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By Alameda County Environmental Health 2:54 pm, Nov 04, 2015

**2101 Williams Associates, LLC**

2228 Livingston Street  
Oakland, CA 94606  
Telephone (510) 261-5500

October 29, 2015

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

SUBJECT: INDOOR AIR INVESTIGATION REPORT CERTIFICATION  
County Case # RO 2468  
James River Corporation  
2101 Williams Street  
San Leandro, CA

Dear Mr. Detterman:

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

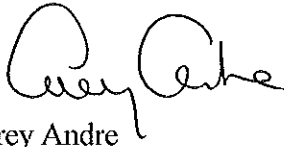
- Indoor Air Investigation Report dated October 29, 2015.

I declare under penalty of perjury that the contents and conclusions in the document are true and correct to the best of my knowledge.

Please don't hesitate to call me if you have any questions.

Sincerely,

2101 Williams Associates, LLC



Carey Andre

0660.L6

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

**55 Santa Clara Avenue, Suite 240**

**Oakland, CA 94610**

**(510) 658-6916**

October 29, 2015

Report 0660.R2

Ms. Carey Andre  
2101 Williams Associates, LLC  
2228 Livingston Street  
Oakland, CA 94606

**SUBJECT: INDOOR AIR INVESTIGATION REPORT (IA1 THROUGH IA3, AND AA1)**  
County Case # RO 2468  
Former James River Corporation Site  
2101 Williams Street  
San Leandro, California

Dear Ms. Andre:

P&D Environmental, Inc. (P&D) has prepared this report documenting the collection of three indoor air samples designated as IA1 through IA3, and collection of one ambient air sample designated as AA1 for evaluation of tetrachloroethene (PCE) concentrations in air at the subject site. The samples were collected using SIM-certified flow controllers and Summa canisters during a 24-hour period that ended on August 25, 2015. All activities were performed in accordance with procedures set forth in P&D's Indoor Air Investigation Work Plan (document 0660.W2) dated May 13, 2015. The work plan was conditionally approved in a letter from the Alameda County Department of Environmental Health (ACDEH) dated June 1, 2015.

A Site Location Map (Figure 1) and a Site Plan Aerial Photograph Showing PCE concentrations in indoor and outdoor ambient air (Figure 2) are attached with this report. All work was performed under the direct supervision of a California professional geologist.

## **BACKGROUND**

PCE that originates from offsite and upgradient of the subject site has been detected in groundwater on the upgradient and downgradient sides of the subject site building. The presence of the PCE groundwater plume has been well-documented on the upgradient property and is recognized by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) to originate from some unknown upgradient location.

Vapor Pins VP1 through VP6 were installed on November 4, 2014 and were sampled on November 5, 2014. Based on the initial sample results Vapor Pins VP3 through VP6 were sampled a second time on December 10, 2014. Following discussions with the ACDEH regarding the sample results and approval from the ACDEH in an e-mail dated January 29, 2015 Vapor Pins VP7 through VP12 were installed on February 3, 2015 and sampled on

February 16 and 17, 2015. The historical Vapor Pin sub-slab soil gas sample results are summarized in Table 1 of this report and the Vapor Pin locations and the highest detected PCE concentrations at these locations are shown on Figure 2 of this report. Based on the results of the sub-slab soil gas results and groundwater sample results obtained during previous investigations by others, P&D prepared an Indoor Air Investigation Work Plan (document 0660.W2) dated May 13, 2015 and a Subsurface Investigation Work Plan (document 0660.W3) dated May 26, 2015. The work plans were conditionally approved in a letter from the ACDEH dated June 1, 2015.

Notification of the schedule for proposed tenant notification, chemical inventory, indoor air sampling, and subsurface investigation were provided to the ACDEH by the property owner on July 27, 2015. The notification confirmed that the ACDEH was not requiring a draft fact sheet at this time, and the absence of a HVAC system in the sampling area eliminated the requirement that sampling be conducted with the HVAC system on. In addition, the notification confirmed completion of actions requested by the ACDEH related to the posting of site data on GeoTracker. In an e-mail dated July 27, 2015 the ACDEH responded to the notification and approved an extension for submittal of the indoor air investigation report.

### FIELD ACTIVITIES

No permits were required for the collection of indoor and ambient air samples. Prior to sample collection a health and safety plan was prepared, tenants were notified of the upcoming indoor air sampling, arrangements were made with the tenants for access to perform chemical inventories of the tenant spaces, and notification of the field dates was provided to the ACDEH.

#### Tenant Notification and Chemical Inventory

Prior to indoor air sampling, written notification of pending site investigation activities was provided to the tenants by the property owner, and access was scheduled with the tenants to perform chemical inventories. P&D personnel met on August 17, 2015 with the tenants of King's Asian Gourmet, Moore Newton Quality Hardwood and Sunlink, and conducted a chemical inventory of each tenant space to identify the presence of chemicals potentially containing volatile organic compounds (VOCs). The chemical inventory forms are attached with this report as Appendix A. Various commonly-available cleaning products and lubricants, including some containing VOCs were removed from the property on August 21, 2015 (three days prior to air sample collection). No PCE or PCE-containing products were identified as part of the chemical inventory.

#### Indoor Air and Ambient Air Sample Collection

Beginning on August 24, 2015 at approximately 08:30 am and ending on August 25, 2015 at approximately 09:30 am, indoor air samples designated as IA1 through IA3 were collected inside the warehouse tenant spaces as shown on Figure 2. In addition, at the same time one duplicate indoor air sample (designated as IA1-DUP) was collected at location

IA1 using a stainless steel sampling tee, and one ambient air sample designated AA1 was collected (see Figure 2). All of the samples were collected in SIM-certified 6-liter Summa canisters equipped with SIM-certified 24-hour flow controllers, a SIM-certified duplicate tee for the duplicate sample, and SIM-certified sampling canes that allowed the Summa canister intakes to be located at a height of approximately five feet above the building interior and ground surface. No HVAC system is present in the warehouse where sample collection occurred, and for this reason it was not necessary to distinguish if the HVAC system was operating or not.

After approximately 24 hours, the valves to the Summa canisters were closed, the sampling canes and mass flow controllers were removed from the top of the Summa canisters, and the Summa canisters were stored in a box and subsequently shipped to the laboratory for extraction and analysis. Chain of custody procedures were observed for all sample handling. Measurements of Summa canister initial and final vacuums, and beginning and ending sample collection times were recorded on an Air Sampling Data Sheet that is provided in Appendix B of this report.

#### WEATHER INFORMATION

Weather data, including precipitation and barometric pressure for the two weeks preceding and following the August 25, 2015 sampling event are provided with this report as Appendix C. Review of Appendix C shows that no precipitation occurred preceding, on, or following the days of sample collection.

The weather station used for the weather information is located near the northwest corner of the intersection of San Leandro Boulevard and Davis Street in San Leandro at an elevation of 59 feet above sea level, approximately 1.5 miles to the northeast of the subject site. The subject site is located at an elevation of approximately 25 feet above sea level. An internet link to the weather station information is provided with this report in Appendix C.

#### LABORATORY ANALYSIS

All of the indoor and outdoor ambient air samples were analyzed at Air Toxics Limited of Folsom for Volatile Organic Compounds (VOCs), including using EPA Method TO-15. The analyses were performed with detection limits that equal or are less than San Francisco Bay Regional Water Quality Control Board (RWQCB) December 2013 Table E soil gas commercial/industrial Environmental Screening Level (ESL) values.

The indoor and ambient air sample results are summarized in Table 2, and copies of the laboratory analytical reports are attached with this report as Appendix D.

PCE was the only analyte detected in any of the samples and was detected in samples IA1, the duplicate collected at IA1 (IA1 DUP), IA2, and IA3 at concentrations of 7.5, 7.9, 2.3, and 1.7 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), respectively. PCE was not detected in outdoor ambient air sample AA1.

## RISK AND HAZARD EVALUATION

The incremental carcinogenic risk and hazard quotient were calculated for each detected compound for each of the indoor and ambient air samples using equations 12b and 12a, respectively, provided in the Interim Final December 2013 SFRWQCB User's Guide: Derivation and Application of Environmental Screening Levels (the User's Guide). The Inhalation Unit Risk factor (IUR) value used for risk calculation and the Reference Concentration (RfC) value used for hazard calculation were obtained from the most recent version of the Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Vapor Intrusion Screening Model for Soil Gas VLOOKUP Table (last updated December 2014). These values are consistent with the values provided in the most recent version of the DTSC HERO Human Health Risk Assessment Note Number 3 dated July 14, 2014. DTSC RfC values were converted from  $\text{mg}/\text{m}^3$  to  $\text{ug}/\text{m}^3$  for risk calculation. The User's Guide Table J-2 PCE RfC value of  $270 \text{ ug}/\text{m}^3$  was superseded by the subsequent DTSC PCE RfC value of  $35 \text{ ug}/\text{m}^3$  for risk calculation.

Default exposure parameter values provided in the User's Guide for a commercial/industrial exposure scenario (exposure time of 8 hours per day, exposure frequency of 250 days per year, exposure duration for 25 years, an averaging time for carcinogens of 70 years) were used for evaluation of all of the indoor and ambient air samples. In addition, the cumulative incremental carcinogenic risk (the total of the risks posed by all of the Chemicals of Potential Concern (COPCs) in a sample when all of the individual COPC risks are added together) and hazard indices (the total of the hazards posed by all of the COPCs in a sample when all of the individual COPC hazards are added together) were calculated for all detected compounds for each sample. Because PCE was the only analyte detected in any of the samples, the calculated individual compound incremental carcinogenic risk was calculated to be the same as the cumulative carcinogenic risk, and similarly the calculated individual compound hazard quotient was calculated to be the same as the hazard index.

The indoor and outdoor ambient air incremental risk calculation results are provided in Table 3A, and the indoor and outdoor ambient air hazard quotient calculation results are provided in Table 3B. The indoor and ambient air cumulative incremental carcinogenic risk and hazard index results are summarized in Table 3C.

Review of the Table 2 indoor and ambient air sample results shows that PCE was detected in samples IA1, IA1 DUP, and IA2 at concentrations exceeding the RWQCB December 2013 Table E-3 Ambient and Indoor Air Screening Levels for commercial/industrial land use. Review of Table 2 also shows that PCE was also detected in indoor air sample IA3, but not at a concentration exceeding the respective commercial/industrial air ESL value.

The cumulative incremental risk is calculated as the increased number of cases of cancer that might develop in a population of one million people in addition to the background risk of Americans developing cancer. In determining what is an acceptable level of risk, the DTSC has determined that lifetime incremental cumulative cancer risks posed by a site should not exceed 1 per million without further evaluation. The DTSC recommends that activities to reduce exposure to COPCs be evaluated when the cumulative risk exceeds 100

per million. The DTSC also recommends that further action be evaluated when the hazard quotient exceeds 1.

Review of the calculated risk and hazard for the indoor and ambient air samples in Tables 3A, 3B and 3C shows the following:

- No incremental risk was identified for the ambient air sample AA1 (no analytes were detected in the ambient air sample).
- The calculated hazard indices were less than 1 for all indoor air samples and no hazard was identified for the ambient air sample AA1 (no analytes were detected in the ambient air sample).
- The cumulative incremental risk associated two of the indoor air samples including the duplicate sample collected at location IA1 (IA1 DUP) exceeds 1 in a million, and are all less than 4 in a million.

### DISCUSSION AND RECOMMENDATIONS

Review of Table 2 shows that the only compound detected in the indoor air samples was PCE at concentrations ranging from 1.7 to 7.5 ug/m<sup>3</sup>, and that no compounds were detected in the ambient outdoor air sample. Comparison of the detected PCE concentrations with the December 2013 RWQCB PCE commercial indoor air ESL shows that the detected PCE concentrations exceed the ESL at locations IA1 and IA2.

Review of Table 3C shows that the hazard index is less than 1.0 for all of the sample results (the highest hazard index for any of the indoor air sample results is 0.05), and for this reason the detected PCE concentrations do not pose a short term health concern. Review of Table 3C also shows that the highest calculated cumulative incremental carcinogenic risk for the air samples is 3.8 per million (3.8E-06) for sample IA1-DUP, with the calculated cumulative incremental carcinogenic risk for sample IA2 as 1.1 per million, and for IA3 as less than 1 per million. The area where indoor air PCE concentrations exceed PCE commercial ESL values appears to be limited to the central portion of the warehouse building (see Figure 2 and Table 3C).

Comparison of historical sub-slab soil gas sample results with the indoor air sample results shows a correlation of sub-slab soil gas and indoor air concentrations, with the highest indoor air concentrations detected where the highest sub-slab soil gas concentrations were detected, and similarly the lowest indoor air concentrations detected where the lowest sub-slab soil gas sample concentrations were detected (see Figure 2).

Based on the sample results P&D recommends that additional sub-slab soil gas investigation be performed to define the extent of elevated PCE sub-slab soil gas concentrations at proposed locations VP13, VP14 and VP15 shown on Figure 2. The recommended Vapor Pin samples will be collected in accordance with methods set forth in P&D's March 24, 2015 Sub-Slab Soil Gas Investigation Data Transmittal Report (document 0660.R1). The results of this investigation will be used to evaluate locations for additional soil investigation

to assess whether mitigation strategies, such as localized sub-slab depressurization or targeted soil excavation to reduce the potential for vapor intrusion over the long term are warranted.

### LIMITATIONS

This report was prepared solely for the use of 2101 Williams Associates, LLC. The content and conclusions provided by P&D in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with 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.

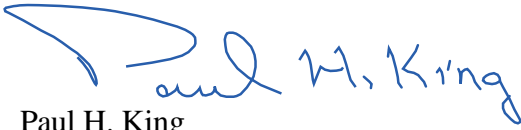
This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals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

October 29, 2015  
Report 0660.R2

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

Sincerely,

P&D Environmental, Inc.



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



Attachments:

Table 1 - Summary of Historical Vapor Pin Sub-Slab Soil Gas Sample Analytical Results  
Table 2 - Summary of Indoor and Ambient Air Sample Analytical Results  
Table 3A - Indoor and Ambient Air Risk Calculation Results  
Table 3B - Indoor and Ambient Air Hazard Calculation Results  
Table 3C - Indoor and Ambient Air Risk and Hazard Calculation Summary

Figure 1 - Site Location Map

Figure 2 - Site Plan Aerial Photograph Detail Showing PCE Concentrations in Indoor and Ambient Air

Appendix A - Chemical Inventory Forms

Appendix B - Air Sampling Data Sheet

Appendix C - Weather Information

Appendix D - Laboratory Analytical Results and Chain of Custody Documentation

PHK/mlbd/sjc  
0660.R2



# **TABLES**

Table 1  
Summary of Historical Vapor Pin SUB-slab Soil Gas Sample Analytical Results

Sample ID	Land Use	Sample Date	PID Reading (PPM)	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1,1-TCA	Vinyl Chloride	Chloroform	Other VOCs by TO-15	DFA	Percent Shroud
VP1	Commercial	11/5/2014	0	180	ND<6.0	ND<4.4	ND<4.4	ND<6.1	ND<2.9	69	ND, except Acetone = 96, Ethanol = 26, 2-Propanol = 20	49	0
VP2	Commercial	11/5/2014	0.7	ND<6.6	ND<5.3	ND<3.9	610	ND<5.3	ND<2.5	ND<4.8	ND, except Acetone = 34, Toluene = 9.8, Tetrahydrofuran = 6.3, Ethanol = 38, 2-Propanol = 11	3,000, a	0
VP2-DUP	Commercial	11/5/2014	0.7	ND<7.7	ND<6.1	ND<4.5	740	ND<6.2	ND<2.9	ND<5.5	ND, except Acetone = 31, Toluene = 9.9, Ethanol = 35	38,000, a	0.2
VP3	Commercial	12/10/2014	70	<b>320,000</b>	ND<2,000	ND<1,400	ND<1,400	ND<2,000	ND<940	ND<1,800	ND, except Toluene = 3,400, Ethanol = 3,600,	ND<4,000	0
VP3-DUP	Commercial	12/10/2014	NA	<b>310,000</b>	ND<990	ND<730	ND<730	ND<1,000	ND<470	ND<900	ND, except Toluene = 3,000	ND<2,000	0
VP3	Commercial	11/5/2014	119	<b>320,000</b>	ND<1,600	ND<1,200	ND<1,200	ND<1,600	ND<760	ND<1,400	ND, except Toluene = 4,000	41,000	0.2
VP4	Commercial	12/10/2014	0.5	<b>6,600</b>	ND<17	ND<13	ND<13	ND<18	ND<8.2	ND<16	ND, except 1,2,4-Trichlorobenzene = 140, Hexachlorobutadiene = 240	ND<35	0
VP4	Commercial	11/5/2014	4	<b>4,700</b>	ND<21	ND<15	ND<15	ND<21	ND<9.9	ND<19	ND, except Ethanol = 40	190,000, a	0.95
VP5	Commercial	12/10/2014	10.3	<b>65,000</b>	ND<130	ND<99	ND<99	ND<140	ND<64	ND<120	All ND	ND<270	0
VP5	Commercial	11/5/2014	18	<b>67,000</b>	ND<130	ND<97	ND<97	ND<130	ND<62	ND<120	All ND	320	0
VP6	Commercial	12/10/2014	2.9	<b>18,000</b>	ND<64	ND<47	ND<47	80	ND<30	ND<58	All ND	140	0
VP6	Commercial	11/5/2014	7	<b>18,000</b>	ND<52	ND<38	ND<38	76	ND<25	ND<47	ND, except Ethanol = 84	2,600	0
VP7	Commercial	2/16/2015	68.4	<b>520,000</b>	ND<640	ND<470	ND<470	ND<650	ND<300	ND<580	All ND	ND<1,300	0
VP8	Commercial	2/16/2015	13	<b>84,000</b>	880	ND<56	ND<56	ND<77	ND<36	ND<69	ND, except 1,2,4-Trimethylbenzene = 85	4,000	0
VP9	Commercial	2/16/2015	2.1	<b>3,700</b>	ND<92	13,000	ND<68	ND<94	ND<44	ND<84	ND, except Ethanol = 190	ND<180	0
VP10	Commercial	2/16/2015	18.6	<b>130,000</b>	ND<130	ND<98	ND<98	ND<130	ND<63	ND<120	All ND	ND<260	0
VP10- DUP	Commercial	2/16/2015	18.6	<b>140,000</b>	ND<130	ND<95	ND<95	ND<130	ND<61	ND<120	All ND	ND<260	0
VP11	Commercial	2/17/2015	43	<b>250,000</b>	ND<390	ND<280	ND<280	ND<390	ND<180	ND<350	All ND	ND<780	0
VP12	Commercial	2/17/2015	23	<b>150,000</b>	ND<210	ND<160	ND<160	ND<220	ND<100	ND<ND<190	All ND	ND<430	0
ESL				<i>2,100</i>	<i>3,000</i>	<i>31,000</i>	<i>260,000</i>	<i>22,000,000</i>	<i>160</i>	<i>2,300</i>	<i>Acetone = 140,000,000, Toluene = 1,300,000, 1,2,4-Trichlorobenzene = 18,000, Hexachlorobutadiene = No Value, Tetrahydrofuran = No Value, Ethanol = No Value, 2-Propanol = No Value</i>	<i>No Value</i>	<i>No Value</i>
<p><b>Notes:</b>                      PID = Photoionization Detector.                      PPM = Parts Per Million.                      PCE = Tetrachloroethene.                      TCE = Trichloroethene.                      cis-1,2-DCE = cis-1,2-Dichloroethene.                      trans-1,2-DCE = trans-1,2-Dichloroethene.                      1,1,1-TCA = 1,1,1-Trichloroethane.                      VOCs = Volatile Organic Compounds.                      DFA = 1,1-Difluoroethane, (Tracer Gas)                      ND = Not Detected.                      NA = Not Analyzed.                      a = Laboratory Note: exceeds instrument calibration range.                      Percent Shroud = The ratio of tracer gas concentration detected in the soil gas sample to the tracer gas concentration detected in the shroud air sample, expressed as a percentage.                      ESL = Environmental Screening Level, by San Francisco Bay - Regional Water Quality Control Board, updated December 2013 from Table E - Indoor Air and Soil Gas (Vapor Intrusion Concerns) Shallow Soil Gas Screening Levels for Commercial/Industrial Land Use.                      Values in bold exceed their respective ESL values.                      Results and ESLs reported in micrograms per cubic meter (µg/m<sup>3</sup>), unless otherwise indicated.</p>													

## Summary of Indoor and Ambient Air Sample Analytical Results

Sample ID	Land Use	Sample Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride
IA1	Commercial	8/25/2015	<b>7.5</b>	ND<0.19	ND<0.14	ND<0.72	ND<0.072	ND<0.046
IA1 DUP	Commercial	8/25/2015	<b>7.9</b>	ND<0.21	ND<0.15	ND<0.76	ND<0.076	ND<0.046
IA2	Commercial	8/25/2015	<b>2.3</b>	ND<0.16	ND<0.12	ND<0.60	ND<0.060	ND<0.039
IA3	Commercial	8/25/2015	1.7	ND<0.17	ND<0.12	ND<0.63	ND<0.063	ND<0.040
AA1	Commercial	8/25/2015	ND<0.21	ND<0.16	ND<0.12	ND<0.61	ND<0.061	ND<0.039
ESL			2.1	3.0	31	260	880	0.16
<b>Notes:</b>								
PCE = Tetrachloroethene.								
TCE = Trichloroethene.								
cis-1,2-DCE = cis-1,2-Dichloroethene.								
trans-1,2-DCE = trans-1,2-Dichloroethene.								
1,1-DCE = 1,1-Dichloroethene.								
ND = Not Detected.								
ESL = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board , updated December 2013 from Table E3 – Ambient and Indoor Air Screening Levels for Commerical/Industrial Land Use.								
<b>Values in bold exceed their respective ESL values.</b>								
Results and ESLs reported in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), unless otherwise indicated.								

Table 3A  
Indoor and Ambient Air Risk Calculation Results

Equation		Concentration in Air	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Inhalation Unit Risk Factor	all divided by	Averaging Time for Carcinogens	X	365	X	24	Calculated Individual Compound Incremental Carcinogenic Risk	Cumulative Carcinogenic Risk	Comments
Units		(ug/m3)		(hrs/day)		(days/yr)		(yrs)		(ug/m3)		(yrs)		(days/yr)		(hr/day)			
Location	Compound																		
Samples Collected August 25, 2015																			
IA1	PCE	7.50		8		250		25		5.90E-06		70		365		24	3.61E-06	3.6E-06	Commercial Exposure
IA1-DUP	PCE	7.9		8		250		25		5.90E-06		70		365		24	3.80E-06	3.8E-06	Commercial Exposure
IA2	PCE	2.30		8		250		25		5.90E-06		70		365		24	1.11E-06	1.1E-06	Commercial Exposure
IA3	PCE	1.70		8		250		25		5.90E-06		70		365		24	8.18E-07	8.2E-07	Commercial Exposure
Notes:																			
PCE = Tetrachloroethene.																			
NA = Not Applicable																			
Inhalation Unit Risk factor value obtained from HERD Soil Gas Screening Model VLOOKUP table (last updated December 2014).																			
Risk calculation equation 12b used from the Interim Final December 2013 San Francisco Bay Regional Water Quality Control Board User's Guide: Derivation and Application of Environmental Screening Levels.																			

Table 3B  
Indoor and Ambient Air Hazard Calculation Results

Equation	Concentration in Air	Exposure Time	Exposure Frequency	Exposure Duration	all divided by	Averaging Time for Non-cancer Toxic Effects	365	24	Reference Concentration (RFC)	Calculated Individual Compound Hazard Quotient	Hazard Index	Comments
Units	(ug/m3)	(hrs/day)	(days/yr)	(yrs)		(yrs)	(days/yr)	(hr/day)	(ug/m3)			
Location	Compound											
<b>Samples Collected August 25, 2015</b>												
IA1	PCE	7.5	8	250	25	25	365	24	3.50E+01	4.89E-02		
												<b>4.9E-02</b>
IA1-DUP	PCE	7.9	8	250	25	25	365	24	3.50E+01	5.15E-02		
												<b>5.2E-02</b>
IA2	PCE	2.30	8	250	25	25	365	24	3.50E+01	1.50E-02		
												<b>1.5E-02</b>
IA3	PCE	1.70	8	250	25	25	365	24	3.50E+01	1.11E-02		
												<b>1.1E-02</b>
<b>Notes:</b>												
PCE = Tetrachloroethene.												
Reference Concentration value obtained from HERD Soil Gas Screening Model VLOOKUP table (last updated December 2014).												
Hazard calculation equation 12a used from the Interim Final December 2013 San Francisco Bay Regional Water Quality Control Board User's Guide: Derivation and Application of Environmental Screening Levels.												

Table 3C  
Indoor and Ambient Air Risk and Hazard Calculation Results Summary

	Calculated	Calculated	Calculated	Calculated	Recommendations Based on
Air Sample	Cumulative Incremental	Cumulative Incremental	Cumulative Incremental	Hazard	DTSC-Recommended
Designation	Carcinogenic Risk	Carcinogenic Risk	Carcinogenic Risk	Index	Guidance for Action or Response
	Risk	Alternate Description	Alternate Description		
Location					
<b>Samples Collected August 25, 2015</b>					
IA1	3.6E-06	0.0000036	3.6 in a million	0.05	Evaluate need for action - risk greater than 1 in a million.
IA1-DUP	3.8E-06	0.0000038	3.8 in a million	0.05	Evaluate need for action - risk greater than 1 in a million.
IA2	1.1E-06	0.0000011	1.1 in a million	0.02	Evaluate need for action - risk greater than 1 in a million.
IA3	8.2E-07	0.0000008	0.82 in a million	0.01	Evaluate need for action - risk greater than 1 in a million.
AA1	0.0E+00	0.0000000	0 in a million	0.0000	Not Applicable - Ambient Air.
Notes:					
<b>RISK MANAGEMENT MATRIX FOR VAPOR INTRUSION</b>					
<b>Risk</b>	<b>Response</b>	<b>Activities</b>			
Less than 1 in a million	No Further Action	None			
1 to 100 in a million	Evaluate Need for Action	Possible Actions			
		o Additional Data Collection			
		o Monitoring			
		o Additional Risk Characterization			
		o Mitigation			
		o Source Remediation			
More than 100 in a million	Response	o Vapor Intrusion Mitigation			
	Action Needed	o Source Remediation			

# **FIGURES**



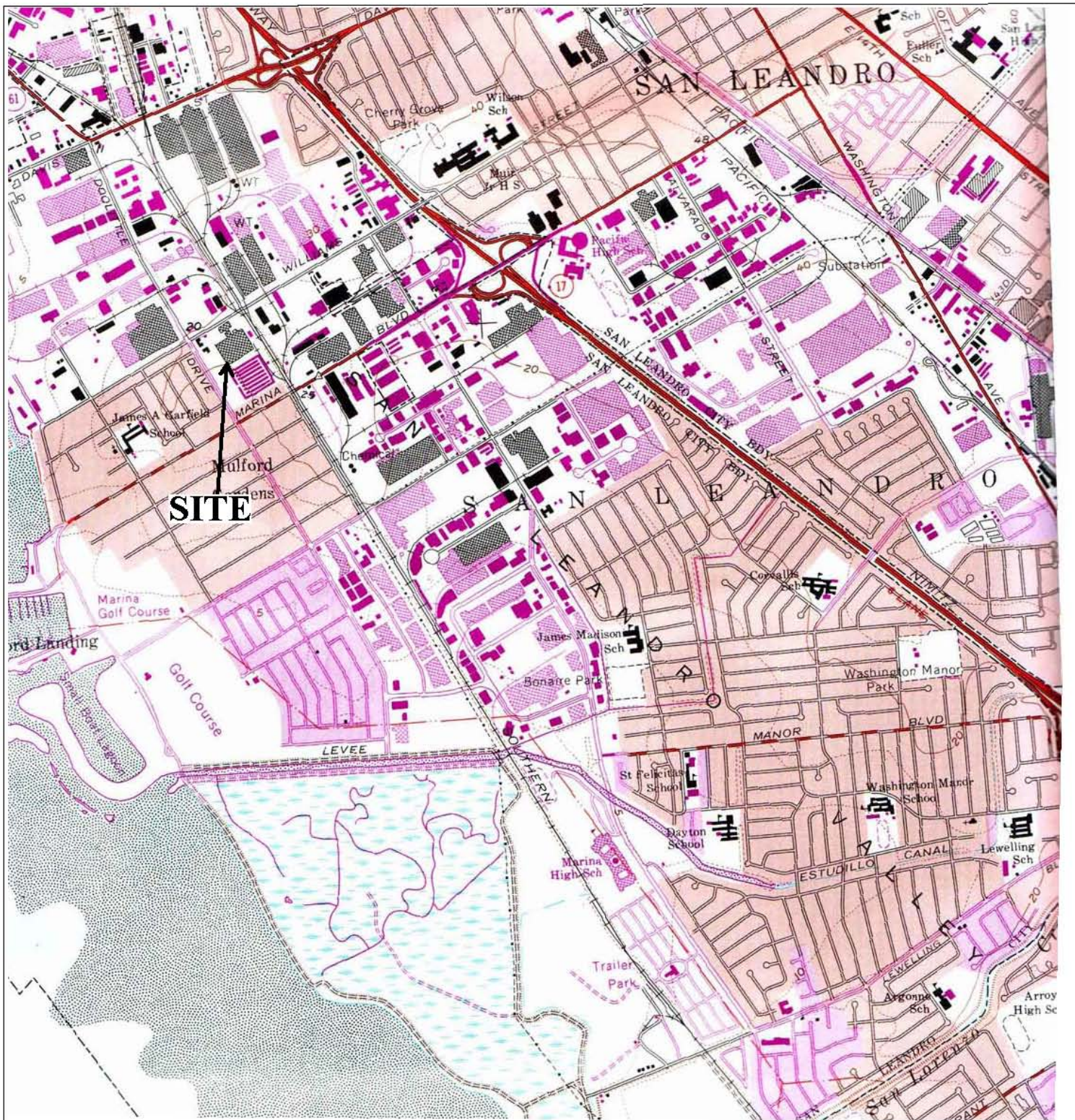
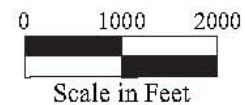


Figure 1  
 Site Location Map  
 2101 Williams Street  
 San Leandro, California

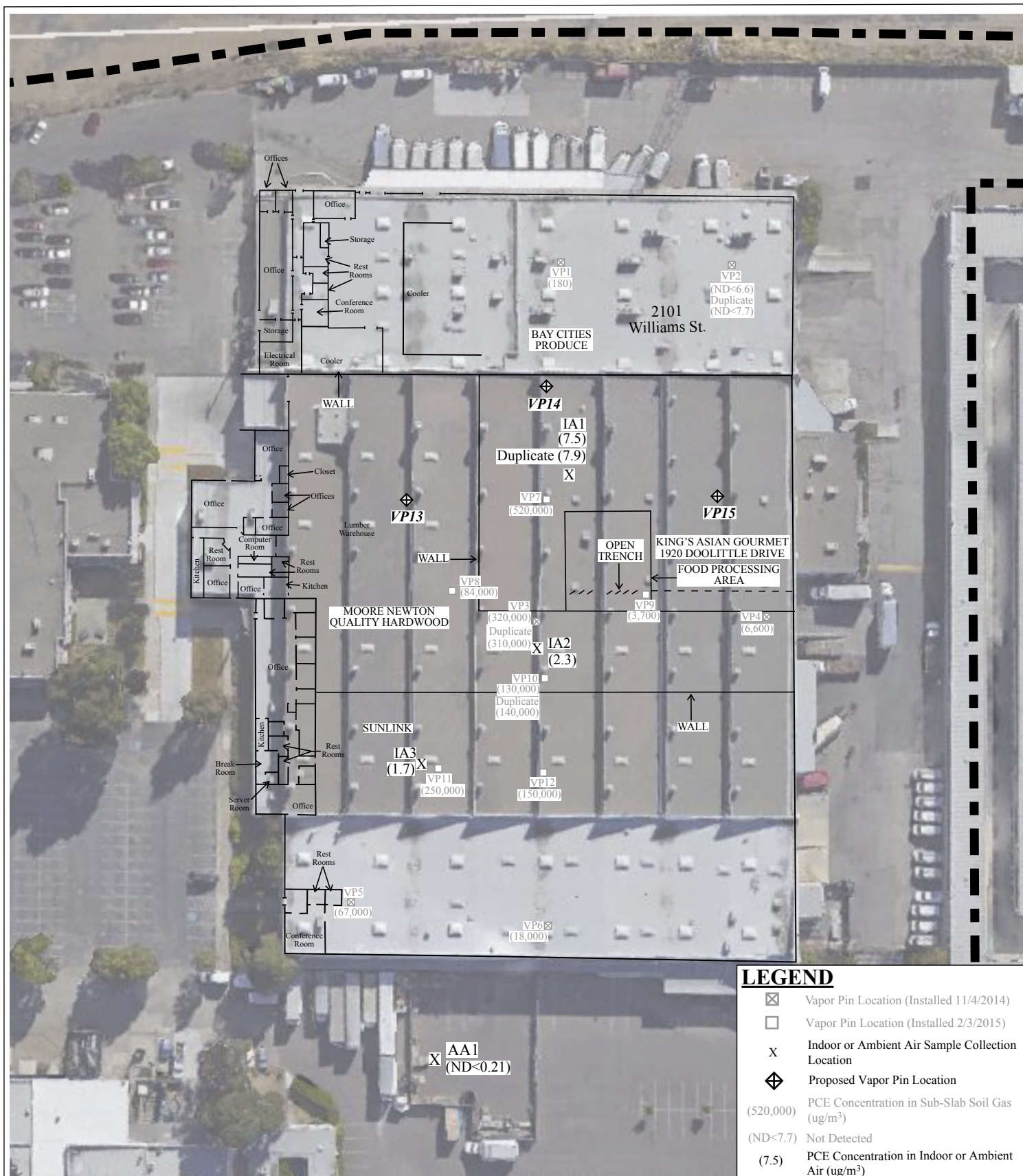


Base Map From:  
 US Geological Survey San Leandro,  
 California, 7.5-Minute Quadrangles  
 Map Edited 1980

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



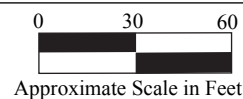




**Figure 2**  
 Site Plan Aerial Photograph Detail Showing PCE Concentrations in Indoor and Ambient Air  
 2101 Williams Street  
 San Leandro, California

Base Map from:  
 Google Earth, image dated August 28, 2012

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



# **APPENDIX A**

## **Chemical Inventory Forms**



pg 1 of 1

APPENDIX M - BUILDING SCREENING FORM

Occupant of Building BAY CITIES PRODUCE CO.

Address 2109 WILLIAMS ST.

City SAN LEANDRO, CA 94577

Field Investigator MICHAEL BASS-DESCHENES Date 8/17/15

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
(4) 55gal	hydrochloric acid (10-17%) solution	hydrochloric acid.
(2) 55gal	HASA multi-chlor 12.5% Sodium hypochlorite	chlorine
(3) 55gal	chlor A foam (chlorinated alkali detergent)	chlorinated alkali
(14) 5gal	Calcium chloride Natural Solutions (green onions and lettuce)	calcium chloride
(3) 1gal	ZEP FS amino 2 sanitizer	ammonium chlorides ethanol
(2,000) 50lb	Chem station (citric acid) powder	citric acid
(2) 1gal	De-scale / Rust remove and wash	glycolic acid phosphoric acid
(3) 5gal	GREEN POWER (BC 101-A)	glycol ether EB sodium hydroxide
(3) 1gal	LA chemchlor	sodium hypochlorite sodium hydroxide
(2) 1gal	ADOX 3125 / 8125 water treatment chem	sodium chlorate

Comments: See MSDS copies



P1 of 2

APPENDIX M - BUILDING SCREENING FORM

Occupant of Building MOORE & NEWTON LUMBER

Address 2115 Williams St.

City SAN LEANDRO, CA 94577

Field Investigator MICHAEL BASS-DESCHENES Date 8/17/15

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
(3/4) gal	P+S Aluminum Brightener	sulfuric acid, ammonium hydroxide, Fluorides
(1) quart	Rust-strip lacquer thinner	acetone, ethyl acetate, Methanol, Petroleum distillates and Toluene
(1) 19oz.	3M Rubber + Vinyl EO spray adhesive	methyl acetate (79-20-9), dimethyl ether (115-10-6), Toluene (108-88-9), hydrocarbon heavy naphtha (64742-48-9), Zinc oxide (1314-13-2)
(1) 19 oz	<del>3M Rubber + Vinyl</del> Rust-oleum 2x ultra cover paint + primer (black)	acetone, xylene
(1) 12oz	DAPtex multi purpose foam sealant	isopropanol, ethylene glycol, dimethyl ether, Propane, n-butane, aliphatic amines, and vinyl acetate.
(1) 18oz	Rust-oleum inverted striping paint	Toluene + xylene
(2) 11oz	Rust-oleum specialty fluorescent bright neon color.	Toluene, acetone, hexane and xylene.
(1) gal	Allison transmission Tran Synd fuel synthetic transmission fluid	
(1) quart	Geacel Pro Flex RV multi-purpose brushable repair coating.	

Comments:

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P. 2 of 2

APPENDIX M - BUILDING SCREENING FORM

Occupant of Building Moore & Newton LUMBER

Address 2115 WILLIAMS ST.

City SAN LEANDRO, CA 94577

Field Investigator MICHAEL BASS-DESCHENES Date 8/17/15

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
(1) quart	Weld-on P-68 Primer	
(1) quart	min wax water base poly acrylic protective finish	alkyl propanols, ethylene glycol ethers, 1-methyl-2-pyrrolidinone
(1) quart	min wax water base wood stain	
(1) gal	Benjamin Moore spec 500 paint (interior egg shell)	
(2) gal	Benjamin Moore ultra spec exterior satin paint	
(25) lbs	Rapier set stucco patch Fork lift propane tanks	12 full 6 empty
(2) 1.25 gal	motorcraft SAE 15W-40 Diesel motor oil	
(14) 2.5 gal	Fleetrite Diesel exhaust fluid	
(4) 10 oz	Lysol neutra air sanitizing spray (front office)	
(7) 16 oz	emmet's Good wood stuff finish	
(4) 1 quart	" " " "	
(4) 1 gal	titebond III ultimate wood glue	
(31) 16 oz	" " " " " "	

Comments:

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P. 1 of 2

APPENDIX M - BUILDING SCREENING FORM

Occupant of Building SUN LINK.

Address 2131 Williams St.

City SAN LEANDRO CA 94577

Field Investigator MICHAEL BASS-DESCHENES Date 8/17/15

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
(1) 10 oz	office depot cleaning duster	
(1) 32oz	Klean strip odorless mineral spirit	
(1) 2.5 gal	Klean strip kerosene 1-K heater fuel.	Perosene
(1) 5 gal	Firestone ultra Ply Bonding adhesive W56-TP0-3005	textile spirits acetone + toluene.
(1) 5 gal	Firestone water based bonding adhesive W56-358-7035	vinyl acetate
	chem link 7.5" 1-Part Chemcure Kit	
(4) 1 gal	Firestone Quick prime Plus W56-358-7041	heptane toluene
(1) 1 gal	Sikadur 31 hi-modelf epoxy paste adhesive	aromatic hydrocarbon benzyl alcohol
(2) 18oz	3M hi-Tack 76 spray adhesive	dimethyl ether, methyl acetate, cyclohexane,
1 gal	Safeway bleach	1,1 difluoroethane,
32oz	ace paint thinner.	petroleum naphtha + distillates
(3) 20oz	Rust-oleum cold galvanizing compound	
(2) 16oz	Oatey #30757 purple pvc primer	
(1) 16oz	Farmy Welders anti-spatter	

Comments:

*p. 2 of 2*

**APPENDIX M - BUILDING SCREENING FORM**

Occupant of Building Sunlink  
 Address 2131 Williams St  
 City San Leandro, CA 94577  
 Field Investigator MICHAEL BASS-DESCHENES Date 8/17/15

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
(1) 1109	LPS 1 lubricant	petroleum distillate.
(3) 803	WD-40	

Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_



P. 1 of 2

APPENDIX M - BUILDING SCREENING FORM

Occupant of Building KINGS ASIAN GOURMET

Address 1920 DOOLITTLE DR.

City SAN LEANDRO, CA 94577

Field Investigator MICHAEL BASS-DESCHENES Date 8/17/15

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
(9) 1 gal	ZEP FS Formula 4089	
(2) 5 gal	" " "	
(5) 1 gal	ZEP FS amino 2.	
(14) 1 gal	chlorox bleach.	
(2) 80 oz	draino max gel ultra	
(1) 32 oz	no konic drain magic	
(3) 1 gal	E yesterday Janitorial Supply Company X duty stripper (Floor)	
(1) 1 gal	E yesterday Janitorial Supply Company Shield.	
(1) 1.36 gal	Pine-sol	
(1) 1.36 gal	Fabuloso.	
(2) 32 oz	lysol toilet bowl cleaner.	
(1) 1.36 gal	Windex	
(1) 1 gal	Pink satin hand soap -	
(1) 32 oz	isopropyl alcohol.	

Comments:

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P. 2 of 2

APPENDIX M - BUILDING SCREENING FORM

Occupant of Building King Asian Gourmet  
 Address 1920 Doolittle Dr.  
 City San Leandro, CA 94577  
 Field Investigator MICHAEL BASS-DESCHENES Date 8/17/15

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
	(work table fan lift area)	
(2) 10oz	CRC contact cleaner + lubricant	
(2) 1 gal	Sta-lube Hydraulic + jack oil	
(2) 32oz	Sta-lube multipurpose gear oil SAE 85W90	
(1) 16oz	engine degreaser (GM)	
(1) 17oz	real-Kill Wags Hornet Killer	
(1) 1 gal	Prestone anti-freeze coolant	
(1) 1 quart	Gulf-lite charcoal starter	
(1) 11oz	LPS Food grade machine oil	

Comments:

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# **APPENDIX B**

## **Air Sampling Data Sheet**

AIR SAMPLING DATA SHEET

Address 2101 WILLIAMS ST. SAN LEANDRO  
 Job # 0660  
 Date 8/24/15  
 Sampler Name KLBD

START DATE 8/24/15 END DATE 8/25/15

Sample Location Designation	Canister #	Start pump flow rate (cc/min) and time	End pump flow rate (cc/min) and time	Sample Canister Initial Vacuum Check (In. Hg) and time	Begin sample collection vacuum (In. Hg) and time	End sample collection vacuum (In. Hg) and time	NOTES
IA1	35134	flow time	flow time	vac -30 time 0835	vac -30 time 090410	vac -7 time 091234	
IA1 DUP	11882	flow time	flow time	vac -30 time 0840	vac -30 time 090410	vac -10 time 091234	Flow controller 24 Hours (Sim certified)
IA2	641262	flow time	flow time	vac -30 time 0830	vac -30 time 090918	vac -4 time 091844	
IA3	33884	flow time	flow time	vac -30 time 0820	vac -30 time 091423	vac -6 time 092246	
AA1	34273	flow time	flow time	vac -30 time 0815	vac -30 time 083211	vac -6 time 092715	
		flow time	flow time	vac time	vac time	vac time	
		flow time	flow time	vac time	vac time	vac time	
		flow time	flow time	vac time	vac time	vac time	
		flow time	flow time	vac time	vac time	vac time	
		flow time	flow time	vac time	vac time	vac time	
		flow time	flow time	vac time	vac time	vac time	
		flow time	flow time	vac time	vac time	vac time	
		flow time	flow time	vac time	vac time	vac time	

NOTES

# **APPENDIX C**

## **Weather Information**

<http://www.wunderground.com/personal-weather-station/dashboard?ID=KCASANLE11#history/s20150811/e20150908/mcustom>

About This Weather Station

**Weather Station ID:** KCASANLE11  
**Station Name:** Davis Street  
**Latitude / Longitude:** N 37 ° 43 ' 26 " , W 122 ° 9 ' 43 "  
**Elevation:** 59  
**City:** San Leandro  
**State:** CA  
**Hardware:** Netatmo Weather Station  
**Software:** Netatmo

**Weather History Table**  
**August 11, 2015 - September 8, 2015**

2015	Temperature			Dew Point			Humidity			Speed			Pressure			Precip. Rate.
Aug	High	Avg	Low	High	Avg	Low	High	Avg	Low	High	Avg	Gust	High	Avg	Low	Sum
11	77.4 °F	66 °F	58.6 °F	60.7 °F	57.2 °F	53.2 °F	92 %	75 %	54 %	0 mph	0 mph	0 mph	29.28 in	29.24 in	29.2 in	0 in
12	80.4 °F	65.9 °F	55.2 °F	60.2 °F	56.4 °F	53.5 °F	96 %	74 %	40 %	0 mph	0 mph	0 mph	29.37 in	29.33 in	29.28 in	0 in
13	77.7 °F	68.5 °F	61.7 °F	60.3 °F	58.3 °F	55.1 °F	88 %	71 %	48 %	0 mph	0 mph	0 mph	29.36 in	29.33 in	29.3 in	0 in
14	78.6 °F	67.9 °F	61.3 °F	61.1 °F	58.6 °F	55.9 °F	88 %	73 %	52 %	0 mph	0 mph	0 mph	29.39 in	29.34 in	29.3 in	0 in
15	93.4 °F	75.1 °F	60.8 °F	62.7 °F	55.2 °F	49.6 °F	87 %	53 %	27 %	0 mph	0 mph	0 mph	29.31 in	29.24 in	29.18 in	0 in
16	99.1 °F	81.6 °F	70 °F	62.1 °F	53.8 °F	48.8 °F	52 %	39 %	23 %	0 mph	0 mph	0 mph	29.21 in	29.17 in	29.12 in	0 in
17	90.3 °F	74.3 °F	58.8 °F	61.7 °F	55.5 °F	50.2 °F	83 %	53 %	29 %	0 mph	0 mph	0 mph	29.2 in	29.16 in	29.12 in	0 in
18	76.3 °F	65.3 °F	56.7 °F	59.7 °F	56.6 °F	53.4 °F	90 %	75 %	55 %	0 mph	0 mph	0 mph	29.25 in	29.21 in	29.17 in	0 in
19	74.8 °F	65 °F	59 °F	58.9 °F	56.4 °F	54.6 °F	86 %	74 %	57 %	0 mph	0 mph	0 mph	29.25 in	29.23 in	29.2 in	0 in
20	72.1 °F	64.7 °F	60.3 °F	57.3 °F	56 °F	54.1 °F	87 %	74 %	59 %	0 mph	0 mph	0 mph	29.24 in	29.2 in	29.16 in	0 in
21	71.1 °F	62.7 °F	59.4 °F	58.8 °F	56.5 °F	54.9 °F	88 %	80 %	62 %	0 mph	0 mph	0 mph	29.21 in	29.18 in	29.15 in	0 in
22	75.4 °F	65 °F	59.7 °F	60.6 °F	56.9 °F	55 °F	86 %	76 %	56 %	0 mph	0 mph	0 mph	29.25 in	29.22 in	29.18 in	0 in
23	74.5 °F	64.9 °F	58.8 °F	58.3 °F	56.1 °F	54.2 °F	86 %	74 %	56 %	0 mph	0 mph	0 mph	29.32 in	29.28 in	29.24 in	0 in
24	77.2 °F	65.4 °F	58.6 °F	58.4 °F	56.2 °F	54.2 °F	88 %	73 %	50 %	0 mph	0 mph	0 mph	29.36 in	29.32 in	29.27 in	0 in
25	80.6 °F	66.1 °F	57.4 °F	59.8 °F	56.5 °F	53.6 °F	90 %	73 %	42 %	0 mph	0 mph	0 mph	29.32 in	29.28 in	29.24 in	0 in
26	86.5 °F	67.4 °F	54.9 °F	61.2 °F	55.7 °F	51.9 °F	95 %	70 %	35 %	0 mph	0 mph	0 mph	29.34 in	29.31 in	29.27 in	0 in
27	91.6 °F	74.1 °F	61.9 °F	59.1 °F	54.3 °F	48.8 °F	71 %	52 %	28 %	0 mph	0 mph	0 mph	29.36 in	29.31 in	29.26 in	0 in
28	93.4 °F	75.4 °F	65.5 °F	61.5 °F	57.6 °F	53.2 °F	86 %	56 %	31 %	0 mph	0 mph	0 mph	29.27 in	29.22 in	29.16 in	0 in
29	75.7 °F	67 °F	59.9 °F	66 °F	60.4 °F	53.8 °F	94 %	80 %	54 %	0 mph	0 mph	0 mph	29.32 in	29.27 in	29.22 in	0 in
30	78.6 °F	67.1 °F	59.5 °F	61.3 °F	59.2 °F	56.9 °F	93 %	77 %	52 %	0 mph	0 mph	0 mph	29.36 in	29.3 in	29.24 in	0 in
31	82.2 °F	67.4 °F	57.4 °F	60.9 °F	57.7 °F	54.9 °F	96 %	73 %	46 %	0 mph	0 mph	0 mph	29.26 in	29.21 in	29.16 in	0 in
2015	Temperature			Dew Point			Humidity			Speed			Pressure			Precip. Rate.
Sep	High	Avg	Low	High	Avg	Low	High	Avg	Low	High	Avg	Gust	High	Avg	Low	Sum
1	77.4 °F	65.8 °F	57.4 °F	60.3 °F	57.1 °F	55 °F	94 %	75 %	51 %	0 mph	0 mph	0 mph	29.23 in	29.19 in	29.15 in	0 in
2	73 °F	64.9 °F	60.1 °F	59.6 °F	57 °F	55.3 °F	85 %	76 %	58 %	0 mph	0 mph	0 mph	29.26 in	29.23 in	29.2 in	0 in
3	71.8 °F	62.4 °F	55.8 °F	56.5 °F	54.3 °F	51.4 °F	92 %	76 %	53 %	0 mph	0 mph	0 mph	29.24 in	29.18 in	29.13 in	0 in
4	73.2 °F	61.2 °F	52 °F	53.2 °F	51.3 °F	49.6 °F	92 %	72 %	45 %	0 mph	0 mph	0 mph	29.2 in	29.17 in	29.13 in	0 in
5	79.3 °F	64.7 °F	52.3 °F	52.7 °F	47.4 °F	40 °F	91 %	58 %	31 %	0 mph	0 mph	0 mph	29.29 in	29.25 in	29.2 in	0 in
6	85.8 °F	70.3 °F	59 °F	50.2 °F	43.1 °F	33.5 °F	62 %	39 %	22 %	0 mph	0 mph	0 mph	29.29 in	29.25 in	29.2 in	0 in
7	92.5 °F	77.1 °F	63.7 °F	53.8 °F	40.2 °F	33 °F	37 %	27 %	16 %	0 mph	0 mph	0 mph	29.25 in	29.2 in	29.15 in	0 in
8	96.8 °F	79.9 °F	68.4 °F	53.3 °F	42.2 °F	36 °F	37 %	27 %	13 %	0 mph	0 mph	0 mph	29.21 in	29.16 in	29.11 in	0 in

## **APPENDIX D**

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

- **Air Toxics W/O # 1508467 - IA1 Through IA3, and AA1 Air Results**



9/8/2015  
Mr. Paul King  
P & D Environmental  
55 Santa Clara  
Suite 240  
Oakland CA 94610

Project Name: 2101 WILLIAMS ST SAN LEANDRO, CA  
Project #: 0660  
Workorder #: 1508467

Dear Mr. Paul King

The following report includes the data for the above referenced project for sample(s) received on 8/25/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free 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 #: 1508467**

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 #** 0660 2101 WILLIAMS ST SAN

**DATE RECEIVED:** 08/25/2015

**CONTACT:** LEANDRO, CA  
Kyle Vagadori

**DATE COMPLETED:** 09/04/2015

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	IA1	Modified TO-15 SIM	8 "Hg	4.9 psi
02A	IA1DUP	Modified TO-15 SIM	9 "Hg	5.1 psi
03A	IA2	Modified TO-15 SIM	3.5 "Hg	5.1 psi
04A	IA3	Modified TO-15 SIM	4.5 "Hg	5 psi
05A	AA1	Modified TO-15 SIM	3.7 "Hg	5 psi
06A	Lab Blank	Modified TO-15 SIM	NA	NA
06B	Lab Blank	Modified TO-15 SIM	NA	NA
07A	CCV	Modified TO-15 SIM	NA	NA
07B	CCV	Modified TO-15 SIM	NA	NA
08A	LCS	Modified TO-15 SIM	NA	NA
08AA	LCSD	Modified TO-15 SIM	NA	NA
08B	LCS	Modified TO-15 SIM	NA	NA
08BB	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY:



Technical Director

DATE: 09/08/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935  
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. 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 Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563  
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



**LABORATORY NARRATIVE  
Modified TO-15 SIM  
P & D Environmental  
Workorder# 1508467**

Five 6 Liter Summa Canister (SIM Certified) samples were received on August 25, 2015. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

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-15</i>	<i>ATL Modifications</i>
ICAL %RSD acceptance criteria	<math>\leq 30\%</math> RSD with 2 compounds allowed out to <math>< 40\%</math> RSD	Project specific; default criteria is <math>\leq 30\%</math> RSD with 10% of compounds allowed out to <math>< 40\%</math> RSD
Daily Calibration	+/- 30% Difference	Project specific; default criteria is <math>\leq 30\%</math> Difference with 10% of compounds allowed out up to <math>\leq 40\%</math>; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**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, LOD, or MDL value. See data page for project specific U-flag definition.

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 SIM**

**Client Sample ID: IA1**

**Lab ID#: 1508467-01A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Tetrachloroethene	0.036	1.1	0.24	7.5

**Client Sample ID: IA1DUP**

**Lab ID#: 1508467-02A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Tetrachloroethene	0.038	1.2	0.26	7.9

**Client Sample ID: IA2**

**Lab ID#: 1508467-03A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Tetrachloroethene	0.030	0.34	0.21	2.3

**Client Sample ID: IA3**

**Lab ID#: 1508467-04A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Tetrachloroethene	0.032	0.25	0.21	1.7

**Client Sample ID: AA1**

**Lab ID#: 1508467-05A**

No Detections Were Found.



Air Toxics

Client Sample ID: IA1

Lab ID#: 1508467-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	e082916sim	Date of Collection:	8/24/15 9:12:00 AM
Dil. Factor:	1.81	Date of Analysis:	8/29/15 08:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	1.1	0.24	7.5
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: IA1DUP

Lab ID#: 1508467-02A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	<b>e082917sim</b>	<b>Date of Collection:</b> 8/24/15 9:12:00 AM
<b>Dil. Factor:</b>	<b>1.92</b>	<b>Date of Analysis:</b> 8/29/15 08:49 PM

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.076	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected
Trichloroethene	0.038	Not Detected	0.21	Not Detected
Tetrachloroethene	0.038	1.2	0.26	7.9
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected

**Container Type: 6 Liter Summa Canister (SIM Certified)**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: IA2

Lab ID#: 1508467-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	e082918sim	Date of Collection:	8/24/15 9:18:00 AM
Dil. Factor:	1.52	Date of Analysis:	8/29/15 09:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.060	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	0.34	0.21	2.3
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: IA3

Lab ID#: 1508467-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	e083106sim	Date of Collection:	8/24/15 9:22:00 AM
Dil. Factor:	1.58	Date of Analysis:	8/31/15 10:52 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	0.25	0.21	1.7
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: AA1

Lab ID#: 1508467-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	e083107sim	Date of Collection:	8/24/15 9:27:00 AM
Dil. Factor:	1.53	Date of Analysis:	8/31/15 11:33 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.061	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	Not Detected	0.16	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.61	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1508467-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	e082905sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/29/15 10:41 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: Lab Blank

Lab ID#: 1508467-06B

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	<b>e083105sim</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 8/31/15 09:57 AM

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected

Container Type: NA - Not Applicable

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: CCV

Lab ID#: 1508467-07A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	<b>e082902sim</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 8/29/15 08:19 AM</b>

<b>Compound</b>	<b>%Recovery</b>
Vinyl Chloride	100
1,1-Dichloroethene	91
cis-1,2-Dichloroethene	100
Trichloroethene	85
Tetrachloroethene	87
trans-1,2-Dichloroethene	100

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: CCV

Lab ID#: 1508467-07B

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	<b>e083102sim</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 8/31/15 06:43 AM</b>

<b>Compound</b>	<b>%Recovery</b>
Vinyl Chloride	96
1,1-Dichloroethene	82
cis-1,2-Dichloroethene	91
Trichloroethene	77
Tetrachloroethene	79
trans-1,2-Dichloroethene	90

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1508467-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	e082903sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/29/15 09:05 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	109	70-130
1,1-Dichloroethene	98	70-130
cis-1,2-Dichloroethene	117	70-130
Trichloroethene	92	70-130
Tetrachloroethene	94	70-130
trans-1,2-Dichloroethene	92	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130



Client Sample ID: LCSD

Lab ID#: 1508467-08AA

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	<b>e082904sim</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 8/29/15 09:49 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Vinyl Chloride	109	70-130
1,1-Dichloroethene	99	70-130
cis-1,2-Dichloroethene	118	70-130
Trichloroethene	92	70-130
Tetrachloroethene	95	70-130
trans-1,2-Dichloroethene	92	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1508467-08B

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	<b>e083103sim</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 8/31/15 07:31 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Vinyl Chloride	110	70-130
1,1-Dichloroethene	97	70-130
cis-1,2-Dichloroethene	116	70-130
Trichloroethene	91	70-130
Tetrachloroethene	94	70-130
trans-1,2-Dichloroethene	91	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: LCSD

Lab ID#: 1508467-08BB

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	<b>e083104sim</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 8/31/15 08:59 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Vinyl Chloride	114	70-130
1,1-Dichloroethene	95	70-130
cis-1,2-Dichloroethene	115	70-130
Trichloroethene	89	70-130
Tetrachloroethene	91	70-130
trans-1,2-Dichloroethene	90	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

# CHAIN OF CUSTODY RECORD

## P&D ENVIRONMENTAL, INC.

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

PROJECT NUMBER:

0660

PROJECT NAME:

2101 WILLIAMS ST  
SAN LEANDRO, CA

SAMPLED BY: (PRINTED & SIGNATURE)

JAY MILLER

NUMBER OF CONTAINERS

ANALYSIS(ES):  
TO-15

PRESERVATIVE

REMARKS

SAMPLE NUMBER

DATE

TIME

TYPE

SAMPLE LOCATION

INITIAL VAC    FINAL VAC    SUMMA #

IA1

8/24/15

090410  
091234

AIR

-30

-7

35134

1

X

None

NORMAL TST

IA1 DUP

090410  
091234

-30

-10

11882

1

IA2

090410  
091234

-30

-4

61262

1

IA3

091422  
092246

-30

-6

33884

1

AA1

↓

083211  
092215

↓

-30

-6

34273

1

↓

↓

↓

01A  
02A  
03A  
04A  
05A

Custody Seal Intact?

Y N (None) Temp NA

EARLSD

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED BY: (SIGNATURE)

Total No. of Samples (This Shipment)

5

LABORATORY:

EUROFINS AIRTOXICS LTD

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED BY: (SIGNATURE)

LABORATORY CONTACT:

LABORATORY PHONE NUMBER:

KYLE VASADORI (916) 605-3339

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: FLOW CONTROLLER - 24HR (SIM CERTIFIED)

6-LITER SUMMA

1508467