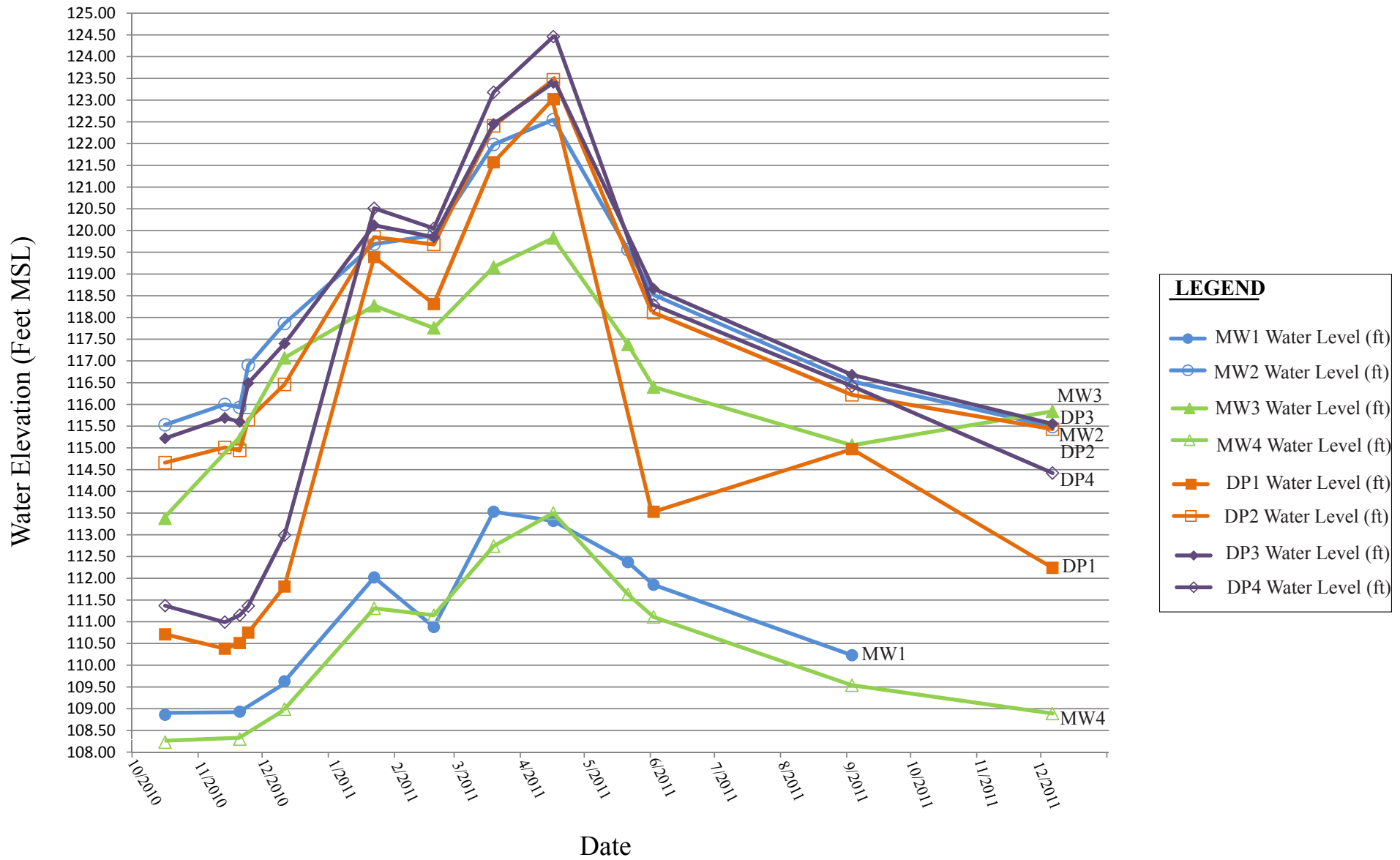


Figure 7
 Graph Of Water Levels In Site Groundwater Monitoring Network Wells
 For October 2010 Through December 2011
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

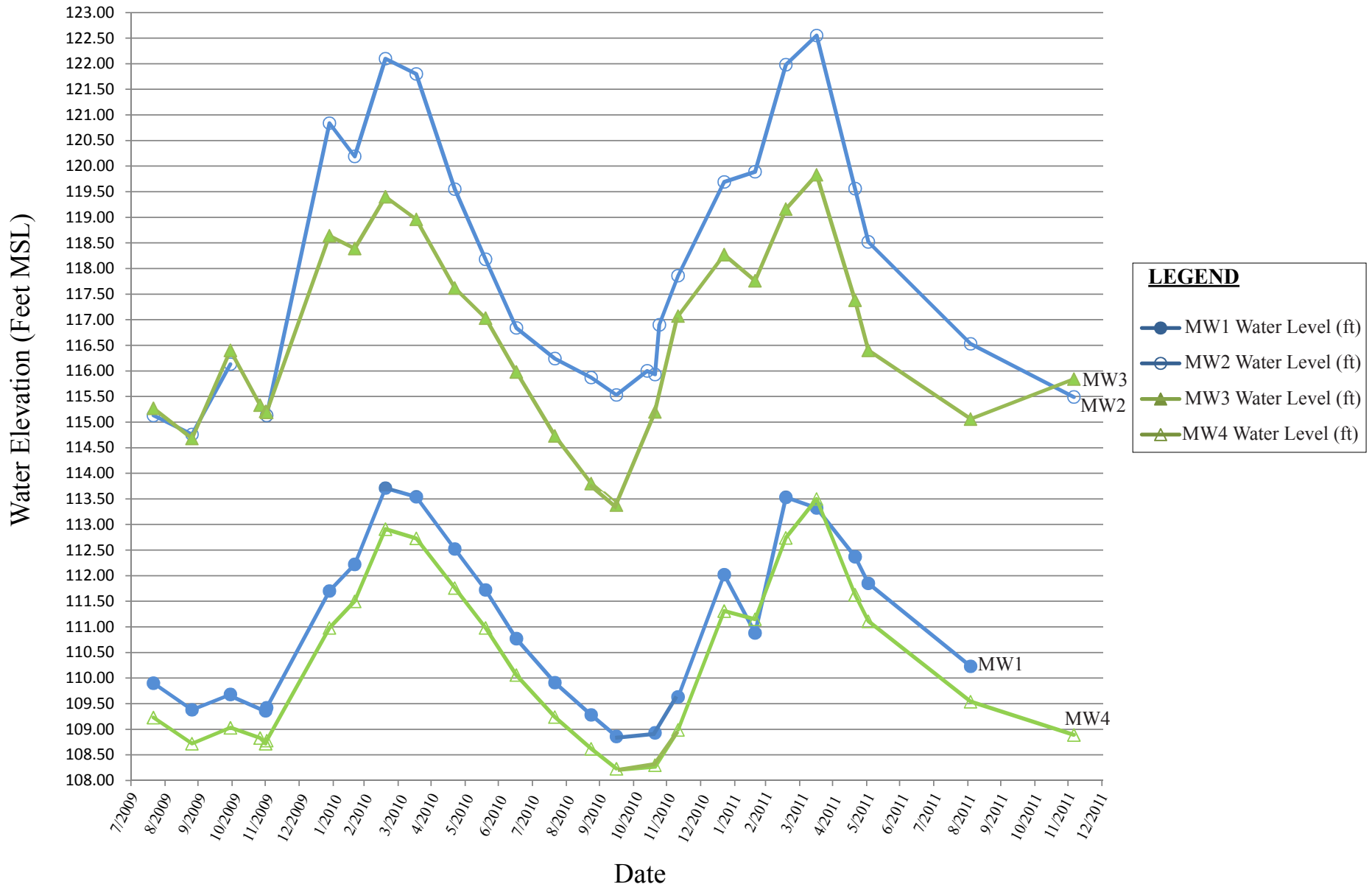


Figure 8
 Graph Of Water Levels In Groundwater Monitoring Wells MW1 Through MW4
 For August 2009 Through December 2011
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

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

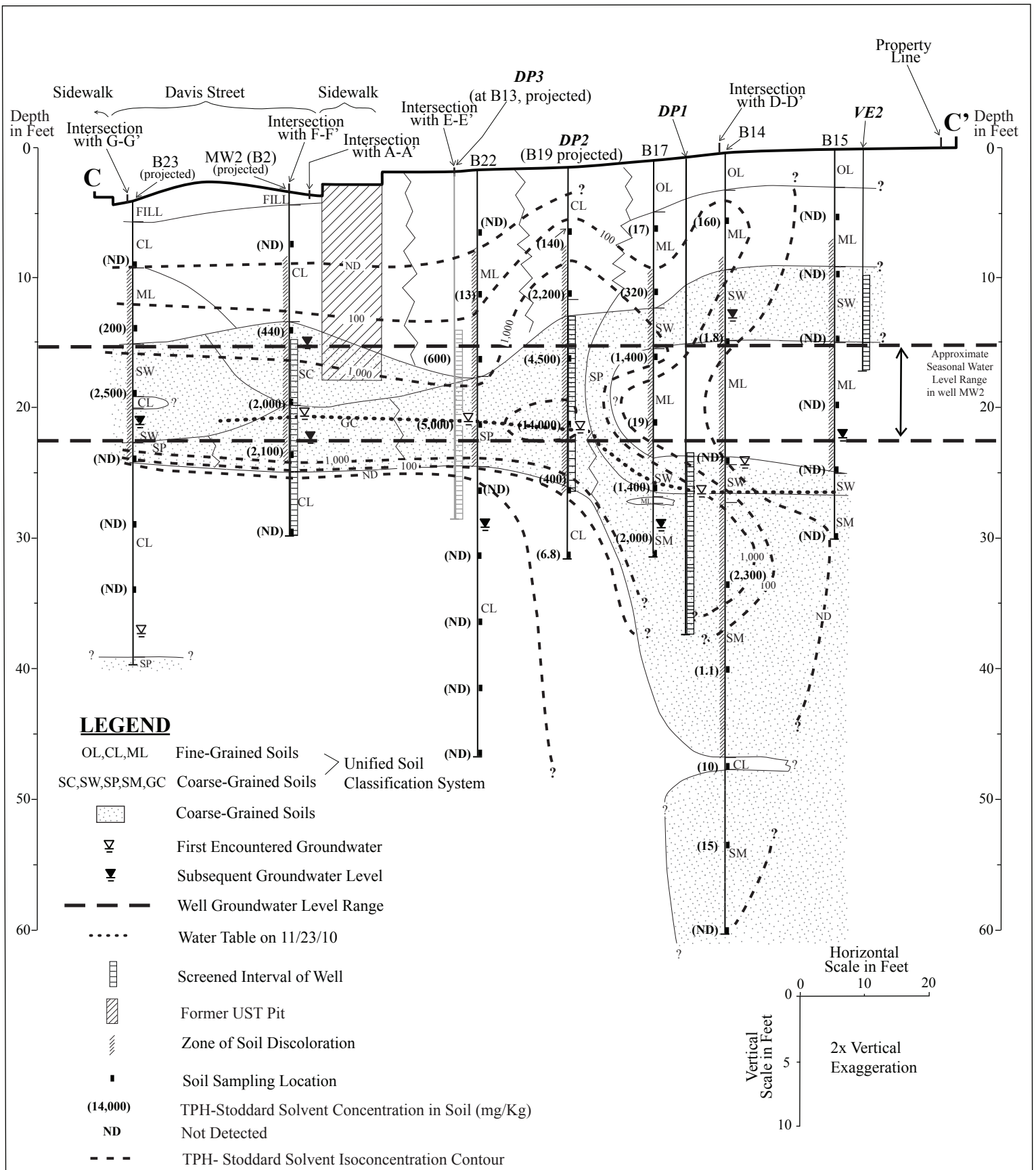


Figure 9
 Geologic Cross Section C-C' Showing TPH-Stoddard Solvent In Soil
 Snow Cleaners
 2678 Coolidge Avenue
 Oakland, California

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

APPENDIX A

Weather Information

Report 0298.R13
Appendix A

<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME4&graphspan=custom&month=11&day=29&year=2010&monthend=12&dayend=13&yearend=2010>

About This Station

Lat: N 37 ° 46 ' 16 " (37.771 °)
Lon: W 122 ° 15 ' 37 " (-122.260 °)
Elevation (ft): 30
Hardware: LaCrosse 2316
Weather Station Software:

History for KCAALAME4

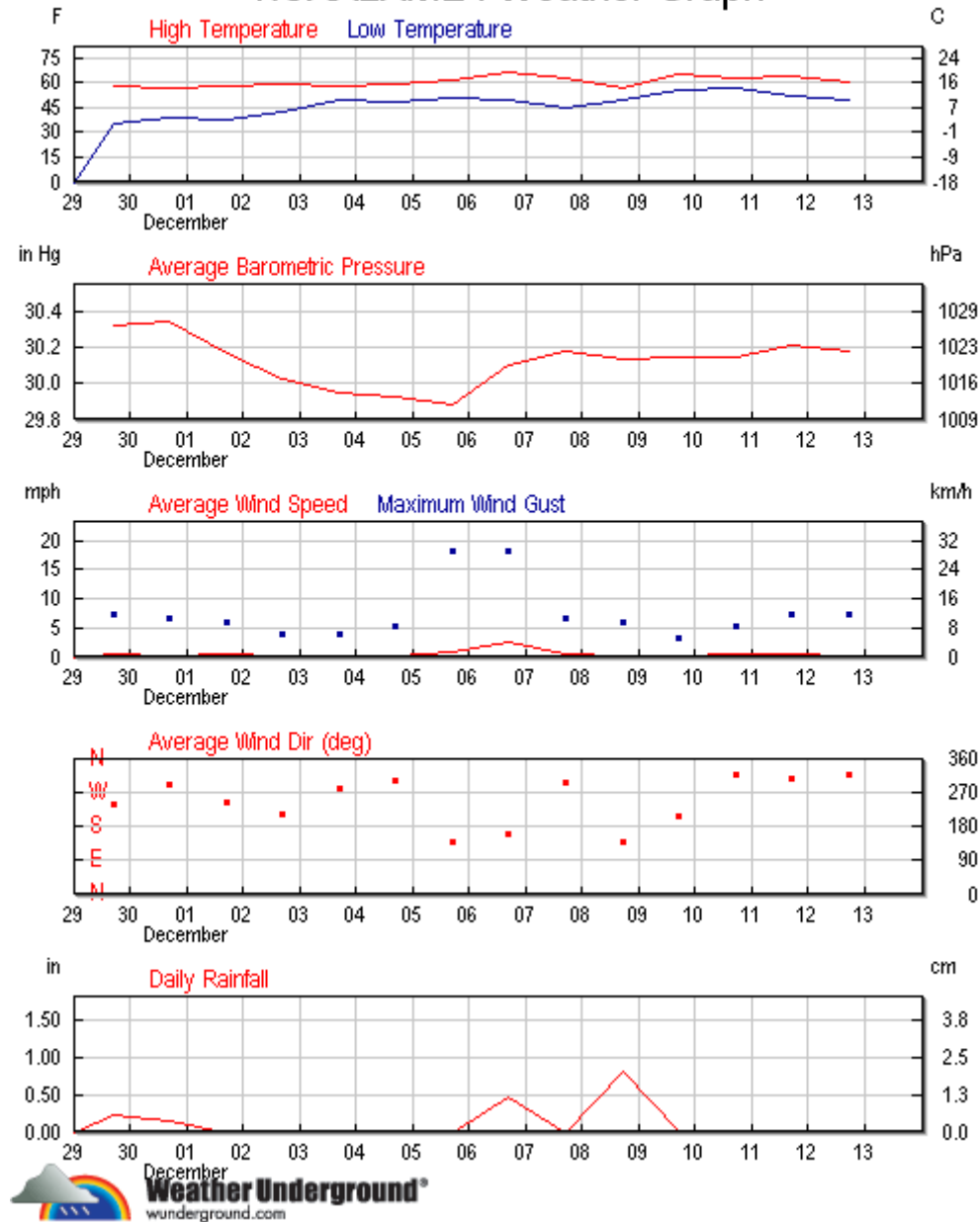
Central Ave and Paru St, Alameda, CA — [Current Conditions](#)

November 29 2010 - TO - December 13 2010 Go

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

	High:	Low:	Average:
Temperature:	66.0 °F	35.4 °F	53.1 °F
Dew Point:	59.3 °F	29.9 °F	47.2 °F
Humidity:	93.0%	46.0%	81.0%
Wind Speed:	18.1mph from the ESE	-	0.5mph
Wind Gust:	18.1mph from the ESE	-	-
Wind:	-	-	SW
Pressure:	30.44in	29.78in	-
Precipitation:	1.67in		

KCAALAME4 Weather Graph



<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME4&graphspan=day&month=12&day=13&year=2010>

History for KCAALAME4

Central Ave and Paru St, Alameda, CA — [Current Conditions](#)

[« Previous Day](#)
December ▼
13 ▼
2010 ▼
View
[Next Day »](#)

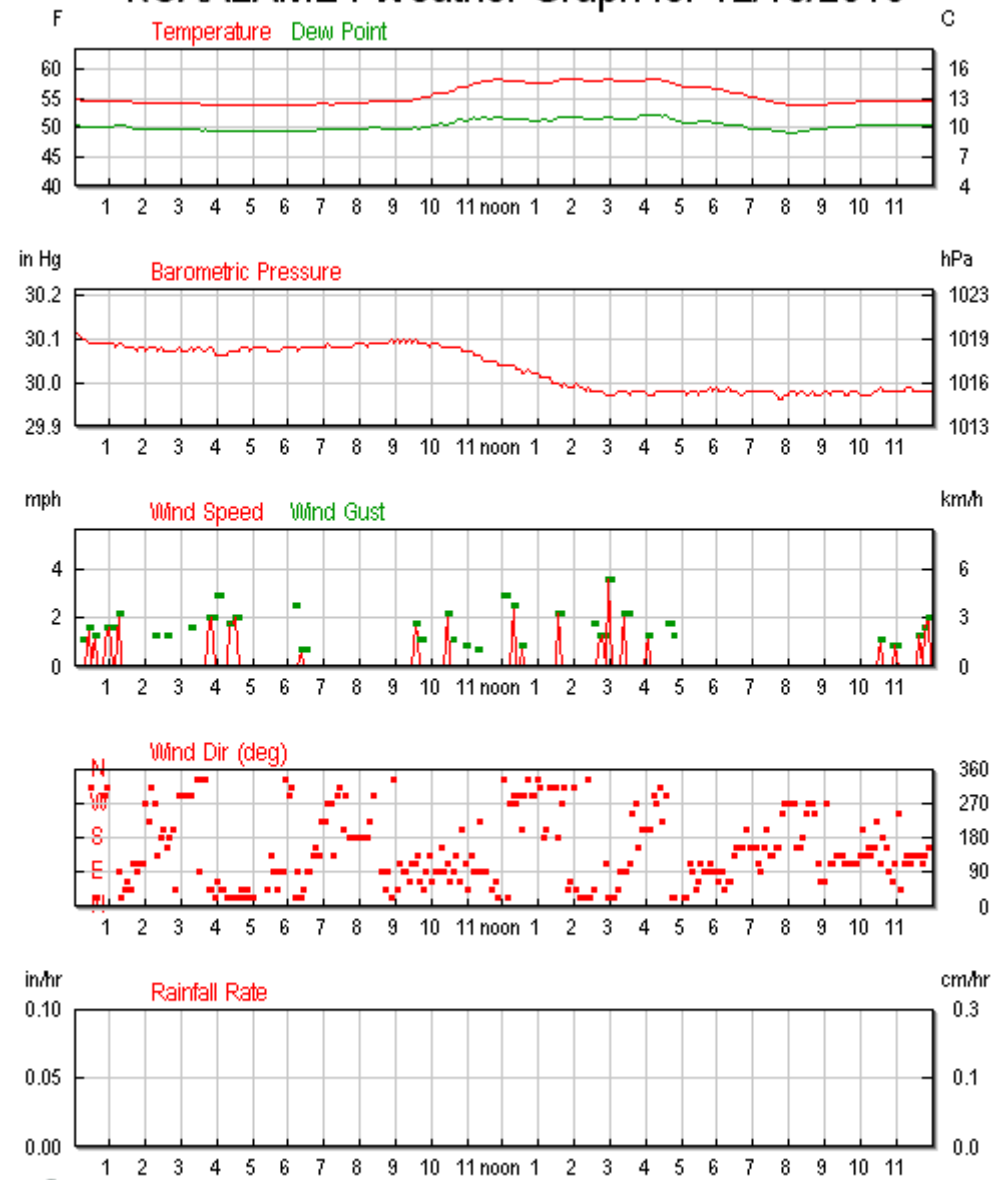
[Daily](#)
[Weekly](#)
[Monthly](#)
[Yearly](#)
[Custom](#)

	Current:	High:	Low:	Average:
Temperature:	60.6 °F	58.3 °F	53.8 °F	55.5 °F
Dew Point:	51.6 °F	52.2 °F	49.0 °F	50.4 °F
Humidity:	72%	86%	79%	83%
Wind Speed:	1.6mph	3.6mph	-	0.2mph
Wind Gust:	8.9mph	3.6mph	-	-
Wind:	West	-	-	NE
Pressure:	29.84in	30.11in	29.96in	-
Precipitation:	0.00in			

Statistics for the rest of the month

	High:	Low:	Average:
Temperature:	66.0 °F	37.6 °F	52.0 °F
Dew Point:	59.3 °F	28.2 °F	46.4 °F
Humidity:	94.0%	48.0%	81.9%
Wind Speed:	23.3mph from the WNW	-	1.1mph
Wind Gust:	23.3mph from the WNW	-	-
Wind:	-	-	SSW
Pressure:	30.34in	29.45in	-
Precipitation:	6.79in		

KCAALAME4 Weather Graph for 12/13/2010



Report 0298.R13
Appendix A

<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KCAALAME4&graphspan=custom&month=12&day=13&year=2010&monthend=12&dayend=27&yearend=2010>

History for KCAALAME4

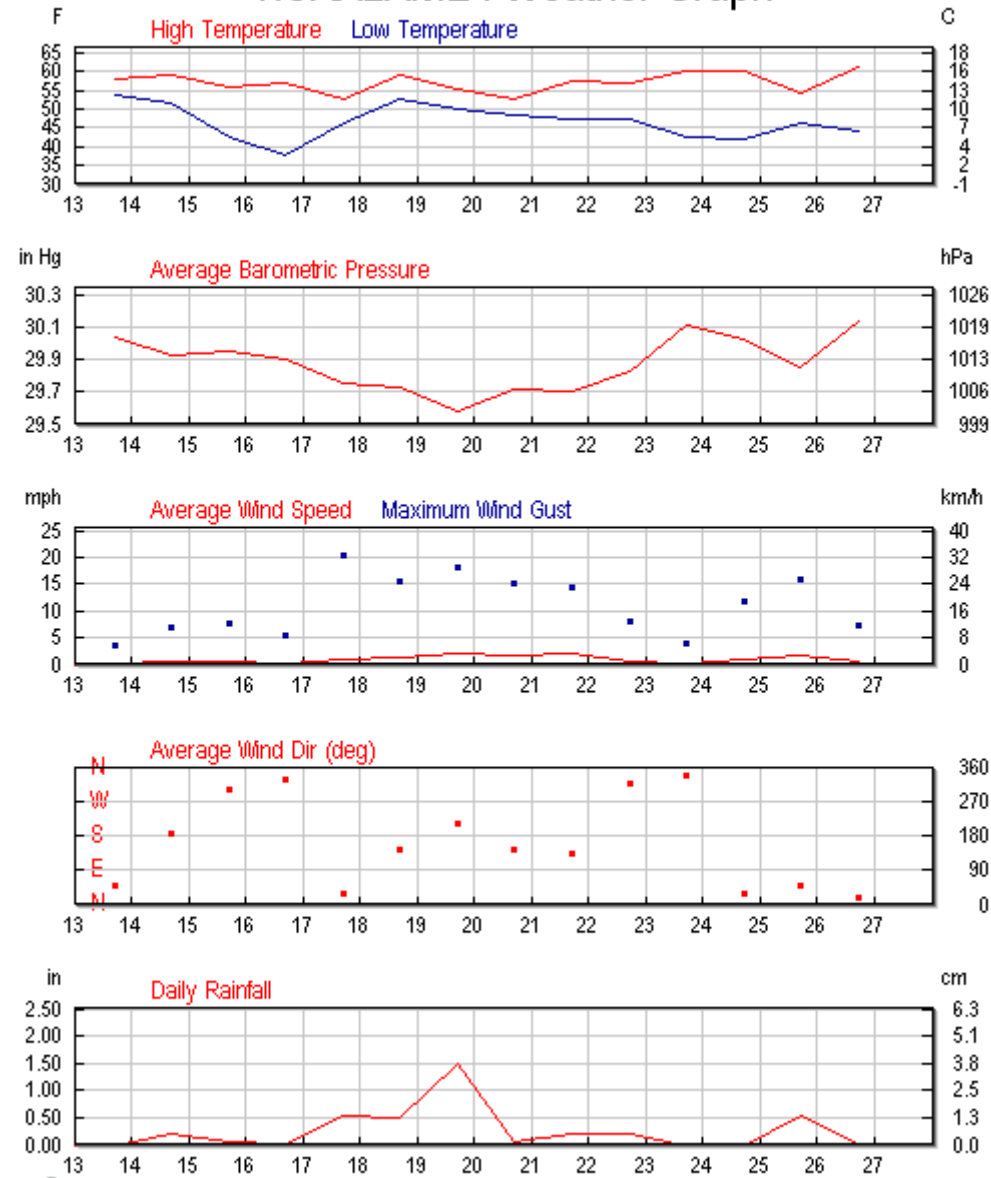
Central Ave and Paru St, Alameda, CA — [Current Conditions](#)

December 13 2010 - TO - December 27 2010

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

	High:	Low:	Average:
Temperature:	61.5 °F	38.1 °F	51.5 °F
Dew Point:	56.5 °F	35.7 °F	46.6 °F
Humidity:	94.0%	53.0%	83.6%
Wind Speed:	18.3mph from the SSW	-	1.0mph
Wind Gust:	20.4mph from the NE	-	-
Wind:	-	-	South
Pressure:	30.34in	29.45in	-
Precipitation:	3.85in		

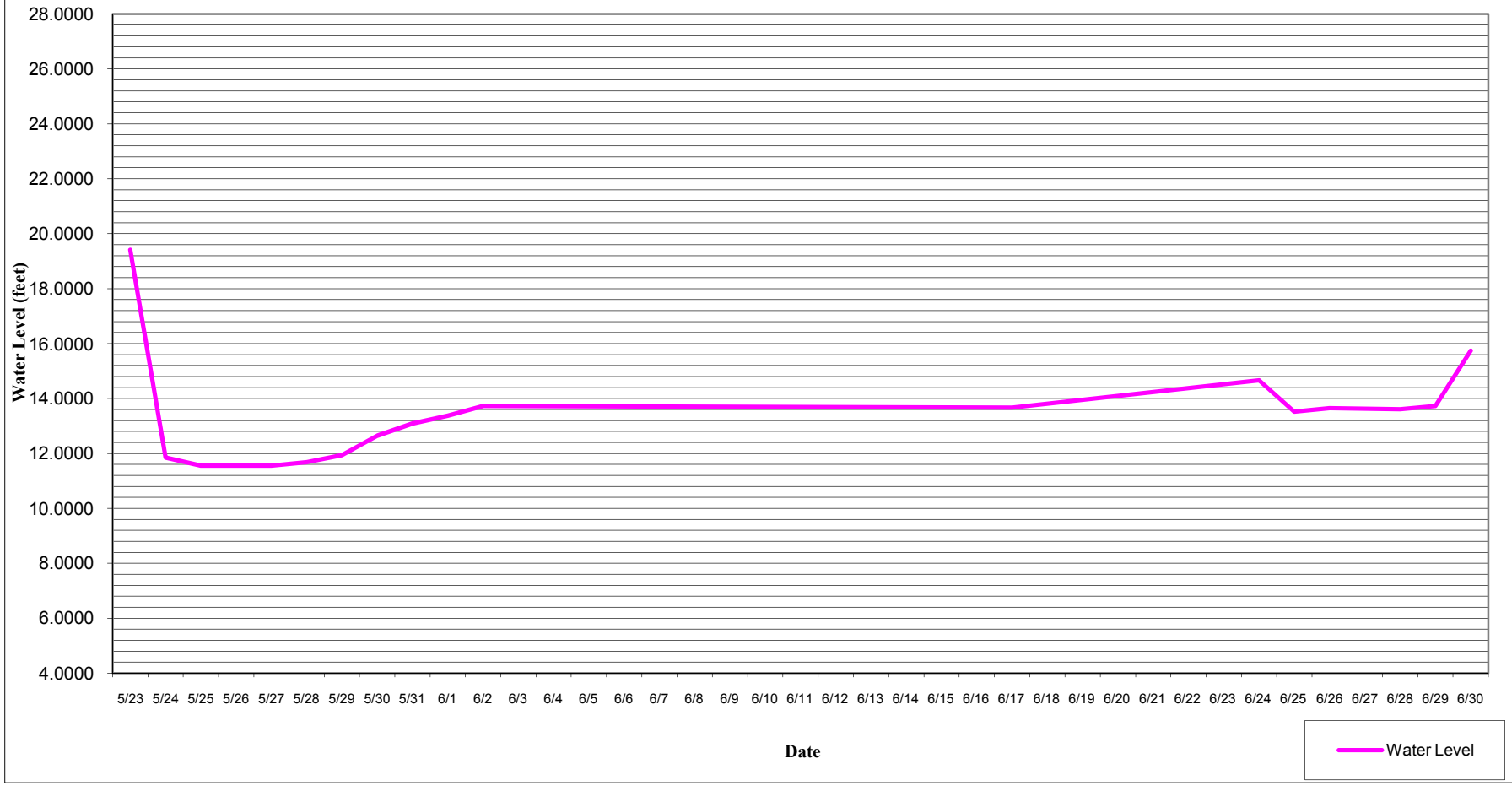
KCAALAME4 Weather Graph



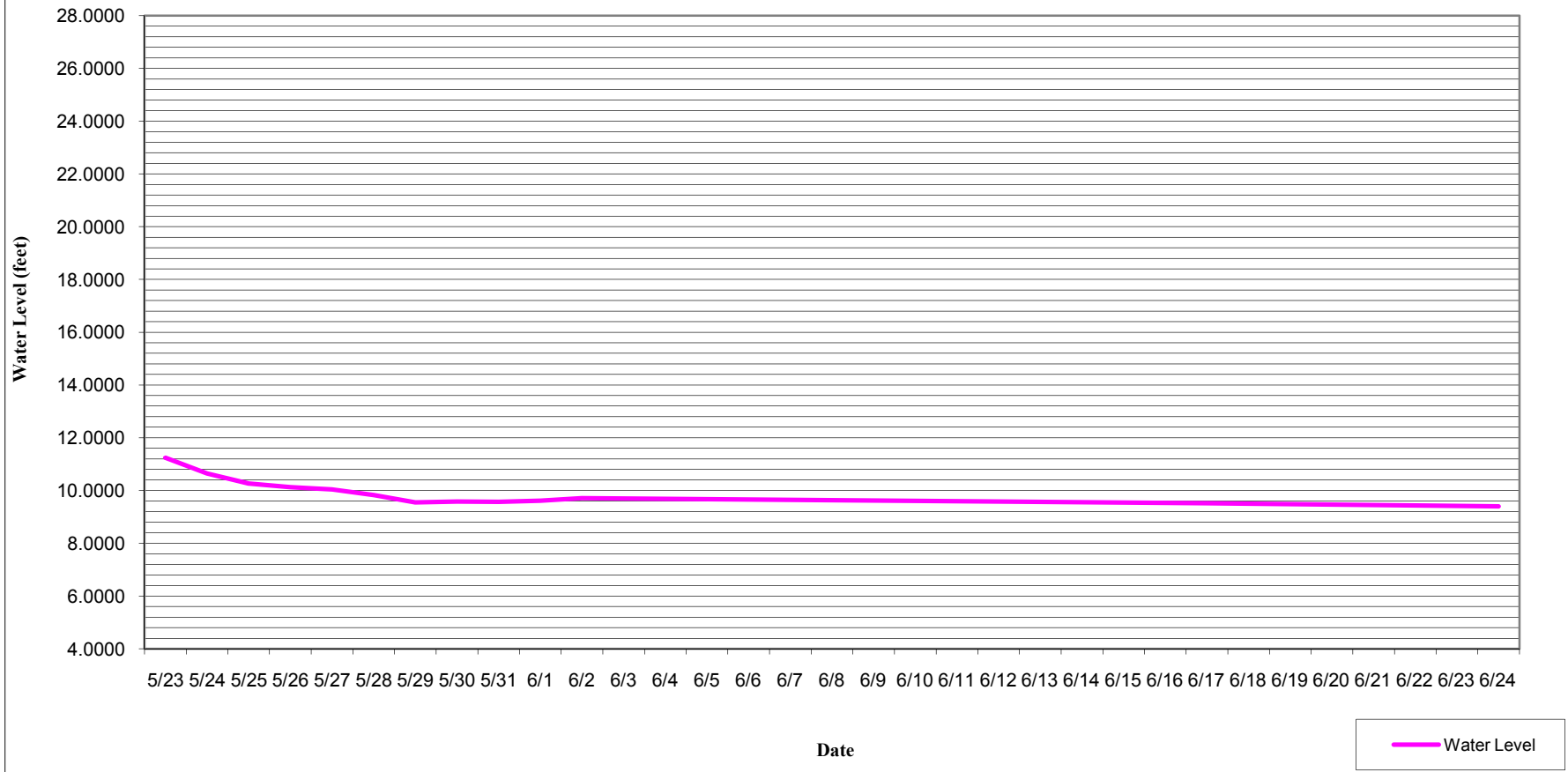
APPENDIX B

Pressure Transducer Water Level Data Graphs for Wells DP1 Through DP4, MW1 and MW2

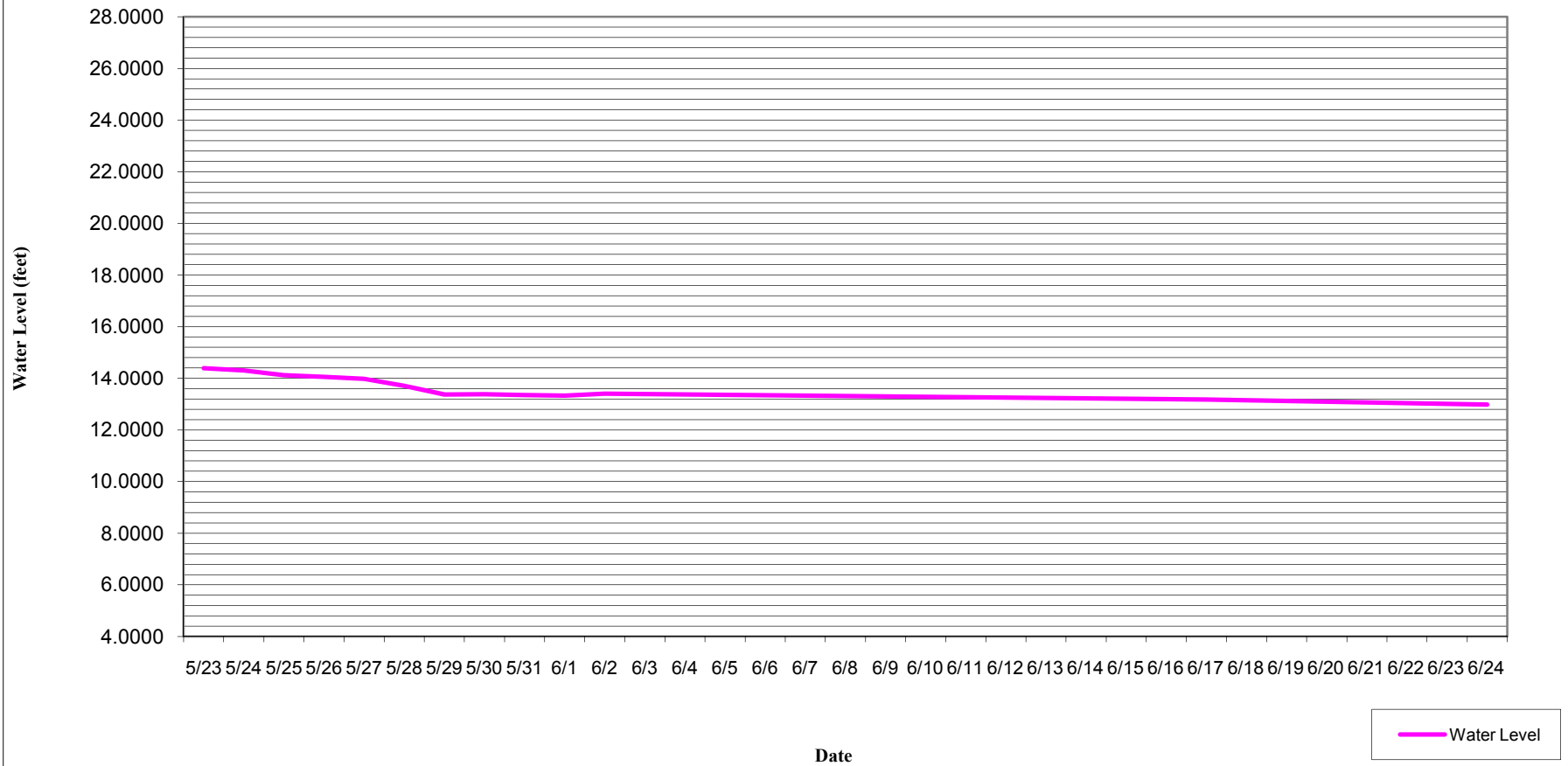
DP1



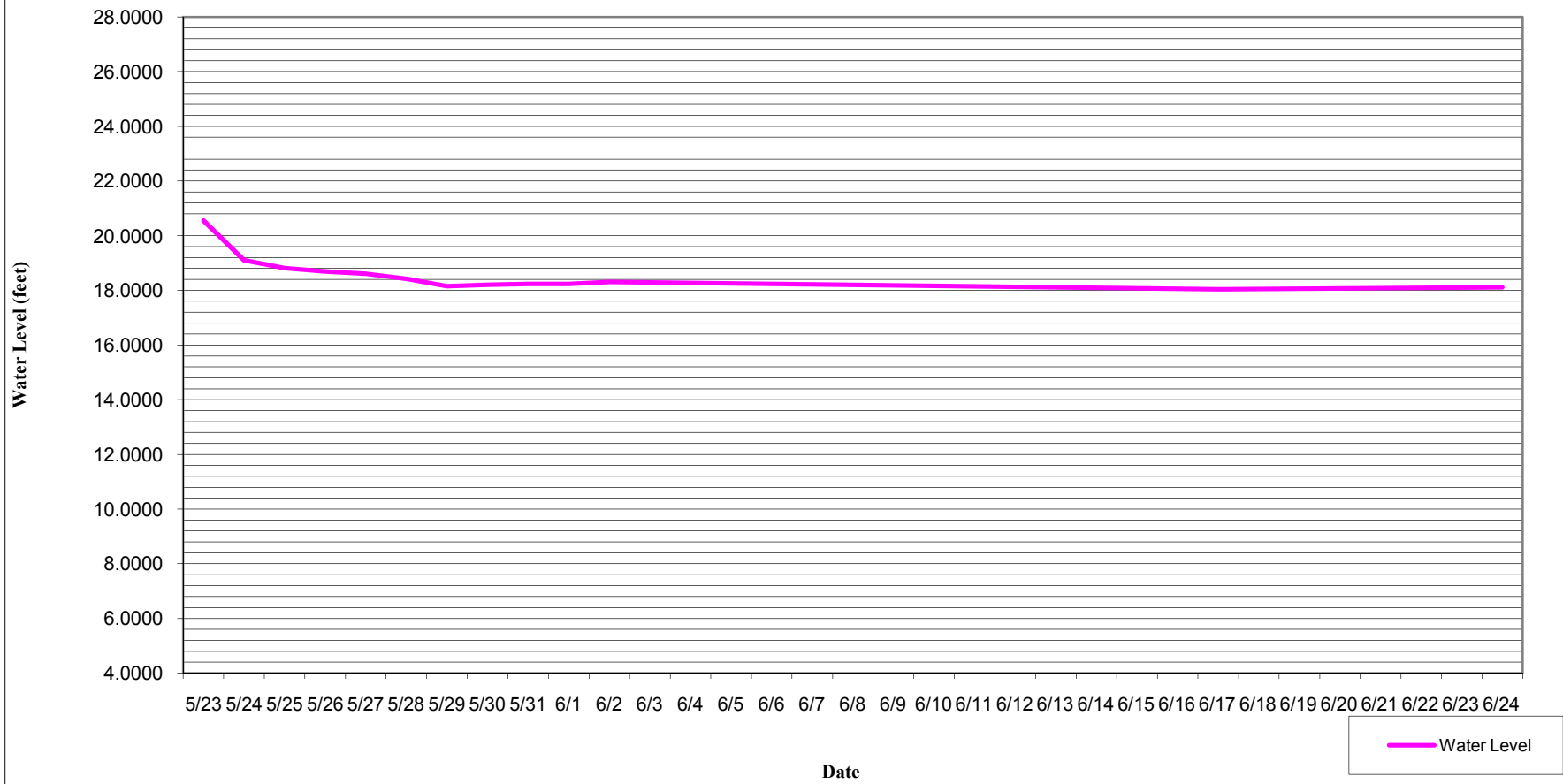
DP2



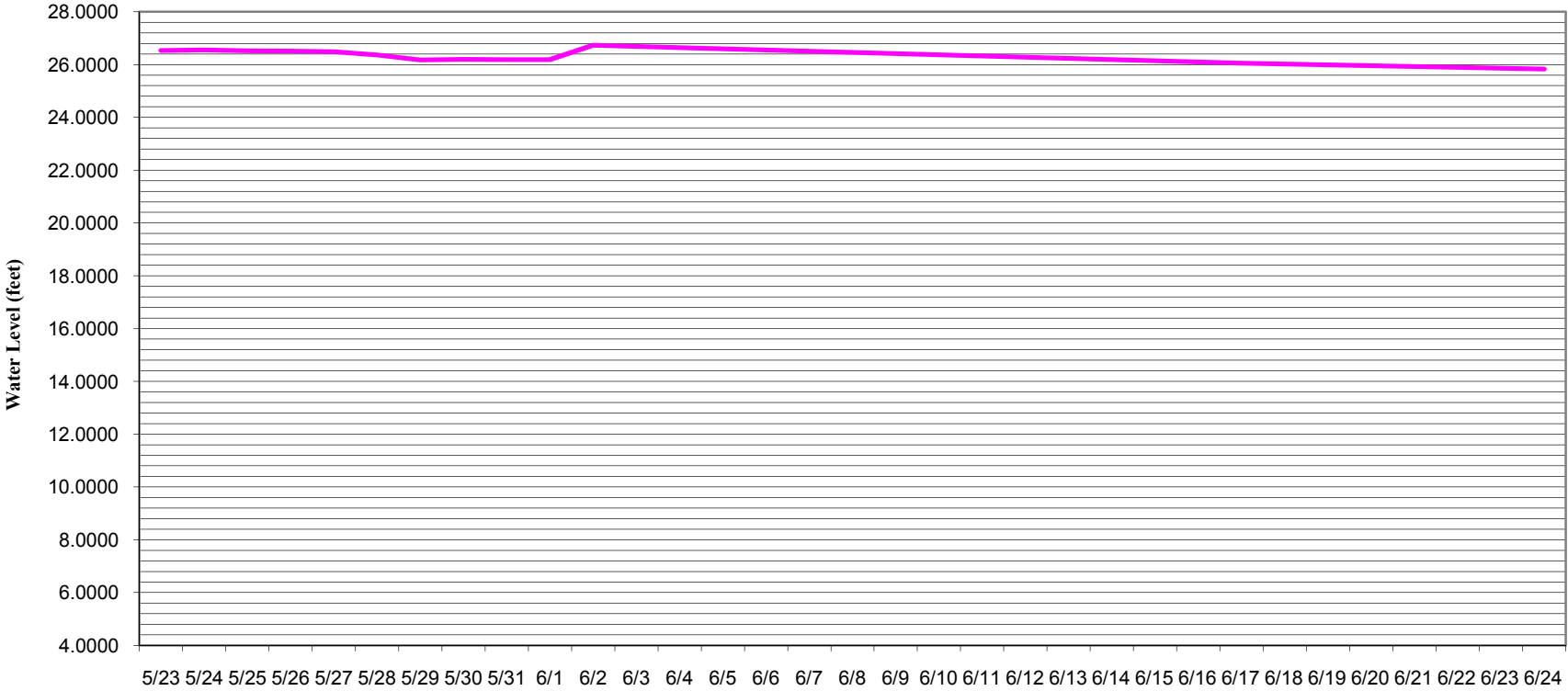
DP3



DP4



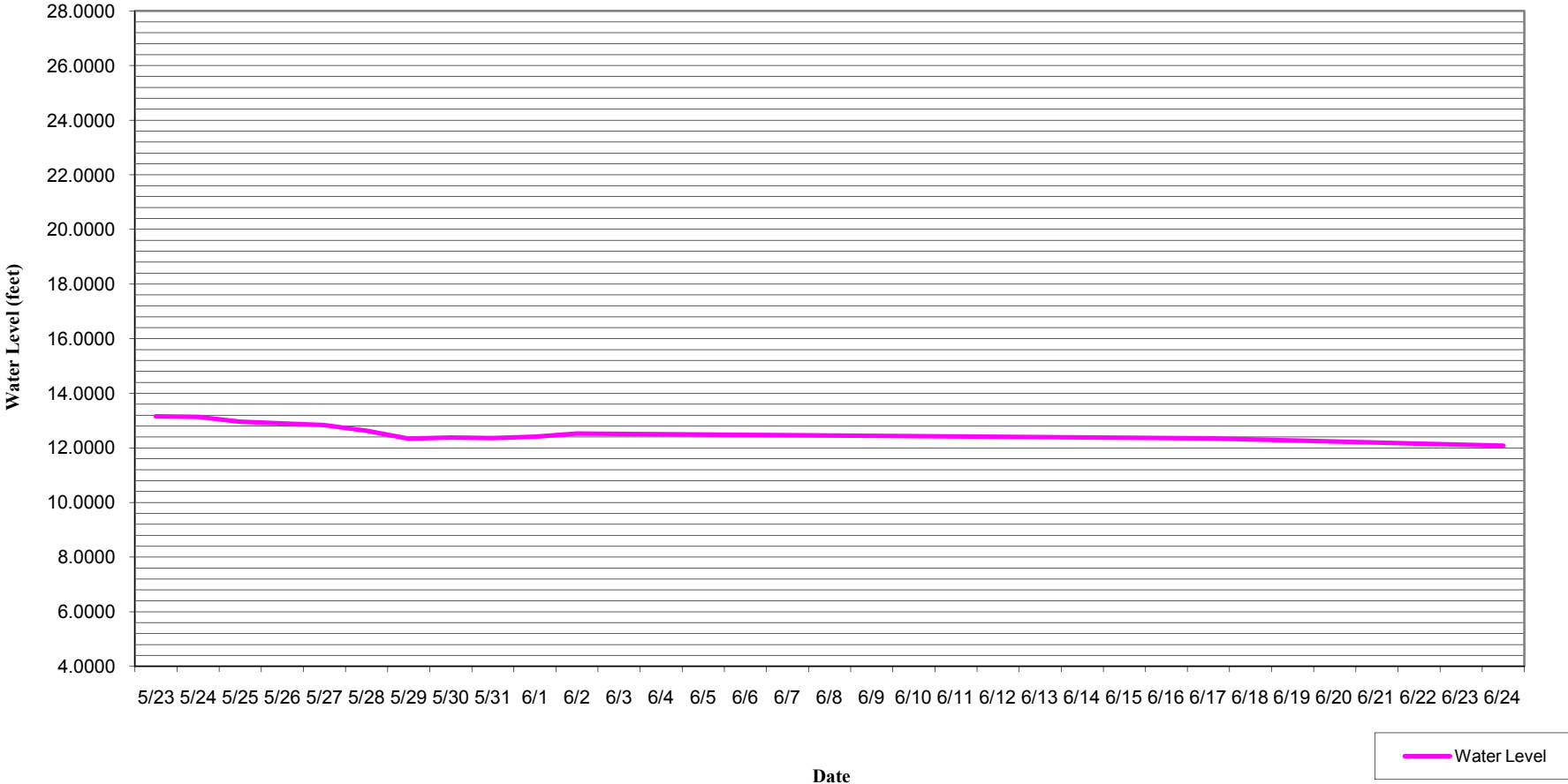
MW1



Date

Water Level

MW2



APPENDIX C

Laboratory Analytical Reports and Chain of Custody Documentation

12/30/2010
Mr. Paul King
P & D Environmental
55 Santa Clara
Suite 240
Oakland CA 94610

Project Name: Snow Cleaners 2678 Coolidge Ave. Oakland
Project #: 0298
Workorder #: 1012373B

Dear Mr. Paul King

The following report includes the data for the above referenced project for sample(s) received on 12/16/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 1012373B

Work Order Summary

CLIENT:	Mr. Paul King P & D Environmental 55 Santa Clara Suite 240 Oakland, CA 94610	BILL TO:	Mr. Paul King P & D Environmental 55 Santa Clara Suite 240 Oakland, CA 94610
PHONE:	510-658-6916	P.O. #	
FAX:	510-834-0772	PROJECT #	0298 Snow Cleaners 2678 Coolidge Ave.
DATE RECEIVED:	12/16/2010	CONTACT:	Oakland Kyle Vagadori
DATE COMPLETED:	12/30/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	DP1	Modified TO-3	5.4 "Hg	15 psi
02A	Lab Blank	Modified TO-3	NA	NA
03A	LCS	Modified TO-3	NA	NA
03AA	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: 

DATE: 12/30/10

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified TO-3
P & D Environmental
Workorder# 1012373B**

One 1 Liter Summa Canister sample was received on December 16, 2010. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-3</i>	<i>ATL Modifications</i>
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch ≤ 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation $DL = A + 3.3S$, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the detection limit.
- M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-3 GC/FID

Client Sample ID: DP1

Lab ID#: 1012373B-01A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Stoddard Solvent	25	140	520	3000

Client Sample ID: DP1

Lab ID#: 1012373B-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6122104	Date of Collection:	12/13/10 5:05:00 PM
Dil. Factor:	984	Date of Analysis:	12/21/10 10:43 AM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Stoddard Solvent	25	140	520	3000

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	99	75-150

Client Sample ID: Lab Blank

Lab ID#: 1012373B-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6122103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/21/10 09:48 AM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Stoddard Solvent	0.025	0.14	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	100	75-150

Client Sample ID: LCS

Lab ID#: 1012373B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6122102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/21/10 08:32 AM

Compound	%Recovery
Stoddard Solvent	107

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	100	75-150

Client Sample ID: LCSD

Lab ID#: 1012373B-03AA

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6122105	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/21/10 11:51 AM

Compound	%Recovery
Stoddard Solvent	106

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	99	75-150

P & D ENVIRONMENTAL, INC.

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

CHAIN OF CUSTODY RECORD

1012373

PAGE 1 OF 1

PROJECT NUMBER: 0298		PROJECT NAME: SNOW CLEANER 2678 COOLIDGE AVE. OAKLAND			NUMBER OF CONTAINERS 1	ANALYSIS(ES): TEH-55 BY EPA METHOD TO-3 HVAC BY EPA METHOD TO-15	PRESERVATIVE	REMARKS	
SAMPLED BY: (PRINTED AND SIGNATURE) MICHAEL DESCHENES <i>Michael Deschenes</i>									
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION					
DP1	10/13/10	170520	2014 / GAS	INITIALS SAMPLE # FINAL VOLUME PID -30 2109 -7 383 PPM	1	XX		NORMAL TURN AROUND	
RELINQUISHED BY: (SIGNATURE) <i>Michael Deschenes</i>		DATE 12/14/10	TIME	RECEIVED BY: (SIGNATURE) Fed Ex	TOTAL NO. OF SAMPLES (THIS SHIPMENT) 1	TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 1	LABORATORY: AIR TOXICS, LTD		
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT: KYLE SACADORI		LABORATORY PHONE NUMBER: (916) 985-1000		
RELINQUISHED BY: (SIGNATURE)		DATE 12/16/10	TIME 1100	RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>[Signature]</i> ATL	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES (X) NO				
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com				REMARKS:				CUSTODY SEAL INTACT? Y (N) NONE TEMP NA	

Fed Ex grant

1/3/2011

Mr. Paul King
P & D Environmental
55 Santa Clara
Suite 240
Oakland CA 94610

Project Name: Snow Cleaners 2678 Coolidge Ave. Oakland
Project #: 0298
Workorder #: 1012373A


Dear Mr. Paul King

The following report includes the data for the above referenced project for sample(s) received on 12/16/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 1012373A

Work Order Summary

CLIENT:	Mr. Paul King P & D Environmental 55 Santa Clara Suite 240 Oakland, CA 94610	BILL TO:	Mr. Paul King P & D Environmental 55 Santa Clara Suite 240 Oakland, CA 94610
PHONE:	510-658-6916	P.O. #	
FAX:	510-834-0772	PROJECT #	0298 Snow Cleaners 2678 Coolidge Ave.
DATE RECEIVED:	12/16/2010	CONTACT:	Oakland Kyle Vagadori
DATE COMPLETED:	01/03/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	DP1	Modified TO-15	5.4 "Hg	15 psi
02A	Lab Blank	Modified TO-15	NA	NA
03A	CCV	Modified TO-15	NA	NA
04A	LCS	Modified TO-15	NA	NA
04AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

DATE: 01/03/11

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15
P & D Environmental
Workorder# 1012373A**

One 1 Liter Summa Canister sample was received on December 16, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample DP1 due to the presence of high level target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS**

Client Sample ID: DP1

Lab ID#: 1012373A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2000	18000	5200	47000
trans-1,2-Dichloroethene	2000	6800	8100	27000
cis-1,2-Dichloroethene	2000	64000	8100	260000
Trichloroethene	2000	760000	11000	4100000
Tetrachloroethene	2000	570000	14000	3900000

Client Sample ID: DP1

Lab ID#: 1012373A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b123016	Date of Collection: 12/13/10 5:05:00 PM
Dil. Factor:	410	Date of Analysis: 12/30/10 01:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2000	18000	5200	47000
2-Propanol	2000	Not Detected	5000	Not Detected
trans-1,2-Dichloroethene	2000	6800	8100	27000
cis-1,2-Dichloroethene	2000	64000	8100	260000
Benzene	2000	Not Detected	6500	Not Detected
Trichloroethene	2000	760000	11000	4100000
Toluene	2000	Not Detected	7700	Not Detected
Tetrachloroethene	2000	570000	14000	3900000
Ethyl Benzene	2000	Not Detected	8900	Not Detected
m,p-Xylene	2000	Not Detected	8900	Not Detected
o-Xylene	2000	Not Detected	8900	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

Client Sample ID: Lab Blank

Lab ID#: 1012373A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b123009	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/30/10 09:54 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	5.0	Not Detected	13	Not Detected
2-Propanol	5.0	Not Detected	12	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: CCV

Lab ID#: 1012373A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b123003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/30/10 05:58 AM

Compound	%Recovery
Vinyl Chloride	102
2-Propanol	78
trans-1,2-Dichloroethene	102
cis-1,2-Dichloroethene	102
Benzene	107
Trichloroethene	106
Toluene	105
Tetrachloroethene	101
Ethyl Benzene	105
m,p-Xylene	102
o-Xylene	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	106	70-130

Client Sample ID: LCS

Lab ID#: 1012373A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b123004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/30/10 06:37 AM

Compound	%Recovery
Vinyl Chloride	107
2-Propanol	89
trans-1,2-Dichloroethene	108
cis-1,2-Dichloroethene	105
Benzene	109
Trichloroethene	108
Toluene	107
Tetrachloroethene	101
Ethyl Benzene	110
m,p-Xylene	105
o-Xylene	107

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	108	70-130

Client Sample ID: LCSD

Lab ID#: 1012373A-04AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b123005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/30/10 07:03 AM

Compound	%Recovery
Vinyl Chloride	108
2-Propanol	92
trans-1,2-Dichloroethene	110
cis-1,2-Dichloroethene	105
Benzene	110
Trichloroethene	110
Toluene	108
Tetrachloroethene	105
Ethyl Benzene	114
m,p-Xylene	107
o-Xylene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	109	70-130

P & D ENVIRONMENTAL, INC.

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

CHAIN OF CUSTODY RECORD

1012373

PAGE 1 OF 1

PROJECT NUMBER: 0298		PROJECT NAME: SNOW CLEANER 2678 COOLIDGE AVE. OAKLAND			NUMBER OF CONTAINERS 1	ANALYSIS(ES): TEH-55 BY EPA METHOD TO-3 HVAC BY EPA METHOD TO-15	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) MICHAEL DESCHENES <i>Michael Deschenes</i>								
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION				
DP1	10/13/10	170520	2014 / GAS	INITIALS SAMPLE # FINAL VOLUME PID -30 2109 -7 383 PPM	1	XX		NORMAL TURN AROUND
RELINQUISHED BY: (SIGNATURE) <i>Michael Deschenes</i>		DATE 12/14/10	TIME	RECEIVED BY: (SIGNATURE) Fed Ex	TOTAL NO. OF SAMPLES (THIS SHIPMENT) 1	TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 1	LABORATORY: AIR TOXICS, LTD	
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT: KYLE SACADORI		LABORATORY PHONE NUMBER: (916) 985-1000	
RELINQUISHED BY: (SIGNATURE)		DATE 12/16/10	TIME 1100	RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>[Signature]</i> ATL	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES (X) NO			
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com				REMARKS:				

CUSTODY SEAL INTACT?
Y () N (X) NONE TEMP *NA*
Fed Ex grant

OIA