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By Alameda County Environmental Health 3:16 pm, Jan 25, 2016

January 14, 2016

Mr. Mark Detterman
Alameda County LOP
1131 Harbor Bay Pkwy.
Alameda, California 94502

Re: Soil Vapor and Indoor Air Investigation Report (Report #4601)
Four Seasons Cleaners; Cleanup Program # RO0003155
13778 Doolittle Ave., San Leandro, California

Dear Mr. Detterman:

At the request of Mr. Ernie Lee, WellTest, Inc. (WTI) has prepared this *Soil Vapor and Indoor Air Investigation Report* for the above-referenced solvent release case (Figures 1 and 2). The purpose of this investigation was to 1.) confirm and further define the extent of soil gas contamination initially identified in a *Limited Phase II Soil, Water, and Soil Vapor Investigation* prepared by PIERS Environmental Services, Inc. (PIERS) for the subject site; and 2.) evaluate the potential cancer risk associated with indoor air exposure based upon the current concentrations of halogenated volatile organic compounds (HVOCs), particularly tetrachloroethene (PCE), in soil gas. In general, the investigation consisted of installing and collecting samples from two five-foot soil gas sampling wells (SG-1A and SG-2A), four subsurface soil gas sampling points (VP-1 through VP-4), and collecting indoor and ambient air samples. Additionally, two grab groundwater samples were collected from inside the dry cleaner tenant space.

Recent regulatory directive letters are presented as Attachment A, subsurface drilling permits are presented as Attachment B, background information is presented as Attachment C, field methods, sampling procedures and purge data sheets are presented as Attachment D. Laboratory analytical reports are presented as Attachment E and Boring Logs are presented as Attachment F. Additional supporting documentation is presented within Tables 1 through 4 and Figures 1 through 3.

Site Description

The site is located in a mixed commercial and residential area of San Leandro, California. The site parcel is approximately 5.05 acres and is improved with a multi-tenant strip mall and separate restaurant building. The dry cleaning unit is located within the strip mall and is associated with 13778 Doolittle Drive. The site lies at an elevation of approximately 15 feet above sea level and is relatively flat. The property is bounded by Doolittle Drive to the west, Fairway Drive to the north, Catalina Drive to the east and a commercial property to the south. A Site Vicinity Map is included in Figure 1.

Field Investigation

Utility Survey. Prior to conducting any subsurface investigations, and as requested by the ACHSA, an underground utility survey of the property was conducted on 10/13/15. The results of the survey identified several traces of a sewer line directly below the Four Seasons Cleaners tenant space and also in the vicinity immediately surrounding the unit. Traces of the sewer line are shown on Figure 3. All other utilities within the tenant space appear to be overhead.

Installation of 5.0 foot Soil-Gas Sampling Points. On 10/13/15, WTI advanced two, three-inch diameter borings (SG-1A and SG-2A) using hand equipment to a total of 5.5 feet bgs and completed each boring as permanent soil-gas monitoring wells. The locations of the sampling points are shown on Figure 3. Encountered subsurface soils were logged using the United Soil Classification System (USCS). Each sample point was constructed by placing ¼-inch diameter Teflon® tubing attached to a polyethylene vapor implant to 5.0 ft bgs. A sand pack of #2/12 sand was then installed adjacent to the soil-gas implant within the borings from 4.5 to 5.5 feet bgs. Next, approximately 12-inches of dry granular bentonite was placed above the sand pack, followed by neat cement to the ground surface. The seal was designed to minimize ambient air from the atmosphere from intruding into the area of the polyethylene probe. Well grouting procedures were witnessed by a representative of the Alameda County Public Works Agency (ACPWA). Copies of the well installation permits are presented in Attachment B, detailed description of the field methods is provided in Attachment D and specific well construction details are also depicted on the boring logs (Attachment F).

Installation of Subslab Soil-Gas Sampling Points. On 10/13/15, WTI also installed four, subslab sampling points (VP-1 through VP-4) within the interior of the dry cleaner. Each of the sampling points consisted of a Vapor Pin™ sub-slab sampling point. A Vapor Pin™ is a patented reusable soil gas sampling device designed specifically for sub-slab sampling investigations. Each Vapor Pin™ was installed following the standard operating procedures presented in Appendix D.

Collection of Soil and Grab Groundwater Samples. In addition to installing the above described soil gas sampling points, the Workplan also called for installing two deeper (10 foot) soil gas sampling points within the dry cleaner. However, during the advancement of these borings groundwater was first encountered between 8.5 and 9.0 feet bgs. As such, WTI collected “grab” groundwater samples from each of these borings using clean disposable bailers. Soil samples for laboratory analysis were also collected from each of these borings (and the two shallower soil gas borings) at depths of 2.0, 5.0 and 7.0 feet bgs. Once all soil and grab groundwater samples were collected from the borings, each boring was backfilled from the bottom of the boring to ground surface with neat cement grout, per the requirements outlined in the ACPWA permits (Attachment B). The neat cement grout was composed of a mix consistency of one 94 pound bag of Portland cement to five gallons of water. An inspector from the ACPWA was on-site to witness the grouting process. Each sample was then transported to the analytical laboratory under formal chain of custody procedures and analyzed for VOCs by EPA Test Method 8260b.

Purging and Sampling of Soil Gas Sampling Points. On 10/30/15, each of the two newly installed soil-gas monitoring points (SG-1A and SG-2A) and each of the four subslab sampling points (VP-1 through VP-4) were purged and sampled. Each soil-gas monitoring point was purged and sampled in an Isopropyl Alcohol (IPA) enriched atmosphere within a shroud supplied by WTI. The IPA provided a quantifiable method (inert tracer) to ensure that representative soil gas samples were collected from each monitoring point. The sampling methods were completed in general accordance with the Department of Toxic Substance Control’s (DTSC’s) April, 2012 document *Advisory – Active Soil Gas Investigation*. The soil gas samples were analyzed at a California State-certified laboratory for VOCs (including PCE) by Test Method TO-15. A detailed description of the sampling methods along with copies of the purge data sheets is provided in Attachment D.

Indoor and Ambient Outdoor Air Sampling. Prior to conducting indoor air sampling activities, as requested by the ACPWA, an Indoor Air Building Survey was conducted on 8/24/15. Presampling air sampling instructions for the occupants were also distributed at this time. Copies of the sampling instructions and building survey is provided in Attachment D. On 10/30/15, WTI returned to the site to conduct the indoor air sampling event in conjunction with above described soil gas sampling investigation. The indoor air sampling event was completed in general accordance with the DTSC’s April 2012 *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* and the RWQCB’s October 2014 *Interim Framework for Assessment of Vapor Intrusion at TCE-Contaminated Site in the San Francisco Bay Region*. A total of two indoor air

samples (IND-1 and IND-2) and one exterior “ambient” air sample (OUT-1) was collected. The sample locations are shown on Figure 3. Each sample was collected using an evacuated SUMA[®] canister (6-L) equipped with an 8-hour flow regulator. Each canister was placed within the breathing zone (approximately 3 to 5 feet above ground surface) and care was taken to deploy the canisters away from the direct influence of any forced air emanating from air conditioners, furnaces, or heaters. The canister vacuum was measured using an integrated vacuum gauge immediately prior to and following the 8-hour sampling period. At the end of the sample period the canister valve was fully closed and the time recorded. Additional data, including: outside and interior temperatures, equipment serial numbers, sampler name, and other comments were also recorded (see Attachment D). The air samples were analyzed at a California State-certified laboratory for VOCs (including PCE) by Test Method TO-15.

Analytical Results

Analytical Results – Soil. In total, ten soil samples from borings SG-1A through SG-2B, were collected and submitted for laboratory analysis. A summary of the soil analytical results is presented with historical data in Table 3 and the complete laboratory data sheets are presented in Appendix E. A brief summary of the analytical data is presented as follows:

- **PCE** was detected in each of the ten samples submitted for analysis at concentrations ranging from 0.16 mg/Kg (SG-2Bd8.5) to 160 mg/Kg (SG-1Bd2.0);
- **TCE** was detected in each of the ten samples submitted for analysis at concentrations ranging from 0.014 mg/Kg (SG-2Bd5.0) to 1.2 mg/Kg (SG-1Bd2.0);
- **cis-1,2DCE** was detected in nine of the ten samples submitted for analysis at concentrations ranging from 0.0021 mg/Kg (SG-2Ad2.0) to 0.15 mg/Kg (SG-1Bd7.0);
- **Vinyl chloride** was not detected above laboratory detection limits in any of the ten samples submitted for analysis;
- No other constituents of concern were detected at concentrations exceeding laboratory detection limits.

Analytical Results – Groundwater. In total, two grab groundwater samples were collected from open borings SG-1B and SG-2B, and were submitted for laboratory analysis. A summary of the groundwater analytical results is presented with historical data in Table 4 and the complete laboratory data sheets are presented in Appendix E. A brief summary of the analytical data is presented as follows:

- **PCE** was detected in each of the samples submitted for analysis at concentrations of 2,200 µg/L and 1,500 µg/L in SG-1B and SG-2B, respectively;
- **TCE** was detected in each of the samples submitted for analysis at concentrations of 130 µg/L and 480 µg/L in SG-1B and SG-2B, respectively;
- **cis-1,2DCE** was detected in each of the samples submitted for analysis at concentrations of 88 µg/L and 280 µg/L in SG-1B and SG-2B, respectively;
- **trans-1,2DCE** was detected in each of the samples submitted for analysis at concentrations of 4.3 µg/L and 22 µg/L in SG-1B and SG-2B, respectively;
- **Vinyl chloride** was detected in one of the samples submitted for analysis at a concentration of 0.43 µg/L in sample SG-2B; and
- No other constituents of concern were detected at concentrations exceeding laboratory detection limits.

Analytical Results – Soil Gas. In total, six soil gas samples (including four subsurface vapor pin samples) were collected and submitted for laboratory analysis. A summary of the soil gas analytical results is presented with

historical data in Table 1 and the complete laboratory data sheets are presented in Appendix E. A brief summary of the analytical data is presented as follows:

- **PCE** was detected in each of the six samples submitted for analysis at concentrations ranging from 160,000 $\mu\text{g}/\text{m}^3$ (VP-4) to 20,000,000 $\mu\text{g}/\text{m}^3$ (SG-1A);
- **TCE** was detected in each of the six samples submitted for analysis at concentrations ranging from 5,400 $\mu\text{g}/\text{m}^3$ (VP-3) to 810,000 $\mu\text{g}/\text{m}^3$ (SG-1A);
- **cis-1,2DCE** was detected in five of the six samples submitted for analysis at concentrations ranging from 200 $\mu\text{g}/\text{m}^3$ (VP-4) to 170,000 $\mu\text{g}/\text{m}^3$ (SG-1A);
- **Vinyl chloride** was not detected above laboratory detection limits in any of the samples submitted for analysis;
- **Benzene** was detected in one of the six samples submitted for analysis at a concentration of 590 $\mu\text{g}/\text{m}^3$ in SG-1A;
- **Toluene** was detected in one of the six samples submitted for analysis at a concentration of 1,800 $\mu\text{g}/\text{m}^3$ in SG-1A;
- **IPA** was detected in three of the six samples submitted for analysis at concentrations ranging from 3,900 $\mu\text{g}/\text{m}^3$ (SG-1A) to 370,000 $\mu\text{g}/\text{m}^3$ (VP-2);
- No other constituents of concern were detected at concentrations exceeding laboratory detection limits.

Analytical Results – Indoor & Ambient Air. In total, two indoor and one ambient (outdoor) air samples were collected and submitted for laboratory analysis. A summary of the analytical results is presented in Table 2 and the complete laboratory data sheets are presented in Appendix E. A brief summary of the analytical data is presented as follows:

- **PCE** was detected in each of the three samples submitted for analysis at concentrations ranging from 220 $\mu\text{g}/\text{m}^3$ (IND-1) to 18,000 $\mu\text{g}/\text{m}^3$ (IND-2);
- **TCE** was detected in two of the samples submitted for analysis at concentrations of 32 $\mu\text{g}/\text{m}^3$ (OUT-1) and 240 $\mu\text{g}/\text{m}^3$ (IND-2);
- **cis-1,2DCE** was detected in one of the samples (IND-2) at a concentration of 49 $\mu\text{g}/\text{m}^3$;
- **Vinyl chloride** was not detected above laboratory detection limits in any of the samples submitted for analysis;
- **Benzene** was detected in one of the six samples submitted for analysis at a concentration of 590 $\mu\text{g}/\text{m}^3$ in SG-1A;
- **Toluene** was detected in one of the six samples submitted for analysis at a concentration of 1,800 $\mu\text{g}/\text{m}^3$ in SG-1A;
- No other constituents of concern were detected at concentrations exceeding laboratory detection limits.

Discussion of Analytical Results

Based upon the analytical results, significant soil gas and indoor air contamination of HVOCs (including PCE, TCE, and cis-1,2DCE) exists within Four Seasons Cleaners. The highest detected concentrations of COCs (up to 2,000,000 $\mu\text{g}/\text{m}^3$ of PCE) were found in the samples collected from sample points SG-1A and VP-1. Both of these samples are located directly adjacent to the sewer line which leads away from the floor drain located within the boiler room of the dry cleaner tenant space (Figure 3). It appears likely that the floor drain is the point source of this detected contamination. Elevated concentrations of HVOCs were also noted in soil (up to 65 mg/Kg of PCE in SG-1A at 2.0 ft bgs) and grab groundwater samples (up to 2,200 $\mu\text{g}/\text{L}$ of PCE in SG-1B) collected from sample points within this area. This further supports the likely hood of the floor drain being the point source.

These sample results are consistent with historical sample results collected as part of a Phase II ESA at the subject site in 2014.

Cancer Risk Evaluation

Based upon the above results, a distinct potential cancer risk associated with indoor air exposure based upon the current concentrations of PCE in soil gas, exists at the site. To determine the potential cancer risk, WTI completed a vapor risk assessment model using software developed by the San Diego County Department of Environmental Health (SDCDEH). WTI used the most recent PCE soil gas analytical data collected from the six soil gas points sampled during this investigation to determine the resulting cancer risk. A Hazard Index value was also calculated using the SDCDEH software. The input data and results of the SDCDEH model for soil gas samples are presented in Attachment G and summarized in the following table.

Sample ID	Sample Date	Depth (ft bgs)	Sample Matrix	PCE ($\mu\text{g}/\text{m}^3$)	Hazard Index	Cancer Risk
SG-1A	10/30/15	5.0	Soil Gas	20,000,000	8.61E+00	6.46E-04
SG-2A	10/30/15	5.0	Soil Gas	1,300,000	5.60E-01	4.20E-05
VP-1	10/30/15	subslab	Soil Gas	2,900,000	9.49E+00	7.12E-04
VP-2	10/30/15	subslab	Soil Gas	180,000	5.89E-01	4.42E-05
VP-3	10/30/15	subslab	Soil Gas	470,000	1.54E+00	1.15E-04
VP-4	10/30/15	subslab	Soil Gas	160,000	5.24E-01	3.93E-05

Notes:

Sub-slab = 0.8 ft = 0.2 m, NA = not analyzed

Based on the results of the SDCDEH model for the PCE soil gas concentrations, and associated matrix depths summarized in the above table, the resulting Cancer Risk values for each soil gas sample ranged from 4.42E-05 (VP-2) to 7.12E-04 (VP-1) and the resulting Hazard Index ranged from 0.524 (VP-4) to 9.49 (VP-1). The DTSC has outlined response actions for risk management decisions based on Cancer Risk and Hazard Index values in their October 2011 document *Final-Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor*. A copy of this document can be found at the following link:

https://dtsc.ca.gov/AssessingRisk/upload/Final_VIG_Oct_2011.pdf

As described in the example contingency plan (page 36 of the above referenced document), the DTSC recommends that whenever the Cancer Risk is greater than 1.0E-04, as exists at the subject site, a response action in the form of vapor intrusion mitigation and/or source remediation is necessary.

Conclusions

The purpose of this investigation was to 1.) confirm and further define the extent of soil gas contamination previously identified at the site; and 2.) evaluate the potential cancer risk associated with indoor air exposure based upon the current concentrations of HVOCs, particularly PCE, in soil gas. Based upon the results of the investigation, and a review of historical data, WTI makes the following conclusions:

- Significant HVOC contamination in soil, groundwater, and especially soil gas and indoor air exists at the subject site.
- The source of subsurface contamination appears to be a floor drain (and possibly associated sewer lines) located within the boiler room of the dry cleaner unit.

- The extent of soil gas contamination appears to be undefined and may extend into neighboring commercial units adjoining the dry cleaner facility.
- Based upon cancer risk modeling of current PCE soil gas concentrations, the potential human health Cancer Risk is greater than 1E-04 and the Hazard Index is greater than 1.0. The DTSC recommends that when the Cancer Risk is greater than 1.0E-04, as exists at the subject site, a response action in the form of vapor intrusion mitigation and/or source remediation is necessary.

Recommendations


Based on the data collected during this investigation, review of historical information, and the above conclusions, WTI makes the following recommendations:

- Per the conditions outlined in the Public Fact Sheet documents prepared and distributed by WTI prior to this investigation, all potential stake holders in the site (including the site tenant and neighboring businesses) should be notified of the findings of this investigation. Of particular importance is the notification to tenants of the elevated concentrations of HVOCs found in soil gas and indoor air at the subject site.
- A work plan to evaluate soil gas and indoor air conditions in neighboring units, immediately adjoining Four Seasons Cleaners, should be developed and implemented as soon as possible. The work plan should also address remedial options for indoor air and soil gas within Four Seasons Cleaners.

Certification

To the best of our knowledge, all statements made in this Report are true and correct. This Report is based on data provided by the client and others, site conditions observed, samples collected and analytical data. No warranty whatsoever is made that this report addresses all contamination found on the site. If you have any questions or comments, please contact WellTest at (408) 287-2175. A copy of the client-authorization transmittal letter is provided in Attachment H.

Respectfully submitted,



Forrest N. Cook
California Professional Geologist #8201 (exp 9/16)

List of Tables, Figures, and Attachments

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Figure 3 Detailed Site Map Showing Current and Historical Sampling Locations

Attachment A	Directive Letters
Attachment B	ACPWA Drilling Permit
Attachment C	Background Information
Attachment D	Field Methods, Purge Data Sheets, and Building Survey
Attachment E	Laboratory Data Sheets
Attachment F	Boring Logs
Attachment G	Cancer Risk Calculations
Attachment H	Client Transmittal Letter

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Limitations

WELLTEST is a California-licensed Class C specialty contractor (C-57 #843074). Proposed contracting work to be performed by WELLTEST exceeding \$500 in labor and materials as outlined in this work plan, will be limited to the following specialty and limited-specialty contracting services consistent with the scope of our license to contract:

- Well drilling services (C-57 contracting services)

Contractor services documented in this report were performed by WELLTEST in accordance with the methods and generally accepted standards provided by CSLB-licensed specialty contractors performing similar work in Northern California during the time this project was completed.

Geologic services (scientific aspects of subsurface data collection, interpretation, and reporting) documented in this report were performed by WELLTEST in accordance with the methods and generally accepted standards provided by licensed Geologists performing similar work in Northern California during the time the project was completed.

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List of Acronyms

Bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
btoc	Below top of casing
1,2-DCA	1,2-Dichloroethane
DHS	State of California Department of Health Services
DO	Dissolved oxygen
DTW	Depth to water
DWR	Department of Water Resources
DIPE	Di-isopropyl ether
ELAP	Environmental Laboratory Accreditation Program
EC	Electrical conductivity
EDB	1,2-dibromoethane
ETBE	Ethyl tert butyl ether
Eth	Ethanol
ft	foot or feet
ft/ft	feet per feet
FTU	Field Turbidity Unit
GW	Groundwater
MCL	Maximum Contaminant Level
Meth	Methanol
MSL	Mean Sea Level
MTBE	Methyl-t-butyl-ether
mg/L	milligram per liter
mV	millivolts
MW	Monitoring Well
NGVD	National Geodetic Vertical Datum of 1929
NA	Not Analyzed
NM	Not Measured
ORP	Oxidation reduction potential
P.G.	Professional Geologist
ppmv	parts per million by volume
QA/QC	Quality Assurance/Quality Control
SCCDEH	Santa Clara County Department of Environmental Health
SCVWD	Santa Clara Valley Water District
TAME	Tert amyl methyl ether
TBA	Tert butyl alcohol
TDS	Total dissolved solids
TOC	Top of casing
TPHg	Gasoline range (C6-C12) Volatile hydrocarbons as gasoline
ug/L	micrograms per liter
uS	micro Siemens
UST	Underground storage tank
VOC	Volatile Organic Compound
WELLTEST	WellTest, Inc.
°F - °C	degrees Fahrenheit - degrees Celsius

TABLES

TABLE 1
SUMMARY OF CURRENT & HISTORICAL SOIL VAPOR ANALYTICAL DATA
13778 DOOLITTLE DRIVE, SAN LEANDRO, CA

Sample ID	Sample Depth (ft)	Sample Date	B ($\mu\text{g}/\text{m}^3$)	T ($\mu\text{g}/\text{m}^3$)	E ($\mu\text{g}/\text{m}^3$)	o-Xyl ($\mu\text{g}/\text{m}^3$)	p&m-Xyl ($\mu\text{g}/\text{m}^3$)	PCE ($\mu\text{g}/\text{m}^3$)	TCE ($\mu\text{g}/\text{m}^3$)	cis-1,2DCE ($\mu\text{g}/\text{m}^3$)	VC ($\mu\text{g}/\text{m}^3$)	IPA ($\mu\text{g}/\text{m}^3$)
S1 Air	0.5	08/10/14	ND	ND	ND	ND	ND	63,000	890	ND<320	ND<210	NA
S2 Air	0.5	08/10/14	ND	ND	ND	ND	ND	240,000	16,000	ND<960	ND<620	NA
S3 Air	0.5	08/10/14	ND	ND	ND	ND	ND	4,500,000	92,000	ND<20,000	ND<13,000	NA
SG-1A	5.0	10/30/15	590	1,800	ND<43	ND<38	ND<94	20,000,000	810,000	170,000	ND<75	3,900
SG-2A	5.0	10/30/15	ND<67	ND<51	ND<45	ND<40	ND<98	1,300,000	180,000	50,000	ND<78	ND<75
VP-1	subslab	10/30/15	ND<69	ND<52	ND<46	ND<41	ND<100	2,900,000	140,000	18,000	ND<80	ND<77
VP-2	subslab	10/30/15	ND<63	ND<48	ND<42	ND<38	ND<92	180,000	12,000	220	ND<74	370,000
VP-3	subslab	10/30/15	ND<63	ND<48	ND<42	ND<38	ND<92	470,000	5,400	ND<58	ND<74	ND<71
VP-4	subslab	10/30/15	ND<56	ND<43	ND<38	ND<34	ND<83	160,000	7,300	200	ND<66	27,000
		CHHSL Comm/Ind.	280	890,000	3,600	2,100,000	2,200,000	1,600	4,400	NA	95	NA
		ESLs Comm/Ind.	420	1,300,000	4,900	440,000		2,100	3,000	NA	160	NA

--- = Parameter not analyzed
 <0.5 / ND = Not present at or above reporting detection limit
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter = ppmv
 ESLs = Environmental Screening Levels, May 2013
 CHHSL Comm/Ind. = California Human Health Screening Level, January 2005
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 Xyl = Xylenes
 MtBE = Methyl-t-butyl ether

PCE = Tetrachloroethene
 TCE = Trichloroethene
 VC = Vinyl Chloride
 cis-1,2DCE = cis-1,2-Dichloroethene
 IPA = Isopropyl Alcohol

TABLE 2
SUMMARY OF CURRENT INDOOR & OUTDOOR AIR ANALYTICAL DATA
13778 DOOLITTLE DRIVE, SAN LEANDRO, CA

Sample ID	Sample Date	B ($\mu\text{g}/\text{m}^3$)	T ($\mu\text{g}/\text{m}^3$)	E ($\mu\text{g}/\text{m}^3$)	o-Xyl ($\mu\text{g}/\text{m}^3$)	p&m-Xyl ($\mu\text{g}/\text{m}^3$)	PCE ($\mu\text{g}/\text{m}^3$)	TCE ($\mu\text{g}/\text{m}^3$)	cis-1,2DCE ($\mu\text{g}/\text{m}^3$)	VC ($\mu\text{g}/\text{m}^3$)	IPA ($\mu\text{g}/\text{m}^3$)
OUT-1	10/30/15	ND<11	ND<8.6	ND<7.6	ND<6.7	ND<17	1,500	32	ND<10	ND<13	ND<13
IND-1	10/30/15	ND<13	ND<10	ND<6.9	ND<7.9	ND<19	220	ND<22	ND<12	ND<15	ND<15
IND-2	10/30/15	ND<12	ND<9.2	ND<8.1	ND<7.2	ND<18	18,000	240	49	ND<14	ND<14
ESLs Comm/Ind.		0.42	1,300	4.9	440		2.1	3.0	NA	0.16	NA

--- = Parameter not analyzed
 <0.5 / ND = Not present at or above reporting detection limit
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter = ppmv
 ESLs = Environmental Screening Levels, May 2013

B = Benzene
 T = Toluene
 E = Ethylbenzene
 Xyl = Xylenes
 MtBE = Methyl-t-butyl ether

PCE = Tetrachloroethene
 TCE = Trichloroethene
 VC = Vinyl Chloride
 cis-1,2DCE = cis-1,2-Dichloroethene
 IPA = Isopropyl Alcohol

TABLE 3
SUMMARY OF CURRENT & HISTORICAL SOIL ANALYTICAL DATA
13778 DOOLITTLE DRIVE, SAN LEANDRO, CA

Sample ID	Sample Depth (ft)	Sample Date	TPHd (mg/Kg)	B (mg/Kg)	T (mg/Kg)	E (mg/Kg)	o-Xyl (mg/Kg)	p&m-Xyl (mg/Kg)	PCE (mg/Kg)	TCE (mg/Kg)	cis-1,2DCE (mg/Kg)	VC (mg/Kg)	Other VOCs (mg/Kg)
S1 d 0.5'	0.5	08/10/14	3.2	ND	ND	ND	ND	ND	0.056	ND	ND	ND	All ND
S2 d 0.5'	0.5	08/10/14	2.6	ND	ND	ND	ND	ND	0.045	ND	ND	ND	All ND
S3 d 0.5'	0.5	08/10/14	2.1	ND	ND	ND	ND	ND	0.1	ND	ND	ND	All ND
S3 d 2'	2.0	08/10/14	ND<1.0	ND	ND	ND	ND	ND	20	ND	ND	ND	All ND
S3 d 5'	5.0	08/10/14	ND<1.0	ND	ND	ND	ND	ND	2.4	ND	ND	ND	All ND
DP-1d15.0	15.0	02/18/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	All ND
DP-2d14.5	14.5	02/18/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	All ND
DP-3d14.0	14.0	02/18/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	All ND
DP-4d14.5	14.5	02/18/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	All ND
DP-5d8.0	8.0	02/18/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	All ND
DP-6d15.0	15.0	02/18/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	All ND
DP-7d15.0	15.0	02/18/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	All ND
DP-8d15.0	15.0	02/18/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	All ND
SG-1Ad2.0	2.0	10/13/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	65	0.32	0.13	ND<0.005	All ND
SG-1Ad5.0	5.0	10/13/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	18	0.24	0.13	ND<0.005	All ND
SG-2Ad2.0	2.0	10/13/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	1.9	0.07	0.0021	ND<0.005	All ND
SG-2Ad5.0	5.0	10/13/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.37	0.046	0.02	ND<0.005	All ND
SG-1Bd2.0	2.0	10/13/15	---	ND<0.005	0.0015	ND<0.005	ND<0.005	ND<0.005	160	1.2	0.14	ND<0.005	All ND
SG-1Bd5.0	5.0	10/13/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	40	0.26	0.11	ND<0.005	All ND
SG-1Bd7.0	7.0	10/13/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	2.2	0.2	0.15	ND<0.005	All ND
SG-2Bd2.0	2.0	10/13/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.77	0.029	ND<0.005	ND<0.005	All ND
SG-2Bd5.0	5.0	10/13/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.25	0.014	0.0045	ND<0.005	All ND
SG-2Bd8.5	8.5	10/13/15	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.16	0.024	0.018	ND<0.005	All ND
ESLs Comm/Ind.			500	0.044	2.9	3.3	2.3	0.7	0.46	0.19	0.032	varies	

--- = Parameter not analyzed

<0.5 / ND = Not present at or above reporting detection limit

mg/Kg = milligrams per kilogram = ppm

ESLs = Environmental Screening Levels, May 2013

B = Benzene

MtBE = Methyl-t-butyl ether

T = Toluene

E = Ethylbenzene

Xyl = Xylenes

PCE = Tetrachloroethene

TCE = Trichloroethene

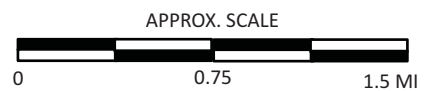
VC = Vinyl Chloride

cis-1,2DCE = cis-1,2-Dichloroethene

FIGURES



SOURCE: USGS 1:24,000 SCALE SERIES, SAN LEANDRO QUAD



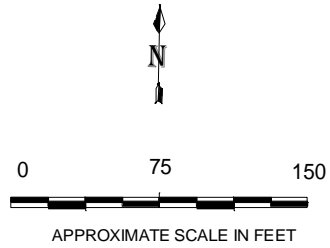
WellTest, Inc.
Contractor License No. 843074

**13778 DOOLITTLE AVE.
SAN LEANDRO, CALIFORNIA**




SITE VICINITY MAP

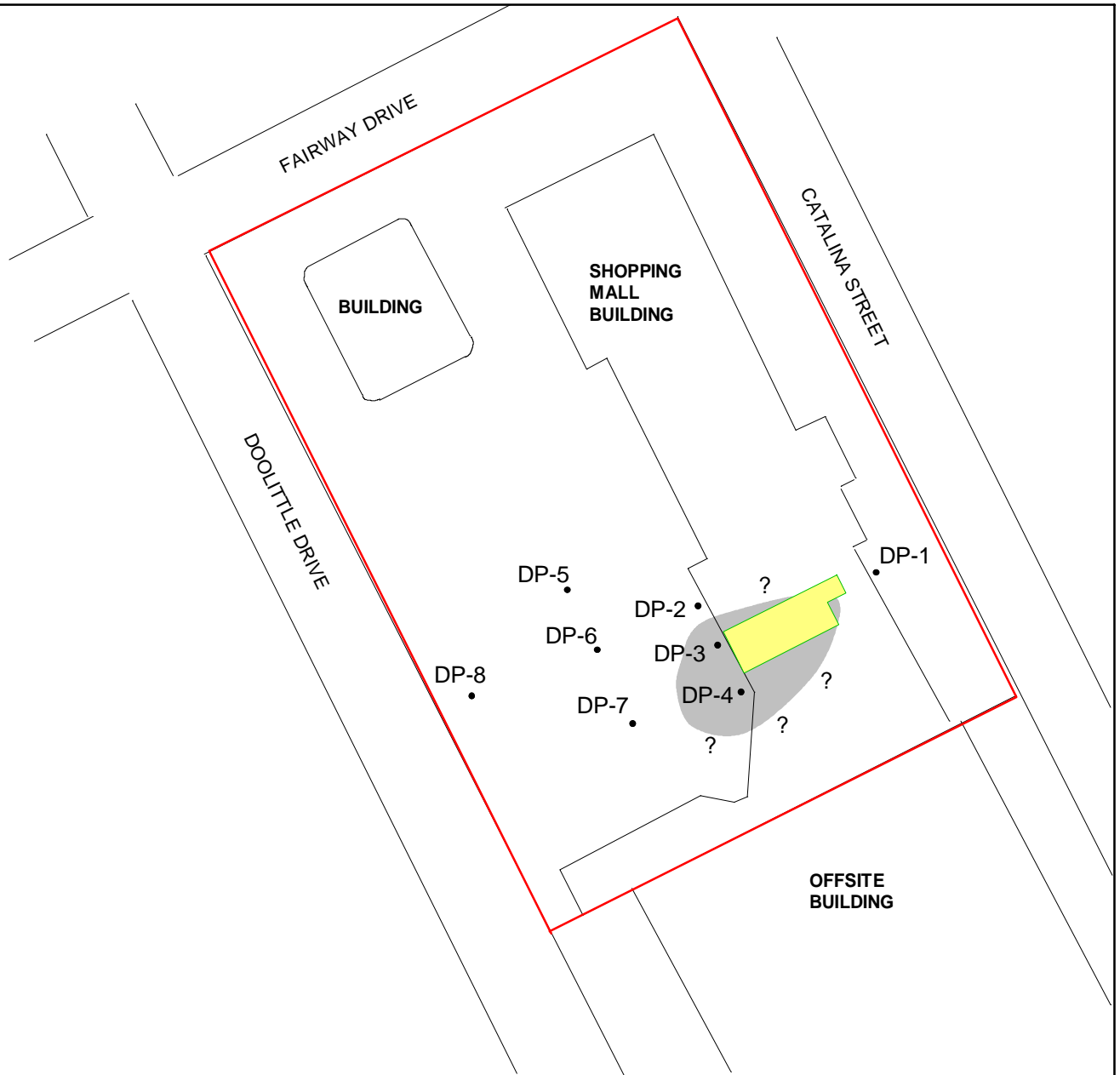
FIGURE

1



LEGEND

- DP-8 • EXPLORATORY BORING (02/18/15)
-  FOUR SEASONS CLEANERS
-  PARCEL 80G-931-1-5
-  PRELIMINARY ESTIMATE OF LATERAL EXTENT OF SHALLOW GROUNDWATER IMPACTED BY VOLATILE ORGANIC COMPOUNDS



ALL LOCATIONS ARE APPROXIMATE

WellTest, Inc.

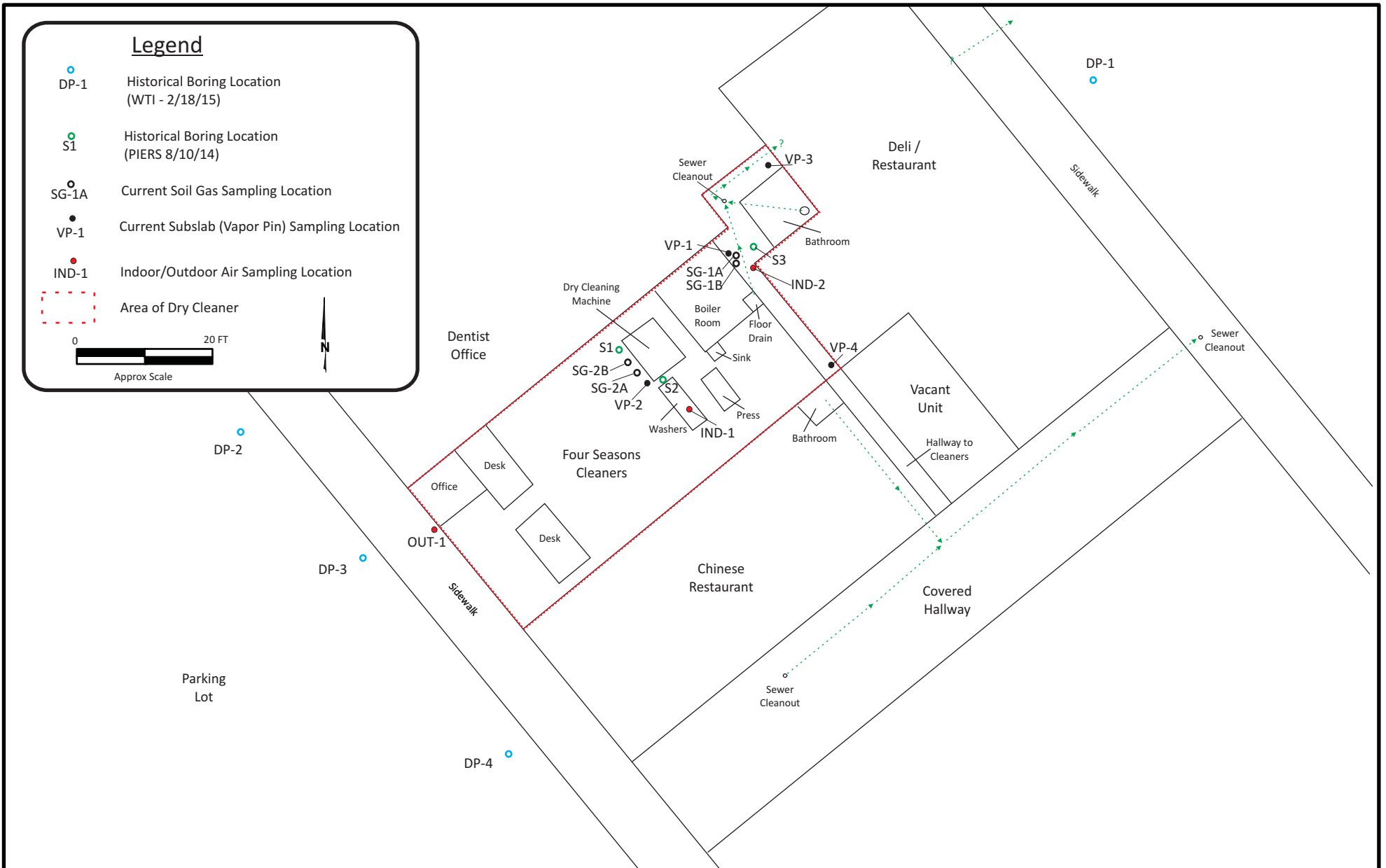
License No. 843074
 P.O. Box 8548
 San Jose, CA 95155
 Phone (408) 287-2175

EXTENDED SITE MAP SHOWING BORING DP-1 THROUGH DP-8 (02/18/15)

FOUR SEASONS CLEANERS
 13778 DOOLITTLE DRIVE
 SAN LEANDRO, CALIFORNIA

FIGURE

2



WellTest, Inc.

Lic. No. 843074

PO Box 8548

San Jose, CA 95115

Phone: (408) 287-2175

13778 DOOLITTLE DRIVE
SAN LEANDRO, CALIFORNIA

DETAILED SITE MAP
SHOWING CURRENT AND HISTORICAL SAMPLING LOCATIONS

FIGURE

3

ATTACHMENT A

Directive Letters



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

April 16, 2015

Mr. Ernie Lee
Marina Faire, Shopping Center
3271 South Highland Drive, Suite 704
Las Vegas, NV 89109
(Sent via email to ernestlee@gmail.com)

Subject: Request for Public Notification Documents; Site Cleanup Program Case No. RO0003155 and Geotracker Global ID T10000006425, Four Seasons Cleaners, 13778 Doolittle Drive, San Leandro, CA 94577

Dear Ms. D'Hondt:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Soil and Water Investigation Report and Vapor Assessment Work Plan*, dated March 6, 2015. The report was prepared and submitted by Well Test, Inc (WTI). Thank you for submitting the report. The report documented the installation of eight direct push soil bores (DP-1 to DP-8) that were installed to initiate delineation of the downgradient extent of soil and groundwater contamination associated with the release of chlorinated or halogenated volatile organic compounds (HVOCs) at the referenced site. Concentrations up to 12,000 micrograms per liter ($\mu\text{g/l}$) tetrachloroethene (PCE), 2,100 $\mu\text{g/l}$ trichloroethene (TCE), 610 $\mu\text{g/l}$ cis-1,2-dichloroethene (cis-1,2-DCE), and 11 $\mu\text{g/l}$ trans-1,2-Dichloroethene (trans-1,2-DCE) were detected downgradient of the dry cleaner. These concentrations exceed the Commercial Environmental Screening Levels (ESLs) promulgated by the San Francisco Bay Regional Water Quality Control Board (RWQCB) issued in conjunction with the *User's Guide: Derivation and Application of Environmental Screening Levels*, as revised in December 2013. The respective ESLs are 5.0 $\mu\text{g/l}$ for PCE, 5.0 $\mu\text{g/l}$ for TCE, 6.0 $\mu\text{g/l}$ cis-1,2-DCE, and 10.0 $\mu\text{g/l}$ trans-1,2-DCE.

The requested work plan proposed the installation of two soil vapor well locations with nested soil vapor wells constructed at the depths of 4 and 8 feet below grade surface (bgs), four sub-slab vapor pin locations (two proximal to the proposed soil vapor wells), two indoor air sampling locations, and one outdoor ambient air sample.

ACEH is in general concurrence with undertaking the proposed scope of work; however, prior to approving the scope of work, public outreach is necessary in order to communicate activities with potential interested parties in the general vicinity, adjacent commercial suites, and with the occupants of the subject suite. Therefore ACEH requests that you address the following technical comments and send us the documents requested below.

TECHNICAL COMMENTS

1. **Draft Public Fact Sheet Notice** - Based on a review of site data, public participation activities are required at this site. The purpose of public participation is to facilitate communication and coordination with stakeholders potentially affected by, or concerned with, soil and groundwater contamination and potential vapor intrusion risks associated with chlorinated solvents in soil, groundwater, and soil vapor at the site at concentrations that exceed applicable regulatory screening levels used to judge the necessity of conducting corrective actions at the site.

As part of the public participation process, you must notify potentially affected stakeholders who live or own property in the area around the release of the site conditions through a mailing of a fact sheet. Please establish an initial mailing list of property owners and tenants who are located within 350 feet of the suspected release location (sample location S3) at the property. The mailing list should also include other stakeholders who have interest in tenant improvements, have political jurisdiction within

or adjacent to the potential vapor intrusion area, represent community leadership or advocacy, or need to be aware of planned activities.

This will require the generation of two notices, one for offsite property owners and tenants and one for tenants at the commercial mall. Please submit a draft distribution list and draft informational fact sheet about the site and planned investigation and characterization activities (MS Word format) for agency review by the date specified below. Please see the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) Vapor Intrusion Public Participation Advisory (VIPPA), dated March 5, 2012 for examples.

2. **Draft Indoor Air Sampling Fact Sheet** – An additional level of communication must also be provided to all units in which indoor air samples are proposed to be collected at (currently one). The purpose is to inform occupants of the units of the importance of, and what will happen during, the indoor air sampling work that has been proposed. Examples of this type of communication are contained in the DTSC VIPPA document (especially pages 76 to 83). ACEH requests the submittal of a draft Indoor Air Sampling Fact Sheet (MW Word format) intended for indoor air sampling, by the date identified below.
3. **Indoor Air Fact Sheet Distribution** – After ACEH approval of the draft indoor air sampling fact sheet, please ensure that the fact sheet is distributed a minimum of 1 week prior to site interviews and observations. Please also ensure that the occupants of the unit have not used chemicals that contain or could confuse PCE vapor sampling results (for example that contain PCE, TCE, or other potential breakdown products etc.) are not used for a minimum of one week prior to the indoor air sampling effort. Finally, please ensure that the heating, ventilation, and air conditioning (HVAC) systems are not operating during the 24 hour sampling events in each unit (*EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites*, December 3, 2013, US EPA).
4. **Work Plan Modifications** – The referenced work plan proposes a series of actions with which ACEH is in general agreement of undertaking; however, ACEH will, upon approval and distribution of the public notification fact sheets, request several modifications to the approach. Please be aware that at this time ACEH has not provided approval to proceed with the scope of work, but is communicating the requested modifications. Please submit a report by the date specified below.
 - a. **Vapor Well Completions** – The referenced work plan proposes to install two dual completion vapor wells to the depths of 4 and 8 feet bgs. ACEH requests the two depths at each well be installed in a nested fashion (completed as separate wells offset by several feet) in order to eliminate data interpretation complications should the wells fail to seal as expected.
 - b. **Ambient Air Vapor Sample Location** – The outdoor ambient air sample location appears to be located in a downwind direction from the release. In order to determine background outdoor air vapor concentrations, please relocate the sample to an upgradient location based on the prevailing wind direction at the site.
 - c. **Utility Survey** – In addition to locating the sanitary sewer lines, please additionally locate and determine the depths of installation of other potential conduits such as underground electrical and storm water utility locations at the site. While the principal concern is the sanitary sewer location, the additional utilities can affect contaminant flow patterns.
 - d. **Previous Configurations of Dry Cleaner Suite** – In order to quickly determine additional potential PCE release locations ACEH requests the identification of previous configurations of the dry cleaning suite, especially during the period of PCE use. This should include the presence of other dry cleaning machines, use areas, including former use areas if known, spent solvent storage areas, solvent filter drain areas, the location of the former solvent delivery area (front or rear), former equipment outlines on the slab floor, the location of concrete patches or trenches, pavement changes, anchor bolts cut off at the concrete surface that indicate former machine locations, sumps, floor drains, and other features that will identify critical areas for investigation. The intent of this request is to quickly help focus future assessment locations and to help minimize expenses. An excellent resource in this effort is

the document entitled *Conducting Contamination Assessment Work at Drycleaning Sites*, published by the State Coalition for Remediation of Drycleaners, dated October 2010.

- e. **Soil Sample Selection Protocols** – The work plan does not mention the collection of soil samples from the proposed soil vapor wells. ACEH requests the collection and laboratory analysis of a sufficient number of soil samples from each soil bore in order to characterize the lateral and vertical extent of HVOC contamination relative to existing bore locations S1 to S3. ACEH requests the analysis of these soil samples based on indications of contamination such as photoionization detections, odor, discoloration, and significant changes in lithology.
5. **Work Plan Request** – Coincident with the submittal of the requested site report, and utilizing the results of the work, including the location of the sanitary sewer, ACEH additionally requests a work plan to assess the lateral and vertical extent of soil and groundwater contamination downgradient of the release. Please submit a work plan by the date identified below.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Mark Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with the specified file naming convention below, according to the following schedule:

- **May 15, 2015** – Draft Public Fact Sheets (in MS Word format) with List of Fact Sheet Recipients (Please initially email to ACEH case worker only); file to be named: RO3155_PP_yyyy-mm-dd
- **15 Days After Fact Sheet Approval** – Certification of Fact Sheet Distribution
File to be named: RO3155_CORRES_L_yyyy-mm-dd
- **60 Days After Fact Sheet Approvals** – Site Investigation
File to be named: RO3155_SWI_R_yyyy-mm-dd
- **60 Days After Fact Sheet Approvals** – Vapor Assessment Work Plan (Combined with above report)
File to be named: RO3155_WP_R_yyyy-mm-dd

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Online case files are available for review at the following website: <http://www.acgov.org/aceh/index.htm>.

If you have any questions, please do not hesitate to call me at (510) 567-6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,



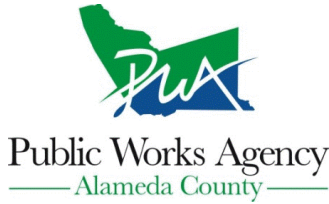
Digitally signed by Mark E Detterman
DN: cn=Mark E Detterman, o, ou,
email, c=US
Date: 2015.04.16 11:44:41 -0700

Mark E. Detterman, PG, CEG
Senior Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations
Electronic Report Upload (ftp) Instructions

ATTACHMENT B
ACPWA Drilling Permit

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 10/07/2015 By jamesy

Permit Numbers: W2015-0950
Permits Valid from 10/13/2015 to 10/16/2015

Application Id: 1443823716158
Site Location: 13778 Doolittle Avenue - Marina Square Shopping Center - Four Seasons Cleaners
Project Start Date: 10/13/2015
Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

City of Project Site: San Leandro
Completion Date: 10/16/2015

Applicant: WellTest, Inc. - Bill Dugan
P.O.Box 8548, San Jose, CA 95155

Phone: 408-287-2175

Property Owner: Ernie Lee
3271 S. Highland Drive, Suite #704, Las Vegas, NV 89109

Phone: 702-369-9595

Client: ** same as Property Owner **
Contact: Bill Dugan

Phone: 408-287-2175
Cell: 408-460-1884

Receipt Number: WR2015-0500	Total Due: \$265.00	
Payer Name : William R Dugan	Total Amount Paid: \$265.00	
	Paid By: VISA	PAID IN FULL

Works Requesting Permits:

Remediation Well Construction-Vapor Remediation Well - 9 Wells
 Driller: WellTest, Inc. - Lic #: 843074 - Method: Hand

Work Total: \$265.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2015-0950	10/07/2015	01/11/2016	SG-1A	2.00 in.	0.38 in.	4.50 ft	5.50 ft
W2015-0950	10/07/2015	01/11/2016	SG-1B	2.00 in.	0.38 in.	9.50 ft	10.50 ft
W2015-0950	10/07/2015	01/11/2016	SG-2A	2.00 in.	0.38 in.	4.50 ft	5.50 ft
W2015-0950	10/07/2015	01/11/2016	SG-2B	2.00 in.	0.38 in.	9.50 ft	10.50 ft
W2015-0950	10/07/2015	01/11/2016	SG-3A	2.00 in.	0.38 in.	4.50 ft	5.50 ft
W2015-0950	10/07/2015	01/11/2016	SG-3B	2.00 in.	0.38 in.	9.50 ft	10.50 ft
W2015-0950	10/07/2015	01/11/2016	VP-1	1.00 in.	0.38 in.	0.50 ft	0.75 ft
W2015-0950	10/07/2015	01/11/2016	VP-2	1.00 in.	0.38 in.	0.50 ft	0.75 ft
W2015-0950	10/07/2015	01/11/2016	VP-3	1.00 in.	0.38 in.	0.50 ft	0.75 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled,

Alameda County Public Works Agency - Water Resources Well Permit

properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Include permit number and site map.
 4. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.
 5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
 6. Minimum seal depth (Neat Cement Seal) is 2 feet below ground surface (BGS).
 7. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 8. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
 9. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.
 10. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
-

ATTACHMENT C
Background Information

ATTACHMENT C
Site Description, Background, and Geology/Hydrogeology Details
13778 Doolittle Drive, San Leandro, CA
Case # RO0003155

A description of the site, the history of the site and project, and the hydrogeologic characteristics of the site are summarized in the following subsections.

Site Description: The site is located in a mixed commercial and residential area of San Leandro, California. The site parcel is approximately 5.05 acres and is improved with a multi-tenant strip mall and separate restaurant building. The dry cleaning unit is located within the strip mall and is associated with 13778 Doolittle Drive. The site lies at an elevation of approximately 15 feet above sea level and is relatively flat. The property is bounded by Doolittle Drive to the west, Fairway Drive to the north, Catalina Drive to the east and a commercial property to the south..

Previous Site Investigations: *A Limited Phase II Soil, Water, and Soil Vapor Investigation* prepared by PIERS Environmental Services, Inc. (PIERS) for the subject site in August 2014. The results of the PIERS report indicated that the subsurface at the subject site has been significantly impacted by the common dry cleaning solvent tetrachloroethylene (PCE) and its breakdown products trichloroethene (TCE) and cis-1,2-dichloroethene (cis-1,2DCE). The likely source of the identified impacts is the on-site dry cleaner which, reportedly, historically used and stored these solvents. Based upon the results of the PIERS investigation, WTI prepared a *Soil and Water Investigation Work Plan* for the subject site, which outlined a specific set of tasks to further define the scope and extent of subsurface soil and water contamination. The Work Plan was submitted to the Alameda County Health Care Services Agency (ACHCSA), the local oversight program, and was approved (with comments) in their January 15, 2015 Directive Letter. WTI implemented the scope of the Work Plan in February 2015, which included the collection of soil and grab groundwater samples from eight temporary borings. The results of the investigation are presented in WTI's *Soil and Water Investigation Report and Vapor Assessment Work Plan*, dated March 6, 2015.

ATTACHMENT D

Field Methods, Purge Sheets, & Building Survey

ATTACHMENT D-1
Direct-Push Drilling, Sampling and Borehole Sealing Procedures
13778 Doollittle Drive, San Leandro, California

Soil Gas Sampling Point Installation (Soil Gas Monitoring Wells)

WTI installed an Environmental Service Products polyethylene soil vapor implant near the base of each boring. The polyethylene implants are a one-piece molded assembly made of high-density porous polyethylene. The filtration rating is 40-60 microns with a maximum temperature of 150 degrees Fahrenheit. Each implant was fitted with a "Speedfit" push-in brass fitting with a nickel-plated finish that accommodates 1/4" OD tubing. The size of each polyethylene implant was 1/2" OD x 1-7/8" in length. Teflon tubing (0.17" ID x 1/4" OD) was attached to each implant and extended to the ground surface. A one-foot layer of #2/12 or #2/16 filter sand was placed at the base of each boring. A six-inch layer of dry granular 8-mesh bentonite was placed on top of the sand filter pack. Portland neat cement was poured on top of the bentonite seal to just below the ground surface. The Teflon tube was capped and placed within a locking wellhead completion (2-inch diameter casing with a locking cap).

Soil Gas Point Sampling Procedures

Soil gas samples were not collected sooner than 72-hours to allow for representative soil gas to accumulate from the formation into the completed well. Samples were collected using a SUMA[®] canister supplied by the contracted laboratory. Prior to the collection of a sample, the soil gas monitoring well had at least 3 purge volumes of air (soil gas) removed from the probe and tubing associated with the well, as well as the soil gas from the voids within sand pack at the base of the well and within the dry granular 8-mesh bentonite above the sand pack interval. The well was purged using a SUMA[®] canister (purge canister) attached to a flow meter which, in turn is attached to the Teflon tubing of the soil gas well. The well was purged at a rate between 100 to 200 ml/minute. Once the well was purged, a sample collection SUMA[®] canister was attached to the Teflon tubing of the well, the initial negative pressure of the canister was measured (and recorded), and soil gas was delivered to the canister from the well until a negative pressure of about five-inches of Hg is noted on the vacuum gauge on the sample collection SUMA[®] canister. All vacuum readings were documented on the chain of custody record. Soil gas samples were kept at ambient temperatures, and were transported to the laboratory under chain of custody record.

Data Quality Assurance – IPA Shroud Leak Test Procedure

Soil Gas sampling was conducted using a isopropyl alcohol (IPA) shroud technique described in Appendix C of the CA DTSC Soil Gas Advisory Document (July 2015) to ensure representative soil gas samples were collected. A IPA tracer shroud was used to perform a quantitative leak test while sampling the two soil gas wells. A sealed chamber was placed over the wellhead of the soil gas wells. A 20% IPA in air atmosphere was maintained around the sample train and above the well annulus.

All on 10-30-15

<u>NAME</u>	<u>TIME</u>	<u>Container #</u>	<u>Gruse/Manifest #</u>
IND-1	15:40	783	03660
IND-2	15:30	0745	03881
OUT-1	15:45	0168	03798
VP-1	12:30	2648	1092
VP-2	13:28	2369	1052
VP-3	13:20	3033	1088
VP-4	11:12	1937	1036
SG-1A	11:47	2895	1084
SG-2A	10:26	1940	1086

Soil Vapor Well Purging and Sampling Form

Well No.

VP-1

Project Name <u>Four Seasons</u>	Project No. <u>4601</u>	Date <u>10-30-15</u>
Project Address, City, County <u>13778 Doolittle Dr., San Leandro, CA</u>		

PURGING AND SAMPLING INSTRUMENTATION AND METHOD

Water Level Meter (Model/ID)	Interface probe (Model/ID)
Water Quality Meter (Model/ID)	Decontamination Method
Purging Method(s) <input checked="" type="checkbox"/> Summa <input type="checkbox"/> Vacuum Truck <input type="checkbox"/> Submersible Pump <input type="checkbox"/> Other	
Sampling Method(s) <input checked="" type="checkbox"/> Summa Canister <input type="checkbox"/> Disposal Bailer <input type="checkbox"/> Other	

BOREHOLE AND WELL CASING VOLUME INFORMATION

Borehole Diameter (Circle) <u>100</u> 6" 8"	Casing Diameter (Circle) <u>3/16"</u>
	Casing Multiplier (CM) (mL/foot) <u>5.42</u>

MONITORING MEASUREMENTS

Depth to Free Product (feet)	Casing Volume (CV)
Depth to Water (DTW) (feet)	<u> </u> WD x CM <u> </u> CV (mL) x 3.0 CV (mL) <u> </u>
Total Well Depth (WD) (feet) <u>Substg</u>	Target Purge Time = 5 min
Water Column (WC) (feet)	
Free Product Thickness (feet)	

PURGING CALCULATORS

PURGING DATA									
Purge Time (24 hr)	<u>11:57</u>	<u>11:58</u>	<u>STOP</u>	<u>12:15</u>	<u>12:19</u>	<u>12:20</u>	<u>12:21</u>	<u>12:22</u>	<u>12:23</u>
mL Purged	<u>2</u>	<u>200</u>	<u>400</u>	<u>600</u>	<u>800</u>	<u>1000</u>	<u>600</u>	<u>800</u>	<u>1000</u>
IPA in (PID)	<u>113</u>	<u>204</u>	<u>Recant</u>	<u>97</u>	<u>386</u>	<u>478</u>	<u>508</u>	<u>543</u>	<u>568</u>
IPA out (PID)		<u>200+</u>			<u>820</u>			<u>820</u>	
Sample Time (24 hr)	<u>12:23</u>	<u>12:24</u>	<u>12:25</u>	<u>12:26</u>	<u>12:28</u>	<u>12:30</u>			
IPA in (PID)	<u>362</u>	<u>404</u>	<u>407</u>	<u>494</u>	<u>562</u>	<u>581</u>			
Hg"	<u>-30</u>	<u>-25</u>	<u>-20</u>	<u>-15</u>	<u>-10</u>	<u>-5</u>			
Other									
Other					<u>Sample @ 12:30</u>				

SAMPLING DATA

Cannister #	<u>2645</u>						
Manifold #	<u>1092</u>						
Purge Start (Hg")	<u>23</u>	<u>23</u>					
Purge End (Hg")	<u>19</u>						

FIELD PERSONNEL

Field Technician Representative(s):	Subcontractor:
Signature <u>[Signature]</u>	Date:

Soil Vapor Well Purging and Sampling Form

Well No.

VP-2

Project Name <u>Four Seasons</u>	Project No. <u>4601</u>	Date <u>12-30-15</u>
Project Address, City, County <u>13778 Poolittle Dr. San Leandro, CA</u>		

PURGING AND SAMPLING INSTRUMENTATION AND METHOD

Water Level Meter (Model/ID) <u>-</u>	Interface probe (Model/ID)
Water Quality Meter (Model/ID) <u>-</u>	Decontamination Method
Purging Method(s) <input checked="" type="checkbox"/> Summa <input type="checkbox"/> Vacuum Truck <input type="checkbox"/> Submersible Pump <input type="checkbox"/> Other	
Sampling Method(s) <input checked="" type="checkbox"/> Summa Canister <input type="checkbox"/> Disposal Bailer <input type="checkbox"/> Other	

BOREHOLE AND WELL CASING VOLUME INFORMATION

Borehole Diameter (Circle) <u>2" 6" 8"</u>	Casing Diameter (Circle) <u>3/16"</u>
	Casing Multiplier (CM) (mL/foot) <u>5.42</u>

MONITORING MEASUREMENTS

Depth to Free Product (feet)	Target Purge Time = 5 mins
Depth to Water (DTW) (feet)	
Total Well Depth (WD) (feet) <u>Substb</u>	
Water Column (WC) (feet)	
Free Product Thickness (feet)	

PURGING CALCULATORS

Casing Volume (CV)	WD x CM
	CV (mL) x 3.0 CV (mL)

PURGING DATA

Purge Time (24 hr)	13:19	13:20	13:21	13:22	13:23	13:24			
mL Purged	0	200	400	600	800	1000			
IPA in (PID)	74	97	108	126	155	163			
IPA out (PID)		45		54					
Sample Time (24 hr)	13:24	13:25	13:26	13:27	13:27	13:28			
IPA in (PID)	138	123	129	119	123	121			
Hg"	-30	-25	-20	-15	-10	-5			
Other									
Other									

Sample D 13:28

SAMPLING DATA

Cannister #	2569					
Manifold #	1252					
Purge Start (Hg")	14					
Purge End (Hg")	11					

FIELD PERSONNEL

Field Technician Representative(s):	Subcontractor:
Signature	Date:

Soil Vapor Well Purging and Sampling Form

Well No.

VP-3

Project Name <u>Four Seasons</u>	Project No. <u>4601</u>	Date <u>10-30-15</u>
Project Address, City, County <u>13778 Doodittle Dr., San Leandro, CA</u>		

PURGING AND SAMPLING INSTRUMENTATION AND METHOD

Water Level Meter (Model/ID)	Interface probe (Model/ID)
Water Quality Meter (Model/ID)	Decontamination Method
Purging Method(s) <u>X</u> Summa <u> </u> Vacuum Truck <u> </u> Submersible Pump <u> </u> Other <u> </u>	
Sampling Method(s) <u>X</u> Summa Canister <u> </u> Disposal Bailer <u> </u> Other <u> </u>	

BOREHOLE AND WELL CASING VOLUME INFORMATION

Borehole Diameter (Circle) <u>2" 6" 8"</u>	Casing Diameter (Circle) <u>3/16"</u>
	Casing Multiplier (CM) (mL/foot) <u>5.42</u>

MONITORING MEASUREMENTS

Depth to Free Product (feet) <u> </u>
Depth to Water (DTW) (feet) <u> </u>
Total Well Depth (WD) (feet) <u>Subsided</u>
Water Column (WC) (feet) <u> </u>
Free Product Thickness (feet) <u> </u>

PURGING CALCULATORS

Casing Volume (CV)	WD x CM <u> </u> CV (mL) x 3.0 CV (mL) <u> </u>
<u>Target Purge Time = 5 mins.</u>	
Free Product Purged (gal)	

PURGING DATA

Purge Time (24 hr)	12:49	12:50	12:51	12:52	12:53	12:54			
mL Purged	<u>200</u>	<u>200</u>	<u>400</u>	<u>600</u>	<u>800</u>	<u>1,000</u>			
IPA in (PID)	<u>119</u>	<u>97</u>	<u>188</u>	<u>221</u>	<u>322</u>	<u>397</u>			
IPA out (PID)		<u>102</u>	<u>100</u>	<u>106</u>					
Sample Time (24 hr)	<u>12:54</u>	<u>12:56</u>	<u>12:57</u>	<u>12:58</u>	<u>12:59</u>	<u>13:00</u>			
IPA in (PID)	<u>461</u>	<u>466</u>	<u>514</u>	<u>543</u>	<u>580</u>				
Hg"	<u>-30</u>	<u>-25</u>	<u>-20</u>	<u>-15</u>	<u>-10</u>	<u>-5</u>			
Other	<u>Sample @ 13:00</u>								
Other									

SAMPLING DATA

Cannister #	<u>3033</u>					
Manifold #	<u>1088</u>					
Purge Start (Hg")	<u>18</u>					
Purge End (Hg")	<u>13</u>					

FIELD PERSONNEL

Field Technician Representative(s):	Subcontractor:
Signature	Date:

Soil Vapor Well Purging and Sampling Form

Well No.

VP-4

Project Name <u>Four Seasons</u>	Project No.	Date <u>10-30-15</u>
Project Address, City, County <u>13778 Dod: Hie</u>		

PURGING AND SAMPLING INSTRUMENTATION AND METHOD

Water Level Meter (Model/ID)	Interface probe (Model/ID)
Water Quality Meter (Model/ID)	Decontamination Method
Purging Method(s) _____ Summa _____ Vacuum Truck _____ Submersible Pump _____ Other _____	
Sampling Method(s) _____ Summa Canister _____ Disposal Bailer _____ Other _____	

BOREHOLE AND WELL CASING VOLUME INFORMATION

Borehole Diameter (Circle) <u>2" 6" 8"</u>	Casing Diameter (Circle) <u>3/16"</u>
	Casing Multiplier (CM) (mL/foot) <u>5.42</u>

MONITORING MEASUREMENTS

Depth to Free Product (feet)	PURGING CALCULATORS
Depth to Water (DTW) (feet)	Casing Volume (CV)
Total Well Depth (WD) (feet) <u>sub 1/2 b</u>	_____ WD x CM _____ CV (mL) x 3.0 CV (mL) _____
Water Column (WC) (feet)	<u>target purge time = 5 mins</u>
Free Product Thickness (feet)	Free Product Purged (gal)

PURGING DATA

Purge Time (24 hr)	11:00	11:01	11:02	11:03	11:04	11:05			
mL Purged	<u>0</u>	<u>200</u>	<u>400</u>	<u>600</u>	<u>800</u>	<u>1,000</u>			
IPA in (PID)	<u>168</u>		<u>533</u>	<u>433</u>	<u>404</u>	<u>431</u>			
IPA out (PID)		<u>14.6</u>		<u>20.6</u>	<u>25.4</u>				
Sample Time (24 hr)	<u>11:06</u>	<u>11:07</u>	<u>11:08</u>	<u>11:09</u>	<u>11:10</u>	<u>11:12</u>			
IPA in (PID)	<u>108</u>	<u>270</u>		<u>475</u>	<u>467</u>	<u>435</u>			
Hg"	<u>-30</u>	<u>-25</u>	<u>-20</u>	<u>-15</u>	<u>-10</u>	<u>-5</u>			
Other									
Other						<u>Sample @ 11:12</u>			

SAMPLING DATA

Cannister #	<u>1937</u>					
Manifold #	<u>1036</u>					
Purge Start (Hg")	<u>12</u>					
Purge End (Hg")	<u>9</u>					

FIELD PERSONNEL

Field Technician Representative(s):	Subcontractor:
Signature	Date:

Soil Vapor Well Purging and Sampling Form

Well No.

SG-1A

Project Name <u>Fox Seasons</u>	Project No. <u>4601</u>	Date <u>10-30-15</u>
Project Address, City, County <u>13778 Doolittle Dr., San Leandro, CA</u>		

PURGING AND SAMPLING INSTRUMENTATION AND METHOD

Water Level Meter (Model/ID)	Interface probe (Model/ID)
Water Quality Meter (Model/ID)	Decontamination Method
Purging Method(s) <input checked="" type="checkbox"/> Summa	<input type="checkbox"/> Vacuum Truck <input type="checkbox"/> Submersible Pump <input type="checkbox"/> Other
Sampling Method(s) <input checked="" type="checkbox"/> Summa Canister	<input type="checkbox"/> Disposal Bailer <input type="checkbox"/> Other

BOREHOLE AND WELL CASING VOLUME INFORMATION

Borehole Diameter (Circle) <u>2"</u> 6" 8"	Casing Diameter (Circle) <u>3/16"</u>
	Casing Multiplier (CM) (mL/foot) <u>5.42</u>

MONITORING MEASUREMENTS

Depth to Free Product (feet) <u>1</u>
Depth to Water (DTW) (feet) <u>1</u>
Total Well Depth (WD) (feet) <u>5.0</u>
Water Column (WC) (feet) <u>1</u>
Free Product Thickness (feet) <u>1</u>

PURGING CALCULATORS

Casing Volume (CV)	WD x CM
	CV (mL) x 3.0 CV (mL)
<u>Target Purge Time = 6 min</u>	
Free Product Purged (gal)	

PURGING DATA

Purge Time (24 hr)	11:33	11:34	11:35	11:36	11:37	11:38	11:39		
mL Purged	<u>200</u>	<u>200</u>	<u>400</u>	<u>600</u>	<u>800</u>	<u>1,000</u>	<u>1,200</u>		
IPA in (PID)	<u>101</u>	<u>166</u>	<u>274</u>	<u>291</u>	<u>320</u>	<u>335</u>	<u>367</u>		
IPA out (PID)		<u>3.3</u>		<u>5.4</u>					
Sample Time (24 hr)	<u>11:40</u>	<u>11:41</u>	<u>11:42</u>	<u>11:44</u>	<u>11:45</u>	<u>11:46</u>			
IPA in (PID)	<u>29</u>	<u>415</u>	<u>530</u>	<u>574</u>	<u>601</u>	<u>631</u>			
Hg"	<u>-30</u>	<u>-25</u>	<u>-20</u>	<u>-15</u>	<u>-10</u>	<u>-5</u>			
Other									
Other					<u>Sample D 11:47</u>				

SAMPLING DATA

Cannister #	<u>2895</u>					
Manifold #	<u>1084</u>					
Purge Start (Hg")	<u>11</u>					
Purge End (Hg")	<u>7</u>					

FIELD PERSONNEL

Field Technician Representative(s):	Subcontractor:
Signature <u>[Signature]</u>	Date:

Soil Vapor Well Purging and Sampling Form

Well No.

SG-2A

Project Name <u>Four Seasons</u>	Project No.	Date <u>10-30-15</u>
Project Address, City, County <u>13778 Doddille Dr., San Leandro, CA</u>		

PURGING AND SAMPLING INSTRUMENTATION AND METHOD

Water Level Meter (Model/ID)	Interface probe (Model/ID)
Water Quality Meter (Model/ID)	Decontamination Method
Purging Method(s) <input checked="" type="checkbox"/> Summa <input type="checkbox"/> Vacuum Truck <input type="checkbox"/> Submersible Pump <input type="checkbox"/> Other	
Sampling Method(s) <input checked="" type="checkbox"/> Summa Canister <input type="checkbox"/> Disposal Bailer <input type="checkbox"/> Other	

BOREHOLE AND WELL CASING VOLUME INFORMATION

Borehole Diameter (Circle) <u>2"</u> 6" 8"	Casing Diameter (Circle) <u>3/16"</u>
	Casing Multiplier (CM) (mL/foot) 5.42

MONITORING MEASUREMENTS

Depth to Free Product (feet) <u>-</u>
Depth to Water (DTW) (feet) <u>-</u>
Total Well Depth (WD) (feet) <u>5.0</u>
Water Column (WC) (feet) <u>-</u>
Free Product Thickness (feet) <u>-</u>

PURGING CALCULATORS

Casing Volume (CV)	_____ WD x CM _____ CV (mL) x 3.0 CV (mL) _____
<u>Target Purge Time = 6 mins.</u>	
Free Product Purged (gal)	

PURGING DATA

Purge Time (24 hr)	10:14	10:15	10:16	10:17	10:18	10:19	10:20		
mL Purged	0	200	400	600	800	1,200	1,200		
IPA in (PID)	751	822	831	829	835	833	823		
IPA out (PID)		9.8			13.2				
Sample Time (24 hr)	10:20	10:22	10:23	10:25	10:26				
IPA in (PID)	772	791	794	799	800				
Hg"	-25	-22	-15	-10	-5				
Other									
Other									

Sample Time = 10:26

SAMPLING DATA

Cannister #	1940						
Manifold #	1086						
Purge Start (Hg")	18"						
Purge End (Hg")	13"						

FIELD PERSONNEL

Field Technician Representative(s):	Subcontractor:
Signature	Date:

INDOOR AIR BUILDING SURVEY
and SAMPLING FORM

Preparer's name: Forrest Cook Date: 8-24-15
Preparer's affiliation: WellTest, Inc. Phone #: (831) 470-7923
Site Name: Four Seasons Cleaners Case #: RD0003155

Part I - Occupants

Building Address: 13778 Dardittle Dr., San Leandro, CA
Property Contact: Emily Chas Owner / Renter other: (510) 483-3643
Contact's Phone: home () — work (510) 483-3643 cell (510) 717-3929
of Building occupants: Children under age 13 ∅ Children age 13-18 ∅ Adults 1-6

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial
Describe building: Multi-tenant commercial strip mall Year constructed: unknown
Sensitive population: day care / nursing home / hospital / school / other (specify): NA

Number of floors below grade: 0 (full basement / crawl space / slab on grade)

Number of floors at or above grade: 1

Depth of basement below grade surface: NA ft. Basement size: NA ft²

Basement floor construction: concrete / dirt / floating / stone / other (specify): NA

Foundation walls: poured concrete / cinder blocks / stone / other (specify): —

Basement sump present? Yes / No Sump pump? Yes / No Water in sump? Yes / No *No basement sump, but a sump is present on within slab on grade floor*

Type of heating system (circle all that apply):

- hot air circulation
- hot air radiation
- wood
- steam radiation
- heat pump
- hot water radiation
- kerosene heater
- electric baseboard
- other (specify): Boiler

Type of ventilation system (circle all that apply):

- central air conditioning NO
- mechanical fans NO
- conditioning units NO
- kitchen range hood fan
- other (specify): ceiling event fans
- bathroom ventilation fans
- individual air outside air intake
- ceiling vent fans

Type of fuel utilized (circle all that apply):

- Natural gas
- electric
- fuel oil
- wood
- coal
- solar
- kerosene

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? Yes / No NA
NO Basement

Is there a whole house fan? Yes / No

Septic system? Yes / Yes (but not used) / No

Irrigation/private well? Yes / Yes (but not used) / No

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes / No
 Type of barrier: unknown

Part III - Outside Contaminant Sources

Vicinity contaminated site (1000-ft. radius): No other open cases within 1,000'

Other stationary sources nearby (gas stations, emission stacks, etc.): "Creedy Charlies" Gas and propane
13760 Catalina St.

Heavy vehicular traffic nearby (or other mobile sources): Heavy Traffic on Fairway Dr. & Doolittle Dr.

Part IV - Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers	<u>SEE ATTACHED LIST OF POTENTIAL SOURCES TO BE REMOVED.</u>	
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes / No How often? _____
Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? Yes / No
If so, is a car usually parked in the garage? Yes / No
Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No NA

Do the occupants of the building have their clothes dry cleaned? Yes / No NA - site is a drycleaner
If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes / No
If yes, what types of solvents are used? NA
If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes / No NA - no yard
If so, when and which chemicals? _____

Has there ever been a fire in the building? Yes / No unknown If yes, when? _____

Has painting or staining been done in the building in the last 6 months? Yes / No
If yes, when _____ and where? _____

Part VI – Sampling Information To be completed upon sampling

Sample Technician: Forrest Cook Phone number: (831) 420 - 7923

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: BC Labs

Sample locations (floor, room):

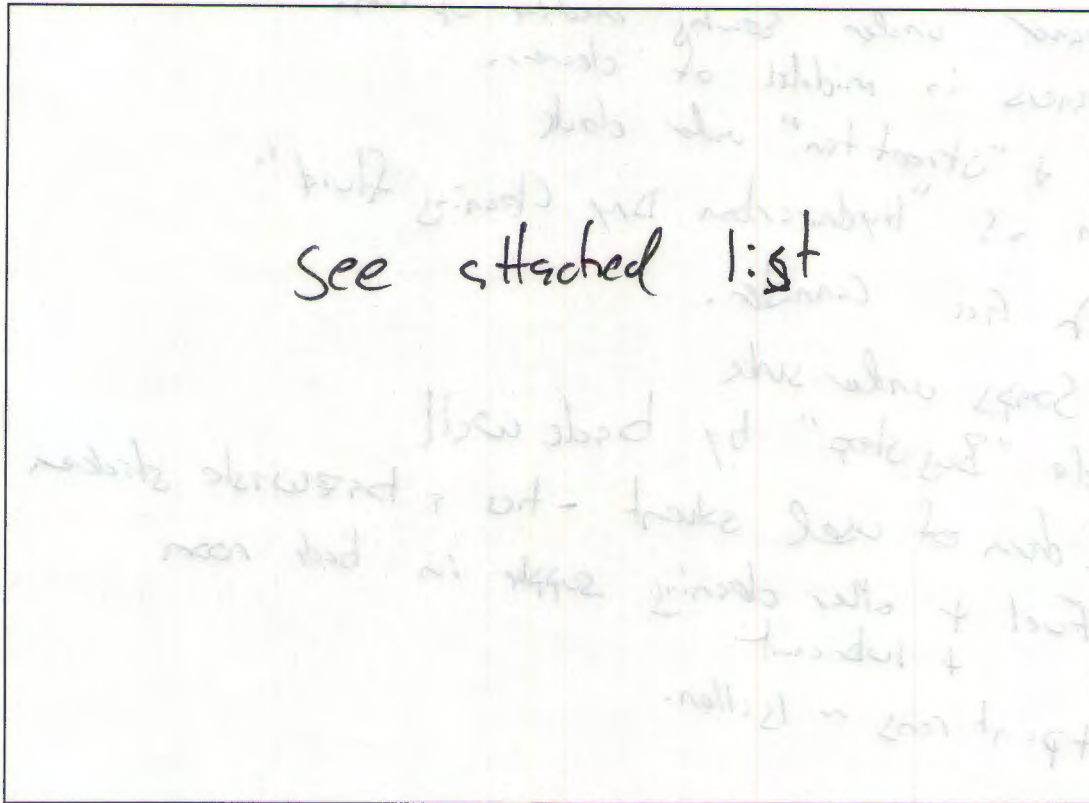
Field ID # IND-1 Main Room - middle Field ID # OUT-1 In front of Entrance

Field ID # IND-2 Back Room Field ID # _____ - _____

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: Overcast

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

(NJDEP 1997; NHDES 1998; VDOH 1993; MassDEP 2002; NYSDOH 2005; CalEPA 2005)

Potential VOC Sources

<u>Location</u>	<u>Item</u>
Front Counter	- WD40 + Windex
Front Sewing Machine	- Break Brake Cleaner
Middle of Unit	- Spot Cleaners
Under Clock	- Ammonia + "Street Ten"
Middle of Unit	- Blue 55-gal. Drum of "Hydrocarbon Dry Cleaning Fluid"
"	- "Forane 22 Gas Canister"
Under Sink	- General soaps
Back Wall	- Insecticide: "Bug Stop"
Back Room	- Black 1/2 drum of used solvent waste
"	- Butane Fuel + other generic cleaning supplies
"	- Generic Lubricant
"	- Grease + Paint cans - 1 gal x 6

ATTACHMENT E

Laboratory Data Sheets



Date of Report: 11/30/2015

Bill Dugan

Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Client Project: 4607 Four Seasons Cleaners
BCL Project: Air Samples
BCL Work Order: 1528073
Invoice ID: B219200

Enclosed are the results of analyses for samples received by the laboratory on 11/3/2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Misty Orton
Client Service Rep

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Laboratory / Client Sample Cross Reference

Laboratory ID	Client Sample Information		
1528073-01	COC Number:	---	Receive Date: 11/03/2015 23:00
	Project Number:	Four Seasons Cleaners	Sampling Date: 10/30/2015 11:47
	Sampling Location:	---	Sample Depth: ---
	Sampling Point:	SG-1A	Lab Matrix: Air
	Sampled By:	Bill Dugan/Forrest Cook of WTI	Sample Type: Vapor or Air
1528073-02	COC Number:	---	Receive Date: 11/03/2015 23:00
	Project Number:	Four Seasons Cleaners	Sampling Date: 10/30/2015 10:26
	Sampling Location:	---	Sample Depth: ---
	Sampling Point:	SG-2A	Lab Matrix: Air
	Sampled By:	Bill Dugan/Forrest Cook of WTI	Sample Type: Vapor or Air
1528073-03	COC Number:	---	Receive Date: 11/03/2015 23:00
	Project Number:	Four Seasons Cleaners	Sampling Date: 10/30/2015 12:30
	Sampling Location:	---	Sample Depth: ---
	Sampling Point:	VP-1	Lab Matrix: Air
	Sampled By:	Bill Dugan/Forrest Cook of WTI	Sample Type: Vapor or Air
1528073-04	COC Number:	---	Receive Date: 11/03/2015 23:00
	Project Number:	Four Seasons Cleaners	Sampling Date: 10/30/2015 13:28
	Sampling Location:	---	Sample Depth: ---
	Sampling Point:	VP-2	Lab Matrix: Air
	Sampled By:	Bill Dugan/Forrest Cook of WTI	Sample Type: Vapor or Air
1528073-05	COC Number:	---	Receive Date: 11/03/2015 23:00
	Project Number:	Four Seasons Cleaners	Sampling Date: 10/30/2015 13:00
	Sampling Location:	---	Sample Depth: ---
	Sampling Point:	VP-3	Lab Matrix: Air
	Sampled By:	Bill Dugan/Forrest Cook of WTI	Sample Type: Vapor or Air
1528073-06	COC Number:	---	Receive Date: 11/03/2015 23:00
	Project Number:	Four Seasons Cleaners	Sampling Date: 10/30/2015 11:12
	Sampling Location:	---	Sample Depth: ---
	Sampling Point:	VP-4	Lab Matrix: Air
	Sampled By:	Bill Dugan/Forrest Cook of WTI	Sample Type: Vapor or Air
1528073-07	COC Number:	---	Receive Date: 11/03/2015 23:00
	Project Number:	Four Seasons Cleaners	Sampling Date: 10/30/2015 01:45
	Sampling Location:	---	Sample Depth: ---
	Sampling Point:	OUT-1	Lab Matrix: Air
	Sampled By:	Bill Dugan/Forrest Cook of WTI	Sample Type: Vapor or Air

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Laboratory / Client Sample Cross Reference

Laboratory ID	Client Sample Information		
1528073-08	COC Number:	---	Receive Date: 11/03/2015 23:00
	Project Number:	Four Seasons Cleaners	Sampling Date: 10/30/2015 03:40
	Sampling Location:	---	Sample Depth: ---
	Sampling Point:	IND-1	Lab Matrix: Air
	Sampled By:	Bill Dugan/Forrest Cook of WTI	Sample Type: Vapor or Air
1528073-09	COC Number:	---	Receive Date: 11/03/2015 23:00
	Project Number:	Four Seasons Cleaners	Sampling Date: 10/30/2015 03:30
	Sampling Location:	---	Sample Depth: ---
	Sampling Point:	IND-2	Lab Matrix: Air
	Sampled By:	Bill Dugan/Forrest Cook of WTI	Sample Type: Vapor or Air

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-01		Client Sample Name: Four Seasons Cleaners, SG-1A, 10/30/2015 11:47:00AM, Bill Dugan/Forrest Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	1200	ug/m3 Air	370	48	EPA-TO-15	ND	A01	1
Acrylonitrile	ND	ug/m3 Air	340	54	EPA-TO-15	ND	A01	1
Allyl chloride	ND	ug/m3 Air	240	45	EPA-TO-15	ND	A01	1
Benzene	590	ug/m3 Air	250	64	EPA-TO-15	ND	A01	1
Benzyl chloride	ND	ug/m3 Air	800	40	EPA-TO-15	ND	A01	1
Bromodichloromethane	ND	ug/m3 Air	520	120	EPA-TO-15	ND	A01	1
Bromoform	ND	ug/m3 Air	800	98	EPA-TO-15	ND	A01	1
Bromomethane	ND	ug/m3 Air	300	96	EPA-TO-15	ND	A01	1
1,3-Butadiene	ND	ug/m3 Air	170	62	EPA-TO-15	ND	A01	1
Carbon disulfide	ND	ug/m3 Air	240	58	EPA-TO-15	ND	A01	1
Carbon tetrachloride	ND	ug/m3 Air	490	170	EPA-TO-15	ND	A01	1
Chlorobenzene	ND	ug/m3 Air	360	130	EPA-TO-15	ND	A01	1
Chloroethane	ND	ug/m3 Air	200	98	EPA-TO-15	ND	A01	1
Chloroform	3700	ug/m3 Air	380	110	EPA-TO-15	ND	A01	1
Chloromethane	ND	ug/m3 Air	160	61	EPA-TO-15	ND	A01	1
Cyclohexane	ND	ug/m3 Air	270	43	EPA-TO-15	ND	A01	1
Dibromochloromethane	ND	ug/m3 Air	660	210	EPA-TO-15	ND	A01	1
1,2-Dibromoethane	ND	ug/m3 Air	600	140	EPA-TO-15	ND	A01	1
1,2-Dichlorobenzene	ND	ug/m3 Air	470	47	EPA-TO-15	ND	A01	1
1,3-Dichlorobenzene	ND	ug/m3 Air	470	53	EPA-TO-15	ND	A01	1
1,4-Dichlorobenzene	ND	ug/m3 Air	470	47	EPA-TO-15	ND	A01	1
Dichlorodifluoromethane	ND	ug/m3 Air	380	170	EPA-TO-15	ND	A01	1
1,1-Dichloroethane	ND	ug/m3 Air	310	88	EPA-TO-15	ND	A01	1
1,2-Dichloroethane	ND	ug/m3 Air	310	82	EPA-TO-15	ND	A01	1
1,1-Dichloroethene	2200	ug/m3 Air	310	98	EPA-TO-15	ND	A01	1
cis-1,2-Dichloroethene	170000	ug/m3 Air	31000	6000	EPA-TO-15	ND	A01	2
trans-1,2-Dichloroethene	ND	ug/m3 Air	310	80	EPA-TO-15	ND	A01	1
1,2-Dichloropropane	ND	ug/m3 Air	360	110	EPA-TO-15	ND	A01	1
cis-1,3-Dichloropropene	ND	ug/m3 Air	350	40	EPA-TO-15	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/m3 Air	350	51	EPA-TO-15	ND	A01	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3 Air	540	150	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-01		Client Sample Name: Four Seasons Cleaners, SG-1A, 10/30/2015 11:47:00AM, Bill Dugan/Forrest Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,4-Dioxane	ND	ug/m3 Air	280	67	EPA-TO-15	ND	A01	1
Ethanol	ND	ug/m3 Air	290	93	EPA-TO-15	ND	A01	1
Ethyl acetate	ND	ug/m3 Air	280	73	EPA-TO-15	ND	A01	1
Ethylbenzene	ND	ug/m3 Air	340	43	EPA-TO-15	ND	A01	1
1-Ethyl-4-methylbenzene	ND	ug/m3 Air	380	72	EPA-TO-15	ND	A01	1
n-Heptane	ND	ug/m3 Air	320	76	EPA-TO-15	ND	A01	1
Hexachlorobutadiene	ND	ug/m3 Air	830	83	EPA-TO-15	ND	A01	1
Hexane	ND	ug/m3 Air	550	71	EPA-TO-15	ND	A01	1
2-Hexanone	ND	ug/m3 Air	320	32	EPA-TO-15	ND	A01	1
Isopropyl alcohol	3900	ug/m3 Air	190	72	EPA-TO-15	ND	A01	1
Methylene chloride	ND	ug/m3 Air	270	110	EPA-TO-15	ND	A01	1
Methyl ethyl ketone	ND	ug/m3 Air	230	41	EPA-TO-15	ND	A01	1
Methyl isobutyl ketone	ND	ug/m3 Air	320	83	EPA-TO-15	ND	A01	1
Methyl t-butyl ether	ND	ug/m3 Air	280	39	EPA-TO-15	ND	A01	1
Propylene	ND	ug/m3 Air	130	43	EPA-TO-15	ND	A01	1
Styrene	ND	ug/m3 Air	330	33	EPA-TO-15	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/m3 Air	530	89	EPA-TO-15	ND	A01	1
Tetrachloroethene	20000000	ug/m3 Air	53000	15000	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3 Air	230	55	EPA-TO-15	ND	A01	1
Toluene	1800	ug/m3 Air	290	49	EPA-TO-15	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/m3 Air	1200	1100	EPA-TO-15	ND	A01	1
1,1,1-Trichloroethane	ND	ug/m3 Air	420	130	EPA-TO-15	ND	A01	1
1,1,2-Trichloroethane	ND	ug/m3 Air	420	140	EPA-TO-15	ND	A01	1
Trichloroethene	810000	ug/m3 Air	42000	11000	EPA-TO-15	ND	A01	2
Trichlorofluoromethane	ND	ug/m3 Air	440	240	EPA-TO-15	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3 Air	590	150	EPA-TO-15	ND	A01	1
1,2,4-Trimethylbenzene	ND	ug/m3 Air	380	38	EPA-TO-15	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/m3 Air	380	51	EPA-TO-15	ND	A01	1
Vinyl acetate	ND	ug/m3 Air	270	76	EPA-TO-15	ND	A01	1
Vinyl chloride	ND	ug/m3 Air	200	75	EPA-TO-15	ND	A01	1
p- & m-Xylenes	ND	ug/m3 Air	340	94	EPA-TO-15	ND	A01	1
o-Xylene	ND	ug/m3 Air	340	38	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-01	Client Sample Name: Four Seasons Cleaners, SG-1A, 10/30/2015 11:47:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Xylenes	ND	ug/m3 Air	670	130	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	89.1	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	93.6	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-TO-15	11/14/15	11/14/15 21:19	MJB	MS-A1	155	BYK1384
2	EPA-TO-15	11/14/15	11/16/15 14:17	MJB	MS-A1	15500	BYK1384

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-02	Client Sample Name: Four Seasons Cleaners, SG-2A, 10/30/2015 10:26:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	820	ug/m3 Air	380	50	EPA-TO-15	ND	A01	1
Acrylonitrile	ND	ug/m3 Air	350	56	EPA-TO-15	ND	A01	1
Allyl chloride	ND	ug/m3 Air	250	46	EPA-TO-15	ND	A01	1
Benzene	ND	ug/m3 Air	260	67	EPA-TO-15	ND	A01	1
Benzyl chloride	ND	ug/m3 Air	830	42	EPA-TO-15	ND	A01	1
Bromodichloromethane	ND	ug/m3 Air	540	130	EPA-TO-15	ND	A01	1
Bromoform	ND	ug/m3 Air	830	100	EPA-TO-15	ND	A01	1
Bromomethane	ND	ug/m3 Air	310	100	EPA-TO-15	ND	A01	1
1,3-Butadiene	ND	ug/m3 Air	180	64	EPA-TO-15	ND	A01	1
Carbon disulfide	ND	ug/m3 Air	250	60	EPA-TO-15	ND	A01	1
Carbon tetrachloride	ND	ug/m3 Air	510	170	EPA-TO-15	ND	A01	1
Chlorobenzene	ND	ug/m3 Air	370	130	EPA-TO-15	ND	A01	1
Chloroethane	ND	ug/m3 Air	210	100	EPA-TO-15	ND	A01	1
Chloroform	ND	ug/m3 Air	390	120	EPA-TO-15	ND	A01	1
Chloromethane	ND	ug/m3 Air	170	63	EPA-TO-15	ND	A01	1
Cyclohexane	ND	ug/m3 Air	280	44	EPA-TO-15	ND	A01	1
Dibromochloromethane	ND	ug/m3 Air	690	220	EPA-TO-15	ND	A01	1
1,2-Dibromoethane	ND	ug/m3 Air	620	150	EPA-TO-15	ND	A01	1
1,2-Dichlorobenzene	ND	ug/m3 Air	480	48	EPA-TO-15	ND	A01	1
1,3-Dichlorobenzene	ND	ug/m3 Air	480	55	EPA-TO-15	ND	A01	1
1,4-Dichlorobenzene	ND	ug/m3 Air	480	48	EPA-TO-15	ND	A01	1
Dichlorodifluoromethane	ND	ug/m3 Air	400	180	EPA-TO-15	ND	A01	1
1,1-Dichloroethane	ND	ug/m3 Air	330	91	EPA-TO-15	ND	A01	1
1,2-Dichloroethane	ND	ug/m3 Air	330	85	EPA-TO-15	ND	A01	1
1,1-Dichloroethene	210	ug/m3 Air	320	100	EPA-TO-15	ND	J,A01	1
cis-1,2-Dichloroethene	50000	ug/m3 Air	32000	6200	EPA-TO-15	ND	A01	2
trans-1,2-Dichloroethene	ND	ug/m3 Air	320	83	EPA-TO-15	ND	A01	1
1,2-Dichloropropane	ND	ug/m3 Air	370	110	EPA-TO-15	ND	A01	1
cis-1,3-Dichloropropene	ND	ug/m3 Air	370	42	EPA-TO-15	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/m3 Air	370	53	EPA-TO-15	ND	A01	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3 Air	560	160	EPA-TO-15	ND	A01	1
1,4-Dioxane	ND	ug/m3 Air	290	70	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-02	Client Sample Name: Four Seasons Cleaners, SG-2A, 10/30/2015 10:26:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Ethanol	ND	ug/m3 Air	300	97	EPA-TO-15	ND	A01	1
Ethyl acetate	ND	ug/m3 Air	290	75	EPA-TO-15	ND	A01	1
Ethylbenzene	ND	ug/m3 Air	350	45	EPA-TO-15	ND	A01	1
1-Ethyl-4-methylbenzene	ND	ug/m3 Air	400	75	EPA-TO-15	ND	A01	1
n-Heptane	ND	ug/m3 Air	330	79	EPA-TO-15	ND	A01	1
Hexachlorobutadiene	ND	ug/m3 Air	860	86	EPA-TO-15	ND	A01	1
Hexane	ND	ug/m3 Air	570	74	EPA-TO-15	ND	A01	1
2-Hexanone	ND	ug/m3 Air	330	33	EPA-TO-15	ND	A01	1
Isopropyl alcohol	ND	ug/m3 Air	200	75	EPA-TO-15	ND	A01	1
Methylene chloride	ND	ug/m3 Air	280	110	EPA-TO-15	ND	A01	1
Methyl ethyl ketone	ND	ug/m3 Air	240	42	EPA-TO-15	ND	A01	1
Methyl isobutyl ketone	ND	ug/m3 Air	330	86	EPA-TO-15	ND	A01	1
Methyl t-butyl ether	ND	ug/m3 Air	290	41	EPA-TO-15	ND	A01	1
Propylene	ND	ug/m3 Air	140	44	EPA-TO-15	ND	A01	1
Styrene	ND	ug/m3 Air	340	34	EPA-TO-15	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/m3 Air	550	93	EPA-TO-15	ND	A01	1
Tetrachloroethene	1300000	ug/m3 Air	55000	15000	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3 Air	240	57	EPA-TO-15	ND	A01	1
Toluene	ND	ug/m3 Air	300	51	EPA-TO-15	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/m3 Air	1200	1100	EPA-TO-15	ND	A01	1
1,1,1-Trichloroethane	ND	ug/m3 Air	440	130	EPA-TO-15	ND	A01	1
1,1,2-Trichloroethane	ND	ug/m3 Air	440	140	EPA-TO-15	ND	A01	1
Trichloroethene	180000	ug/m3 Air	43000	11000	EPA-TO-15	ND	A01	2
Trichlorofluoromethane	ND	ug/m3 Air	450	240	EPA-TO-15	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3 Air	620	160	EPA-TO-15	ND	A01	1
1,2,4-Trimethylbenzene	ND	ug/m3 Air	400	40	EPA-TO-15	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/m3 Air	400	53	EPA-TO-15	ND	A01	1
Vinyl acetate	ND	ug/m3 Air	280	79	EPA-TO-15	ND	A01	1
Vinyl chloride	ND	ug/m3 Air	210	78	EPA-TO-15	ND	A01	1
p- & m-Xylenes	ND	ug/m3 Air	350	98	EPA-TO-15	ND	A01	1
o-Xylene	ND	ug/m3 Air	350	40	EPA-TO-15	ND	A01	1
Total Xylenes	ND	ug/m3 Air	700	140	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-02	Client Sample Name: Four Seasons Cleaners, SG-2A, 10/30/2015 10:26:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	112	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	90.5	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-TO-15	11/14/15	11/14/15	21:56	MJB	MS-A1	161	BYK1384
2	EPA-TO-15	11/14/15	11/16/15	14:49	MJB	MS-A1	16100	BYK1384

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-03		Client Sample Name: Four Seasons Cleaners, VP-1, 10/30/2015 12:30:00PM, Bill Dugan/Forrest Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	1300	ug/m3 Air	390	51	EPA-TO-15	ND	A01	1
Acrylonitrile	ND	ug/m3 Air	360	57	EPA-TO-15	ND	A01	1
Allyl chloride	ND	ug/m3 Air	260	48	EPA-TO-15	ND	A01	1
Benzene	ND	ug/m3 Air	260	69	EPA-TO-15	ND	A01	1
Benzyl chloride	ND	ug/m3 Air	850	43	EPA-TO-15	ND	A01	1
Bromodichloromethane	ND	ug/m3 Air	550	130	EPA-TO-15	ND	A01	1
Bromoform	ND	ug/m3 Air	850	100	EPA-TO-15	ND	A01	1
Bromomethane	ND	ug/m3 Air	320	100	EPA-TO-15	ND	A01	1
1,3-Butadiene	ND	ug/m3 Air	180	66	EPA-TO-15	ND	A01	1
Carbon disulfide	ND	ug/m3 Air	260	62	EPA-TO-15	ND	A01	1
Carbon tetrachloride	ND	ug/m3 Air	520	180	EPA-TO-15	ND	A01	1
Chlorobenzene	ND	ug/m3 Air	380	140	EPA-TO-15	ND	A01	1
Chloroethane	ND	ug/m3 Air	220	100	EPA-TO-15	ND	A01	1
Chloroform	350	ug/m3 Air	400	120	EPA-TO-15	ND	J,A01	1
Chloromethane	ND	ug/m3 Air	170	65	EPA-TO-15	ND	A01	1
Cyclohexane	ND	ug/m3 Air	280	45	EPA-TO-15	ND	A01	1
Dibromochloromethane	ND	ug/m3 Air	700	220	EPA-TO-15	ND	A01	1
1,2-Dibromoethane	ND	ug/m3 Air	630	150	EPA-TO-15	ND	A01	1
1,2-Dichlorobenzene	ND	ug/m3 Air	500	50	EPA-TO-15	ND	A01	1
1,3-Dichlorobenzene	ND	ug/m3 Air	500	57	EPA-TO-15	ND	A01	1
1,4-Dichlorobenzene	ND	ug/m3 Air	500	50	EPA-TO-15	ND	A01	1
Dichlorodifluoromethane	ND	ug/m3 Air	410	180	EPA-TO-15	ND	A01	1
1,1-Dichloroethane	ND	ug/m3 Air	330	93	EPA-TO-15	ND	A01	1
1,2-Dichloroethane	ND	ug/m3 Air	330	87	EPA-TO-15	ND	A01	1
1,1-Dichloroethene	ND	ug/m3 Air	330	100	EPA-TO-15	ND	A01	1
cis-1,2-Dichloroethene	18000	ug/m3 Air	330	63	EPA-TO-15	ND	A01	1
trans-1,2-Dichloroethene	ND	ug/m3 Air	330	85	EPA-TO-15	ND	A01	1
1,2-Dichloropropane	ND	ug/m3 Air	380	110	EPA-TO-15	ND	A01	1
cis-1,3-Dichloropropene	ND	ug/m3 Air	370	43	EPA-TO-15	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/m3 Air	370	54	EPA-TO-15	ND	A01	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3 Air	580	160	EPA-TO-15	ND	A01	1
1,4-Dioxane	ND	ug/m3 Air	300	71	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-03	Client Sample Name: Four Seasons Cleaners, VP-1, 10/30/2015 12:30:00PM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Ethanol	ND	ug/m3 Air	310	99	EPA-TO-15	ND	A01	1
Ethyl acetate	ND	ug/m3 Air	300	77	EPA-TO-15	ND	A01	1
Ethylbenzene	ND	ug/m3 Air	360	46	EPA-TO-15	ND	A01	1
1-Ethyl-4-methylbenzene	ND	ug/m3 Air	410	77	EPA-TO-15	ND	A01	1
n-Heptane	ND	ug/m3 Air	340	81	EPA-TO-15	ND	A01	1
Hexachlorobutadiene	ND	ug/m3 Air	880	88	EPA-TO-15	ND	A01	1
Hexane	ND	ug/m3 Air	580	76	EPA-TO-15	ND	A01	1
2-Hexanone	ND	ug/m3 Air	340	34	EPA-TO-15	ND	A01	1
Isopropyl alcohol	ND	ug/m3 Air	200	77	EPA-TO-15	ND	A01	1
Methylene chloride	ND	ug/m3 Air	290	110	EPA-TO-15	ND	A01	1
Methyl ethyl ketone	ND	ug/m3 Air	240	43	EPA-TO-15	ND	A01	1
Methyl isobutyl ketone	ND	ug/m3 Air	340	88	EPA-TO-15	ND	A01	1
Methyl t-butyl ether	ND	ug/m3 Air	300	42	EPA-TO-15	ND	A01	1
Propylene	ND	ug/m3 Air	140	45	EPA-TO-15	ND	A01	1
Styrene	ND	ug/m3 Air	350	35	EPA-TO-15	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/m3 Air	570	95	EPA-TO-15	ND	A01	1
Tetrachloroethene	2900000	ug/m3 Air	56000	16000	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3 Air	240	58	EPA-TO-15	ND	A01	1
Toluene	ND	ug/m3 Air	310	52	EPA-TO-15	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/m3 Air	1200	1200	EPA-TO-15	ND	A01	1
1,1,1-Trichloroethane	ND	ug/m3 Air	450	140	EPA-TO-15	ND	A01	1
1,1,2-Trichloroethane	ND	ug/m3 Air	450	140	EPA-TO-15	ND	A01	1
Trichloroethene	140000	ug/m3 Air	44000	12000	EPA-TO-15	ND	A01	2
Trichlorofluoromethane	ND	ug/m3 Air	460	250	EPA-TO-15	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3 Air	630	160	EPA-TO-15	ND	A01	1
1,2,4-Trimethylbenzene	ND	ug/m3 Air	410	41	EPA-TO-15	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/m3 Air	410	54	EPA-TO-15	ND	A01	1
Vinyl acetate	ND	ug/m3 Air	290	81	EPA-TO-15	ND	A01	1
Vinyl chloride	ND	ug/m3 Air	210	80	EPA-TO-15	ND	A01	1
p- & m-Xylenes	ND	ug/m3 Air	360	100	EPA-TO-15	ND	A01	1
o-Xylene	ND	ug/m3 Air	360	41	EPA-TO-15	ND	A01	1
Total Xylenes	ND	ug/m3 Air	720	140	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-03	Client Sample Name: Four Seasons Cleaners, VP-1, 10/30/2015 12:30:00PM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	111	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	90.6	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	11/14/15	11/14/15 22:33	MJB	MS-A1	165	BYK1384
2	EPA-TO-15	11/14/15	11/16/15 13:10	MJB	MS-A1	16500	BYK1384

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-04	Client Sample Name: Four Seasons Cleaners, VP-2, 10/30/2015 1:28:00PM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	1100	ug/m3 Air	360	47	EPA-TO-15	ND	A01	1
Acrylonitrile	ND	ug/m3 Air	330	53	EPA-TO-15	ND	A01	1
Allyl chloride	ND	ug/m3 Air	240	44	EPA-TO-15	ND	A01	1
Benzene	ND	ug/m3 Air	240	63	EPA-TO-15	ND	A01	1
Benzyl chloride	ND	ug/m3 Air	790	39	EPA-TO-15	ND	A01	1
Bromodichloromethane	ND	ug/m3 Air	510	120	EPA-TO-15	ND	A01	1
Bromoform	ND	ug/m3 Air	790	96	EPA-TO-15	ND	A01	1
Bromomethane	ND	ug/m3 Air	300	94	EPA-TO-15	ND	A01	1
1,3-Butadiene	ND	ug/m3 Air	170	61	EPA-TO-15	ND	A01	1
Carbon disulfide	ND	ug/m3 Air	240	57	EPA-TO-15	ND	A01	1
Carbon tetrachloride	ND	ug/m3 Air	480	160	EPA-TO-15	ND	A01	1
Chlorobenzene	ND	ug/m3 Air	350	130	EPA-TO-15	ND	A01	1
Chloroethane	ND	ug/m3 Air	200	96	EPA-TO-15	ND	A01	1
Chloroform	ND	ug/m3 Air	370	110	EPA-TO-15	ND	A01	1
Chloromethane	ND	ug/m3 Air	160	60	EPA-TO-15	ND	A01	1
Cyclohexane	ND	ug/m3 Air	260	42	EPA-TO-15	ND	A01	1
Dibromochloromethane	ND	ug/m3 Air	650	210	EPA-TO-15	ND	A01	1
1,2-Dibromoethane	ND	ug/m3 Air	580	140	EPA-TO-15	ND	A01	1
1,2-Dichlorobenzene	ND	ug/m3 Air	460	46	EPA-TO-15	ND	A01	1
1,3-Dichlorobenzene	ND	ug/m3 Air	460	52	EPA-TO-15	ND	A01	1
1,4-Dichlorobenzene	ND	ug/m3 Air	460	46	EPA-TO-15	ND	A01	1
Dichlorodifluoromethane	ND	ug/m3 Air	380	170	EPA-TO-15	ND	A01	1
1,1-Dichloroethane	ND	ug/m3 Air	310	86	EPA-TO-15	ND	A01	1
1,2-Dichloroethane	ND	ug/m3 Air	310	80	EPA-TO-15	ND	A01	1
1,1-Dichloroethene	ND	ug/m3 Air	300	96	EPA-TO-15	ND	A01	1
cis-1,2-Dichloroethene	220	ug/m3 Air	300	58	EPA-TO-15	ND	J,A01	1
trans-1,2-Dichloroethene	ND	ug/m3 Air	300	78	EPA-TO-15	ND	A01	1
1,2-Dichloropropane	ND	ug/m3 Air	350	110	EPA-TO-15	ND	A01	1
cis-1,3-Dichloropropene	ND	ug/m3 Air	340	39	EPA-TO-15	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/m3 Air	340	50	EPA-TO-15	ND	A01	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3 Air	530	150	EPA-TO-15	ND	A01	1
1,4-Dioxane	ND	ug/m3 Air	270	66	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-04		Client Sample Name: Four Seasons Cleaners, VP-2, 10/30/2015 1:28:00PM, Bill Dugan/Forrest Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Ethanol	ND	ug/m3 Air	290	92	EPA-TO-15	ND	A01	1
Ethyl acetate	ND	ug/m3 Air	270	71	EPA-TO-15	ND	A01	1
Ethylbenzene	ND	ug/m3 Air	330	42	EPA-TO-15	ND	A01	1
1-Ethyl-4-methylbenzene	ND	ug/m3 Air	370	71	EPA-TO-15	ND	A01	1
n-Heptane	ND	ug/m3 Air	310	75	EPA-TO-15	ND	A01	1
Hexachlorobutadiene	ND	ug/m3 Air	810	81	EPA-TO-15	ND	A01	1
Hexane	ND	ug/m3 Air	540	70	EPA-TO-15	ND	A01	1
2-Hexanone	ND	ug/m3 Air	310	31	EPA-TO-15	ND	A01	1
Isopropyl alcohol	370000	ug/m3 Air	3700	1400	EPA-TO-15	ND	A01	2
Methylene chloride	ND	ug/m3 Air	260	110	EPA-TO-15	ND	A01	1
Methyl ethyl ketone	ND	ug/m3 Air	220	40	EPA-TO-15	ND	A01	1
Methyl isobutyl ketone	ND	ug/m3 Air	310	81	EPA-TO-15	ND	A01	1
Methyl t-butyl ether	ND	ug/m3 Air	270	38	EPA-TO-15	ND	A01	1
Propylene	ND	ug/m3 Air	130	42	EPA-TO-15	ND	A01	1
Styrene	ND	ug/m3 Air	320	32	EPA-TO-15	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/m3 Air	520	88	EPA-TO-15	ND	A01	1
Tetrachloroethene	180000	ug/m3 Air	10000	2900	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3 Air	220	54	EPA-TO-15	ND	A01	1
Toluene	ND	ug/m3 Air	290	48	EPA-TO-15	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/m3 Air	1100	1100	EPA-TO-15	ND	A01	1
1,1,1-Trichloroethane	ND	ug/m3 Air	410	120	EPA-TO-15	ND	A01	1
1,1,2-Trichloroethane	ND	ug/m3 Air	410	130	EPA-TO-15	ND	A01	1
Trichloroethene	12000	ug/m3 Air	8200	2100	EPA-TO-15	ND	A01	2
Trichlorofluoromethane	ND	ug/m3 Air	430	230	EPA-TO-15	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3 Air	580	150	EPA-TO-15	ND	A01	1
1,2,4-Trimethylbenzene	ND	ug/m3 Air	370	37	EPA-TO-15	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/m3 Air	370	50	EPA-TO-15	ND	A01	1
Vinyl acetate	ND	ug/m3 Air	270	75	EPA-TO-15	ND	A01	1
Vinyl chloride	ND	ug/m3 Air	190	74	EPA-TO-15	ND	A01	1
p- & m-Xylenes	ND	ug/m3 Air	330	92	EPA-TO-15	ND	A01	1
o-Xylene	ND	ug/m3 Air	330	38	EPA-TO-15	ND	A01	1
Total Xylenes	ND	ug/m3 Air	660	130	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-04	Client Sample Name: Four Seasons Cleaners, VP-2, 10/30/2015 1:28:00PM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	110	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	108	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-TO-15	11/14/15	11/14/15	23:10	MJB	MS-A1	152	BYK1384
2	EPA-TO-15	11/14/15	11/15/15	23:11	MJB	MS-A1	3040	BYK1384

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-05	Client Sample Name: Four Seasons Cleaners, VP-3, 10/30/2015 1:00:00PM, Bill Dugan/Forrest Cook
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	1700	ug/m3 Air	360	47	EPA-TO-15	ND	A01	1
Acrylonitrile	ND	ug/m3 Air	330	53	EPA-TO-15	ND	A01	1
Allyl chloride	ND	ug/m3 Air	240	44	EPA-TO-15	ND	A01	1
Benzene	ND	ug/m3 Air	240	63	EPA-TO-15	ND	A01	1
Benzyl chloride	ND	ug/m3 Air	790	39	EPA-TO-15	ND	A01	1
Bromodichloromethane	ND	ug/m3 Air	510	120	EPA-TO-15	ND	A01	1
Bromoform	ND	ug/m3 Air	790	96	EPA-TO-15	ND	A01	1
Bromomethane	ND	ug/m3 Air	300	94	EPA-TO-15	ND	A01	1
1,3-Butadiene	ND	ug/m3 Air	170	61	EPA-TO-15	ND	A01	1
Carbon disulfide	ND	ug/m3 Air	240	57	EPA-TO-15	ND	A01	1
Carbon tetrachloride	ND	ug/m3 Air	480	160	EPA-TO-15	ND	A01	1
Chlorobenzene	ND	ug/m3 Air	350	130	EPA-TO-15	ND	A01	1
Chloroethane	ND	ug/m3 Air	200	96	EPA-TO-15	ND	A01	1
Chloroform	660	ug/m3 Air	370	110	EPA-TO-15	ND	A01	1
Chloromethane	ND	ug/m3 Air	160	60	EPA-TO-15	ND	A01	1
Cyclohexane	ND	ug/m3 Air	260	42	EPA-TO-15	ND	A01	1
Dibromochloromethane	ND	ug/m3 Air	650	210	EPA-TO-15	ND	A01	1
1,2-Dibromoethane	ND	ug/m3 Air	580	140	EPA-TO-15	ND	A01	1
1,2-Dichlorobenzene	ND	ug/m3 Air	460	46	EPA-TO-15	ND	A01	1
1,3-Dichlorobenzene	ND	ug/m3 Air	460	52	EPA-TO-15	ND	A01	1
1,4-Dichlorobenzene	ND	ug/m3 Air	460	46	EPA-TO-15	ND	A01	1
Dichlorodifluoromethane	ND	ug/m3 Air	380	170	EPA-TO-15	ND	A01	1
1,1-Dichloroethane	ND	ug/m3 Air	310	86	EPA-TO-15	ND	A01	1
1,2-Dichloroethane	ND	ug/m3 Air	310	80	EPA-TO-15	ND	A01	1
1,1-Dichloroethene	ND	ug/m3 Air	300	96	EPA-TO-15	ND	A01	1
cis-1,2-Dichloroethene	ND	ug/m3 Air	300	58	EPA-TO-15	ND	A01	1
trans-1,2-Dichloroethene	ND	ug/m3 Air	300	78	EPA-TO-15	ND	A01	1
1,2-Dichloropropane	ND	ug/m3 Air	350	110	EPA-TO-15	ND	A01	1
cis-1,3-Dichloropropene	ND	ug/m3 Air	340	39	EPA-TO-15	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/m3 Air	340	50	EPA-TO-15	ND	A01	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3 Air	530	150	EPA-TO-15	ND	A01	1
1,4-Dioxane	ND	ug/m3 Air	270	66	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-05	Client Sample Name: Four Seasons Cleaners, VP-3, 10/30/2015 1:00:00PM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Ethanol	ND	ug/m3 Air	290	92	EPA-TO-15	ND	A01	1
Ethyl acetate	ND	ug/m3 Air	270	71	EPA-TO-15	ND	A01	1
Ethylbenzene	ND	ug/m3 Air	330	42	EPA-TO-15	ND	A01	1
1-Ethyl-4-methylbenzene	ND	ug/m3 Air	370	71	EPA-TO-15	ND	A01	1
n-Heptane	ND	ug/m3 Air	310	75	EPA-TO-15	ND	A01	1
Hexachlorobutadiene	ND	ug/m3 Air	810	81	EPA-TO-15	ND	A01	1
Hexane	ND	ug/m3 Air	540	70	EPA-TO-15	ND	A01	1
2-Hexanone	ND	ug/m3 Air	310	31	EPA-TO-15	ND	A01	1
Isopropyl alcohol	ND	ug/m3 Air	190	71	EPA-TO-15	ND	A01	1
Methylene chloride	ND	ug/m3 Air	260	110	EPA-TO-15	ND	A01	1
Methyl ethyl ketone	ND	ug/m3 Air	220	40	EPA-TO-15	ND	A01	1
Methyl isobutyl ketone	ND	ug/m3 Air	310	81	EPA-TO-15	ND	A01	1
Methyl t-butyl ether	ND	ug/m3 Air	270	38	EPA-TO-15	ND	A01	1
Propylene	ND	ug/m3 Air	130	42	EPA-TO-15	ND	A01	1
Styrene	ND	ug/m3 Air	320	32	EPA-TO-15	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/m3 Air	520	88	EPA-TO-15	ND	A01	1
Tetrachloroethene	470000	ug/m3 Air	10000	2900	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3 Air	220	54	EPA-TO-15	ND	A01	1
Toluene	ND	ug/m3 Air	290	48	EPA-TO-15	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/m3 Air	1100	1100	EPA-TO-15	ND	A01	1
1,1,1-Trichloroethane	ND	ug/m3 Air	410	120	EPA-TO-15	ND	A01	1
1,1,2-Trichloroethane	ND	ug/m3 Air	410	130	EPA-TO-15	ND	A01	1
Trichloroethene	5400	ug/m3 Air	410	110	EPA-TO-15	ND	A01	1
Trichlorofluoromethane	ND	ug/m3 Air	430	230	EPA-TO-15	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3 Air	580	150	EPA-TO-15	ND	A01	1
1,2,4-Trimethylbenzene	ND	ug/m3 Air	370	37	EPA-TO-15	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/m3 Air	370	50	EPA-TO-15	ND	A01	1
Vinyl acetate	ND	ug/m3 Air	270	75	EPA-TO-15	ND	A01	1
Vinyl chloride	ND	ug/m3 Air	190	74	EPA-TO-15	ND	A01	1
p- & m-Xylenes	ND	ug/m3 Air	330	92	EPA-TO-15	ND	A01	1
o-Xylene	ND	ug/m3 Air	330	38	EPA-TO-15	ND	A01	1
Total Xylenes	ND	ug/m3 Air	660	130	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-05	Client Sample Name: Four Seasons Cleaners, VP-3, 10/30/2015 1:00:00PM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	104	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	110	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-TO-15	11/14/15	11/14/15	23:47	MJB	MS-A1	152	BYK1384
2	EPA-TO-15	11/14/15	11/15/15	23:42	MJB	MS-A1	3040	BYK1384

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-06	Client Sample Name: Four Seasons Cleaners, VP-4, 10/30/2015 11:12:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	1600	ug/m3 Air	320	42	EPA-TO-15	ND	A01	1
Acrylonitrile	ND	ug/m3 Air	300	47	EPA-TO-15	ND	A01	1
Allyl chloride	ND	ug/m3 Air	210	39	EPA-TO-15	ND	A01	1
Benzene	ND	ug/m3 Air	220	56	EPA-TO-15	ND	A01	1
Benzyl chloride	ND	ug/m3 Air	700	35	EPA-TO-15	ND	A01	1
Bromodichloromethane	ND	ug/m3 Air	460	110	EPA-TO-15	ND	A01	1
Bromoform	ND	ug/m3 Air	700	86	EPA-TO-15	ND	A01	1
Bromomethane	ND	ug/m3 Air	260	84	EPA-TO-15	ND	A01	1
1,3-Butadiene	ND	ug/m3 Air	150	54	EPA-TO-15	ND	A01	1
Carbon disulfide	ND	ug/m3 Air	210	51	EPA-TO-15	ND	A01	1
Carbon tetrachloride	ND	ug/m3 Air	430	150	EPA-TO-15	ND	A01	1
Chlorobenzene	ND	ug/m3 Air	310	110	EPA-TO-15	ND	A01	1
Chloroethane	ND	ug/m3 Air	180	86	EPA-TO-15	ND	A01	1
Chloroform	ND	ug/m3 Air	330	100	EPA-TO-15	ND	A01	1
Chloromethane	ND	ug/m3 Air	140	53	EPA-TO-15	ND	A01	1
Cyclohexane	ND	ug/m3 Air	230	37	EPA-TO-15	ND	A01	1
Dibromochloromethane	ND	ug/m3 Air	580	190	EPA-TO-15	ND	A01	1
1,2-Dibromoethane	ND	ug/m3 Air	520	130	EPA-TO-15	ND	A01	1
1,2-Dichlorobenzene	ND	ug/m3 Air	410	41	EPA-TO-15	ND	A01	1
1,3-Dichlorobenzene	ND	ug/m3 Air	410	47	EPA-TO-15	ND	A01	1
1,4-Dichlorobenzene	ND	ug/m3 Air	410	41	EPA-TO-15	ND	A01	1
Dichlorodifluoromethane	ND	ug/m3 Air	340	150	EPA-TO-15	ND	A01	1
1,1-Dichloroethane	ND	ug/m3 Air	280	77	EPA-TO-15	ND	A01	1
1,2-Dichloroethane	ND	ug/m3 Air	280	72	EPA-TO-15	ND	A01	1
1,1-Dichloroethene	ND	ug/m3 Air	270	86	EPA-TO-15	ND	A01	1
cis-1,2-Dichloroethene	200	ug/m3 Air	270	52	EPA-TO-15	ND	J,A01	1
trans-1,2-Dichloroethene	ND	ug/m3 Air	270	70	EPA-TO-15	ND	A01	1
1,2-Dichloropropane	ND	ug/m3 Air	310	94	EPA-TO-15	ND	A01	1
cis-1,3-Dichloropropene	ND	ug/m3 Air	310	35	EPA-TO-15	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/m3 Air	310	44	EPA-TO-15	ND	A01	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3 Air	480	130	EPA-TO-15	ND	A01	1
1,4-Dioxane	ND	ug/m3 Air	250	59	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-06		Client Sample Name: Four Seasons Cleaners, VP-4, 10/30/2015 11:12:00AM, Bill Dugan/Forrest Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Ethanol	ND	ug/m3 Air	260	82	EPA-TO-15	ND	A01	1
Ethyl acetate	ND	ug/m3 Air	250	64	EPA-TO-15	ND	A01	1
Ethylbenzene	ND	ug/m3 Air	300	38	EPA-TO-15	ND	A01	1
1-Ethyl-4-methylbenzene	ND	ug/m3 Air	330	64	EPA-TO-15	ND	A01	1
n-Heptane	ND	ug/m3 Air	280	67	EPA-TO-15	ND	A01	1
Hexachlorobutadiene	ND	ug/m3 Air	730	73	EPA-TO-15	ND	A01	1
Hexane	ND	ug/m3 Air	480	62	EPA-TO-15	ND	A01	1
2-Hexanone	ND	ug/m3 Air	280	28	EPA-TO-15	ND	A01	1
Isopropyl alcohol	27000	ug/m3 Air	3300	1300	EPA-TO-15	ND	A01	2
Methylene chloride	ND	ug/m3 Air	240	94	EPA-TO-15	ND	A01	1
Methyl ethyl ketone	ND	ug/m3 Air	200	36	EPA-TO-15	ND	A01	1
Methyl isobutyl ketone	ND	ug/m3 Air	280	72	EPA-TO-15	ND	A01	1
Methyl t-butyl ether	ND	ug/m3 Air	250	34	EPA-TO-15	ND	A01	1
Propylene	ND	ug/m3 Air	120	37	EPA-TO-15	ND	A01	1
Styrene	ND	ug/m3 Air	290	29	EPA-TO-15	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/m3 Air	470	78	EPA-TO-15	ND	A01	1
Tetrachloroethene	160000	ug/m3 Air	9200	2600	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3 Air	200	48	EPA-TO-15	ND	A01	1
Toluene	ND	ug/m3 Air	260	43	EPA-TO-15	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/m3 Air	1000	970	EPA-TO-15	ND	A01	1
1,1,1-Trichloroethane	ND	ug/m3 Air	370	110	EPA-TO-15	ND	A01	1
1,1,2-Trichloroethane	ND	ug/m3 Air	370	120	EPA-TO-15	ND	A01	1
Trichloroethene	7300	ug/m3 Air	370	95	EPA-TO-15	ND	A01	1
Trichlorofluoromethane	ND	ug/m3 Air	380	210	EPA-TO-15	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3 Air	520	140	EPA-TO-15	ND	A01	1
1,2,4-Trimethylbenzene	ND	ug/m3 Air	330	33	EPA-TO-15	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/m3 Air	330	45	EPA-TO-15	ND	A01	1
Vinyl acetate	ND	ug/m3 Air	240	67	EPA-TO-15	ND	A01	1
Vinyl chloride	ND	ug/m3 Air	170	66	EPA-TO-15	ND	A01	1
p- & m-Xylenes	ND	ug/m3 Air	300	83	EPA-TO-15	ND	A01	1
o-Xylene	ND	ug/m3 Air	300	34	EPA-TO-15	ND	A01	1
Total Xylenes	ND	ug/m3 Air	590	120	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-06	Client Sample Name: Four Seasons Cleaners, VP-4, 10/30/2015 11:12:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	114	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	109	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	11/14/15	11/15/15 00:24	MJB	MS-A1	136	BYK1384
2	EPA-TO-15	11/14/15	11/16/15 00:14	MJB	MS-A1	2720	BYK1384

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-07	Client Sample Name: Four Seasons Cleaners, OUT-1, 10/30/2015 1:45:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	ND	ug/m3 Air	65	8.4	EPA-TO-15	ND	A01	1
Acrylonitrile	ND	ug/m3 Air	59	9.4	EPA-TO-15	ND	A01	1
Allyl chloride	ND	ug/m3 Air	43	7.8	EPA-TO-15	ND	A01	1
Benzene	ND	ug/m3 Air	43	11	EPA-TO-15	ND	A01	1
Benzyl chloride	ND	ug/m3 Air	140	7.0	EPA-TO-15	ND	A01	1
Bromodichloromethane	ND	ug/m3 Air	91	22	EPA-TO-15	ND	A01	1
Bromoform	ND	ug/m3 Air	140	17	EPA-TO-15	ND	A01	1
Bromomethane	ND	ug/m3 Air	53	17	EPA-TO-15	ND	A01	1
1,3-Butadiene	ND	ug/m3 Air	30	11	EPA-TO-15	ND	A01	1
Carbon disulfide	ND	ug/m3 Air	42	10	EPA-TO-15	ND	A01	1
Carbon tetrachloride	ND	ug/m3 Air	86	29	EPA-TO-15	ND	A01	1
Chlorobenzene	ND	ug/m3 Air	63	23	EPA-TO-15	ND	A01	1
Chloroethane	ND	ug/m3 Air	36	17	EPA-TO-15	ND	A01	1
Chloroform	ND	ug/m3 Air	66	20	EPA-TO-15	ND	A01	1
Chloromethane	ND	ug/m3 Air	28	11	EPA-TO-15	ND	A01	1
Cyclohexane	ND	ug/m3 Air	47	7.5	EPA-TO-15	ND	A01	1
Dibromochloromethane	ND	ug/m3 Air	120	37	EPA-TO-15	ND	A01	1
1,2-Dibromoethane	ND	ug/m3 Air	100	25	EPA-TO-15	ND	A01	1
1,2-Dichlorobenzene	ND	ug/m3 Air	82	8.2	EPA-TO-15	ND	A01	1
1,3-Dichlorobenzene	ND	ug/m3 Air	82	9.3	EPA-TO-15	ND	A01	1
1,4-Dichlorobenzene	ND	ug/m3 Air	82	8.2	EPA-TO-15	ND	A01	1
Dichlorodifluoromethane	ND	ug/m3 Air	67	30	EPA-TO-15	ND	A01	1
1,1-Dichloroethane	ND	ug/m3 Air	55	15	EPA-TO-15	ND	A01	1
1,2-Dichloroethane	ND	ug/m3 Air	55	14	EPA-TO-15	ND	A01	1
1,1-Dichloroethene	ND	ug/m3 Air	54	17	EPA-TO-15	ND	A01	1
cis-1,2-Dichloroethene	ND	ug/m3 Air	54	10	EPA-TO-15	ND	A01	1
trans-1,2-Dichloroethene	ND	ug/m3 Air	54	14	EPA-TO-15	ND	A01	1
1,2-Dichloropropane	ND	ug/m3 Air	63	19	EPA-TO-15	ND	A01	1
cis-1,3-Dichloropropene	ND	ug/m3 Air	62	7.0	EPA-TO-15	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/m3 Air	62	8.9	EPA-TO-15	ND	A01	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3 Air	95	27	EPA-TO-15	ND	A01	1
1,4-Dioxane	ND	ug/m3 Air	49	12	EPA-TO-15	ND	A01	1
Ethanol	ND	ug/m3 Air	51	16	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-07		Client Sample Name: Four Seasons Cleaners, OUT-1, 10/30/2015 1:45:00AM, Bill Dugan/Forrest Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Ethyl acetate	ND	ug/m3 Air	49	13	EPA-TO-15	ND	A01	1
Ethylbenzene	ND	ug/m3 Air	59	7.6	EPA-TO-15	ND	A01	1
1-Ethyl-4-methylbenzene	ND	ug/m3 Air	67	13	EPA-TO-15	ND	A01	1
n-Heptane	ND	ug/m3 Air	56	13	EPA-TO-15	ND	A01	1
Hexachlorobutadiene	ND	ug/m3 Air	150	15	EPA-TO-15	ND	A01	1
Hexane	ND	ug/m3 Air	96	12	EPA-TO-15	ND	A01	1
2-Hexanone	ND	ug/m3 Air	56	5.6	EPA-TO-15	ND	A01	1
Isopropyl alcohol	ND	ug/m3 Air	33	13	EPA-TO-15	ND	A01	1
Methylene chloride	ND	ug/m3 Air	47	19	EPA-TO-15	ND	A01	1
Methyl ethyl ketone	ND	ug/m3 Air	40	7.1	EPA-TO-15	ND	A01	1
Methyl isobutyl ketone	ND	ug/m3 Air	56	14	EPA-TO-15	ND	A01	1
Methyl t-butyl ether	ND	ug/m3 Air	49	6.9	EPA-TO-15	ND	A01	1
Propylene	ND	ug/m3 Air	23	7.5	EPA-TO-15	ND	A01	1
Styrene	ND	ug/m3 Air	58	5.8	EPA-TO-15	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/m3 Air	93	16	EPA-TO-15	ND	A01	1
Tetrachloroethene	1500	ug/m3 Air	92	26	EPA-TO-15	ND	A01	1
Tetrahydrofuran	ND	ug/m3 Air	40	9.6	EPA-TO-15	ND	A01	1
Toluene	ND	ug/m3 Air	51	8.6	EPA-TO-15	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/m3 Air	200	190	EPA-TO-15	ND	A01	1
1,1,1-Trichloroethane	ND	ug/m3 Air	74	22	EPA-TO-15	ND	A01	1
1,1,2-Trichloroethane	ND	ug/m3 Air	74	24	EPA-TO-15	ND	A01	1
Trichloroethene	32	ug/m3 Air	73	19	EPA-TO-15	ND	J,A01	1
Trichlorofluoromethane	ND	ug/m3 Air	76	41	EPA-TO-15	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3 Air	100	27	EPA-TO-15	ND	A01	1
1,2,4-Trimethylbenzene	ND	ug/m3 Air	67	6.7	EPA-TO-15	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/m3 Air	67	9.0	EPA-TO-15	ND	A01	1
Vinyl acetate	ND	ug/m3 Air	48	13	EPA-TO-15	ND	A01	1
Vinyl chloride	ND	ug/m3 Air	35	13	EPA-TO-15	ND	A01	1
p- & m-Xylenes	ND	ug/m3 Air	59	17	EPA-TO-15	ND	A01	1
o-Xylene	ND	ug/m3 Air	59	6.7	EPA-TO-15	ND	A01	1
Total Xylenes	ND	ug/m3 Air	120	24	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	101	%	70 - 130 (LCL - UCL)		EPA-TO-15			1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-07	Client Sample Name: Four Seasons Cleaners, OUT-1, 10/30/2015 1:45:00AM, Bill Dugan/Forrest Cook
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Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	11/14/15	11/15/15 00:55	MJB	MS-A1	27.200	BYK1384

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-08	Client Sample Name: Four Seasons Cleaners, IND-1, 10/30/2015 3:40:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	ND	ug/m3 Air	76	9.8	EPA-TO-15	ND	A01	1
Acrylonitrile	ND	ug/m3 Air	69	11	EPA-TO-15	ND	A01	1
Allyl chloride	ND	ug/m3 Air	50	9.2	EPA-TO-15	ND	A01	1
Benzene	ND	ug/m3 Air	51	13	EPA-TO-15	ND	A01	1
Benzyl chloride	ND	ug/m3 Air	160	8.2	EPA-TO-15	ND	A01	1
Bromodichloromethane	ND	ug/m3 Air	110	26	EPA-TO-15	ND	A01	1
Bromoform	ND	ug/m3 Air	160	20	EPA-TO-15	ND	A01	1
Bromomethane	ND	ug/m3 Air	62	20	EPA-TO-15	ND	A01	1
1,3-Butadiene	ND	ug/m3 Air	35	13	EPA-TO-15	ND	A01	1
Carbon disulfide	ND	ug/m3 Air	50	12	EPA-TO-15	ND	A01	1
Carbon tetrachloride	ND	ug/m3 Air	100	34	EPA-TO-15	ND	A01	1
Chlorobenzene	ND	ug/m3 Air	73	26	EPA-TO-15	ND	A01	1
Chloroethane	ND	ug/m3 Air	42	20	EPA-TO-15	ND	A01	1
Chloroform	ND	ug/m3 Air	78	23	EPA-TO-15	ND	A01	1
Chloromethane	ND	ug/m3 Air	33	12	EPA-TO-15	ND	A01	1
Cyclohexane	ND	ug/m3 Air	55	8.8	EPA-TO-15	ND	A01	1
Dibromochloromethane	ND	ug/m3 Air	140	43	EPA-TO-15	ND	A01	1
1,2-Dibromoethane	ND	ug/m3 Air	120	29	EPA-TO-15	ND	A01	1
1,2-Dichlorobenzene	ND	ug/m3 Air	96	9.6	EPA-TO-15	ND	A01	1
1,3-Dichlorobenzene	ND	ug/m3 Air	96	11	EPA-TO-15	ND	A01	1
1,4-Dichlorobenzene	ND	ug/m3 Air	96	9.6	EPA-TO-15	ND	A01	1
Dichlorodifluoromethane	ND	ug/m3 Air	79	35	EPA-TO-15	ND	A01	1
1,1-Dichloroethane	ND	ug/m3 Air	64	18	EPA-TO-15	ND	A01	1
1,2-Dichloroethane	ND	ug/m3 Air	64	17	EPA-TO-15	ND	A01	1
1,1-Dichloroethene	ND	ug/m3 Air	63	20	EPA-TO-15	ND	A01	1
cis-1,2-Dichloroethene	ND	ug/m3 Air	63	12	EPA-TO-15	ND	A01	1
trans-1,2-Dichloroethene	ND	ug/m3 Air	63	16	EPA-TO-15	ND	A01	1
1,2-Dichloropropane	ND	ug/m3 Air	73	22	EPA-TO-15	ND	A01	1
cis-1,3-Dichloropropene	ND	ug/m3 Air	72	8.2	EPA-TO-15	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/m3 Air	72	10	EPA-TO-15	ND	A01	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3 Air	110	31	EPA-TO-15	ND	A01	1
1,4-Dioxane	ND	ug/m3 Air	57	14	EPA-TO-15	ND	A01	1
Ethanol	ND	ug/m3 Air	60	19	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-08		Client Sample Name: Four Seasons Cleaners, IND-1, 10/30/2015 3:40:00AM, Bill Dugan/Forrest Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Ethyl acetate	ND	ug/m3 Air	57	15	EPA-TO-15	ND	A01	1
Ethylbenzene	ND	ug/m3 Air	69	8.8	EPA-TO-15	ND	A01	1
1-Ethyl-4-methylbenzene	ND	ug/m3 Air	78	15	EPA-TO-15	ND	A01	1
n-Heptane	ND	ug/m3 Air	65	16	EPA-TO-15	ND	A01	1
Hexachlorobutadiene	ND	ug/m3 Air	170	17	EPA-TO-15	ND	A01	1
Hexane	ND	ug/m3 Air	110	15	EPA-TO-15	ND	A01	1
2-Hexanone	ND	ug/m3 Air	65	6.5	EPA-TO-15	ND	A01	1
Isopropyl alcohol	ND	ug/m3 Air	39	15	EPA-TO-15	ND	A01	1
Methylene chloride	ND	ug/m3 Air	55	22	EPA-TO-15	ND	A01	1
Methyl ethyl ketone	ND	ug/m3 Air	47	8.3	EPA-TO-15	ND	A01	1
Methyl isobutyl ketone	ND	ug/m3 Air	65	17	EPA-TO-15	ND	A01	1
Methyl t-butyl ether	ND	ug/m3 Air	57	8.0	EPA-TO-15	ND	A01	1
Propylene	ND	ug/m3 Air	27	8.8	EPA-TO-15	ND	A01	1
Styrene	ND	ug/m3 Air	68	6.8	EPA-TO-15	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/m3 Air	110	18	EPA-TO-15	ND	A01	1
Tetrachloroethene	220	ug/m3 Air	110	30	EPA-TO-15	ND	A01	1
Tetrahydrofuran	ND	ug/m3 Air	47	11	EPA-TO-15	ND	A01	1
Toluene	ND	ug/m3 Air	60	10	EPA-TO-15	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/m3 Air	240	230	EPA-TO-15	ND	A01	1
1,1,1-Trichloroethane	ND	ug/m3 Air	87	26	EPA-TO-15	ND	A01	1
1,1,2-Trichloroethane	ND	ug/m3 Air	87	28	EPA-TO-15	ND	A01	1
Trichloroethene	ND	ug/m3 Air	85	22	EPA-TO-15	ND	A01	1
Trichlorofluoromethane	ND	ug/m3 Air	89	48	EPA-TO-15	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3 Air	120	32	EPA-TO-15	ND	A01	1
1,2,4-Trimethylbenzene	ND	ug/m3 Air	78	7.8	EPA-TO-15	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/m3 Air	78	10	EPA-TO-15	ND	A01	1
Vinyl acetate	ND	ug/m3 Air	56	16	EPA-TO-15	ND	A01	1
Vinyl chloride	ND	ug/m3 Air	41	15	EPA-TO-15	ND	A01	1
p- & m-Xylenes	ND	ug/m3 Air	69	19	EPA-TO-15	ND	A01	1
o-Xylene	ND	ug/m3 Air	69	7.9	EPA-TO-15	ND	A01	1
Total Xylenes	ND	ug/m3 Air	140	28	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	102	%	70 - 130 (LCL - UCL)		EPA-TO-15			1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-08	Client Sample Name: Four Seasons Cleaners, IND-1, 10/30/2015 3:40:00AM, Bill Dugan/Forrest Cook
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Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	11/14/15	11/15/15 01:27	MJB	MS-A1	31.800	BYK1384

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-09	Client Sample Name: Four Seasons Cleaners, IND-2, 10/30/2015 3:30:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	31	ug/m3 Air	69	9.0	EPA-TO-15	ND	J,A01	1
Acrylonitrile	ND	ug/m3 Air	63	10	EPA-TO-15	ND	A01	1
Allyl chloride	ND	ug/m3 Air	46	8.4	EPA-TO-15	ND	A01	1
Benzene	ND	ug/m3 Air	47	12	EPA-TO-15	ND	A01	1
Benzyl chloride	ND	ug/m3 Air	150	7.6	EPA-TO-15	ND	A01	1
Bromodichloromethane	ND	ug/m3 Air	98	23	EPA-TO-15	ND	A01	1
Bromoform	ND	ug/m3 Air	150	18	EPA-TO-15	ND	A01	1
Bromomethane	ND	ug/m3 Air	57	18	EPA-TO-15	ND	A01	1
1,3-Butadiene	ND	ug/m3 Air	32	12	EPA-TO-15	ND	A01	1
Carbon disulfide	ND	ug/m3 Air	45	11	EPA-TO-15	ND	A01	1
Carbon tetrachloride	ND	ug/m3 Air	92	31	EPA-TO-15	ND	A01	1
Chlorobenzene	ND	ug/m3 Air	67	24	EPA-TO-15	ND	A01	1
Chloroethane	ND	ug/m3 Air	39	18	EPA-TO-15	ND	A01	1
Chloroform	ND	ug/m3 Air	71	21	EPA-TO-15	ND	A01	1
Chloromethane	ND	ug/m3 Air	30	11	EPA-TO-15	ND	A01	1
Cyclohexane	ND	ug/m3 Air	50	8.0	EPA-TO-15	ND	A01	1
Dibromochloromethane	ND	ug/m3 Air	120	40	EPA-TO-15	ND	A01	1
1,2-Dibromoethane	ND	ug/m3 Air	110	27	EPA-TO-15	ND	A01	1
1,2-Dichlorobenzene	ND	ug/m3 Air	88	8.8	EPA-TO-15	ND	A01	1
1,3-Dichlorobenzene	ND	ug/m3 Air	88	10	EPA-TO-15	ND	A01	1
1,4-Dichlorobenzene	ND	ug/m3 Air	88	8.8	EPA-TO-15	ND	A01	1
Dichlorodifluoromethane	ND	ug/m3 Air	72	32	EPA-TO-15	ND	A01	1
1,1-Dichloroethane	ND	ug/m3 Air	59	17	EPA-TO-15	ND	A01	1
1,2-Dichloroethane	ND	ug/m3 Air	59	15	EPA-TO-15	ND	A01	1
1,1-Dichloroethene	ND	ug/m3 Air	58	19	EPA-TO-15	ND	A01	1
cis-1,2-Dichloroethene	49	ug/m3 Air	58	11	EPA-TO-15	ND	J,A01	1
trans-1,2-Dichloroethene	ND	ug/m3 Air	58	15	EPA-TO-15	ND	A01	1
1,2-Dichloropropane	ND	ug/m3 Air	67	20	EPA-TO-15	ND	A01	1
cis-1,3-Dichloropropene	ND	ug/m3 Air	66	7.6	EPA-TO-15	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/m3 Air	66	9.5	EPA-TO-15	ND	A01	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3 Air	100	29	EPA-TO-15	ND	A01	1
1,4-Dioxane	ND	ug/m3 Air	53	13	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-09	Client Sample Name: Four Seasons Cleaners, IND-2, 10/30/2015 3:30:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Ethanol	ND	ug/m3 Air	55	18	EPA-TO-15	ND	A01	1
Ethyl acetate	ND	ug/m3 Air	53	14	EPA-TO-15	ND	A01	1
Ethylbenzene	ND	ug/m3 Air	63	8.1	EPA-TO-15	ND	A01	1
1-Ethyl-4-methylbenzene	ND	ug/m3 Air	72	14	EPA-TO-15	ND	A01	1
n-Heptane	ND	ug/m3 Air	60	14	EPA-TO-15	ND	A01	1
Hexachlorobutadiene	ND	ug/m3 Air	160	16	EPA-TO-15	ND	A01	1
Hexane	ND	ug/m3 Air	100	13	EPA-TO-15	ND	A01	1
2-Hexanone	ND	ug/m3 Air	60	6.0	EPA-TO-15	ND	A01	1
Isopropyl alcohol	ND	ug/m3 Air	36	14	EPA-TO-15	ND	A01	1
Methylene chloride	ND	ug/m3 Air	51	20	EPA-TO-15	ND	A01	1
Methyl ethyl ketone	ND	ug/m3 Air	43	7.7	EPA-TO-15	ND	A01	1
Methyl isobutyl ketone	ND	ug/m3 Air	60	16	EPA-TO-15	ND	A01	1
Methyl t-butyl ether	ND	ug/m3 Air	53	7.4	EPA-TO-15	ND	A01	1
Propylene	ND	ug/m3 Air	25	8.0	EPA-TO-15	ND	A01	1
Styrene	ND	ug/m3 Air	62	6.2	EPA-TO-15	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/m3 Air	100	17	EPA-TO-15	ND	A01	1
Tetrachloroethene	18000	ug/m3 Air	500	140	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3 Air	43	10	EPA-TO-15	ND	A01	1
Toluene	ND	ug/m3 Air	55	9.2	EPA-TO-15	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/m3 Air	220	210	EPA-TO-15	ND	A01	1
1,1,1-Trichloroethane	ND	ug/m3 Air	80	24	EPA-TO-15	ND	A01	1
1,1,2-Trichloroethane	ND	ug/m3 Air	80	25	EPA-TO-15	ND	A01	1
Trichloroethene	240	ug/m3 Air	78	20	EPA-TO-15	ND	A01	1
Trichlorofluoromethane	ND	ug/m3 Air	82	44	EPA-TO-15	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3 Air	110	29	EPA-TO-15	ND	A01	1
1,2,4-Trimethylbenzene	ND	ug/m3 Air	72	7.2	EPA-TO-15	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/m3 Air	72	9.6	EPA-TO-15	ND	A01	1
Vinyl acetate	ND	ug/m3 Air	51	14	EPA-TO-15	ND	A01	1
Vinyl chloride	ND	ug/m3 Air	37	14	EPA-TO-15	ND	A01	1
p- & m-Xylenes	ND	ug/m3 Air	63	18	EPA-TO-15	ND	A01	1
o-Xylene	ND	ug/m3 Air	63	7.2	EPA-TO-15	ND	A01	1
Total Xylenes	ND	ug/m3 Air	130	25	EPA-TO-15	ND	A01	1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

BCL Sample ID: 1528073-09	Client Sample Name: Four Seasons Cleaners, IND-2, 10/30/2015 3:30:00AM, Bill Dugan/Forrest Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	96.8	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	105	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	11/14/15	11/15/15 01:58	MJB	MS-A1	29.200	BYK1384
2	EPA-TO-15	11/14/15	11/16/15 13:47	MJB	MS-A1	146	BYK1384

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYK1384						
Acetone	BYK1384-BLK1	ND	ug/m3 Air	2.4	0.31	
Acrylonitrile	BYK1384-BLK1	ND	ug/m3 Air	2.2	0.35	
Allyl chloride	BYK1384-BLK1	ND	ug/m3 Air	1.6	0.29	
Benzene	BYK1384-BLK1	ND	ug/m3 Air	1.6	0.42	
Benzyl chloride	BYK1384-BLK1	ND	ug/m3 Air	5.2	0.26	
Bromodichloromethane	BYK1384-BLK1	ND	ug/m3 Air	3.4	0.80	
Bromoform	BYK1384-BLK1	ND	ug/m3 Air	5.2	0.63	
Bromomethane	BYK1384-BLK1	ND	ug/m3 Air	1.9	0.62	
1,3-Butadiene	BYK1384-BLK1	ND	ug/m3 Air	1.1	0.40	
Carbon disulfide	BYK1384-BLK1	ND	ug/m3 Air	1.6	0.37	
Carbon tetrachloride	BYK1384-BLK1	ND	ug/m3 Air	3.1	1.1	
Chlorobenzene	BYK1384-BLK1	ND	ug/m3 Air	2.3	0.83	
Chloroethane	BYK1384-BLK1	ND	ug/m3 Air	1.3	0.63	
Chloroform	BYK1384-BLK1	ND	ug/m3 Air	2.4	0.73	
Chloromethane	BYK1384-BLK1	ND	ug/m3 Air	1.0	0.39	
Cyclohexane	BYK1384-BLK1	ND	ug/m3 Air	1.7	0.28	
Dibromochloromethane	BYK1384-BLK1	ND	ug/m3 Air	4.3	1.4	
1,2-Dibromoethane	BYK1384-BLK1	ND	ug/m3 Air	3.8	0.92	
1,2-Dichlorobenzene	BYK1384-BLK1	ND	ug/m3 Air	3.0	0.30	
1,3-Dichlorobenzene	BYK1384-BLK1	ND	ug/m3 Air	3.0	0.34	
1,4-Dichlorobenzene	BYK1384-BLK1	ND	ug/m3 Air	3.0	0.30	
Dichlorodifluoromethane	BYK1384-BLK1	ND	ug/m3 Air	2.5	1.1	
1,1-Dichloroethane	BYK1384-BLK1	ND	ug/m3 Air	2.0	0.57	
1,2-Dichloroethane	BYK1384-BLK1	ND	ug/m3 Air	2.0	0.53	
1,1-Dichloroethene	BYK1384-BLK1	ND	ug/m3 Air	2.0	0.63	
cis-1,2-Dichloroethene	BYK1384-BLK1	ND	ug/m3 Air	2.0	0.38	
trans-1,2-Dichloroethene	BYK1384-BLK1	ND	ug/m3 Air	2.0	0.52	
1,2-Dichloropropane	BYK1384-BLK1	ND	ug/m3 Air	2.3	0.69	
cis-1,3-Dichloropropene	BYK1384-BLK1	ND	ug/m3 Air	2.3	0.26	
trans-1,3-Dichloropropene	BYK1384-BLK1	ND	ug/m3 Air	2.3	0.33	
1,2-Dichloro-1,1,2,2-tetrafluoroethane	BYK1384-BLK1	ND	ug/m3 Air	3.5	0.98	
1,4-Dioxane	BYK1384-BLK1	ND	ug/m3 Air	1.8	0.43	
Ethanol	BYK1384-BLK1	ND	ug/m3 Air	1.9	0.60	
Ethyl acetate	BYK1384-BLK1	ND	ug/m3 Air	1.8	0.47	

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYK1384						
Ethylbenzene	BYK1384-BLK1	ND	ug/m3 Air	2.2	0.28	
1-Ethyl-4-methylbenzene	BYK1384-BLK1	ND	ug/m3 Air	2.5	0.47	
n-Heptane	BYK1384-BLK1	ND	ug/m3 Air	2.0	0.49	
Hexachlorobutadiene	BYK1384-BLK1	ND	ug/m3 Air	5.3	0.53	
Hexane	BYK1384-BLK1	ND	ug/m3 Air	3.5	0.46	
2-Hexanone	BYK1384-BLK1	ND	ug/m3 Air	2.0	0.20	
Isopropyl alcohol	BYK1384-BLK1	ND	ug/m3 Air	1.2	0.47	
Methylene chloride	BYK1384-BLK1	ND	ug/m3 Air	1.7	0.69	
Methyl ethyl ketone	BYK1384-BLK1	ND	ug/m3 Air	1.5	0.26	
Methyl isobutyl ketone	BYK1384-BLK1	ND	ug/m3 Air	2.0	0.53	
Methyl t-butyl ether	BYK1384-BLK1	ND	ug/m3 Air	1.8	0.25	
Propylene	BYK1384-BLK1	ND	ug/m3 Air	0.86	0.28	
Styrene	BYK1384-BLK1	ND	ug/m3 Air	2.1	0.21	
1,1,2,2-Tetrachloroethane	BYK1384-BLK1	ND	ug/m3 Air	3.4	0.58	
Tetrachloroethene	BYK1384-BLK1	ND	ug/m3 Air	3.4	0.95	
Tetrahydrofuran	BYK1384-BLK1	ND	ug/m3 Air	1.5	0.35	
Toluene	BYK1384-BLK1	ND	ug/m3 Air	1.9	0.32	
1,2,4-Trichlorobenzene	BYK1384-BLK1	ND	ug/m3 Air	7.4	7.1	
1,1,1-Trichloroethane	BYK1384-BLK1	ND	ug/m3 Air	2.7	0.82	
1,1,2-Trichloroethane	BYK1384-BLK1	ND	ug/m3 Air	2.7	0.87	
Trichloroethene	BYK1384-BLK1	ND	ug/m3 Air	2.7	0.70	
Trichlorofluoromethane	BYK1384-BLK1	ND	ug/m3 Air	2.8	1.5	
1,1,2-Trichloro-1,2,2-trifluoroethane	BYK1384-BLK1	ND	ug/m3 Air	3.8	1.0	
1,2,4-Trimethylbenzene	BYK1384-BLK1	ND	ug/m3 Air	2.5	0.25	
1,3,5-Trimethylbenzene	BYK1384-BLK1	ND	ug/m3 Air	2.5	0.33	
Vinyl acetate	BYK1384-BLK1	ND	ug/m3 Air	1.8	0.49	
Vinyl chloride	BYK1384-BLK1	ND	ug/m3 Air	1.3	0.49	
p- & m-Xylenes	BYK1384-BLK1	ND	ug/m3 Air	2.2	0.61	
o-Xylene	BYK1384-BLK1	ND	ug/m3 Air	2.2	0.25	
Total Xylenes	BYK1384-BLK1	ND	ug/m3 Air	4.3	0.87	
4-Bromofluorobenzene (Surrogate)	BYK1384-BLK1	70.7	%	70 - 130 (LCL - UCL)		

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Volatile Organic Compounds by GC/MS (EPA Method TO-15)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
QC Batch ID: BYK1384										
Benzene	BYK1384-BS1	LCS	15.868	15.974	ug/m3 Air	99.3		70 - 130		
	BYK1384-BSD1	LCSD	16.050	15.974	ug/m3 Air	100	1.1	70 - 130		30
Chloroform	BYK1384-BS1	LCS	30.657	24.413	ug/m3 Air	126		70 - 130		
	BYK1384-BSD1	LCSD	31.180	24.413	ug/m3 Air	128	1.7	70 - 130		30
Ethylbenzene	BYK1384-BS1	LCS	24.820	21.711	ug/m3 Air	114		70 - 130		
	BYK1384-BSD1	LCSD	26.235	21.711	ug/m3 Air	121	5.5	70 - 130		30
Tetrachloroethene	BYK1384-BS1	LCS	44.025	33.913	ug/m3 Air	130		70 - 130		
	BYK1384-BSD1	LCSD	45.022	33.913	ug/m3 Air	133	2.2	70 - 130		30
Toluene	BYK1384-BS1	LCS	19.517	18.842	ug/m3 Air	104		70 - 130		
	BYK1384-BSD1	LCSD	19.980	18.842	ug/m3 Air	106	2.3	70 - 130		30
Trichloroethene	BYK1384-BS1	LCS	32.925	26.869	ug/m3 Air	123		70 - 130		
	BYK1384-BSD1	LCSD	33.833	26.869	ug/m3 Air	126	2.7	70 - 130		30
Trichlorofluoromethane	BYK1384-BS1	LCS	51.048	28.092	ug/m3 Air	182		70 - 130		
	BYK1384-BSD1	LCSD	51.205	28.092	ug/m3 Air	182	0.3	70 - 130		30
1,1,2-Trichloro-1,2,2-trifluoroethane	BYK1384-BS1	LCS	45.599	38.318	ug/m3 Air	119		70 - 130		
	BYK1384-BSD1	LCSD	46.097	38.318	ug/m3 Air	120	1.1	70 - 130		30
p- & m-Xylenes	BYK1384-BS1	LCS	52.535	43.421	ug/m3 Air	121		70 - 130		
	BYK1384-BSD1	LCSD	55.458	43.421	ug/m3 Air	128	5.4	70 - 130		30
o-Xylene	BYK1384-BS1	LCS	26.852	21.711	ug/m3 Air	124		70 - 130		
	BYK1384-BSD1	LCSD	28.206	21.711	ug/m3 Air	130	4.9	70 - 130		30
Total Xylenes	BYK1384-BS1	LCS	79.387	65.132	ug/m3 Air	122		70 - 130		
	BYK1384-BSD1	LCSD	83.664	65.132	ug/m3 Air	128	5.2	70 - 130		30
4-Bromofluorobenzene (Surrogate)	BYK1384-BS1	LCS	76.0	71.6	ug/m3 Air	106		70 - 130		
	BYK1384-BSD1	LCSD	72.5	71.6	ug/m3 Air	101	4.8	70 - 130		

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 11/30/2015 11:12
Project: Air Samples
Project Number: 4607 Four Seasons Cleaners
Project Manager: Bill Dugan

Notes And Definitions

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A01 Detection and quantitation limits are raised due to sample dilution.



Date of Report: 10/22/2015

Bill Dugan

Well Test, Inc.

1180 Delmas Ave.

San Jose, CA 95125

Client Project: 4601 - 13778 Doolittle

BCL Project: Water/Soil Samples

BCL Work Order: 1526412

Invoice ID: B216924

Enclosed are the results of analyses for samples received by the laboratory on 10/16/2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Misty Orton
Client Service Rep

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Chain of Custody Form

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Report To: WellTest, Inc.
Client: WellTest, Inc.
Attn: Bill Dugan
Street Address: PO Box 8548
City: San Jose **State:** CA **Zip:** 95155
Phone: (408) 460-1884 **Fax:** ()
Email Address: dugan@welltest.biz
Submission #: 15-26412

Project Description: 13778 Dori-Hle
Project Code: 4601
Sampler(s): Forrest Cook

Billing: Client: WellTest, Inc.
 Attn: Bill Dugan
 Address: PO Box 8548
 City: San Jose State: CA Zip: 95155
 Are there any tests with holding times? less than or equal to 48 hours?
 Yes NO
 *Standard Turnaround = 10

Sample #	Sample Description	Date	Time	Matrix*	Analysis Requested	
					GW	Other
-1	SG-2B	10/15/15	12:30	GW	X	
-2	SG-1A d 1.0	10/15/15	13:05	GW	X	
-3	SG-1A d 2.0	10/15/15	9:55	SOIL	X	
-4	SG-1A d 5.0	10/15/15	10:50		X	
-5	SG-2A d 2.0	10/15/15	11:10		X	
-6	SG-2A d 5.0	10/15/15	9:25		X	
-7	SG-1B d 2.0	10/15/15	9:40		X	
-8	SG-1B d 5.0	10/15/15	12:35		X	
-9	SG-1B d 7.0				X	

Notes: ONLY 2 VOA
 Only 2 VOA's
 CHK BY: JMK
 DISTRIBUTION
 SUB-OUT

Matrix Types: S = Soil L = Liquid M = Miscellaneous O = Other
 DW = Drinking Water WW = Wastewater GW = Groundwater
 24 Hr Rush 48 Hr Rush 3-5 Day Rush Normal (10 - Days)
 Lab TAT Approval: *Additional Charges May Apply

Comments:
 MBU Site
 CVX RCRA
 Geotracker 5 File (CA Default)
 Geotracker 2 File
 Other (Specify)

Cost Center:
 1. Requisitioned By: [Signature] Date: 10/15/15 Time: 11:10
 2. Requisitioned By: [Signature] Date: 10/15/15 Time: 17:30
 3. Requisitioned By: [Signature] Date: 10/16/15 Time: 10:05

Global ID:
 1. Received By: [Signature] Date: 10/15/15 Time: 11:10
 2. Received By: [Signature] Date: 10/16/15 Time: 10:05
 3. Received By: [Signature]

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327-4911 Fax: (661) 327-1918 www.bclabs.com

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Chain of Custody Form

Page 2 of 2

Required Fields

Report To: WellTest, Inc.
 Client: WellTest, Inc.
 Attn: Bill Dugan
 Street Address: PO Box 8548
 City: San Jose State: CA Zip: 95155
 Phone#: (408) 460-1884 Fax#: ()
 Email Address: djugan@welltest.biz

Project Description: 13778 Dottle
 Project Code: 4601
 Sampler(s): Forrest Cook

Analysis Requested

Sample #	Sample Description	Date	Time	Matrix*
-10	SG-2Bd2.0	10/15/15	10:25	SOIL
-11	SG-2Bd5.0	10/15/15	10:40	↓
-12	SG-2Bd8.5	10/15/15	11:50	

Matrix Types: S = Soil SL = Sludge DW = Drinking Water WW = Wastewater GW = Groundwater L = Liquid M = Miscellaneous O = Other

Turnaround # of working days: 24 Hr Rush 48 Hr Rush 3-5 Day Rush Normal (10 - Days)

Lab TAT Approval: _____ *Additional Charges May Apply

Billing
 Client: WellTest, Inc.
 Attn: Bill Dugan
 Address: PO Box 8548
 City: San Jose State: CA Zip: 95155
 Are there any tests with holding times? less than or equal to 48 hours?
 Yes NO
 *Standard Turnaround = 10

Notes

Comments:

MBU Site
 CVA-RCRA
 Geotracker 5 File (CA Default)
 Geotracker 2 File
 Other (Specify)

Cost Center:
 1. Relinquished By: [Signature] Date: 10/15/15 Time: 11:00 AM
 2. Relinquished By: [Signature] Date: 10/15/15 Time: 7:30 AM
 3. Relinquished By: [Signature] Date: 10/16/15 Time: 10:05 AM

Global ID:
 1. Received By: [Signature] Date: 10/15/15 Time: 11:00 AM
 2. Received By: [Signature] Date: 10/15/15 Time: 7:30 AM
 3. Received By: [Signature] Date: 10/16/15 Time: 10:05 AM

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327 - 4911 Fax: (661) 327 - 1918 www.bclabs.com

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 of 2

Submission #: 15-20412

SHIPPING INFORMATION: Fed Ex UPS Ontrac Hand Delivery BC Lab Field Service Other (Specify) GSD

SHIPPING CONTAINER: Ice Chest None Box Other (Specify) _____

FREE LIQUID: YES NO

Refrigerant: Ice Blue Ice None Other Comments: _____

Custody Seals: Ice Chest Containers None Intact? Yes No Intact? Yes No Comments: _____

All samples received? Yes No All samples containers intact? Yes No Description(s) match COC? Yes No

COC Received: YES NO Emissivity: 0.97 Container: PE Thermometer ID: 208 Date/Time: 10-10-15

Temperature: (A) 4.8 °C / (C) 4.7 °C Analyst Init: JDL

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁶⁺										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL <u>CPV</u>	<u>A</u>	<u>AX</u>								
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 4oz / 32oz <u>AMBER JAR</u>										
8oz / 16oz / 32oz JAR			<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: _____

Sample Numbering Completed By: JDL Date/Time: 10-18-15 11:10

Actual / C = Corrected

Rev 20 07/24/2015



BC LABORATORIES INC. COOLER RECEIPT FORM Page 2X of 2

Submission #: 15-26412

SHIPPING INFORMATION: Fed Ex UPS Ontrac Hand Delivery BC Lab Field Service Other (Specify) ASD

SHIPPING CONTAINER: Ice Chest None Box Other (Specify) _____

FREE LIQUID: YES NO

Refrigerant: Ice Blue Ice None Other Comments: _____

Custody Seals: Ice Chest Containers None Intact? Yes No Intact? Yes No Comments: _____

All samples received? Yes No All samples containers intact? Yes No Description(s) match COC? Yes No

COC Received: YES NO Emissivity: 0.97 Container: PE Thermometer ID: 208 Date/Time: 10-16-15

Temperature: (A) 4.8 °C / (C) 4.7 °C Analyst Init: JDL

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁶⁺										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / (16oz) / 32oz AMBER JAR										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
NUMMA CANISTER										

Comments: _____

Sample Numbering Completed By: JDL Date/Time: 10-16-15 11:10

Rev 20 07/24/2015



Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			Receive Date:	
1526412-01	COC Number:	---		10/16/2015	10:05
	Project Number:	Doolittle		Sampling Date:	10/13/2015 12:30
	Sampling Location:	---		Sample Depth:	---
	Sampling Point:	SG-2B		Lab Matrix:	Water
	Sampled By:	F. Cook of WTI		Sample Type:	Groundwater
1526412-02	COC Number:	---		10/16/2015	10:05
	Project Number:	Doolittle		Sampling Date:	10/13/2015 13:15
	Sampling Location:	---		Sample Depth:	---
	Sampling Point:	SG-1B		Lab Matrix:	Water
	Sampled By:	F. Cook of WTI		Sample Type:	Groundwater
1526412-03	COC Number:	---		10/16/2015	10:05
	Project Number:	Doolittle		Sampling Date:	10/13/2015 09:55
	Sampling Location:	---		Sample Depth:	---
	Sampling Point:	SG-1Ad2.0		Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI		Sample Type:	Soil
1526412-04	COC Number:	---		10/16/2015	10:05
	Project Number:	Doolittle		Sampling Date:	10/13/2015 10:10
	Sampling Location:	---		Sample Depth:	---
	Sampling Point:	SG-1Ad5.0		Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI		Sample Type:	Soil
1526412-05	COC Number:	---		10/16/2015	10:05
	Project Number:	Doolittle		Sampling Date:	10/13/2015 10:50
	Sampling Location:	---		Sample Depth:	---
	Sampling Point:	SG-2Ad2.0		Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI		Sample Type:	Soil
1526412-06	COC Number:	---		10/16/2015	10:05
	Project Number:	Doolittle		Sampling Date:	10/13/2015 11:10
	Sampling Location:	---		Sample Depth:	---
	Sampling Point:	SG-2Ad5.0		Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI		Sample Type:	Soil
1526412-07	COC Number:	---		10/16/2015	10:05
	Project Number:	Doolittle		Sampling Date:	10/13/2015 09:25
	Sampling Location:	---		Sample Depth:	---
	Sampling Point:	SG-1Bd2.0		Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI		Sample Type:	Soil

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1526412-08	COC Number:	---	Receive Date:	10/16/2015 10:05
	Project Number:	Doolittle	Sampling Date:	10/13/2015 09:40
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	SG-1Bd5.0	Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI	Sample Type:	Soil
1526412-09	COC Number:	---	Receive Date:	10/16/2015 10:05
	Project Number:	Doolittle	Sampling Date:	10/13/2015 12:35
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	SG-1Bd7.0	Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI	Sample Type:	Soil
1526412-10	COC Number:	---	Receive Date:	10/16/2015 10:05
	Project Number:	Doolittle	Sampling Date:	10/13/2015 10:25
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	SG-2Bd2.0	Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI	Sample Type:	Soil
1526412-11	COC Number:	---	Receive Date:	10/16/2015 10:05
	Project Number:	Doolittle	Sampling Date:	10/13/2015 10:40
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	SG-2Bd5.0	Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI	Sample Type:	Soil
1526412-12	COC Number:	---	Receive Date:	10/16/2015 10:05
	Project Number:	Doolittle	Sampling Date:	10/13/2015 11:50
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	SG-2Bd8.5	Lab Matrix:	Solids
	Sampled By:	F. Cook of WTI	Sample Type:	Soil

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-01		Client Sample Name: Doolittle, SG-2B, 10/13/2015 12:30:00PM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	0.43	ug/L	0.50	0.083	EPA-8260B	ND	J	1
Bromobenzene	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
Bromochloromethane	ND	ug/L	0.50	0.24	EPA-8260B	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
Bromoform	ND	ug/L	0.50	0.27	EPA-8260B	ND		1
Bromomethane	ND	ug/L	1.0	0.25	EPA-8260B	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.15	EPA-8260B	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.18	EPA-8260B	ND		1
Chlorobenzene	0.51	ug/L	0.50	0.093	EPA-8260B	ND		1
Chloroethane	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
Chloroform	0.19	ug/L	0.50	0.12	EPA-8260B	ND	J	1
Chloromethane	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.20	EPA-8260B	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.15	EPA-8260B	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.44	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.16	EPA-8260B	ND		1
Dibromomethane	ND	ug/L	0.50	0.24	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.072	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.062	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.099	EPA-8260B	ND		1
1,1-Dichloroethane	1.0	ug/L	0.50	0.11	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-8260B	ND		1
1,1-Dichloroethene	2.7	ug/L	0.50	0.18	EPA-8260B	ND		1
cis-1,2-Dichloroethene	280	ug/L	25	4.2	EPA-8260B	ND	A01	2
trans-1,2-Dichloroethene	22	ug/L	0.50	0.15	EPA-8260B	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.086	EPA-8260B	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.085	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-01		Client Sample Name: Doolittle, SG-2B, 10/13/2015 12:30:00PM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.079	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	0.098	EPA-8260B	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.17	EPA-8260B	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.12	EPA-8260B	ND		1
Methylene chloride	ND	ug/L	1.0	0.48	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
Naphthalene	ND	ug/L	0.50	0.36	EPA-8260B	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
Styrene	ND	ug/L	0.50	0.068	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.18	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-8260B	ND		1
Tetrachloroethene	1500	ug/L	25	6.5	EPA-8260B	ND	A01	2
Toluene	0.15	ug/L	0.50	0.093	EPA-8260B	ND	J	1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.16	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.16	EPA-8260B	ND		1
Trichloroethene	480	ug/L	25	4.2	EPA-8260B	ND	A01	2
Trichlorofluoromethane	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.24	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.15	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.12	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.12	EPA-8260B	ND		1
Vinyl chloride	0.34	ug/L	0.50	0.12	EPA-8260B	ND	J	1
Total Xylenes	ND	ug/L	1.0	0.36	EPA-8260B	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.28	EPA-8260B	ND		1
o-Xylene	ND	ug/L	0.50	0.082	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	118	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	108	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	99.1	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	95.8	%	80 - 120 (LCL - UCL)		EPA-8260B			2

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-01	Client Sample Name: Doolittle, SG-2B, 10/13/2015 12:30:00PM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	91.0	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-8260B	10/16/15	10/20/15 09:36	JPT	MS-V13	1	BYJ1575
2	EPA-8260B	10/16/15	10/21/15 01:47	JPT	MS-V13	50	BYJ1575

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Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-02		Client Sample Name: Doolittle, SG-1B, 10/13/2015 1:15:00PM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	0.18	ug/L	0.50	0.083	EPA-8260B	ND	J	1
Bromobenzene	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
Bromochloromethane	ND	ug/L	0.50	0.24	EPA-8260B	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
Bromoform	ND	ug/L	0.50	0.27	EPA-8260B	ND		1
Bromomethane	ND	ug/L	1.0	0.25	EPA-8260B	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.15	EPA-8260B	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.18	EPA-8260B	ND		1
Chlorobenzene	0.25	ug/L	0.50	0.093	EPA-8260B	ND	J	1
Chloroethane	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
Chloroform	1.2	ug/L	0.50	0.12	EPA-8260B	ND		1
Chloromethane	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.20	EPA-8260B	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.15	EPA-8260B	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.44	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.16	EPA-8260B	ND		1
Dibromomethane	ND	ug/L	0.50	0.24	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.072	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.062	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.099	EPA-8260B	ND		1
1,1-Dichloroethane	0.21	ug/L	0.50	0.11	EPA-8260B	ND	J	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-8260B	ND		1
1,1-Dichloroethene	0.21	ug/L	0.50	0.18	EPA-8260B	ND	J	1
cis-1,2-Dichloroethene	88	ug/L	25	4.2	EPA-8260B	ND	A01	2
trans-1,2-Dichloroethene	4.3	ug/L	0.50	0.15	EPA-8260B	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.086	EPA-8260B	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.085	EPA-8260B	ND		1

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San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-02		Client Sample Name: Doolittle, SG-1B, 10/13/2015 1:15:00PM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.079	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	0.098	EPA-8260B	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.17	EPA-8260B	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-8260B	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.12	EPA-8260B	ND		1
Methylene chloride	ND	ug/L	1.0	0.48	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
Naphthalene	ND	ug/L	0.50	0.36	EPA-8260B	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
Styrene	ND	ug/L	0.50	0.068	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.18	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-8260B	ND		1
Tetrachloroethene	2200	ug/L	25	6.5	EPA-8260B	ND	A01	2
Toluene	0.38	ug/L	0.50	0.093	EPA-8260B	ND	J	1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.16	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.16	EPA-8260B	ND		1
Trichloroethene	130	ug/L	25	4.2	EPA-8260B	ND	A01	2
Trichlorofluoromethane	ND	ug/L	0.50	0.13	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.24	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.15	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.12	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.12	EPA-8260B	ND		1
Vinyl chloride	ND	ug/L	0.50	0.12	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	0.36	EPA-8260B	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.28	EPA-8260B	ND		1
o-Xylene	ND	ug/L	0.50	0.082	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	121	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	116	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	99.9	%	80 - 120 (LCL - UCL)		EPA-8260B			2

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-02	Client Sample Name: Doolittle, SG-1B, 10/13/2015 1:15:00PM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	94.7	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/16/15	10/20/15 10:00	JPT	MS-V13	1	BYJ1575
2	EPA-8260B	10/16/15	10/21/15 02:11	JPT	MS-V13	50	BYJ1575

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-03		Client Sample Name: Doolittle, SG-1Ad2.0, 10/13/2015 9:55:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	0.0018	mg/kg	0.0050	0.00063	EPA-8260B	ND	J	1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	0.13	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
trans-1,2-Dichloroethene	0.0045	mg/kg	0.0050	0.0014	EPA-8260B	ND	J	1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-03		Client Sample Name: Doolittle, SG-1Ad2.0, 10/13/2015 9:55:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	65	mg/kg	1.0	0.26	EPA-8260B	ND	A01	2
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	0.32	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	125	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
1,2-Dichloroethane-d4 (Surrogate)	104	%	70 - 121 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	99.2	%	81 - 117 (LCL - UCL)		EPA-8260B			2

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-03	Client Sample Name: Doolittle, SG-1Ad2.0, 10/13/2015 9:55:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	89.5	%	74 - 121 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.6	%	74 - 121 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-8260B	10/19/15	10/19/15	21:42	ADC	MS-V2	1	BYJ1666
2	EPA-8260B	10/19/15	10/21/15	15:51	ADC	MS-V2	200	BYJ1666

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1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-04		Client Sample Name: Doolittle, SG-1Ad5.0, 10/13/2015 10:10:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	0.0018	mg/kg	0.0050	0.00063	EPA-8260B	ND	J	1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	0.13	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
trans-1,2-Dichloroethene	0.0030	mg/kg	0.0050	0.0014	EPA-8260B	ND	J	1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-04		Client Sample Name: Doolittle, SG-1Ad5.0, 10/13/2015 10:10:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	18	mg/kg	0.50	0.13	EPA-8260B	ND	A01	2
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	0.24	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	126	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
1,2-Dichloroethane-d4 (Surrogate)	114	%	70 - 121 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	105	%	81 - 117 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	104	%	81 - 117 (LCL - UCL)		EPA-8260B			2

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-04	Client Sample Name: Doolittle, SG-1Ad5.0, 10/13/2015 10:10:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	103	%	74 - 121 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	102	%	74 - 121 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-8260B	10/19/15	10/19/15 22:05	ADC	MS-V2	1	BYJ1666
2	EPA-8260B	10/19/15	10/21/15 11:20	ADC	MS-V2	100	BYJ1666

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-05	Client Sample Name: Doolittle, SG-2Ad2.0, 10/13/2015 10:50:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	ND	mg/kg	0.0050	0.00063	EPA-8260B	ND		1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	0.0021	mg/kg	0.0050	0.0013	EPA-8260B	ND	J	1
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-05		Client Sample Name: Doolittle, SG-2Ad2.0, 10/13/2015 10:50:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	1.9	mg/kg	0.050	0.013	EPA-8260B	ND	A01	2
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	0.070	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	133	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
1,2-Dichloroethane-d4 (Surrogate)	110	%	70 - 121 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	102	%	81 - 117 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.8	%	81 - 117 (LCL - UCL)		EPA-8260B			2

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-05	Client Sample Name: Doolittle, SG-2Ad2.0, 10/13/2015 10:50:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	95.0	%	74 - 121 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	99.1	%	74 - 121 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-8260B	10/19/15	10/19/15	22:27	ADC	MS-V2	1	BYJ1666
2	EPA-8260B	10/19/15	10/20/15	13:27	ADC	MS-V2	10	BYJ1666

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-06	Client Sample Name: Doolittle, SG-2Ad5.0, 10/13/2015 11:10:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	ND	mg/kg	0.0050	0.00063	EPA-8260B	ND		1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	0.020	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-06		Client Sample Name: Doolittle, SG-2Ad5.0, 10/13/2015 11:10:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	0.37	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	0.046	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	132	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
Toluene-d8 (Surrogate)	103	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	103	%	74 - 121 (LCL - UCL)		EPA-8260B			1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-06	Client Sample Name: Doolittle, SG-2Ad5.0, 10/13/2015 11:10:00AM, F. Cook
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Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-8260B	10/19/15	10/19/15	22:50	ADC	MS-V2	1	BYJ1666

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-07		Client Sample Name: Doolittle, SG-1Bd2.0, 10/13/2015 9:25:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	0.0021	mg/kg	0.0050	0.00063	EPA-8260B	ND	J	1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	0.14	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
trans-1,2-Dichloroethene	0.0052	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-07		Client Sample Name: Doolittle, SG-1Bd2.0, 10/13/2015 9:25:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	160	mg/kg	2.5	0.65	EPA-8260B	ND	A01	2
Toluene	0.0015	mg/kg	0.0050	0.0012	EPA-8260B	ND	J	1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	1.2	mg/kg	0.50	0.11	EPA-8260B	ND	A01	3
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	131	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
1,2-Dichloroethane-d4 (Surrogate)	106	%	70 - 121 (LCL - UCL)		EPA-8260B			2
1,2-Dichloroethane-d4 (Surrogate)	117	%	70 - 121 (LCL - UCL)		EPA-8260B			3
Toluene-d8 (Surrogate)	105	%	81 - 117 (LCL - UCL)		EPA-8260B			1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-07	Client Sample Name: Doolittle, SG-1Bd2.0, 10/13/2015 9:25:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Toluene-d8 (Surrogate)	103	%	81 - 117 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	102	%	81 - 117 (LCL - UCL)		EPA-8260B			3
4-Bromofluorobenzene (Surrogate)	87.3	%	74 - 121 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.3	%	74 - 121 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	102	%	74 - 121 (LCL - UCL)		EPA-8260B			3

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/19/15	10/19/15 23:13	ADC	MS-V2	1	BYJ1666
2	EPA-8260B	10/19/15	10/21/15 16:14	ADC	MS-V2	500	BYJ1666
3	EPA-8260B	10/19/15	10/21/15 11:42	ADC	MS-V2	100	BYJ1666

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-08		Client Sample Name: Doolittle, SG-1Bd5.0, 10/13/2015 9:40:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	0.0015	mg/kg	0.0050	0.00063	EPA-8260B	ND	J	1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	0.11	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
trans-1,2-Dichloroethene	0.0027	mg/kg	0.0050	0.0014	EPA-8260B	ND	J	1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-08		Client Sample Name: Doolittle, SG-1Bd5.0, 10/13/2015 9:40:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	40	mg/kg	0.50	0.13	EPA-8260B	ND	A01	2
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	0.26	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	125	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
1,2-Dichloroethane-d4 (Surrogate)	113	%	70 - 121 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	107	%	81 - 117 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	102	%	81 - 117 (LCL - UCL)		EPA-8260B			2

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-08	Client Sample Name: Doolittle, SG-1Bd5.0, 10/13/2015 9:40:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	106	%	74 - 121 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	101	%	74 - 121 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-8260B	10/19/15	10/19/15	23:35	ADC	MS-V2	1	BYJ1666
2	EPA-8260B	10/19/15	10/21/15	12:05	ADC	MS-V2	100	BYJ1666

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-09		Client Sample Name: Doolittle, SG-1Bd7.0, 10/13/2015 12:35:00PM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	0.0011	mg/kg	0.0050	0.00063	EPA-8260B	ND	J	1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	0.15	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
trans-1,2-Dichloroethene	0.0022	mg/kg	0.0050	0.0014	EPA-8260B	ND	J	1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-09		Client Sample Name: Doolittle, SG-1Bd7.0, 10/13/2015 12:35:00PM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	2.2	mg/kg	0.050	0.013	EPA-8260B	ND	A01	2
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	0.20	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	133	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
1,2-Dichloroethane-d4 (Surrogate)	103	%	70 - 121 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	106	%	81 - 117 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	102	%	81 - 117 (LCL - UCL)		EPA-8260B			2

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-09	Client Sample Name: Doolittle, SG-1Bd7.0, 10/13/2015 12:35:00PM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	105	%	74 - 121 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.1	%	74 - 121 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-8260B	10/19/15	10/19/15 23:58	ADC	MS-V2	1	BYJ1666
2	EPA-8260B	10/19/15	10/20/15 09:41	ADC	MS-V2	10	BYJ1666

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-10 **Client Sample Name:** Doolittle, SG-2Bd2.0, 10/13/2015 10:25:00AM, F. Cook

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	ND	mg/kg	0.0050	0.00063	EPA-8260B	ND		1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-10		Client Sample Name: Doolittle, SG-2Bd2.0, 10/13/2015 10:25:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	0.77	mg/kg	0.050	0.013	EPA-8260B	ND	A01	2
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	0.029	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	125	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
1,2-Dichloroethane-d4 (Surrogate)	108	%	70 - 121 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	109	%	81 - 117 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	106	%	81 - 117 (LCL - UCL)		EPA-8260B			2

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-10	Client Sample Name: Doolittle, SG-2Bd2.0, 10/13/2015 10:25:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Bromofluorobenzene (Surrogate)	98.9	%	74 - 121 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.7	%	74 - 121 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run		Instrument	Dilution	QC	
			Date/Time	Analyst			Batch ID	
1	EPA-8260B	10/19/15	10/20/15 00:20	ADC	MS-V2	1	BYJ1666	
2	EPA-8260B	10/19/15	10/20/15 10:04	ADC	MS-V2	10	BYJ1666	

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-11	Client Sample Name: Doolittle, SG-2Bd5.0, 10/13/2015 10:40:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	ND	mg/kg	0.0050	0.00063	EPA-8260B	ND		1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	0.0045	mg/kg	0.0050	0.0013	EPA-8260B	ND	J	1
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-11		Client Sample Name: Doolittle, SG-2Bd5.0, 10/13/2015 10:40:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	0.25	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	0.014	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	125	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	101	%	74 - 121 (LCL - UCL)		EPA-8260B			1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-11	Client Sample Name: Doolittle, SG-2Bd5.0, 10/13/2015 10:40:00AM, F. Cook
----------------------------------	---

Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-8260B	10/19/15	10/20/15 00:43	ADC	MS-V2	1	BYJ1666

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-12	Client Sample Name: Doolittle, SG-2Bd8.5, 10/13/2015 11:50:00AM, F. Cook
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform	ND	mg/kg	0.0050	0.00063	EPA-8260B	ND		1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene	0.018	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-12		Client Sample Name: Doolittle, SG-2Bd8.5, 10/13/2015 11:50:00AM, F. Cook						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	0.16	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	0.024	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	126	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
Toluene-d8 (Surrogate)	105	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	95.4	%	74 - 121 (LCL - UCL)		EPA-8260B			1

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1526412-12	Client Sample Name: Doolittle, SG-2Bd8.5, 10/13/2015 11:50:00AM, F. Cook
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Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-8260B	10/19/15	10/20/15 01:05	ADC	MS-V2	1	BYJ1666

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYJ1575						
Benzene	BYJ1575-BLK1	ND	ug/L	0.50	0.083	
Bromobenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.13	
Bromochloromethane	BYJ1575-BLK1	ND	ug/L	0.50	0.24	
Bromodichloromethane	BYJ1575-BLK1	ND	ug/L	0.50	0.14	
Bromoform	BYJ1575-BLK1	ND	ug/L	0.50	0.27	
Bromomethane	BYJ1575-BLK1	ND	ug/L	1.0	0.25	
n-Butylbenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.11	
sec-Butylbenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.15	
tert-Butylbenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.13	
Carbon tetrachloride	BYJ1575-BLK1	ND	ug/L	0.50	0.18	
Chlorobenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.093	
Chloroethane	BYJ1575-BLK1	ND	ug/L	0.50	0.14	
Chloroform	BYJ1575-BLK1	ND	ug/L	0.50	0.12	
Chloromethane	BYJ1575-BLK1	ND	ug/L	0.50	0.14	
2-Chlorotoluene	BYJ1575-BLK1	ND	ug/L	0.50	0.20	
4-Chlorotoluene	BYJ1575-BLK1	ND	ug/L	0.50	0.15	
Dibromochloromethane	BYJ1575-BLK1	ND	ug/L	0.50	0.13	
1,2-Dibromo-3-chloropropane	BYJ1575-BLK1	ND	ug/L	1.0	0.44	
1,2-Dibromoethane	BYJ1575-BLK1	ND	ug/L	0.50	0.16	
Dibromomethane	BYJ1575-BLK1	ND	ug/L	0.50	0.24	
1,2-Dichlorobenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.072	
1,3-Dichlorobenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.15	
1,4-Dichlorobenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.062	
Dichlorodifluoromethane	BYJ1575-BLK1	ND	ug/L	0.50	0.099	
1,1-Dichloroethane	BYJ1575-BLK1	ND	ug/L	0.50	0.11	
1,2-Dichloroethane	BYJ1575-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	BYJ1575-BLK1	ND	ug/L	0.50	0.18	
cis-1,2-Dichloroethene	BYJ1575-BLK1	ND	ug/L	0.50	0.085	
trans-1,2-Dichloroethene	BYJ1575-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloropropane	BYJ1575-BLK1	ND	ug/L	0.50	0.13	
1,3-Dichloropropane	BYJ1575-BLK1	ND	ug/L	0.50	0.086	
2,2-Dichloropropane	BYJ1575-BLK1	ND	ug/L	0.50	0.13	
1,1-Dichloropropene	BYJ1575-BLK1	ND	ug/L	0.50	0.085	
cis-1,3-Dichloropropene	BYJ1575-BLK1	ND	ug/L	0.50	0.14	

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYJ1575						
trans-1,3-Dichloropropene	BYJ1575-BLK1	ND	ug/L	0.50	0.079	
Ethylbenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.098	
Hexachlorobutadiene	BYJ1575-BLK1	ND	ug/L	0.50	0.17	
Isopropylbenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	BYJ1575-BLK1	ND	ug/L	0.50	0.12	
Methylene chloride	BYJ1575-BLK1	ND	ug/L	1.0	0.48	
Methyl t-butyl ether	BYJ1575-BLK1	ND	ug/L	0.50	0.11	
Naphthalene	BYJ1575-BLK1	ND	ug/L	0.50	0.36	
n-Propylbenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.11	
Styrene	BYJ1575-BLK1	ND	ug/L	0.50	0.068	
1,1,1,2-Tetrachloroethane	BYJ1575-BLK1	ND	ug/L	0.50	0.18	
1,1,1,2,2-Tetrachloroethane	BYJ1575-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	BYJ1575-BLK1	ND	ug/L	0.50	0.13	
Toluene	BYJ1575-BLK1	ND	ug/L	0.50	0.093	
1,2,3-Trichlorobenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.16	
1,2,4-Trichlorobenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.19	
1,1,1-Trichloroethane	BYJ1575-BLK1	ND	ug/L	0.50	0.11	
1,1,2-Trichloroethane	BYJ1575-BLK1	ND	ug/L	0.50	0.16	
Trichloroethene	BYJ1575-BLK1	ND	ug/L	0.50	0.085	
Trichlorofluoromethane	BYJ1575-BLK1	ND	ug/L	0.50	0.13	
1,2,3-Trichloropropane	BYJ1575-BLK1	ND	ug/L	1.0	0.24	
1,1,2-Trichloro-1,2,2-trifluoroethane	BYJ1575-BLK1	ND	ug/L	0.50	0.15	
1,2,4-Trimethylbenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.12	
1,3,5-Trimethylbenzene	BYJ1575-BLK1	ND	ug/L	0.50	0.12	
Vinyl chloride	BYJ1575-BLK1	ND	ug/L	0.50	0.12	
Total Xylenes	BYJ1575-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BYJ1575-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BYJ1575-BLK1	ND	ug/L	0.50	0.082	
1,2-Dichloroethane-d4 (Surrogate)	BYJ1575-BLK1	110	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BYJ1575-BLK1	97.2	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BYJ1575-BLK1	94.9	%	80 - 120 (LCL - UCL)		

QC Batch ID: BYJ1666

Benzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYJ1666						
Bromobenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
Bromochloromethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.00092	
Bromodichloromethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.00084	
Bromoform	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0015	
Bromomethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0016	
n-Butylbenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0015	
sec-Butylbenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0012	
tert-Butylbenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0012	
Carbon tetrachloride	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0011	
Chlorobenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
Chloroethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0014	
Chloroform	BYJ1666-BLK1	ND	mg/kg	0.0050	0.00063	
Chloromethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0014	
2-Chlorotoluene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0018	
4-Chlorotoluene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0014	
Dibromochloromethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.00099	
1,2-Dibromo-3-chloropropane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0017	
1,2-Dibromoethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0010	
Dibromomethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0018	
1,2-Dichlorobenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichlorobenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0014	
1,4-Dichlorobenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0015	
Dichlorodifluoromethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloroethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloroethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.00085	
1,1-Dichloroethene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,2-Dichloroethene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
trans-1,2-Dichloroethene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloropropane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichloropropane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0011	
2,2-Dichloropropane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloropropene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,3-Dichloropropene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0011	
trans-1,3-Dichloropropene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0012	

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYJ1666						
Ethylbenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0015	
Hexachlorobutadiene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0017	
Isopropylbenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
p-Isopropyltoluene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
Methylene chloride	BYJ1666-BLK1	ND	mg/kg	0.010	0.0024	
Methyl t-butyl ether	BYJ1666-BLK1	ND	mg/kg	0.0050	0.00050	
Naphthalene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0014	
n-Propylbenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
Styrene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0014	
1,1,1,2-Tetrachloroethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2,2-Tetrachloroethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0011	
Tetrachloroethene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
Toluene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0012	
1,2,3-Trichlorobenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0021	
1,2,4-Trichlorobenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0020	
1,1,1-Trichloroethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2-Trichloroethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.00077	
Trichloroethene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0011	
Trichlorofluoromethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0011	
1,2,3-Trichloropropane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0016	
1,1,2-Trichloro-1,2,2-trifluoroethane	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
1,2,4-Trimethylbenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0013	
1,3,5-Trimethylbenzene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0015	
Vinyl chloride	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0016	
Total Xylenes	BYJ1666-BLK1	ND	mg/kg	0.010	0.0034	
p- & m-Xylenes	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0022	
o-Xylene	BYJ1666-BLK1	ND	mg/kg	0.0050	0.0012	
1,2-Dichloroethane-d4 (Surrogate)	BYJ1666-BLK1	98.2	%	70 - 121 (LCL - UCL)		
Toluene-d8 (Surrogate)	BYJ1666-BLK1	100	%	81 - 117 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BYJ1666-BLK1	94.1	%	74 - 121 (LCL - UCL)		

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
QC Batch ID: BYJ1575										
Benzene	BYJ1575-BS1	LCS	27.370	25.000	ug/L	109		70 - 130		
Bromodichloromethane	BYJ1575-BS1	LCS	27.410	25.000	ug/L	110		70 - 130		
Chlorobenzene	BYJ1575-BS1	LCS	25.650	25.000	ug/L	103		70 - 130		
Chloroethane	BYJ1575-BS1	LCS	28.840	25.000	ug/L	115		70 - 130		
1,4-Dichlorobenzene	BYJ1575-BS1	LCS	27.430	25.000	ug/L	110		70 - 130		
1,1-Dichloroethane	BYJ1575-BS1	LCS	27.450	25.000	ug/L	110		70 - 130		
1,1-Dichloroethene	BYJ1575-BS1	LCS	27.870	25.000	ug/L	111		70 - 130		
Toluene	BYJ1575-BS1	LCS	27.090	25.000	ug/L	108		70 - 130		
Trichloroethene	BYJ1575-BS1	LCS	27.770	25.000	ug/L	111		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BYJ1575-BS1	LCS	10.510	10.000	ug/L	105		75 - 125		
Toluene-d8 (Surrogate)	BYJ1575-BS1	LCS	10.390	10.000	ug/L	104		80 - 120		
4-Bromofluorobenzene (Surrogate)	BYJ1575-BS1	LCS	10.820	10.000	ug/L	108		80 - 120		
QC Batch ID: BYJ1666										
Benzene	BYJ1666-BS1	LCS	0.11166	0.12500	mg/kg	89.3		70 - 130		
Bromodichloromethane	BYJ1666-BS1	LCS	0.11141	0.12500	mg/kg	89.1		70 - 130		
Chlorobenzene	BYJ1666-BS1	LCS	0.10723	0.12500	mg/kg	85.8		70 - 130		
Chloroethane	BYJ1666-BS1	LCS	0.10957	0.12500	mg/kg	87.7		70 - 130		
1,4-Dichlorobenzene	BYJ1666-BS1	LCS	0.10088	0.12500	mg/kg	80.7		70 - 130		
1,1-Dichloroethane	BYJ1666-BS1	LCS	0.11391	0.12500	mg/kg	91.1		70 - 130		
1,1-Dichloroethene	BYJ1666-BS1	LCS	0.11210	0.12500	mg/kg	89.7		70 - 130		
Toluene	BYJ1666-BS1	LCS	0.11218	0.12500	mg/kg	89.7		70 - 130		
Trichloroethene	BYJ1666-BS1	LCS	0.11155	0.12500	mg/kg	89.2		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BYJ1666-BS1	LCS	0.051430	0.050000	mg/kg	103		70 - 121		
Toluene-d8 (Surrogate)	BYJ1666-BS1	LCS	0.050180	0.050000	mg/kg	100		81 - 117		
4-Bromofluorobenzene (Surrogate)	BYJ1666-BS1	LCS	0.048740	0.050000	mg/kg	97.5		74 - 121		

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: BYJ1575		Used client sample: N								
Benzene	MS	1524843-35	ND	28.250	25.000	ug/L		113		70 - 130
	MSD	1524843-35	ND	24.450	25.000	ug/L	14.4	97.8	20	70 - 130
Bromodichloromethane	MS	1524843-35	ND	28.760	25.000	ug/L		115		70 - 130
	MSD	1524843-35	ND	26.010	25.000	ug/L	10.0	104	20	70 - 130
Chlorobenzene	MS	1524843-35	ND	28.410	25.000	ug/L		114		70 - 130
	MSD	1524843-35	ND	25.320	25.000	ug/L	11.5	101	20	70 - 130
Chloroethane	MS	1524843-35	ND	29.590	25.000	ug/L		118		70 - 130
	MSD	1524843-35	ND	24.140	25.000	ug/L	20.3	96.6	20	70 - 130
1,4-Dichlorobenzene	MS	1524843-35	ND	28.330	25.000	ug/L		113		70 - 130
	MSD	1524843-35	ND	26.380	25.000	ug/L	7.1	106	20	70 - 130
1,1-Dichloroethane	MS	1524843-35	ND	28.220	25.000	ug/L		113		70 - 130
	MSD	1524843-35	ND	24.450	25.000	ug/L	14.3	97.8	20	70 - 130
1,1-Dichloroethene	MS	1524843-35	ND	29.870	25.000	ug/L		119		70 - 130
	MSD	1524843-35	ND	24.190	25.000	ug/L	21.0	96.8	20	70 - 130
Toluene	MS	1524843-35	ND	28.970	25.000	ug/L		116		70 - 130
	MSD	1524843-35	ND	25.050	25.000	ug/L	14.5	100	20	70 - 130
Trichloroethene	MS	1524843-35	ND	29.520	25.000	ug/L		118		70 - 130
	MSD	1524843-35	ND	24.880	25.000	ug/L	17.1	99.5	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1524843-35	ND	9.8900	10.000	ug/L		98.9		75 - 125
	MSD	1524843-35	ND	9.6100	10.000	ug/L	2.9	96.1		75 - 125
Toluene-d8 (Surrogate)	MS	1524843-35	ND	10.300	10.000	ug/L		103		80 - 120
	MSD	1524843-35	ND	10.130	10.000	ug/L	1.7	101		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1524843-35	ND	10.320	10.000	ug/L		103		80 - 120
	MSD	1524843-35	ND	10.070	10.000	ug/L	2.5	101		80 - 120

QC Batch ID: BYJ1666		Used client sample: N								
Benzene	MS	1524843-32	ND	0.097520	0.12500	mg/kg		78.0		70 - 130
	MSD	1524843-32	ND	0.10381	0.12500	mg/kg	6.2	83.0	20	70 - 130
Bromodichloromethane	MS	1524843-32	ND	0.10121	0.12500	mg/kg		81.0		70 - 130
	MSD	1524843-32	ND	0.10390	0.12500	mg/kg	2.6	83.1	20	70 - 130
Chlorobenzene	MS	1524843-32	ND	0.099480	0.12500	mg/kg		79.6		70 - 130
	MSD	1524843-32	ND	0.10267	0.12500	mg/kg	3.2	82.1	20	70 - 130
Chloroethane	MS	1524843-32	ND	0.095600	0.12500	mg/kg		76.5		70 - 130
	MSD	1524843-32	ND	0.10243	0.12500	mg/kg	6.9	81.9	20	70 - 130
1,4-Dichlorobenzene	MS	1524843-32	ND	0.093290	0.12500	mg/kg		74.6		70 - 130
	MSD	1524843-32	ND	0.10530	0.12500	mg/kg	12.1	84.2	20	70 - 130
1,1-Dichloroethane	MS	1524843-32	ND	0.096370	0.12500	mg/kg		77.1		70 - 130
	MSD	1524843-32	ND	0.10413	0.12500	mg/kg	7.7	83.3	20	70 - 130

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
QC Batch ID: BYJ1666		Used client sample: N								
1,1-Dichloroethene	MS	1524843-32	ND	0.098900	0.12500	mg/kg		79.1		70 - 130
	MSD	1524843-32	ND	0.10519	0.12500	mg/kg	6.2	84.2	20	70 - 130
Toluene	MS	1524843-32	ND	0.10010	0.12500	mg/kg		80.1		70 - 130
	MSD	1524843-32	ND	0.10645	0.12500	mg/kg	6.1	85.2	20	70 - 130
Trichloroethene	MS	1524843-32	ND	0.10075	0.12500	mg/kg		80.6		70 - 130
	MSD	1524843-32	ND	0.10599	0.12500	mg/kg	5.1	84.8	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1524843-32	ND	0.049850	0.050000	mg/kg		99.7		70 - 121
	MSD	1524843-32	ND	0.051050	0.050000	mg/kg	2.4	102		70 - 121
Toluene-d8 (Surrogate)	MS	1524843-32	ND	0.051160	0.050000	mg/kg		102		81 - 117
	MSD	1524843-32	ND	0.050430	0.050000	mg/kg	1.4	101		81 - 117
4-Bromofluorobenzene (Surrogate)	MS	1524843-32	ND	0.051450	0.050000	mg/kg		103		74 - 121
	MSD	1524843-32	ND	0.050520	0.050000	mg/kg	1.8	101		74 - 121

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Well Test, Inc.
1180 Delmas Ave.
San Jose, CA 95125

Reported: 10/22/2015 12:45
Project: Water/Soil Samples
Project Number: 4601 - 13778 Doolittle
Project Manager: Bill Dugan

Notes And Definitions

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A01 Detection and quantitation limits are raised due to sample dilution.
- Q02 Matrix spike precision is not within the control limits.
- S09 The surrogate recovery on the sample for this compound was not within the control limits.

ATTACHMENT F

Boring Logs

FIELD LOCATION OF BORING:

PROJECT: No. 4601 DATES DRILLED: 10/13/15

CLIENT: Marina Faire Shopping Center DRILLER: WTI (C-57 #843074)

SITE ADDRESS: 13778 Doolittle Dr., San Leandro, CA LOGGED BY: Forrest Cook PG#8201

PAGE 1 OF 1

DRILLING METHOD AND EQUIPMENT: 3" Diameter Hand Auger

WATER LEVEL		TIME	
1st Encountered	NA	Start	
Static	NA	Finish	

Depth (Feet)	Sample	Sample ID	Blow Count	PID (ppm)	Well Const.	Lithology	USCS	SOIL DESCRIPTION
1								4" Concrete Slab, 1" Sand +plastic vapor barrier, 6" pea gravel, 12" Imported engineered fill
2	█	SG-1Ad2.0		185			CL	SILTY CLAY (CL): Black (GLEY 1 2.5/N), slightly damp, estimated firm, estimated medium density
3								
4								
5	█	SG-1Ad5.0		134				
6								Bottom of Hole = 5.5 ft.
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

WELL / BORING CONSTRUCTION DETAILS:

Well Casing = 1/4" O.D. Teflon ® Tubing 0' to 5.0'
 Sand = #2/12 4.5' to 5.5' Bentonite = 3.5' to 4.5' Neat Cement = 3.5' to 6"



**13778 DOOLITTLE DRIVE
 SAN LEANDRO, CALIFORNIA**

BORING

BORING LOG

SG-1A

FIELD LOCATION OF BORING:

PROJECT: No. 4601 DATES DRILLED: 10/13/15

CLIENT: Marina Faire Shopping Center DRILLER: WTI (C-57 #843074)

PAGE 1 OF 1

SITE ADDRESS: 13778 Doolittle Dr., San Leandro, CA LOGGED BY: Forrest Cook PG#8201

DRILLING METHOD AND EQUIPMENT: 3" Diameter Hand Auger

WATER LEVEL		TIME	
1st Encountered	9.0'	Start	
Static	6.0'	Finish	

Depth (Feet)	Sample	Sample ID	Blow Count	PID (ppm)	Well Const.	Lithology	USCS	SOIL DESCRIPTION		
1								4" Concrete Slab, 1" Sand +plastic vapor barrier, 6" pea gravel, 12" Imported engineered fill		
2	█	SG-1Bd2.0		208	Backfilled with neat cement	[Hatched Pattern]	CL	SILTY CLAY (CL): Black (GLEY 1 2.5/N), slightly damp, estimated firm, estimated medium density, estimated medium to high plasticity.		
3										
4										
5	█	SG-1Bd5.0		41				color change to Bluish Grey (GLEY 2 6/1)		
6							▼	Static water = 6.0'		
7	█	SG-1Bd7.0		30						
8										
9							▽	1st encountered water = 9.0'		
10								Bottom of Hole = 9.0 ft.		
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

WELL / BORING CONSTRUCTION DETAILS:

Backfilled with neat cement.



13778 DOOLITTLE DRIVE
SAN LEANDRO, CALIFORNIA

BORING

BORING LOG

SG-1B

FIELD LOCATION OF BORING:

PROJECT: No. 4601 DATES DRILLED: 10/13/15

CLIENT: Marina Faire Shopping Center DRILLER: WTI (C-57 #843074)

PAGE 1 OF 1

SITE ADDRESS: 13778 Doolittle Dr., San Leandro, CA LOGGED BY: Forrest Cook PG#8201

DRILLING METHOD AND EQUIPMENT: 3" Diameter Hand Auger

WATER LEVEL		TIME	
1st Encountered	NA	Start	
Static	NA	Finish	

Depth (Feet)	Sample	Sample ID	Blow Count	PID (ppm)	Well Const.	Lithology	USCS	SOIL DESCRIPTION
1								4" Concrete Slab, 1" Sand +plastic vapor barrier, 6" pea gravel, 12" Imported engineered fill
2	█	SG-2Ad2.0		5.1			CL	SILTY CLAY (CL): Black (GLEY 1 2.5/N), slightly damp, estimated firm, estimated medium density, estimated medium to high plasticity.
3								
4								
5	█	SG-2Ad5.0		5.8				
6								Bottom of Hole = 5.5 ft.
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

WELL / BORING CONSTRUCTION DETAILS:

Well Casing = 1/4" O.D. Teflon ® Tubing 0' to 5.0'
 Sand = #2/12 4.5' to 5.5' Bentonite = 3.5' to 4.5' Neat Cement = 3.5' to 6"



**13778 DOOLITTLE DRIVE
 SAN LEANDRO, CALIFORNIA**

BORING

BORING LOG

SG-2A

FIELD LOCATION OF BORING:

PROJECT: No. 4601 DATES DRILLED: 10/13/15

CLIENT: Marina Faire Shopping Center DRILLER: WTI (C-57 #843074)

PAGE 1 OF 1

SITE ADDRESS: 13778 Doolittle Dr., San Leandro, CA LOGGED BY: Forrest Cook PG#8201

DRILLING METHOD AND EQUIPMENT: 3" Diameter Hand Auger

WATER LEVEL

TIME

1st Encountered

8.5'

Start

Static

6.0'

Finish

SOIL DESCRIPTION

Depth (Feet)	Sample	Sample ID	Blow Count	PID (ppm)	Well Const.	Lithology	USCS	SOIL DESCRIPTION
1								4" Concrete Slab, 1" Sand +plastic vapor barrier, 6" pea gravel, 12" Imported engineered fill
2	■	SG-2Bd2.0		3.1	Backfilled with neat cement	[Hatched Pattern]	CL	SILTY CLAY (CL): Black (GLEY 1 2.5/N), slightly damp, estimated firm, estimated medium density, estimated medium to high plasticity.
3								
4								
5	■	SG-2Bd5.0		2.1			▼	Static water = 6.0'
6								
7								
8	■	SG-2Bd5.0		0.3			▽	1st encountered water = 8.5'
9								Bottom of Hole = 8.75 ft.
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

WELL / BORING CONSTRUCTION DETAILS:

Backfilled with neat cement.



13778 DOOLITTLE DRIVE
SAN LEANDRO, CALIFORNIA

BORING

BORING LOG

SG-2B

ATTACHMENT G

Cancer Risk Calculations

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Input Data

Page 1-2
 Version: November 1999
 Revised 07/29/2010

Case Name:

Four Seasons : SG-1A (10.30.15)

CHEMICAL OF CONCERN:

Enter Chemical Name = tetrachloroethene (PCE)

- | | |
|--|---|
| C11 benzene | E11 dichloromethane (methylene chloride) |
| C12 benzo(a)pyrene | E12 ethylbenzene |
| C13 carbon tetrachloride | E13 naphthalene |
| C14 chlorobenzene | E14 methyl tertiary butyl ether (MTBE) |
| C15 chloroethane (ethyl chloride) | E15 tetrachloroethene (PCE) |
| C16 chloromethane (methyl chloride) | E16 toluene |
| C17 1,2-dichlorobenzene | E17 1,1,1-trichloroethane |
| C18 1,3-dichlorobenzene | E18 1,1,2-trichloroethane |
| C19 1,4-dichlorobenzene | E19 trichloroethene (TCE) |
| C20 1,1-dichloroethene (1,1-DCE) | E20 trichloromethane (chloroform) |
| C21 trans-1,2-dichloroethene | E21 vinyl chloride |
| C22 1,1-dichloroethane (1,1-DCA) | E22 xylene |
| C23 1,2-dichloroethane (1,2-DCA) | |

Chemical Mixture (if app.) =

- | | |
|---------------------|----------------------|
| C27 Gasoline | E27 Fuel Oil |
| C28 Kerosene | E28 Waste Oil |
| C29 Diesel | |

If compound is not listed then data must be entered into the site-specific field.

SITE SPECIFIC INFORMATION			Site-Specific	Value Used
Mole fraction	dimensionless	MF		0.0000
Temperature	K	T		293
Water concentration (chemical)	ug/l	C _w		0
Soil concentration (chemical)	mg/kg	C _t		0
Soil concentration (TPH/TRPH)	mg/kg	C _t		0
Soil gas concentration (measured)	mg/m3 (ug/l)	C _{sg} (m)	20000	20000
Depth of contamination or Soil Gas	m	X	1.52	1.52

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL

Data Input

Version: November 1999

Revised 07/29/2010

CHEMICAL PROPERTIES			Site Specific	Value Used
Henry's Law Constant	dimensionless	H		0.75
Vapor pressure	atm	VP		0.019
Molecular weight (chemical)	mg/mole	MW		166,000
Molecular weight (mixture)	mg/mole	MW(m)		#N/A
Universal gas constant	atm-m ³ /mole-K	R	XXXXXXXXXX	8.20E-05
Diffusion coefficient in air	cm ² /sec	D _a		0.072
Organic carbon partitioning coef.	cm ³ /gm	K _{oc}		270
SOIL PROPERTIES				
Total porosity	dimensionless	θ		0.3
Air-filled porosity	dimensionless	θ _a		0.2
Water-filled porosity	dimensionless	θ _w	XXXXXXXXXX	0.1
Bulk density (dry)	gm/cc	r _b		1.8
Weight fraction of organic carbon	dimensionless	f _{oc}		0.01
BUILDING SPECIFICATIONS				
Floor area of building	m ²	A		1
% of floor area that flux occurs	dimensionless			100%
Interior Height of building	m	R _h		2.44
Exchange rate of air	exchanges/hr	E		0.83
Slab Attenuation factor	dimensionless	S _b		0.1
OUTDOOR AIR COMPONENT				
Downwind contamination length	m	L		0
Wind speed	m/hr	u		16000
Height of building openings	m	h		2
EXPOSURE SCENARIO Default values are for Industrial Uses				
Body weight	kg	BW		70
Inhalation rate	m ³ /day	IR		20
Exposure duration	yrs	ED		25
Hours per day	hr/day			12
Days per week	days/week			5
Weeks per year	weeks/yr			50
HEALTH RISK FACTORS				
Reference dose	mg/kg-day	RfD		0.01
Slope factor (potency)	1/(mg/kg-day)	SF		0.021

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons : SG-1A (10.30.15)

Chemical: tetrachloroethene (PCE)

Variable Descriptions

Units

CALCULATION OF SOIL GAS CONCENTRATION

A. SOURCE - Free Product/Soil>100mg/kg.

Mole fraction	MF	=	0.00E+00	dimensionless
Molecular weight	MW	=	1.66E+05	mg/mole
Vapor pressure	VP	=	1.90E-02	atm
Universal gas constant	R	=	8.20E-05	atm-m3/mole-K
Temperature	T	=	2.93E+02	K
Calculated soil gas concentration	C_{sg(fp)}	=	0.00E+00	mg/m3

B. SOURCE - Groundwater

Water contamination level	C _w	=	0.00E+00	ug/l
Henry's Law Constant	H	=	7.50E-01	dimensionless
Calculated soil gas concentration	C_{sg(gw)}	=	0.00E+00	mg/m3

C. SOURCE - Soil < 100 mg/kg

Soil contamination level	C _t	=	0.00E+00	mg/kg
Henry's Law Constant	H	=	7.50E-01	dimensionless
Bulk density (dry)	ρ _b	=	1.80E+00	gm/cc
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Water-filled porosity	θ _w	=	1.00E-01	dimensionless
Soil/water distribution coef.	K _d	=	2.70E+00	cm3/gm
Calculated soil gas concentration	C_{sg(s)}	=	0.00E+00	mg/m3

D. SOURCE - Measured Soil Gas

Measured soil gas concentration	C_{sg(m)}	=	2.00E+04	mg/m3 (ug/l)
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E. SOIL GAS CONCENTRATION USED IN RISK CALCULATIONS >>>> 2.00E+04 mg/m3

DIFFUSIVE TRANSPORT UPWARD IN UNSATURATED ZONE

Total porosity	θ	=	3.00E-01	dimensionless
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Diffusion coefficient in air	D _a	=	7.20E-02	cm2/sec
Effective diffusion coefficient	D_e	=	3.76E-03	cm2/sec
Depth of contamination or C _{sg}	X	=	1.52E+00	m
Calculated Flux	F_x	=	1.78E+01	mg/m2-hour

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons : SG-1A (10.30.15)

CALCULATING VAPOR CONCENTRATION IN BUILDING

A. INDOOR AIR COMPONENT

Floor area of building	A	=	1.00E+00	m ²
% of floor area that flux occurs		=	1.00E+00	dimensionless
Slab Attenuation factor	S _b	=	1.00E-01	dimensionless
Flux area within building	A _f	=	1.00E-01	m ²
Interior Height of building	R _h	=	2.44E+00	m
Volume of building	V	=	2.44E+00	m ³
Exchange rate of air	E	=	8.30E-01	exchanges/hr
Ventilation rate	Q	=	2.03E+00	m ³ /hr
Indoor air component	C_i	=	8.80E-01	mg/m³

B. OUTDOOR AIR COMPONENT

Downwind contamination length	L	=	0.00E+00	m
Wind speed	u	=	1.60E+04	m/hr
Height of building openings (or height of breathing zone)	h	=	2.00E+00	m
Outdoor air component	C_o	=	0.00E+00	mg/m³

C. TOTAL INDOOR AIR CONCENTRATION

C_t	=	8.80E-01	mg/m³
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EXPOSURE SCENARIO

Body weight	BW	=	7.00E+01	kg
Inhalation rate	IR	=	2.00E+01	m ³ /day
Exposure duration	ED	=	2.50E+01	yrs
Hours per day	conversion	=	1.20E+01	hr/day
Exposure time	ET	=	5.00E-01	hr/24 hours
Days per week	conversion	=	5.00E+00	days/week
Weeks per year	conversion	=	5.00E+01	weeks/yr
Exposure frequency	EF	=	2.50E+02	days/yr
Averaging Time (carc. risk)	AT	=	2.56E+04	days
Averaging Time (non-carc. risk)	AT	=	9.13E+03	days
Chemical Intake (carc. risk)	IT_c	=	3.08E-02	mg/kg-day
Chemical Intake (non-carc. risk)	IT_{nc}	=	8.61E-02	mg/kg-day

NON-CARCINOGENIC RISK (Chronic Risk)

Chemical Intake (non-carc. risk)	IT _{nc}	=	8.61E-02	mg/kg-day
Reference dose	RfD	=	1.00E-02	mg/kg-day
Hazard Index	HI	=	8.61E+00	

CARCINOGENIC RISK

Chemical Intake (carc. risk)	IT _c	=	3.08E-02	mg/kg-day
Slope factor (potency)	SF	=	2.10E-02	1/(mg/kg-day)
Cancer Risk	Risk	=	6.46E-04	

Revised 07/29/2010	Mol. Wgt mg/mole	Vapor Pressure atm	Solubility mg/l-H2O(T)	Henry's Law Constant (dim-less)	Da cm2/sec	Koc cm3/gm
benzene	78,110	1.3E-01	1,800	2.3E-01	8.8E-02	6.2E+01
benzo(a)pyrene	252,300	1.3E-03	0.00162	4.6E-05	4.3E-02	1.0E+06
carbon tetrachloride	153,840	1.2E-01	790	1.2E+00	7.8E-02	1.5E+02
chlorobenzene	112,560	1.6E-02	470	1.5E-01	7.3E-02	2.2E+02
chloroethane (ethyl chloride)	64,520	1.3E+00	5,700	4.5E-01	1.0E-01	1.5E+01
chloromethane (methyl chloride)	50,490	5.7E+00	8,200	9.8E-01	1.1E-01	3.5E+01
1,2-dichlorobenzene	147,010	1.9E-03	160	7.8E-02	6.9E-02	3.8E+02
1,3-dichlorobenzene	147,010	2.8E-03	160	7.8E-02	6.9E-02	3.8E+02
1,4-dichlorobenzene	147,010	1.3E-03	74	1.0E-01	6.9E-02	6.2E+02
1,1-dichloroethene (1,1-DCE)	96,940	7.8E-01	2,300	1.1E+00	9.0E-02	6.5E+01
trans-1,2-dichloroethene	96,950	5.2E-01	6,300	3.8E-01	7.1E-02	3.8E+01
1,1-dichloroethane (1,1-DCA)	98,970	2.5E-01	5,100	2.3E-01	7.4E-02	5.3E+01
1,2-dichloroethane (1,2-DCA)	98,960	8.0E-02	8,500	4.0E-02	1.0E-01	3.8E+01
dichloromethane (methylene chloride)	84,900	5.3E-01	13,000	9.0E-02	1.0E-01	1.0E+01
ethylbenzene	106,000	1.5E-02	170	3.2E-01	7.5E-02	2.0E+02
naphthalene	128,200	3.0E-04	31	2.0E-02	5.9E-02	1.2E+03
methyl tertiary butyl ether (MTBE)	88,150	3.2E-01	48,000	2.4E-02	8.0E-02	7.8E+02
tetrachloroethene (PCE)	166,000	1.9E-02	200	7.5E-01	7.2E-02	2.7E+02
toluene	92,150	3.7E-02	530	2.7E-01	8.7E-02	1.4E+02
1,1,1-trichloroethane	133,420	1.3E-01	1,300	7.1E-01	7.8E-02	1.4E+02
1,1,2-trichloroethane	133,000	2.5E-02	4,400	3.7E-02	7.8E-02	7.5E+01
trichloroethene (TCE)	131,400	7.6E-02	1,100	4.2E-01	7.9E-02	9.4E+01
trichloromethane (chloroform)	119,000	2.6E-01	7,900	1.5E-01	1.0E-01	5.3E+01
vinyl chloride	62,500	3.5E+00	2,800	1.1E+00	1.1E-01	1.9E+01
xylene	106,160	1.1E-02	180	2.7E-01	7.8E-02	2.5E+02

78,110 1.3E-01 1,800 2.3E-01 8.8E-02 6.2E+01

tetrachloroethene (PCE) 166,000 1.9E-02 200 7.5E-01 7.2E-02 2.7E+02

Gasoline 100,000
Kerosene 200,000
Diesel 200,000
Fuel Oil 200,000
Waste Oil 400,000

100,000

0 #N/A

Revised 7/29/2010	Cancer Slope Factor 1 / (mg/kg-day)	Reference Dose mg/kg-day
	Inhalation	Inhalation
benzene	1.0E-01	8.6E-03
benzo(a)pyrene	3.9E+00	
carbon tetrachloride	1.5E-01	7.0E-04
chlorobenzene		1.7E-02
chloroethane (ethyl chloride)	2.9E-03	2.9E+00
chloromethane (methyl chloride)		2.6E-02
1,2-dichlorobenzene		5.7E-02
1,3-dichlorobenzene		3.0E-02
1,4-dichlorobenzene	4.0E-02	2.3E-01
1,1-dichloroethene (1,1-DCE)		5.7E-02
1,1-dichloroethane (1,1-DCA)	5.7E-03	1.4E-01
1,2-dichloroethane (1,2-DCA)	7.2E-02	1.4E-03
trans-1,2-dichloroethene		2.0E-02
dichloromethane (methylene chloride)	3.5E-03	8.6E-01
ethylbenzene	8.7E-03	2.9E-01
naphthalene	1.2E-01	8.6E-04
methyl tertiary butyl ether (MTBE)	1.8E-03	8.6E-01
1,1,1-trichloroethane		6.3E-01
1,1,2-trichloroethane	5.7E-02	4.0E-03
trichloroethene (TCE)	7.0E-03	1.7E-01
trichloromethane (chloroform)	1.9E-02	8.6E-05
tetrachloroethene (PCE)	2.1E-02	1.0E-02
toluene		1.1E-01
vinyl chloride	2.7E-01	2.9E-02
xylene		2.9E-02

	1.0E-01	8.6E-03
tetrachloroethene (PCE)	2.1E-02	1.0E-02

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Input Data

Case Name:

Four Seasons : SG-2A (10.30.15)

CHEMICAL OF CONCERN:

Enter Chemical Name = tetrachloroethene (PCE)

- | | |
|--|---|
| C11 benzene | E11 dichloromethane (methylene chloride) |
| C12 benzo(a)pyrene | E12 ethylbenzene |
| C13 carbon tetrachloride | E13 naphthalene |
| C14 chlorobenzene | E14 methyl tertiary butyl ether (MTBE) |
| C15 chloroethane (ethyl chloride) | E15 tetrachloroethene (PCE) |
| C16 chloromethane (methyl chloride) | E16 toluene |
| C17 1,2-dichlorobenzene | E17 1,1,1-trichloroethane |
| C18 1,3-dichlorobenzene | E18 1,1,2-trichloroethane |
| C19 1,4-dichlorobenzene | E19 trichloroethene (TCE) |
| C20 1,1-dichloroethene (1,1-DCE) | E20 trichloromethane (chloroform) |
| C21 trans-1,2-dichloroethene | E21 vinyl chloride |
| C22 1,1-dichloroethane (1,1-DCA) | E22 xylene |
| C23 1,2-dichloroethane (1,2-DCA) | |

Chemical Mixture (if app.) =

- | | |
|---------------------|----------------------|
| C27 Gasoline | E27 Fuel Oil |
| C28 Kerosene | E28 Waste Oil |
| C29 Diesel | |

If compound is not listed then data must be entered into the site-specific field.

SITE SPECIFIC INFORMATION			Site-Specific	Value Used
Mole fraction	dimensionless	MF		0.0000
Temperature	K	T		293
Water concentration (chemical)	ug/l	C _w		0
Soil concentration (chemical)	mg/kg	C _t		0
Soil concentration (TPH/TRPH)	mg/kg	C _t		0
Soil gas concentration (measured)	mg/m3 (ug/l)	C _{sg} (m)	1300	1300
Depth of contamination or Soil Gas	m	X	1.52	1.52

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL

Data Input

Version: November 1999

Revised 07/29/2010

CHEMICAL PROPERTIES			Site Specific	Value Used
Henry's Law Constant	dimensionless	H		0.75
Vapor pressure	atm	VP		0.019
Molecular weight (chemical)	mg/mole	MW		166,000
Molecular weight (mixture)	mg/mole	MW(m)		#N/A
Universal gas constant	atm-m ³ /mole-K	R	XXXXXXXXXX	8.20E-05
Diffusion coefficient in air	cm ² /sec	D _a		0.072
Organic carbon partitioning coef.	cm ³ /gm	K _{oc}		270
SOIL PROPERTIES				
Total porosity	dimensionless	θ		0.3
Air-filled porosity	dimensionless	θ _a		0.2
Water-filled porosity	dimensionless	θ _w	XXXXXXXXXX	0.1
Bulk density (dry)	gm/cc	r _b		1.8
Weight fraction of organic carbon	dimensionless	foc		0.01
BUILDING SPECIFICATIONS				
Floor area of building	m ²	A		1
% of floor area that flux occurs	dimensionless			100%
Interior Height of building	m	R _h		2.44
Exchange rate of air	exchanges/hr	E		0.83
Slab Attenuation factor	dimensionless	S _b		0.1
OUTDOOR AIR COMPONENT				
Downwind contamination length	m	L		0
Wind speed	m/hr	u		16000
Height of building openings	m	h		2
EXPOSURE SCENARIO Default values are for Industrial Uses				
Body weight	kg	BW		70
Inhalation rate	m ³ /day	IR		20
Exposure duration	yrs	ED		25
Hours per day	hr/day			12
Days per week	days/week			5
Weeks per year	weeks/yr			50
HEALTH RISK FACTORS				
Reference dose	mg/kg-day	RfD		0.01
Slope factor (potency)	1/(mg/kg-day)	SF		0.021

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons : SG-2A (10.30.15)

Chemical: tetrachloroethene (PCE)

Variable Descriptions

Units

CALCULATION OF SOIL GAS CONCENTRATION

A. SOURCE - Free Product/Soil>100mg/kg.

Mole fraction	MF	=	0.00E+00	dimensionless
Molecular weight	MW	=	1.66E+05	mg/mole
Vapor pressure	VP	=	1.90E-02	atm
Universal gas constant	R	=	8.20E-05	atm-m3/mole-K
Temperature	T	=	2.93E+02	K
Calculated soil gas concentration	C_{sg(fp)}	=	0.00E+00	mg/m3

B. SOURCE - Groundwater

Water contamination level	C _w	=	0.00E+00	ug/l
Henry's Law Constant	H	=	7.50E-01	dimensionless
Calculated soil gas concentration	C_{sg(gw)}	=	0.00E+00	mg/m3

C. SOURCE - Soil < 100 mg/kg

Soil contamination level	C _t	=	0.00E+00	mg/kg
Henry's Law Constant	H	=	7.50E-01	dimensionless
Bulk density (dry)	ρ _b	=	1.80E+00	gm/cc
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Water-filled porosity	θ _w	=	1.00E-01	dimensionless
Soil/water distribution coef.	K _d	=	2.70E+00	cm3/gm
Calculated soil gas concentration	C_{sg(s)}	=	0.00E+00	mg/m3

D. SOURCE - Measured Soil Gas

Measured soil gas concentration	C_{sg(m)}	=	1.30E+03	mg/m3 (ug/l)
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E. SOIL GAS CONCENTRATION USED IN RISK CALCULATIONS >>>> 1.30E+03 mg/m3

DIFFUSIVE TRANSPORT UPWARD IN UNSATURATED ZONE

Total porosity	θ	=	3.00E-01	dimensionless
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Diffusion coefficient in air	D _a	=	7.20E-02	cm2/sec
Effective diffusion coefficient	D_e	=	3.76E-03	cm2/sec
Depth of contamination or C _{sg}	X	=	1.52E+00	m
Calculated Flux	F_x	=	1.16E+00	mg/m2-hour

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons : SG-2A (10.30.15)

CALCULATING VAPOR CONCENTRATION IN BUILDING

A. INDOOR AIR COMPONENT

Floor area of building	A	=	1.00E+00	m2
% of floor area that flux occurs		=	1.00E+00	dimensionless
Slab Attenuation factor	S _b	=	1.00E-01	dimensionless
Flux area within building	A _f	=	1.00E-01	m2
Interior Height of building	R _h	=	2.44E+00	m
Volume of building	V	=	2.44E+00	m3
Exchange rate of air	E	=	8.30E-01	exchanges/hr
Ventilation rate	Q	=	2.03E+00	m3/hr
Indoor air component	C_i	=	5.72E-02	mg/m3

B. OUTDOOR AIR COMPONENT

Downwind contamination length	L	=	0.00E+00	m
Wind speed	u	=	1.60E+04	m/hr
Height of building openings (or height of breathing zone)	h	=	2.00E+00	m
Outdoor air component	C_o	=	0.00E+00	mg/m3

C. TOTAL INDOOR AIR CONCENTRATION

C_t	=	5.72E-02	mg/m3
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EXPOSURE SCENARIO

Body weight	BW	=	7.00E+01	kg
Inhalation rate	IR	=	2.00E+01	m3/day
Exposure duration	ED	=	2.50E+01	yrs
Hours per day	conversion	=	1.20E+01	hr/day
Exposure time	ET	=	5.00E-01	hr/24 hours
Days per week	conversion	=	5.00E+00	days/week
Weeks per year	conversion	=	5.00E+01	weeks/yr
Exposure frequency	EF	=	2.50E+02	days/yr
Averaging Time (carc. risk)	AT	=	2.56E+04	days
Averaging Time (non-carc. risk)	AT	=	9.13E+03	days
Chemical Intake (carc. risk)	IT_c	=	2.00E-03	mg/kg-day
Chemical Intake (non-carc. risk)	IT_{nc}	=	5.60E-03	mg/kg-day

NON-CARCINOGENIC RISK (Chronic Risk)

Chemical Intake (non-carc. risk)	IT _{nc}	=	5.60E-03	mg/kg-day
Reference dose	RfD	=	1.00E-02	mg/kg-day
Hazard Index	HI	=	5.60E-01	

CARCINOGENIC RISK

Chemical Intake (carc. risk)	IT _c	=	2.00E-03	mg/kg-day
Slope factor (potency)	SF	=	2.10E-02	1/(mg/kg-day)
Cancer Risk	Risk	=	4.20E-05	

Revised 07/29/2010	Mol. Wgt mg/mole	Vapor Pressure atm	Solubility mg/l-H2O(T)	Henry's Law Constant (dim-less)	Da cm2/sec	Koc cm3/gm
benzene	78,110	1.3E-01	1,800	2.3E-01	8.8E-02	6.2E+01
benzo(a)pyrene	252,300	1.3E-03	0.00162	4.6E-05	4.3E-02	1.0E+06
carbon tetrachloride	153,840	1.2E-01	790	1.2E+00	7.8E-02	1.5E+02
chlorobenzene	112,560	1.6E-02	470	1.5E-01	7.3E-02	2.2E+02
chloroethane (ethyl chloride)	64,520	1.3E+00	5,700	4.5E-01	1.0E-01	1.5E+01
chloromethane (methyl chloride)	50,490	5.7E+00	8,200	9.8E-01	1.1E-01	3.5E+01
1,2-dichlorobenzene	147,010	1.9E-03	160	7.8E-02	6.9E-02	3.8E+02
1,3-dichlorobenzene	147,010	2.8E-03	160	7.8E-02	6.9E-02	3.8E+02
1,4-dichlorobenzene	147,010	1.3E-03	74	1.0E-01	6.9E-02	6.2E+02
1,1-dichloroethene (1,1-DCE)	96,940	7.8E-01	2,300	1.1E+00	9.0E-02	6.5E+01
trans-1,2-dichloroethene	96,950	5.2E-01	6,300	3.8E-01	7.1E-02	3.8E+01
1,1-dichloroethane (1,1-DCA)	98,970	2.5E-01	5,100	2.3E-01	7.4E-02	5.3E+01
1,2-dichloroethane (1,2-DCA)	98,960	8.0E-02	8,500	4.0E-02	1.0E-01	3.8E+01
dichloromethane (methylene chloride)	84,900	5.3E-01	13,000	9.0E-02	1.0E-01	1.0E+01
ethylbenzene	106,000	1.5E-02	170	3.2E-01	7.5E-02	2.0E+02
naphthalene	128,200	3.0E-04	31	2.0E-02	5.9E-02	1.2E+03
methyl tertiary butyl ether (MTBE)	88,150	3.2E-01	48,000	2.4E-02	8.0E-02	7.8E+02
tetrachloroethene (PCE)	166,000	1.9E-02	200	7.5E-01	7.2E-02	2.7E+02
toluene	92,150	3.7E-02	530	2.7E-01	8.7E-02	1.4E+02
1,1,1-trichloroethane	133,420	1.3E-01	1,300	7.1E-01	7.8E-02	1.4E+02
1,1,2-trichloroethane	133,000	2.5E-02	4,400	3.7E-02	7.8E-02	7.5E+01
trichloroethene (TCE)	131,400	7.6E-02	1,100	4.2E-01	7.9E-02	9.4E+01
trichloromethane (chloroform)	119,000	2.6E-01	7,900	1.5E-01	1.0E-01	5.3E+01
vinyl chloride	62,500	3.5E+00	2,800	1.1E+00	1.1E-01	1.9E+01
xylene	106,160	1.1E-02	180	2.7E-01	7.8E-02	2.5E+02

78,110 1.3E-01 1,800 2.3E-01 8.8E-02 6.2E+01

tetrachloroethene (PCE) 166,000 1.9E-02 200 7.5E-01 7.2E-02 2.7E+02

Gasoline 100,000
Kerosene 200,000
Diesel 200,000
Fuel Oil 200,000
Waste Oil 400,000

100,000

0 #N/A

Revised 7/29/2010	Cancer Slope Factor 1 / (mg/kg-day)	Reference Dose mg/kg-day
	Inhalation	Inhalation
benzene	1.0E-01	8.6E-03
benzo(a)pyrene	3.9E+00	
carbon tetrachloride	1.5E-01	7.0E-04
chlorobenzene		1.7E-02
chloroethane (ethyl chloride)	2.9E-03	2.9E+00
chloromethane (methyl chloride)		2.6E-02
1,2-dichlorobenzene		5.7E-02
1,3-dichlorobenzene		3.0E-02
1,4-dichlorobenzene	4.0E-02	2.3E-01
1,1-dichloroethene (1,1-DCE)		5.7E-02
1,1-dichloroethane (1,1-DCA)	5.7E-03	1.4E-01
1,2-dichloroethane (1,2-DCA)	7.2E-02	1.4E-03
trans-1,2-dichloroethene		2.0E-02
dichloromethane (methylene chloride)	3.5E-03	8.6E-01
ethylbenzene	8.7E-03	2.9E-01
naphthalene	1.2E-01	8.6E-04
methyl tertiary butyl ether (MTBE)	1.8E-03	8.6E-01
1,1,1-trichloroethane		6.3E-01
1,1,2-trichloroethane	5.7E-02	4.0E-03
trichloroethene (TCE)	7.0E-03	1.7E-01
trichloromethane (chloroform)	1.9E-02	8.6E-05
tetrachloroethene (PCE)	2.1E-02	1.0E-02
toluene		1.1E-01
vinyl chloride	2.7E-01	2.9E-02
xylene		2.9E-02

	1.0E-01	8.6E-03
tetrachloroethene (PCE)	2.1E-02	1.0E-02

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Input Data

Case Name:

Four Seasons: VP-1 (10.30.15)

CHEMICAL OF CONCERN:

Enter Chemical Name = tetrachloroethene (PCE)

- | | |
|--|---|
| C11 benzene | E11 dichloromethane (methylene chloride) |
| C12 benzo(a)pyrene | E12 ethylbenzene |
| C13 carbon tetrachloride | E13 naphthalene |
| C14 chlorobenzene | E14 methyl tertiary butyl ether (MTBE) |
| C15 chloroethane (ethyl chloride) | E15 tetrachloroethene (PCE) |
| C16 chloromethane (methyl chloride) | E16 toluene |
| C17 1,2-dichlorobenzene | E17 1,1,1-trichloroethane |
| C18 1,3-dichlorobenzene | E18 1,1,2-trichloroethane |
| C19 1,4-dichlorobenzene | E19 trichloroethene (TCE) |
| C20 1,1-dichloroethene (1,1-DCE) | E20 trichloromethane (chloroform) |
| C21 trans-1,2-dichloroethene | E21 vinyl chloride |
| C22 1,1-dichloroethane (1,1-DCA) | E22 xylene |
| C23 1,2-dichloroethane (1,2-DCA) | |

Chemical Mixture (if app.) =

- | | |
|---------------------|----------------------|
| C27 Gasoline | E27 Fuel Oil |
| C28 Kerosene | E28 Waste Oil |
| C29 Diesel | |

If compound is not listed then data must be entered into the site-specific field.

SITE SPECIFIC INFORMATION			Site-Specific	Value Used
Mole fraction	dimensionless	MF		0.0000
Temperature	K	T		293
Water concentration (chemical)	ug/l	C _w		0
Soil concentration (chemical)	mg/kg	C _t		0
Soil concentration (TPH/TRPH)	mg/kg	C _t		0
Soil gas concentration (measured)	mg/m3 (ug/l)	C _{sg} (m)	2900	2900
Depth of contamination or Soil Gas	m	X	0.2	0.2

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL

Data Input

Version: November 1999

Revised 07/29/2010

CHEMICAL PROPERTIES			Site Specific	Value Used
Henry's Law Constant	dimensionless	H		0.75
Vapor pressure	atm	VP		0.019
Molecular weight (chemical)	mg/mole	MW		166,000
Molecular weight (mixture)	mg/mole	MW(m)		#N/A
Universal gas constant	atm-m ³ /mole-K	R	XXXXXXXXXX	8.20E-05
Diffusion coefficient in air	cm ² /sec	D _a		0.072
Organic carbon partitioning coef.	cm ³ /gm	K _{oc}		270
SOIL PROPERTIES				
Total porosity	dimensionless	θ		0.3
Air-filled porosity	dimensionless	θ _a		0.2
Water-filled porosity	dimensionless	θ _w	XXXXXXXXXX	0.1
Bulk density (dry)	gm/cc	r _b		1.8
Weight fraction of organic carbon	dimensionless	foc		0.01
BUILDING SPECIFICATIONS				
Floor area of building	m ²	A		1
% of floor area that flux occurs	dimensionless			100%
Interior Height of building	m	R _h		2.44
Exchange rate of air	exchanges/hr	E		0.83
Slab Attenuation factor	dimensionless	S _b		0.1
OUTDOOR AIR COMPONENT				
Downwind contamination length	m	L		0
Wind speed	m/hr	u		16000
Height of building openings	m	h		2
EXPOSURE SCENARIO Default values are for Industrial Uses				
Body weight	kg	BW		70
Inhalation rate	m ³ /day	IR		20
Exposure duration	yrs	ED		25
Hours per day	hr/day			12
Days per week	days/week			5
Weeks per year	weeks/yr			50
HEALTH RISK FACTORS				
Reference dose	mg/kg-day	RfD		0.01
Slope factor (potency)	1/(mg/kg-day)	SF		0.021

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons: VP-1 (10.30.15)

Chemical: tetrachloroethene (PCE)

Variable Descriptions

Units

CALCULATION OF SOIL GAS CONCENTRATION

A. SOURCE - Free Product/Soil > 100mg/kg.

Mole fraction	MF	=	0.00E+00	dimensionless
Molecular weight	MW	=	1.66E+05	mg/mole
Vapor pressure	VP	=	1.90E-02	atm
Universal gas constant	R	=	8.20E-05	atm-m ³ /mole-K
Temperature	T	=	2.93E+02	K
Calculated soil gas concentration	C_{sg(fp)}	=	0.00E+00	mg/m³

B. SOURCE - Groundwater

Water contamination level	C _w	=	0.00E+00	ug/l
Henry's Law Constant	H	=	7.50E-01	dimensionless
Calculated soil gas concentration	C_{sg(gw)}	=	0.00E+00	mg/m³

C. SOURCE - Soil < 100 mg/kg

Soil contamination level	C _t	=	0.00E+00	mg/kg
Henry's Law Constant	H	=	7.50E-01	dimensionless
Bulk density (dry)	ρ _b	=	1.80E+00	gm/cc
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Water-filled porosity	θ _w	=	1.00E-01	dimensionless
Soil/water distribution coef.	K _d	=	2.70E+00	cm ³ /gm
Calculated soil gas concentration	C_{sg(s)}	=	0.00E+00	mg/m³

D. SOURCE - Measured Soil Gas

Measured soil gas concentration	C_{sg(m)}	=	2.90E+03	mg/m³ (ug/l)
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E. SOIL GAS CONCENTRATION USED IN RISK CALCULATIONS >>>> 2.90E+03 mg/m³

DIFFUSIVE TRANSPORT UPWARD IN UNSATURATED ZONE

Total porosity	θ	=	3.00E-01	dimensionless
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Diffusion coefficient in air	D _a	=	7.20E-02	cm ² /sec
Effective diffusion coefficient	D_e	=	3.76E-03	cm²/sec
Depth of contamination or C _{sg}	X	=	2.00E-01	m
Calculated Flux	F_x	=	1.96E+01	mg/m²-hour

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons: VP-1 (10.30.15)

CALCULATING VAPOR CONCENTRATION IN BUILDING

A. INDOOR AIR COMPONENT

Floor area of building	A	=	1.00E+00	m ²
% of floor area that flux occurs		=	1.00E+00	dimensionless
Slab Attenuation factor	S _b	=	1.00E-01	dimensionless
Flux area within building	A _f	=	1.00E-01	m ²
Interior Height of building	R _h	=	2.44E+00	m
Volume of building	V	=	2.44E+00	m ³
Exchange rate of air	E	=	8.30E-01	exchanges/hr
Ventilation rate	Q	=	2.03E+00	m ³ /hr
Indoor air component	C_i	=	9.70E-01	mg/m³

B. OUTDOOR AIR COMPONENT

Downwind contamination length	L	=	0.00E+00	m
Wind speed	u	=	1.60E+04	m/hr
Height of building openings (or height of breathing zone)	h	=	2.00E+00	m
Outdoor air component	C_o	=	0.00E+00	mg/m³

C. TOTAL INDOOR AIR CONCENTRATION

C_t	=	9.70E-01	mg/m³
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EXPOSURE SCENARIO

Body weight	BW	=	7.00E+01	kg
Inhalation rate	IR	=	2.00E+01	m ³ /day
Exposure duration	ED	=	2.50E+01	yrs
Hours per day	conversion	=	1.20E+01	hr/day
Exposure time	ET	=	5.00E-01	hr/24 hours
Days per week	conversion	=	5.00E+00	days/week
Weeks per year	conversion	=	5.00E+01	weeks/yr
Exposure frequency	EF	=	2.50E+02	days/yr
Averaging Time (carc. risk)	AT	=	2.56E+04	days
Averaging Time (non-carc. risk)	AT	=	9.13E+03	days
Chemical Intake (carc. risk)	IT_c	=	3.39E-02	mg/kg-day
Chemical Intake (non-carc. risk)	IT_{nc}	=	9.49E-02	mg/kg-day

NON-CARCINOGENIC RISK (Chronic Risk)

Chemical Intake (non-carc. risk)	IT _{nc}	=	9.49E-02	mg/kg-day
Reference dose	RfD	=	1.00E-02	mg/kg-day
Hazard Index	HI	=	9.49E+00	

CARCINOGENIC RISK

Chemical Intake (carc. risk)	IT _c	=	3.39E-02	mg/kg-day
Slope factor (potency)	SF	=	2.10E-02	1/(mg/kg-day)
Cancer Risk	Risk	=	7.12E-04	

Revised 07/29/2010	Mol. Wgt mg/mole	Vapor Pressure atm	Solubility mg/l-H2O(T)	Henry's Law Constant (dim-less)	Da cm2/sec	Koc cm3/gm
benzene	78,110	1.3E-01	1,800	2.3E-01	8.8E-02	6.2E+01
benzo(a)pyrene	252,300	1.3E-03	0.00162	4.6E-05	4.3E-02	1.0E+06
carbon tetrachloride	153,840	1.2E-01	790	1.2E+00	7.8E-02	1.5E+02
chlorobenzene	112,560	1.6E-02	470	1.5E-01	7.3E-02	2.2E+02
chloroethane (ethyl chloride)	64,520	1.3E+00	5,700	4.5E-01	1.0E-01	1.5E+01
chloromethane (methyl chloride)	50,490	5.7E+00	8,200	9.8E-01	1.1E-01	3.5E+01
1,2-dichlorobenzene	147,010	1.9E-03	160	7.8E-02	6.9E-02	3.8E+02
1,3-dichlorobenzene	147,010	2.8E-03	160	7.8E-02	6.9E-02	3.8E+02
1,4-dichlorobenzene	147,010	1.3E-03	74	1.0E-01	6.9E-02	6.2E+02
1,1-dichloroethene (1,1-DCE)	96,940	7.8E-01	2,300	1.1E+00	9.0E-02	6.5E+01
trans-1,2-dichloroethene	96,950	5.2E-01	6,300	3.8E-01	7.1E-02	3.8E+01
1,1-dichloroethane (1,1-DCA)	98,970	2.5E-01	5,100	2.3E-01	7.4E-02	5.3E+01
1,2-dichloroethane (1,2-DCA)	98,960	8.0E-02	8,500	4.0E-02	1.0E-01	3.8E+01
dichloromethane (methylene chloride)	84,900	5.3E-01	13,000	9.0E-02	1.0E-01	1.0E+01
ethylbenzene	106,000	1.5E-02	170	3.2E-01	7.5E-02	2.0E+02
naphthalene	128,200	3.0E-04	31	2.0E-02	5.9E-02	1.2E+03
methyl tertiary butyl ether (MTBE)	88,150	3.2E-01	48,000	2.4E-02	8.0E-02	7.8E+02
tetrachloroethene (PCE)	166,000	1.9E-02	200	7.5E-01	7.2E-02	2.7E+02
toluene	92,150	3.7E-02	530	2.7E-01	8.7E-02	1.4E+02
1,1,1-trichloroethane	133,420	1.3E-01	1,300	7.1E-01	7.8E-02	1.4E+02
1,1,2-trichloroethane	133,000	2.5E-02	4,400	3.7E-02	7.8E-02	7.5E+01
trichloroethene (TCE)	131,400	7.6E-02	1,100	4.2E-01	7.9E-02	9.4E+01
trichloromethane (chloroform)	119,000	2.6E-01	7,900	1.5E-01	1.0E-01	5.3E+01
vinyl chloride	62,500	3.5E+00	2,800	1.1E+00	1.1E-01	1.9E+01
xylene	106,160	1.1E-02	180	2.7E-01	7.8E-02	2.5E+02

78,110 1.3E-01 1,800 2.3E-01 8.8E-02 6.2E+01

tetrachloroethene (PCE) 166,000 1.9E-02 200 7.5E-01 7.2E-02 2.7E+02

Gasoline 100,000
Kerosene 200,000
Diesel 200,000
Fuel Oil 200,000
Waste Oil 400,000

100,000

0 #N/A

Revised 7/29/2010	Cancer Slope Factor 1 / (mg/kg-day)	Reference Dose mg/kg-day
	Inhalation	Inhalation
benzene	1.0E-01	8.6E-03
benzo(a)pyrene	3.9E+00	
carbon tetrachloride	1.5E-01	7.0E-04
chlorobenzene		1.7E-02
chloroethane (ethyl chloride)	2.9E-03	2.9E+00
chloromethane (methyl chloride)		2.6E-02
1,2-dichlorobenzene		5.7E-02
1,3-dichlorobenzene		3.0E-02
1,4-dichlorobenzene	4.0E-02	2.3E-01
1,1-dichloroethene (1,1-DCE)		5.7E-02
1,1-dichloroethane (1,1-DCA)	5.7E-03	1.4E-01
1,2-dichloroethane (1,2-DCA)	7.2E-02	1.4E-03
trans-1,2-dichloroethene		2.0E-02
dichloromethane (methylene chloride)	3.5E-03	8.6E-01
ethylbenzene	8.7E-03	2.9E-01
naphthalene	1.2E-01	8.6E-04
methyl tertiary butyl ether (MTBE)	1.8E-03	8.6E-01
1,1,1-trichloroethane		6.3E-01
1,1,2-trichloroethane	5.7E-02	4.0E-03
trichloroethene (TCE)	7.0E-03	1.7E-01
trichloromethane (chloroform)	1.9E-02	8.6E-05
tetrachloroethene (PCE)	2.1E-02	1.0E-02
toluene		1.1E-01
vinyl chloride	2.7E-01	2.9E-02
xylene		2.9E-02

	1.0E-01	8.6E-03
tetrachloroethene (PCE)	2.1E-02	1.0E-02

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Input Data

Case Name:

Four Seasons: VP-1 (10.30.15)

CHEMICAL OF CONCERN:

Enter Chemical Name = tetrachloroethene (PCE)

- | | |
|--|---|
| C11 benzene | E11 dichloromethane (methylene chloride) |
| C12 benzo(a)pyrene | E12 ethylbenzene |
| C13 carbon tetrachloride | E13 naphthalene |
| C14 chlorobenzene | E14 methyl tertiary butyl ether (MTBE) |
| C15 chloroethane (ethyl chloride) | E15 tetrachloroethene (PCE) |
| C16 chloromethane (methyl chloride) | E16 toluene |
| C17 1,2-dichlorobenzene | E17 1,1,1-trichloroethane |
| C18 1,3-dichlorobenzene | E18 1,1,2-trichloroethane |
| C19 1,4-dichlorobenzene | E19 trichloroethene (TCE) |
| C20 1,1-dichloroethene (1,1-DCE) | E20 trichloromethane (chloroform) |
| C21 trans-1,2-dichloroethene | E21 vinyl chloride |
| C22 1,1-dichloroethane (1,1-DCA) | E22 xylene |
| C23 1,2-dichloroethane (1,2-DCA) | |

Chemical Mixture (if app.) =

- | | |
|---------------------|----------------------|
| C27 Gasoline | E27 Fuel Oil |
| C28 Kerosene | E28 Waste Oil |
| C29 Diesel | |

If compound is not listed then data must be entered into the site-specific field.

SITE SPECIFIC INFORMATION			Site-Specific	Value Used
Mole fraction	dimensionless	MF		0.0000
Temperature	K	T		293
Water concentration (chemical)	ug/l	C _w		0
Soil concentration (chemical)	mg/kg	C _t		0
Soil concentration (TPH/TRPH)	mg/kg	C _t		0
Soil gas concentration (measured)	mg/m3 (ug/l)	C _{sg} (m)	180	180
Depth of contamination or Soil Gas	m	X	0.2	0.2

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL

Data Input

Version: November 1999

Revised 07/29/2010

CHEMICAL PROPERTIES			Site Specific	Value Used
Henry's Law Constant	dimensionless	H		0.75
Vapor pressure	atm	VP		0.019
Molecular weight (chemical)	mg/mole	MW		166,000
Molecular weight (mixture)	mg/mole	MW(m)		#N/A
Universal gas constant	atm-m ³ /mole-K	R	XXXXXXXXXX	8.20E-05
Diffusion coefficient in air	cm ² /sec	D _a		0.072
Organic carbon partitioning coef.	cm ³ /gm	K _{oc}		270
SOIL PROPERTIES				
Total porosity	dimensionless	θ		0.3
Air-filled porosity	dimensionless	θ _a		0.2
Water-filled porosity	dimensionless	θ _w	XXXXXXXXXX	0.1
Bulk density (dry)	gm/cc	r _b		1.8
Weight fraction of organic carbon	dimensionless	foc		0.01
BUILDING SPECIFICATIONS				
Floor area of building	m ²	A		1
% of floor area that flux occurs	dimensionless			100%
Interior Height of building	m	R _h		2.44
Exchange rate of air	exchanges/hr	E		0.83
Slab Attenuation factor	dimensionless	S _b		0.1
OUTDOOR AIR COMPONENT				
Downwind contamination length	m	L		0
Wind speed	m/hr	u		16000
Height of building openings	m	h		2
EXPOSURE SCENARIO Default values are for Industrial Uses				
Body weight	kg	BW		70
Inhalation rate	m ³ /day	IR		20
Exposure duration	yrs	ED		25
Hours per day	hr/day			12
Days per week	days/week			5
Weeks per year	weeks/yr			50
HEALTH RISK FACTORS				
Reference dose	mg/kg-day	RfD		0.01
Slope factor (potency)	1/(mg/kg-day)	SF		0.021

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons: VP-1 (10.30.15)

Chemical: tetrachloroethene (PCE)

Variable Descriptions

Units

CALCULATION OF SOIL GAS CONCENTRATION

A. SOURCE - Free Product/Soil > 100mg/kg.

Mole fraction	MF	=	0.00E+00	dimensionless
Molecular weight	MW	=	1.66E+05	mg/mole
Vapor pressure	VP	=	1.90E-02	atm
Universal gas constant	R	=	8.20E-05	atm-m ³ /mole-K
Temperature	T	=	2.93E+02	K
Calculated soil gas concentration	C_{sg(fp)}	=	0.00E+00	mg/m³

B. SOURCE - Groundwater

Water contamination level	C _w	=	0.00E+00	ug/l
Henry's Law Constant	H	=	7.50E-01	dimensionless
Calculated soil gas concentration	C_{sg(gw)}	=	0.00E+00	mg/m³

C. SOURCE - Soil < 100 mg/kg

Soil contamination level	C _t	=	0.00E+00	mg/kg
Henry's Law Constant	H	=	7.50E-01	dimensionless
Bulk density (dry)	ρ _b	=	1.80E+00	gm/cc
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Water-filled porosity	θ _w	=	1.00E-01	dimensionless
Soil/water distribution coef.	K _d	=	2.70E+00	cm ³ /gm
Calculated soil gas concentration	C_{sg(s)}	=	0.00E+00	mg/m³

D. SOURCE - Measured Soil Gas

Measured soil gas concentration	C_{sg(m)}	=	1.80E+02	mg/m³ (ug/l)
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E. SOIL GAS CONCENTRATION USED IN RISK CALCULATIONS >>>> 1.80E+02 mg/m³

DIFFUSIVE TRANSPORT UPWARD IN UNSATURATED ZONE

Total porosity	θ	=	3.00E-01	dimensionless
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Diffusion coefficient in air	D _a	=	7.20E-02	cm ² /sec
Effective diffusion coefficient	D_e	=	3.76E-03	cm²/sec
Depth of contamination or C _{sg}	X	=	2.00E-01	m
Calculated Flux	F_x	=	1.22E+00	mg/m²-hour

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons: VP-1 (10.30.15)

CALCULATING VAPOR CONCENTRATION IN BUILDING

A. INDOOR AIR COMPONENT

Floor area of building	A	=	1.00E+00	m ²
% of floor area that flux occurs		=	1.00E+00	dimensionless
Slab Attenuation factor	S _b	=	1.00E-01	dimensionless
Flux area within building	A _f	=	1.00E-01	m ²
Interior Height of building	R _h	=	2.44E+00	m
Volume of building	V	=	2.44E+00	m ³
Exchange rate of air	E	=	8.30E-01	exchanges/hr
Ventilation rate	Q	=	2.03E+00	m ³ /hr
Indoor air component	C_i	=	6.02E-02	mg/m³

B. OUTDOOR AIR COMPONENT

Downwind contamination length	L	=	0.00E+00	m
Wind speed	u	=	1.60E+04	m/hr
Height of building openings (or height of breathing zone)	h	=	2.00E+00	m
Outdoor air component	C_o	=	0.00E+00	mg/m³

C. TOTAL INDOOR AIR CONCENTRATION

C_t	=	6.02E-02	mg/m³
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EXPOSURE SCENARIO

Body weight	BW	=	7.00E+01	kg
Inhalation rate	IR	=	2.00E+01	m ³ /day
Exposure duration	ED	=	2.50E+01	yrs
Hours per day	conversion	=	1.20E+01	hr/day
Exposure time	ET	=	5.00E-01	hr/24 hours
Days per week	conversion	=	5.00E+00	days/week
Weeks per year	conversion	=	5.00E+01	weeks/yr
Exposure frequency	EF	=	2.50E+02	days/yr
Averaging Time (carc. risk)	AT	=	2.56E+04	days
Averaging Time (non-carc. risk)	AT	=	9.13E+03	days
Chemical Intake (carc. risk)	IT_c	=	2.10E-03	mg/kg-day
Chemical Intake (non-carc. risk)	IT_{nc}	=	5.89E-03	mg/kg-day

NON-CARCINOGENIC RISK (Chronic Risk)

Chemical Intake (non-carc. risk)	IT _{nc}	=	5.89E-03	mg/kg-day
Reference dose	RfD	=	1.00E-02	mg/kg-day
Hazard Index	HI	=	5.89E-01	

CARCINOGENIC RISK

Chemical Intake (carc. risk)	IT _c	=	2.10E-03	mg/kg-day
Slope factor (potency)	SF	=	2.10E-02	1/(mg/kg-day)
Cancer Risk	Risk	=	4.42E-05	

Revised 07/29/2010	Mol. Wgt mg/mole	Vapor Pressure atm	Solubility mg/l-H2O(T)	Henry's Law Constant (dim-less)	Da cm2/sec	Koc cm3/gm
benzene	78,110	1.3E-01	1,800	2.3E-01	8.8E-02	6.2E+01
benzo(a)pyrene	252,300	1.3E-03	0.00162	4.6E-05	4.3E-02	1.0E+06
carbon tetrachloride	153,840	1.2E-01	790	1.2E+00	7.8E-02	1.5E+02
chlorobenzene	112,560	1.6E-02	470	1.5E-01	7.3E-02	2.2E+02
chloroethane (ethyl chloride)	64,520	1.3E+00	5,700	4.5E-01	1.0E-01	1.5E+01
chloromethane (methyl chloride)	50,490	5.7E+00	8,200	9.8E-01	1.1E-01	3.5E+01
1,2-dichlorobenzene	147,010	1.9E-03	160	7.8E-02	6.9E-02	3.8E+02
1,3-dichlorobenzene	147,010	2.8E-03	160	7.8E-02	6.9E-02	3.8E+02
1,4-dichlorobenzene	147,010	1.3E-03	74	1.0E-01	6.9E-02	6.2E+02
1,1-dichloroethene (1,1-DCE)	96,940	7.8E-01	2,300	1.1E+00	9.0E-02	6.5E+01
trans-1,2-dichloroethene	96,950	5.2E-01	6,300	3.8E-01	7.1E-02	3.8E+01
1,1-dichloroethane (1,1-DCA)	98,970	2.5E-01	5,100	2.3E-01	7.4E-02	5.3E+01
1,2-dichloroethane (1,2-DCA)	98,960	8.0E-02	8,500	4.0E-02	1.0E-01	3.8E+01
dichloromethane (methylene chloride)	84,900	5.3E-01	13,000	9.0E-02	1.0E-01	1.0E+01
ethylbenzene	106,000	1.5E-02	170	3.2E-01	7.5E-02	2.0E+02
naphthalene	128,200	3.0E-04	31	2.0E-02	5.9E-02	1.2E+03
methyl tertiary butyl ether (MTBE)	88,150	3.2E-01	48,000	2.4E-02	8.0E-02	7.8E+02
tetrachloroethene (PCE)	166,000	1.9E-02	200	7.5E-01	7.2E-02	2.7E+02
toluene	92,150	3.7E-02	530	2.7E-01	8.7E-02	1.4E+02
1,1,1-trichloroethane	133,420	1.3E-01	1,300	7.1E-01	7.8E-02	1.4E+02
1,1,2-trichloroethane	133,000	2.5E-02	4,400	3.7E-02	7.8E-02	7.5E+01
trichloroethene (TCE)	131,400	7.6E-02	1,100	4.2E-01	7.9E-02	9.4E+01
trichloromethane (chloroform)	119,000	2.6E-01	7,900	1.5E-01	1.0E-01	5.3E+01
vinyl chloride	62,500	3.5E+00	2,800	1.1E+00	1.1E-01	1.9E+01
xylene	106,160	1.1E-02	180	2.7E-01	7.8E-02	2.5E+02

78,110 1.3E-01 1,800 2.3E-01 8.8E-02 6.2E+01

tetrachloroethene (PCE) 166,000 1.9E-02 200 7.5E-01 7.2E-02 2.7E+02

Gasoline 100,000
Kerosene 200,000
Diesel 200,000
Fuel Oil 200,000
Waste Oil 400,000

100,000

0 #N/A

Revised 7/29/2010	Cancer Slope Factor 1 / (mg/kg-day)	Reference Dose mg/kg-day
	Inhalation	Inhalation
benzene	1.0E-01	8.6E-03
benzo(a)pyrene	3.9E+00	
carbon tetrachloride	1.5E-01	7.0E-04
chlorobenzene		1.7E-02
chloroethane (ethyl chloride)	2.9E-03	2.9E+00
chloromethane (methyl chloride)		2.6E-02
1,2-dichlorobenzene		5.7E-02
1,3-dichlorobenzene		3.0E-02
1,4-dichlorobenzene	4.0E-02	2.3E-01
1,1-dichloroethene (1,1-DCE)		5.7E-02
1,1-dichloroethane (1,1-DCA)	5.7E-03	1.4E-01
1,2-dichloroethane (1,2-DCA)	7.2E-02	1.4E-03
trans-1,2-dichloroethene		2.0E-02
dichloromethane (methylene chloride)	3.5E-03	8.6E-01
ethylbenzene	8.7E-03	2.9E-01
naphthalene	1.2E-01	8.6E-04
methyl tertiary butyl ether (MTBE)	1.8E-03	8.6E-01
1,1,1-trichloroethane		6.3E-01
1,1,2-trichloroethane	5.7E-02	4.0E-03
trichloroethene (TCE)	7.0E-03	1.7E-01
trichloromethane (chloroform)	1.9E-02	8.6E-05
tetrachloroethene (PCE)	2.1E-02	1.0E-02
toluene		1.1E-01
vinyl chloride	2.7E-01	2.9E-02
xylene		2.9E-02

	1.0E-01	8.6E-03
tetrachloroethene (PCE)	2.1E-02	1.0E-02

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Input Data

Page 1-2
 Version: November 1999
 Revised 07/29/2010

Case Name:

Four Seasons: VP-3 (10.30.15)

CHEMICAL OF CONCERN:

Enter Chemical Name = tetrachloroethene (PCE)

- | | |
|--|---|
| C11 benzene | E11 dichloromethane (methylene chloride) |
| C12 benzo(a)pyrene | E12 ethylbenzene |
| C13 carbon tetrachloride | E13 naphthalene |
| C14 chlorobenzene | E14 methyl tertiary butyl ether (MTBE) |
| C15 chloroethane (ethyl chloride) | E15 tetrachloroethene (PCE) |
| C16 chloromethane (methyl chloride) | E16 toluene |
| C17 1,2-dichlorobenzene | E17 1,1,1-trichloroethane |
| C18 1,3-dichlorobenzene | E18 1,1,2-trichloroethane |
| C19 1,4-dichlorobenzene | E19 trichloroethene (TCE) |
| C20 1,1-dichloroethene (1,1-DCE) | E20 trichloromethane (chloroform) |
| C21 trans-1,2-dichloroethene | E21 vinyl chloride |
| C22 1,1-dichloroethane (1,1-DCA) | E22 xylene |
| C23 1,2-dichloroethane (1,2-DCA) | |

Chemical Mixture (if app.) =

- | | |
|---------------------|----------------------|
| C27 Gasoline | E27 Fuel Oil |
| C28 Kerosene | E28 Waste Oil |
| C29 Diesel | |

If compound is not listed then data must be entered into the site-specific field.

SITE SPECIFIC INFORMATION			Site-Specific	Value Used
Mole fraction	dimensionless	MF		0.0000
Temperature	K	T		293
Water concentration (chemical)	ug/l	C _w		0
Soil concentration (chemical)	mg/kg	C _t		0
Soil concentration (TPH/TRPH)	mg/kg	C _t		0
Soil gas concentration (measured)	mg/m3 (ug/l)	C _{sg} (m)	470	470
Depth of contamination or Soil Gas	m	X	0.2	0.2

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL

Data Input

Version: November 1999

Revised 07/29/2010

CHEMICAL PROPERTIES			Site Specific	Value Used
Henry's Law Constant	dimensionless	H		0.75
Vapor pressure	atm	VP		0.019
Molecular weight (chemical)	mg/mole	MW		166,000
Molecular weight (mixture)	mg/mole	MW(m)		#N/A
Universal gas constant	atm-m ³ /mole-K	R	XXXXXXXXXX	8.20E-05
Diffusion coefficient in air	cm ² /sec	D _a		0.072
Organic carbon partitioning coef.	cm ³ /gm	K _{oc}		270
SOIL PROPERTIES				
Total porosity	dimensionless	θ		0.3
Air-filled porosity	dimensionless	θ _a		0.2
Water-filled porosity	dimensionless	θ _w	XXXXXXXXXX	0.1
Bulk density (dry)	gm/cc	r _b		1.8
Weight fraction of organic carbon	dimensionless	foc		0.01
BUILDING SPECIFICATIONS				
Floor area of building	m ²	A		1
% of floor area that flux occurs	dimensionless			100%
Interior Height of building	m	R _h		2.44
Exchange rate of air	exchanges/hr	E		0.83
Slab Attenuation factor	dimensionless	S _b		0.1
OUTDOOR AIR COMPONENT				
Downwind contamination length	m	L		0
Wind speed	m/hr	u		16000
Height of building openings	m	h		2
EXPOSURE SCENARIO Default values are for Industrial Uses				
Body weight	kg	BW		70
Inhalation rate	m ³ /day	IR		20
Exposure duration	yrs	ED		25
Hours per day	hr/day			12
Days per week	days/week			5
Weeks per year	weeks/yr			50
HEALTH RISK FACTORS				
Reference dose	mg/kg-day	RfD		0.01
Slope factor (potency)	1/(mg/kg-day)	SF		0.021

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons: VP-3 (10.30.15)

Chemical: tetrachloroethene (PCE)

Variable Descriptions

Units

CALCULATION OF SOIL GAS CONCENTRATION

A. SOURCE - Free Product/Soil > 100mg/kg.

Mole fraction	MF	=	0.00E+00	dimensionless
Molecular weight	MW	=	1.66E+05	mg/mole
Vapor pressure	VP	=	1.90E-02	atm
Universal gas constant	R	=	8.20E-05	atm-m ³ /mole-K
Temperature	T	=	2.93E+02	K
Calculated soil gas concentration	C_{sg(fp)}	=	0.00E+00	mg/m³

B. SOURCE - Groundwater

Water contamination level	C _w	=	0.00E+00	ug/l
Henry's Law Constant	H	=	7.50E-01	dimensionless
Calculated soil gas concentration	C_{sg(gw)}	=	0.00E+00	mg/m³

C. SOURCE - Soil < 100 mg/kg

Soil contamination level	C _t	=	0.00E+00	mg/kg
Henry's Law Constant	H	=	7.50E-01	dimensionless
Bulk density (dry)	ρ _b	=	1.80E+00	gm/cc
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Water-filled porosity	θ _w	=	1.00E-01	dimensionless
Soil/water distribution coef.	K _d	=	2.70E+00	cm ³ /gm
Calculated soil gas concentration	C_{sg(s)}	=	0.00E+00	mg/m³

D. SOURCE - Measured Soil Gas

Measured soil gas concentration	C_{sg(m)}	=	4.70E+02	mg/m³ (ug/l)
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E. SOIL GAS CONCENTRATION USED IN RISK CALCULATIONS >>>> 4.70E+02 mg/m³

DIFFUSIVE TRANSPORT UPWARD IN UNSATURATED ZONE

Total porosity	θ	=	3.00E-01	dimensionless
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Diffusion coefficient in air	D _a	=	7.20E-02	cm ² /sec
Effective diffusion coefficient	D_e	=	3.76E-03	cm²/sec
Depth of contamination or C _{sg}	X	=	2.00E-01	m
Calculated Flux	F_x	=	3.18E+00	mg/m²-hour

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons: VP-3 (10.30.15)

CALCULATING VAPOR CONCENTRATION IN BUILDING

A. INDOOR AIR COMPONENT

Floor area of building	A	=	1.00E+00	m ²
% of floor area that flux occurs		=	1.00E+00	dimensionless
Slab Attenuation factor	S _b	=	1.00E-01	dimensionless
Flux area within building	A _f	=	1.00E-01	m ²
Interior Height of building	R _h	=	2.44E+00	m
Volume of building	V	=	2.44E+00	m ³
Exchange rate of air	E	=	8.30E-01	exchanges/hr
Ventilation rate	Q	=	2.03E+00	m ³ /hr
Indoor air component	C_i	=	1.57E-01	mg/m³

B. OUTDOOR AIR COMPONENT

Downwind contamination length	L	=	0.00E+00	m
Wind speed	u	=	1.60E+04	m/hr
Height of building openings (or height of breathing zone)	h	=	2.00E+00	m
Outdoor air component	C_o	=	0.00E+00	mg/m³

C. TOTAL INDOOR AIR CONCENTRATION

C_t	=	1.57E-01	mg/m³
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EXPOSURE SCENARIO

Body weight	BW	=	7.00E+01	kg
Inhalation rate	IR	=	2.00E+01	m ³ /day
Exposure duration	ED	=	2.50E+01	yrs
Hours per day	conversion	=	1.20E+01	hr/day
Exposure time	ET	=	5.00E-01	hr/24 hours
Days per week	conversion	=	5.00E+00	days/week
Weeks per year	conversion	=	5.00E+01	weeks/yr
Exposure frequency	EF	=	2.50E+02	days/yr
Averaging Time (carc. risk)	AT	=	2.56E+04	days
Averaging Time (non-carc. risk)	AT	=	9.13E+03	days
Chemical Intake (carc. risk)	IT_c	=	5.49E-03	mg/kg-day
Chemical Intake (non-carc. risk)	IT_{nc}	=	1.54E-02	mg/kg-day

NON-CARCINOGENIC RISK (Chronic Risk)

Chemical Intake (non-carc. risk)	IT _{nc}	=	1.54E-02	mg/kg-day
Reference dose	RfD	=	1.00E-02	mg/kg-day
Hazard Index	HI	=	1.54E+00	

CARCINOGENIC RISK

Chemical Intake (carc. risk)	IT _c	=	5.49E-03	mg/kg-day
Slope factor (potency)	SF	=	2.10E-02	1/(mg/kg-day)
Cancer Risk	Risk	=	1.15E-04	

Revised 07/29/2010	Mol. Wgt mg/mole	Vapor Pressure atm	Solubility mg/l-H2O(T)	Henry's Law Constant (dim-less)	Da cm2/sec	Koc cm3/gm
benzene	78,110	1.3E-01	1,800	2.3E-01	8.8E-02	6.2E+01
benzo(a)pyrene	252,300	1.3E-03	0.00162	4.6E-05	4.3E-02	1.0E+06
carbon tetrachloride	153,840	1.2E-01	790	1.2E+00	7.8E-02	1.5E+02
chlorobenzene	112,560	1.6E-02	470	1.5E-01	7.3E-02	2.2E+02
chloroethane (ethyl chloride)	64,520	1.3E+00	5,700	4.5E-01	1.0E-01	1.5E+01
chloromethane (methyl chloride)	50,490	5.7E+00	8,200	9.8E-01	1.1E-01	3.5E+01
1,2-dichlorobenzene	147,010	1.9E-03	160	7.8E-02	6.9E-02	3.8E+02
1,3-dichlorobenzene	147,010	2.8E-03	160	7.8E-02	6.9E-02	3.8E+02
1,4-dichlorobenzene	147,010	1.3E-03	74	1.0E-01	6.9E-02	6.2E+02
1,1-dichloroethene (1,1-DCE)	96,940	7.8E-01	2,300	1.1E+00	9.0E-02	6.5E+01
trans-1,2-dichloroethene	96,950	5.2E-01	6,300	3.8E-01	7.1E-02	3.8E+01
1,1-dichloroethane (1,1-DCA)	98,970	2.5E-01	5,100	2.3E-01	7.4E-02	5.3E+01
1,2-dichloroethane (1,2-DCA)	98,960	8.0E-02	8,500	4.0E-02	1.0E-01	3.8E+01
dichloromethane (methylene chloride)	84,900	5.3E-01	13,000	9.0E-02	1.0E-01	1.0E+01
ethylbenzene	106,000	1.5E-02	170	3.2E-01	7.5E-02	2.0E+02
naphthalene	128,200	3.0E-04	31	2.0E-02	5.9E-02	1.2E+03
methyl tertiary butyl ether (MTBE)	88,150	3.2E-01	48,000	2.4E-02	8.0E-02	7.8E+02
tetrachloroethene (PCE)	166,000	1.9E-02	200	7.5E-01	7.2E-02	2.7E+02
toluene	92,150	3.7E-02	530	2.7E-01	8.7E-02	1.4E+02
1,1,1-trichloroethane	133,420	1.3E-01	1,300	7.1E-01	7.8E-02	1.4E+02
1,1,2-trichloroethane	133,000	2.5E-02	4,400	3.7E-02	7.8E-02	7.5E+01
trichloroethene (TCE)	131,400	7.6E-02	1,100	4.2E-01	7.9E-02	9.4E+01
trichloromethane (chloroform)	119,000	2.6E-01	7,900	1.5E-01	1.0E-01	5.3E+01
vinyl chloride	62,500	3.5E+00	2,800	1.1E+00	1.1E-01	1.9E+01
xylene	106,160	1.1E-02	180	2.7E-01	7.8E-02	2.5E+02

78,110 1.3E-01 1,800 2.3E-01 8.8E-02 6.2E+01

tetrachloroethene (PCE) 166,000 1.9E-02 200 7.5E-01 7.2E-02 2.7E+02

Gasoline 100,000
Kerosene 200,000
Diesel 200,000
Fuel Oil 200,000
Waste Oil 400,000

100,000

0 #N/A

Revised 7/29/2010	Cancer Slope Factor 1 / (mg/kg-day)	Reference Dose mg/kg-day
	Inhalation	Inhalation
benzene	1.0E-01	8.6E-03
benzo(a)pyrene	3.9E+00	
carbon tetrachloride	1.5E-01	7.0E-04
chlorobenzene		1.7E-02
chloroethane (ethyl chloride)	2.9E-03	2.9E+00
chloromethane (methyl chloride)		2.6E-02
1,2-dichlorobenzene		5.7E-02
1,3-dichlorobenzene		3.0E-02
1,4-dichlorobenzene	4.0E-02	2.3E-01
1,1-dichloroethene (1,1-DCE)		5.7E-02
1,1-dichloroethane (1,1-DCA)	5.7E-03	1.4E-01
1,2-dichloroethane (1,2-DCA)	7.2E-02	1.4E-03
trans-1,2-dichloroethene		2.0E-02
dichloromethane (methylene chloride)	3.5E-03	8.6E-01
ethylbenzene	8.7E-03	2.9E-01
naphthalene	1.2E-01	8.6E-04
methyl tertiary butyl ether (MTBE)	1.8E-03	8.6E-01
1,1,1-trichloroethane		6.3E-01
1,1,2-trichloroethane	5.7E-02	4.0E-03
trichloroethene (TCE)	7.0E-03	1.7E-01
trichloromethane (chloroform)	1.9E-02	8.6E-05
tetrachloroethene (PCE)	2.1E-02	1.0E-02
toluene		1.1E-01
vinyl chloride	2.7E-01	2.9E-02
xylene		2.9E-02

	1.0E-01	8.6E-03
tetrachloroethene (PCE)	2.1E-02	1.0E-02

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Input Data

Case Name:

Four Seasons: VP-4 (10.30.15)

CHEMICAL OF CONCERN:

Enter Chemical Name = tetrachloroethene (PCE)

- | | |
|--|---|
| C11 benzene | E11 dichloromethane (methylene chloride) |
| C12 benzo(a)pyrene | E12 ethylbenzene |
| C13 carbon tetrachloride | E13 naphthalene |
| C14 chlorobenzene | E14 methyl tertiary butyl ether (MTBE) |
| C15 chloroethane (ethyl chloride) | E15 tetrachloroethene (PCE) |
| C16 chloromethane (methyl chloride) | E16 toluene |
| C17 1,2-dichlorobenzene | E17 1,1,1-trichloroethane |
| C18 1,3-dichlorobenzene | E18 1,1,2-trichloroethane |
| C19 1,4-dichlorobenzene | E19 trichloroethene (TCE) |
| C20 1,1-dichloroethene (1,1-DCE) | E20 trichloromethane (chloroform) |
| C21 trans-1,2-dichloroethene | E21 vinyl chloride |
| C22 1,1-dichloroethane (1,1-DCA) | E22 xylene |
| C23 1,2-dichloroethane (1,2-DCA) | |

Chemical Mixture (if app.) =

- | | |
|---------------------|----------------------|
| C27 Gasoline | E27 Fuel Oil |
| C28 Kerosene | E28 Waste Oil |
| C29 Diesel | |

If compound is not listed then data must be entered into the site-specific field.

SITE SPECIFIC INFORMATION			Site-Specific	Value Used
Mole fraction	dimensionless	MF		0.0000
Temperature	K	T		293
Water concentration (chemical)	ug/l	C _w		0
Soil concentration (chemical)	mg/kg	C _t		0
Soil concentration (TPH/TRPH)	mg/kg	C _t		0
Soil gas concentration (measured)	mg/m3 (ug/l)	C _{sg} (m)	160	160
Depth of contamination or Soil Gas	m	X	0.2	0.2

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL

Data Input

Version: November 1999

Revised 07/29/2010

CHEMICAL PROPERTIES			Site Specific	Value Used
Henry's Law Constant	dimensionless	H		0.75
Vapor pressure	atm	VP		0.019
Molecular weight (chemical)	mg/mole	MW		166,000
Molecular weight (mixture)	mg/mole	MW(m)		#N/A
Universal gas constant	atm-m ³ /mole-K	R	XXXXXXXXXX	8.20E-05
Diffusion coefficient in air	cm ² /sec	D _a		0.072
Organic carbon partitioning coef.	cm ³ /gm	K _{oc}		270
SOIL PROPERTIES				
Total porosity	dimensionless	θ		0.3
Air-filled porosity	dimensionless	θ _a		0.2
Water-filled porosity	dimensionless	θ _w	XXXXXXXXXX	0.1
Bulk density (dry)	gm/cc	r _b		1.8
Weight fraction of organic carbon	dimensionless	foc		0.01
BUILDING SPECIFICATIONS				
Floor area of building	m ²	A		1
% of floor area that flux occurs	dimensionless			100%
Interior Height of building	m	R _h		2.44
Exchange rate of air	exchanges/hr	E		0.83
Slab Attenuation factor	dimensionless	S _b		0.1
OUTDOOR AIR COMPONENT				
Downwind contamination length	m	L		0
Wind speed	m/hr	u		16000
Height of building openings	m	h		2
EXPOSURE SCENARIO Default values are for Industrial Uses				
Body weight	kg	BW		70
Inhalation rate	m ³ /day	IR		20
Exposure duration	yrs	ED		25
Hours per day	hr/day			12
Days per week	days/week			5
Weeks per year	weeks/yr			50
HEALTH RISK FACTORS				
Reference dose	mg/kg-day	RfD		0.01
Slope factor (potency)	1/(mg/kg-day)	SF		0.021

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons: VP-4 (10.30.15)

Chemical: tetrachloroethene (PCE)

Variable Descriptions

Units

CALCULATION OF SOIL GAS CONCENTRATION

A. SOURCE - Free Product/Soil>100mg/kg.

Mole fraction	MF	=	0.00E+00	dimensionless
Molecular weight	MW	=	1.66E+05	mg/mole
Vapor pressure	VP	=	1.90E-02	atm
Universal gas constant	R	=	8.20E-05	atm-m3/mole-K
Temperature	T	=	2.93E+02	K
Calculated soil gas concentration	C_{sg(fp)}	=	0.00E+00	mg/m3

B. SOURCE - Groundwater

Water contamination level	C _w	=	0.00E+00	ug/l
Henry's Law Constant	H	=	7.50E-01	dimensionless
Calculated soil gas concentration	C_{sg(gw)}	=	0.00E+00	mg/m3

C. SOURCE - Soil < 100 mg/kg

Soil contamination level	C _t	=	0.00E+00	mg/kg
Henry's Law Constant	H	=	7.50E-01	dimensionless
Bulk density (dry)	ρ _b	=	1.80E+00	gm/cc
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Water-filled porosity	θ _w	=	1.00E-01	dimensionless
Soil/water distribution coef.	K _d	=	2.70E+00	cm3/gm
Calculated soil gas concentration	C_{sg(s)}	=	0.00E+00	mg/m3

D. SOURCE - Measured Soil Gas

Measured soil gas concentration	C_{sg(m)}	=	1.60E+02	mg/m3 (ug/l)
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E. SOIL GAS CONCENTRATION USED IN RISK CALCULATIONS >>>> 1.60E+02 mg/m3

DIFFUSIVE TRANSPORT UPWARD IN UNSATURATED ZONE

Total porosity	θ	=	3.00E-01	dimensionless
Air-filled porosity	θ _a	=	2.00E-01	dimensionless
Diffusion coefficient in air	D _a	=	7.20E-02	cm2/sec
Effective diffusion coefficient	D_e	=	3.76E-03	cm2/sec
Depth of contamination or Csg	X	=	2.00E-01	m
Calculated Flux	F_x	=	1.08E+00	mg/m2-hour

SITE ASSESSMENT & MITIGATION VAPOR RISK ASSESSMENT MODEL
Risk Calculations

Case Name: Four Seasons: VP-4 (10.30.15)

CALCULATING VAPOR CONCENTRATION IN BUILDING

A. INDOOR AIR COMPONENT

Floor area of building	A	=	1.00E+00	m2
% of floor area that flux occurs		=	1.00E+00	dimensionless
Slab Attenuation factor	S _b	=	1.00E-01	dimensionless
Flux area within building	A _f	=	1.00E-01	m2
Interior Height of building	R _h	=	2.44E+00	m
Volume of building	V	=	2.44E+00	m3
Exchange rate of air	E	=	8.30E-01	exchanges/hr
Ventilation rate	Q	=	2.03E+00	m3/hr
Indoor air component	C_i	=	5.35E-02	mg/m3

B. OUTDOOR AIR COMPONENT

Downwind contamination length	L	=	0.00E+00	m
Wind speed	u	=	1.60E+04	m/hr
Height of building openings (or height of breathing zone)	h	=	2.00E+00	m
Outdoor air component	C_o	=	0.00E+00	mg/m3

C. TOTAL INDOOR AIR CONCENTRATION

C_t	=	5.35E-02	mg/m3
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EXPOSURE SCENARIO

Body weight	BW	=	7.00E+01	kg
Inhalation rate	IR	=	2.00E+01	m3/day
Exposure duration	ED	=	2.50E+01	yrs
Hours per day	conversion	=	1.20E+01	hr/day
Exposure time	ET	=	5.00E-01	hr/24 hours
Days per week	conversion	=	5.00E+00	days/week
Weeks per year	conversion	=	5.00E+01	weeks/yr
Exposure frequency	EF	=	2.50E+02	days/yr
Averaging Time (carc. risk)	AT	=	2.56E+04	days
Averaging Time (non-carc. risk)	AT	=	9.13E+03	days
Chemical Intake (carc. risk)	IT_c	=	1.87E-03	mg/kg-day
Chemical Intake (non-carc. risk)	IT_{nc}	=	5.24E-03	mg/kg-day

NON-CARCINOGENIC RISK (Chronic Risk)

Chemical Intake (non-carc. risk)	IT _{nc}	=	5.24E-03	mg/kg-day
Reference dose	RfD	=	1.00E-02	mg/kg-day
Hazard Index	HI	=	5.24E-01	

CARCINOGENIC RISK

Chemical Intake (carc. risk)	IT _c	=	1.87E-03	mg/kg-day
Slope factor (potency)	SF	=	2.10E-02	1/(mg/kg-day)
Cancer Risk	Risk	=	3.93E-05	

Revised 07/29/2010	Mol. Wgt mg/mole	Vapor Pressure atm	Solubility mg/l-H2O(T)	Henry's Law Constant (dim-less)	Da cm2/sec	Koc cm3/gm
benzene	78,110	1.3E-01	1,800	2.3E-01	8.8E-02	6.2E+01
benzo(a)pyrene	252,300	1.3E-03	0.00162	4.6E-05	4.3E-02	1.0E+06
carbon tetrachloride	153,840	1.2E-01	790	1.2E+00	7.8E-02	1.5E+02
chlorobenzene	112,560	1.6E-02	470	1.5E-01	7.3E-02	2.2E+02
chloroethane (ethyl chloride)	64,520	1.3E+00	5,700	4.5E-01	1.0E-01	1.5E+01
chloromethane (methyl chloride)	50,490	5.7E+00	8,200	9.8E-01	1.1E-01	3.5E+01
1,2-dichlorobenzene	147,010	1.9E-03	160	7.8E-02	6.9E-02	3.8E+02
1,3-dichlorobenzene	147,010	2.8E-03	160	7.8E-02	6.9E-02	3.8E+02
1,4-dichlorobenzene	147,010	1.3E-03	74	1.0E-01	6.9E-02	6.2E+02
1,1-dichloroethene (1,1-DCE)	96,940	7.8E-01	2,300	1.1E+00	9.0E-02	6.5E+01
trans-1,2-dichloroethene	96,950	5.2E-01	6,300	3.8E-01	7.1E-02	3.8E+01
1,1-dichloroethane (1,1-DCA)	98,970	2.5E-01	5,100	2.3E-01	7.4E-02	5.3E+01
1,2-dichloroethane (1,2-DCA)	98,960	8.0E-02	8,500	4.0E-02	1.0E-01	3.8E+01
dichloromethane (methylene chloride)	84,900	5.3E-01	13,000	9.0E-02	1.0E-01	1.0E+01
ethylbenzene	106,000	1.5E-02	170	3.2E-01	7.5E-02	2.0E+02
naphthalene	128,200	3.0E-04	31	2.0E-02	5.9E-02	1.2E+03
methyl tertiary butyl ether (MTBE)	88,150	3.2E-01	48,000	2.4E-02	8.0E-02	7.8E+02
tetrachloroethene (PCE)	166,000	1.9E-02	200	7.5E-01	7.2E-02	2.7E+02
toluene	92,150	3.7E-02	530	2.7E-01	8.7E-02	1.4E+02
1,1,1-trichloroethane	133,420	1.3E-01	1,300	7.1E-01	7.8E-02	1.4E+02
1,1,2-trichloroethane	133,000	2.5E-02	4,400	3.7E-02	7.8E-02	7.5E+01
trichloroethene (TCE)	131,400	7.6E-02	1,100	4.2E-01	7.9E-02	9.4E+01
trichloromethane (chloroform)	119,000	2.6E-01	7,900	1.5E-01	1.0E-01	5.3E+01
vinyl chloride	62,500	3.5E+00	2,800	1.1E+00	1.1E-01	1.9E+01
xylene	106,160	1.1E-02	180	2.7E-01	7.8E-02	2.5E+02

78,110 1.3E-01 1,800 2.3E-01 8.8E-02 6.2E+01

tetrachloroethene (PCE) 166,000 1.9E-02 200 7.5E-01 7.2E-02 2.7E+02

Gasoline 100,000
Kerosene 200,000
Diesel 200,000
Fuel Oil 200,000
Waste Oil 400,000

100,000

0 #N/A

Revised 7/29/2010	Cancer Slope Factor 1 / (mg/kg-day)	Reference Dose mg/kg-day
	Inhalation	Inhalation
benzene	1.0E-01	8.6E-03
benzo(a)pyrene	3.9E+00	
carbon tetrachloride	1.5E-01	7.0E-04
chlorobenzene		1.7E-02
chloroethane (ethyl chloride)	2.9E-03	2.9E+00
chloromethane (methyl chloride)		2.6E-02
1,2-dichlorobenzene		5.7E-02
1,3-dichlorobenzene		3.0E-02
1,4-dichlorobenzene	4.0E-02	2.3E-01
1,1-dichloroethene (1,1-DCE)		5.7E-02
1,1-dichloroethane (1,1-DCA)	5.7E-03	1.4E-01
1,2-dichloroethane (1,2-DCA)	7.2E-02	1.4E-03
trans-1,2-dichloroethene		2.0E-02
dichloromethane (methylene chloride)	3.5E-03	8.6E-01
ethylbenzene	8.7E-03	2.9E-01
naphthalene	1.2E-01	8.6E-04
methyl tertiary butyl ether (MTBE)	1.8E-03	8.6E-01
1,1,1-trichloroethane		6.3E-01
1,1,2-trichloroethane	5.7E-02	4.0E-03
trichloroethene (TCE)	7.0E-03	1.7E-01
trichloromethane (chloroform)	1.9E-02	8.6E-05
tetrachloroethene (PCE)	2.1E-02	1.0E-02
toluene		1.1E-01
vinyl chloride	2.7E-01	2.9E-02
xylene		2.9E-02

	1.0E-01	8.6E-03
tetrachloroethene (PCE)	2.1E-02	1.0E-02

ATTACHMENT H

Client Transmittal Letter

January 19, 2016

Mr. Mark Detterman
Alameda County LOP
1131 Harbor Bay Pkwy.
Alameda, California 94502

Re: Soil Vapor and Indoor Air Investigation Report (Report #4601)
Four Seasons Cleaners; Cleanup Program # RO0003155
13778 Doolittle Ave., San Leandro, California

Dear Mr. Detterman:

Attached for your review is a technical report (Soil Vapor and Indoor Air Investigation Report) for the above-referenced case. The report was prepared by WellTest, Inc. at my request.

I declare under the penalty of perjury that information and/or recommendations contained in the attached report are true and correct, to the best of my knowledge.

If you should have any questions or comments, please do not hesitate to contact me, or the WellTest project manager, Bill Dugan at (408) 287-2175.

Sincerely,



Mr. Ernest Lee
Marina Faire Shopping Center
3271 S. Highland Dr., Ste. #704
Las Vegas, NV 89109

STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A GEO_REPORT FILE

SUCCESS

Your GEO_REPORT file has been successfully submitted!

<u>Submittal Type:</u>	GEO_REPORT
<u>Report Title:</u>	Soil Vapor and Indoor Air Investigation Report (Report #4601)
<u>Report Type:</u>	Soil Vapor Intrusion Investigation Report
<u>Report Date:</u>	1/14/2016
<u>Facility Global ID:</u>	T10000006425
<u>Facility Name:</u>	Four Seasons Cleaners
<u>File Name:</u>	13778 Doolittle Soil Gas Install & Sampling REPORT - 4601.pdf
<u>Organization Name:</u>	WellTest, Inc.
<u>Username:</u>	WellTest, Inc.
<u>IP Address:</u>	73.231.113.68
<u>Submittal Date/Time:</u>	1/22/2016 7:58:59 AM
<u>Confirmation Number:</u>	9022223770

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