REPORT ON PHASE III
ADDITIONAL SITE CHARACTERIZATION
June 2011
FORMER CHEMOIL REFINERY
SLIC No. 453A
SIGNAL HILL, CALIFORNIA



VOLUME IV
Exhibits 7 through 9

Prepared for:

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TEC EARTH SCIENCES AND ENVIRONMENTAL SPECIALISTS

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SOIL GAS DATA

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Interphase, Inc. (1999)

INTERPHASE ENVIRONMENTAL, INC.
MOBILE LABORATORIES AND DIRECT PUSH DRILLING

Soil Gas Survey

at

Former Chemoil Refinery
2020 Walnut Avenue
Signal Hill, California

Project Number 99075

Submitted to:

Mr. Steve Testa
Testa Environmental Corporation
19814 Jesus Maria Road
Mokelumne Hill, CA 95245

Submitted by:

InterPhase Environmental, Inc.
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July 9, 1999

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INTERPHASE ENVIRONMENTAL, INC.

DOCUMENT REVIEW SHEET

Project Number: 99075

Client Name: Mr. Steve Testa
Testa Environmental Corporation
19814 Jesus Maria Road
Mokelumne Hill, CA 95245

Document Name: **Soil Gas Survey**
Former Chemoil Refinery (offsite)
2020 Walnut Avenue
Signhal Hill, CA

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Introduction

This report presents the methods and results of the soil gas investigation performed on Thursday, June 24, 1999 at the former Chemoil Refinery in Signal Hill, California. The investigation was conducted by InterPhase Environmental, Inc. (InterPhase) under contract to Testa Environmental Corporation. Soil gas sampling and analyses were performed in accordance with our firms Standard Operating Procedures, which was based on the guidelines for soil gas investigation set by California Regional Water Quality Control Board, Los Angeles (February 25, 1997)

Background & Theory

Soil gas surveys consist of the sampling and analysis of the soil gases that reside in the pore space of the unsaturated zone above the water table. Because many common organic compounds and industrial solvents exhibit significant vapor pressures and relatively low solubility in water, their introduction into subsurface soils results in vapor phase permeation and transport. Should these chemicals reach the water table and travel with the groundwater, vapors will continue to emanate from the contaminated groundwater into overlying soil. Thus, organic contamination of the subsurface and, possibly, of groundwater can be detected by measuring the concentration of volatile organic compounds (VOCs) in the soil gas.

Whatever is the source of the VOC in soil gas, its concentration is representative of soil contamination at the point of measurement. Volatile organic contaminants are distributed in three phases of soil, i.e., the gas phase in unsaturated pore spaces, the water contained in the unsaturated soils, and the surface of soil particles. The sum of the VOCs contained in the three phases divided by soil mass gives the total soil contaminant concentration.

Within the soil volume examined by soil gas sampling, equilibrium between the three phases is rapidly attained. The partitioning of the VOCs between gas, liquid and solid phases depends on both the soil properties and the chemical properties of the organic contaminants. Thus, given the chemical properties of the VOC and relevant soil parameters, soil-gas data can be used to calculate soil contamination.

Chemical properties of particular organic compounds (i.e., vapor pressure, solubility) are well known. Important soil parameters that affect the distribution of VOCs in three phases include the soil's natural and organic content, moisture, particle size and mineralogy, temperature, lithology, and heterogeneity. These parameters can either be measured or reasonably estimated. Some of these soil parameters (i.e., bulk density, porosity) have relatively little effect on soil concentration calculations. The soil organic and moisture content are two important parameters having greater effect on the soil contamination calculations. They should be measured or estimated more carefully.

Detectable soil gas concentrations indicate either subsurface or groundwater contamination. Study of concentration distribution provides information on the source and nature of contamination. Away from source areas (i.e., underground storage tanks, surface spills, etc.), where only the groundwater is providing a significant soil gas concentration, soil gas can be an excellent relative indicator of groundwater contamination. The effectiveness of a soil gas survey to delineate groundwater contamination is variable. It depends on the depth of groundwater, contaminant concentration in the groundwater, distribution of air permeability in the unsaturated zone, and attenuation of the volatile organics by biodegradation or adsorption.

Use of soil gas to infer concentrations of sources at distance (such as groundwater plumes) is necessarily much more qualitative. Soil gas data used in this manner are limited by the lack of information regarding the soil parameters interposed between the source and sampling point. It is, therefore, generally not possible to quantitatively estimate groundwater concentrations from soil gas data collected at distance from the saturated interface.

Soil Gas Survey is the most reliable and cost-effective method for investigations of subsurface contamination by volatile organic pollutants. Soil gas sampling and analysis provide more accurate and better representative results than soil sampling and analysis do. Because, for soil samples, avoiding loss of total gas phase component and partial liquid and solid phase components is impossible. This is due to exposure of soil samples to the atmosphere during sample handling. Since the gas phase contaminant is a significant part of the total amount of soil contaminant, this loss introduces a large error to the results of soil sample analysis. The soil gas samples, in contrast, are handled in closed containers such as syringes, tedlar bags, or stainless steel canisters. Therefore, no loss of target concentration should occur. Besides, due to the nature of heterogeneity, a true average over the sampled volume can hardly be achieved for a soil sample. While a soil gas sample is always homogeneous and representative of the equilibrium concentration at the direct vicinity of the sample probe.

Scope of Work

This soil gas survey was conducted on Thursday, June 24, 1999 at the former Chemoil Refinery, Signal Hill, California. A total of eight soil gas samples were collected and analyzed. Soil gas samples were collected at a target depth of 5 and 10 feet bgs utilizing direct-push sampling equipment.

All soil gas samples were analyzed on site for the target compounds listed in Table 1. The analytical results for all samples are presented in micrograms of contaminant per liter of soil gas (µg/L).

Table 1. Target Analytes

trichlorofluoromethane (Freon 11)	dichlorodifluoromethane (Freon 12)
methylene chloride (CH2Cl2)	1,1,2-trichlorotrifluoroethane (Freon 113)
1,1-dichloroethane (1,1-DCA)	vinyl chloride
chloroform (CHCl3)	chloroethane
1,1,1-trichloroethane (1,1,1-TCA)	1,1-dichloroethene (1,1-DCE)
carbon tetrachloride (CCl4)	cis-1,2-dichloroethene (c-1,2-DCE)
1,2-dichloroethane (1,2-DCA)	trans-1,2-dichloroethene (t-1,2-DCE)
trichloroethene (TCE)	benzene
1,1,2-trichloroethane (1,1,2-TCA)	toluene
tetrachloroethene (PCE)	ethylbenzene
1,1,1,2-tetrachloroethane (1,1,1,2-TCA)	m-, p-xylenes
1,1,2,2-tetrachloroethane (1,1,2,2-TCA)	o-xylene

Methods and Instrumentation

Sample Collection

Soil Gas Sampling Apparatus

Soil gas probes were advanced using a Geoprobe® Direct Push Sampling Rig. "Post-Run" method of sampling was used. In this method, the sample tubing is not carried in the probe rod during probe driving, but rather inserted down the bore after the appropriate sample depth is reached.

Sampling probe rod consists of section(s) of 1 ¼ - inch outer diameter hardened steel pipe. A point holder adapter is mounted on the distal (deep) end of the sampling train. A stainless steel adapter is connected to ¼-inch clean, virgin polyethylene tubing, lowered down the bore of the drive probe string, and mated to the point holder adapter. An o-ring seal enables the system to form a vacuum-tight space to assure that the gas sample is collected at the bottom. Hamilton or Dynatech 10-cc gas-tight, glass syringes are used to collect soil gas samples.

Pre-Sample Purge

In order to collect a representative soil gas samples, the ambient air residing in the sampling system must be removed before the soil gas sample is drawn from the probe. For this purpose, certain amount of sample gas is drawn by a vacuum device to purge the system. Normally, a volume of sample gas equivalent to three times of sampling probe volume is used to purge the system.

Sampling Procedure

A soil gas sampling probe was driven to the depth, then pulled up a half inch to create a gap for the soil vapor to enter the probe. The sampling adapter and polyethylene tubing were inserted into the drive rod and coupled to the point holder. The purge volume of vapor was drawn from the sampling system by using a 60 cc plastic syringe. After the system resumed the normal pressure the sample was drawn from the system using the sampling syringe.

Sample Analysis

All soil gas samples were analyzed for the target compounds listed in Table 1 by using modified EPA Methods 8010/8020 at InterPhase's on site mobile laboratory. Unlike many mobile laboratories that use purge and trap based method 8010/8020, InterPhase laboratories designed an all-gas-phase method based on the USEPA methods TO-14, 8010 and 8020. This method is able to avoid the errors introduced by using purge and trap devices and those false assumptions applied for quantification of gas samples with liquid standards. Specially designed procedures are applied to soil gas analyses which provide the best attainable data quality. InterPhase's soil gas laboratories meet or exceed the requirements set by the California Regional Water Quality Control Board (CRWQCB) Los Angeles Region's Interim Guidance for Active Soil Gas Investigation. They are also capable to meet USEPA level three QA/QC requirements.

Samples were introduced into fixed volume sample loops and injected into the GC by a computer controlled valve system. The carrier gas with the injected sample was split and led to two separate capillary columns. The first column (DB-624) was connected to a photoionization detector (PID) for detecting aromatic and unsaturated organic contaminants. The outlet of PID is connected to an electrolytic conductivity detector (ELCD) for detecting halogenated organic contaminants. The second column (DB-1) was connected to a flame ionization detector (FID) for confirmation of compounds detected on other two detectors. Since 1,1-dichloroethene and Freon113 coelude on first column, these two compounds were measured on PID and FID, respectively. All analyses used a temperature program starting at 10°C, no hold, ramp at 10°/minute to 50°C, no hold, ramp at 5°/minute to 100°C, no hold, ramp at 20°/minute to 180°C, no hold. The temperature program took 17.5 minutes to complete.

Gaseous standards were used for identification and quantitative measurement of target analytes. The calibration standards were prepared by InterPhase Environmental, Inc., according to a procedure that ensures maximum precision and accuracy.

Response Factors

External standard calibration method was used for this project. The computer-integration system

calculates response factors (RF) as follows:

$$RF = C_d/A_d$$

where C_d = concentration of analyte in the calibration standard, µg/L
A_d = peak area of analyte from calibration run.

Response factors at different calibration levels are averaged to yield average response factors. The concentration of the unknown is determined by multiplying the peak area of the unknown by the average response factor.

$$C_p = (A_p)(\underline{RF})$$

where C_p = concentration of the analyte in sample in µg/L
$\underline{RF}$ = average response factor
A_p = peak area of analyte being measured

In this project the practical quantitation limits of reported detection was set at 1 microgram per liter (µg/L) for all compounds.

Decontamination of Equipment

Sampling equipment was decontaminated by methods consistent with the equipment's use. Polyethylene sample tubing was used for one sampling event and discarded. Reusable steel parts including adapters and point holders were cleaned by baking in an oven up to 180°C. Syringes were cleaned by heating up to 50°C in a custom made syringe cleaner under a clean nitrogen flow.

Separate storage areas were provided for used and cleaned equipment. The probe rod and drive points were stored in clean storage racks on the sampling rigs. Care was taken with the rods and points to eliminate both soil-surface and cross-hole contamination. No equipment that had been in contact with soil gas was used or reused without being decontaminated.

Standards

Neat reagent-grade compounds were used for preparation of stock liquid standards. The stock standard liquid mixture was prepared by adding the desired mass of each compound of interest to a capped vial. The mass added was weighed with an analytical balance. A measured volume of



the stock liquid mixture was injected into a pre-evacuated six (6) liter Summa canister to prepare a calibration standard. The canister was filled with ultrahigh purity (UHP) grade nitrogen to bring the pressure to approximately 30 psig.

A separate gas standard mixture was prepared from a set of chemical reagents of different sources and used as a laboratory control standard (LCS). Also, a surrogate standard mixture was prepared by injecting two surrogate compounds (cis-1, 3-dichloropropene and 4-chlorotoluene) into a pre-evacuated Summa canister and filled up with UHP nitrogen.

For a calibration, different volumes of the standard gas mixture was injected into the gas chromatograph and analyzed to determine the response of the instrument.

Instrumentation

The make and model of the equipment used in the mobile laboratory to perform this soil gas survey project included:

Varian 3400 Gas Chromatograph;
AutoVOC™ Automated Gas Sample Injector;
Tracor 700A Electrolytic Conductivity Detector (ELCD)
Tracor 703 Photoionization Detector (PID);
Varian Flame Ionization Detector (FID);
J&W Scientific DB-624, 30m Megabore Column;
J&W Scientific DB-1, 30m Megabore Column;
Scientific Software's EZChrom PC-Based Data System.

Quality Assurance / Quality Control

Quality control and quality assurance were achieved through strict laboratory protocol. A system blank was analyzed daily to demonstrate absence of interference in the analytical systems.

A four-point curve was generated for every target compound during the initial calibration of the gas chromatograph. To demonstrate the linearity of response, the percent relative standard deviation (%RSD) of at least 3 calibration points should be less than 20% for each target compounds except freons, chloroethane and vinyl chloride, for which %RSD should be less than 30%. The initial calibration was validated by analyzing the LCS sample. The allowed difference between response factor of the LCS check and the response factor of the initial calibration was ±15% for all target compounds except for freons, chloroethane and vinyl chloride, for which ±25% was allowed. The calibration was acceptable if no more than 4 compounds exceeded the



allowed percent difference between the calibration response factor and the LCS check response factor but none of them exceed 35%.

To validate use of an existing calibration curve, a mid-range calibration check was performed daily at the beginning of analysis (except the day when a multipoint calibration was performed). As required by the InterPhase QA/QC protocols, the percent relative standard deviation (%RSD) of the mid-point continuing calibration check should be less than 15% for all target compounds, except 25% for vinyl chloride, chloroethane, and Freon.

A fixed amount of surrogate standard was mixed with every sample. The surrogate was monitored for both retention time and percent recovery. The control limits for surrogate recovery were 100±25%.

Duplicate samples from at least 5% of the total samples were analyzed to measure the precision of sampling and analysis.

Data Interpretation

Vapor-phase diffusion is the prevailing mechanism by which volatile organic contaminants are transported in deep subsurface soil. The concentration of a target analyte in a soil gas sample is a function of the phase, location and concentration of the source, physical properties of the analyte, and the media through which transport occurs. The site-specific variability among soil properties profoundly affect vapor-phase diffusion and must be considered in the interpretation of analyte distribution in the soil gas. Among these soil properties are: organic content, soil moisture, soil particle size and mineralogy, and air-filled porosity. Anomalies in the spatial distribution (vertically or laterally) of analyte concentrations in soil gas samples should be noted.

Although isoconcentration contours of soil gas data can be plotted on site maps, it should be emphasized that these isotherms are only representative of the contaminant distribution in soil vapor. Isoconcentration contours for compounds in soil or groundwater may be quite different from those of soil gas due to the spatial variation of the soil properties. Inherent assumptions that are infrequently applied to preparing soil concentration isotherms from soil gas data are:

- Soil gas concentration data are adequate to describe the spatial distribution of contaminants underlying the site;
- Vertical anisotropy is either insignificant or can be described by existing site data;
- Vapor barriers that may impede the gaseous diffusion of analytes are either nonexistent or do not vary over the investigation site;
- Soil texture, water content, and air-filled porosity are spatially uniform over the site.

When all these assumptions are true, the resulting soil concentration contour map is fairly reliable. But, any discrepancy of real condition from these assumptions may yield great difference from the actual soil concentration distribution.

In cases where data values in parts per million by volume (ppm_v) are desired, the conversion of soil gas concentrations from µg/L (gas) to ppm_v can be achieved with the following equation.

$$C_{ppm_v} = \frac{(C_{\mu g/L})(24.1)}{(mw)(P)}$$

Where;

C_{ppm_v}	soil gas concentration in ppm_v
$C_{\mu g/L}$	soil gas concentration in µg/L (gas)
24.1	molar volume at normal room temperature (70°F) in (L)(atm)/mole
mw	molecular weight in grams/mole
P	pressure in atmospheres (typically assumed to be 1 atm)

Using toluene, which has a molecular weight of 92.15, as an example: at normal temperature and one atmosphere of pressure, 1 µg/L of toluene would be equivalent to 0.26 ppm_v.

Results

The analytical instrument was calibrated on June 24, 1999. The result of this four-point calibration is presented in *Table 2. Initial Calibration Report*. %RSDs of response factors for all target compounds are within the control limits required by the QA/QC objectives. The calibration was verified by running a mid-concentration LCS sample after the calibration. The LCS check result is presented in *Table 3. LCS Check for the Initial Calibration*. All checked results meet the QA/QC objectives.

Table 4. Summary of Analytical Results presents the measured concentrations of all samples, blanks, and duplicates analyzed on site during this investigation. System blank samples are labeled SB followed by a six digit number representing the date of analysis. Concentrations are reported in micrograms of contaminate per liter of soil gas (µg/L) for all target compounds. The surrogate recoveries for all samples are also listed in this table. Surrogate recoveries for all samples are within the control limits (75% to 125%).

Table 2. Initial Calibration Results

Lab ID: Phase 10

Date Calibrated: June 24, 1999
Analyst: David Feng
Standard: CAL9802
Date Standard Prepared: July 31, 1998
Concentration Level:
Amount of Standard Injected (mL):

Compound Name	*Detector*	*RT (min)*	*Stnd Conc. (ug/L)*	LEVEL 1 0.01			LEVEL 2 0.04			LEVEL 3 0.2		
				Mass(ng)	Area	RF	Mass(ng)	Area	RF	Mass(ng)	Area	RF
Dichlorodifluoromethane	ELCD	1.46	466	4.7	4725	9.86E-04	18.6	21960	8.49E-04	93.2	106607	8.74E-04
Vinyl Chloride	ELCD	1.87	482	4.8	6891	6.99E-04	19.3	25451	7.58E-04	96.4	127022	7.59E-04
Chloroethane	ELCD	2.43	497	5.0	3974	1.25E-03	19.9	17654	1.13E-03	99.4	76958	1.29E-03
Trichlorofluoromethane	ELCD	2.75	332	3.3	9137	3.63E-04	13.3	29397	4.52E-04	66.4	140274	4.73E-04
Dichloromethane	ELCD	3.89	470	4.7	10657	4.41E-04	18.8	36096	5.21E-04	94.0	184837	5.09E-04
trans-1,2-Dichloroethene	ELCD	4.18	481	4.8	14185	3.39E-04	19.2	40833	4.71E-04	96.2	187486	5.13E-04
1,1-Dichloroethane	ELCD	4.63	493	4.9	14872		19.7	42854	4.60E-04	98.6	188438	5.23E-04
cis-1,2-Dichloroethene	ELCD	5.29	496	5.0	13284	3.73E-04	19.8	34484	5.75E-04	99.2	172829	5.74E-04
Chloroform	ELCD	5.69	485	4.9	10293	4.71E-04	19.4	34122	5.69E-04	97.0	202627	4.79E-04
1,1,1-Trichloroethane	ELCD	5.86	486	4.9	10633	4.57E-04	19.4	41072	4.73E-04	97.2	209738	4.63E-04
Carbon Tetrachloride	ELCD	6.06	515	5.2	16428	3.13E-04	20.6	63017	3.27E-04	103.0	295930	3.48E-04
1,2-Dichloroethane	ELCD	6.39	489	4.9	22449		19.6	52699	3.71E-04	97.8	219198	4.46E-04
Trichloroethene	ELCD	7.25	500	5.0	17423	2.87E-04	20.0	47046	4.25E-04	100.0	240314	4.16E-04
1,1,2-Trichloroethane	ELCD	10.12	494	4.9	6569	7.52E-04	19.8	25468	7.76E-04	98.8	157028	6.29E-04
Tetrachloroethene	ELCD	10.28	485	4.9	23503		19.4	71703	2.71E-04	97.0	312294	3.11E-04
1,1,1,2-Tetrachloroethane	ELCD	12.24	508	5.1	13541	3.75E-04	20.3	43602	4.66E-04	101.6	260746	3.90E-04
1,1,2,2-Tetrachloroethane	ELCD	14.98	483	4.8	24080		19.3	38073	5.07E-04	96.6	220703	4.38E-04
1,1-Dichloroethene	PID	3.29	487	4.9	8339	5.84E-04	19.5	36003	5.41E-04	97.4	181588	5.36E-04
Benzene	PID	6.28	489	4.9	20458	2.39E-04	19.6	82662	2.37E-04	97.8	430822	2.27E-04
Toluene	PID	9.26	491	4.9	25362	1.94E-04	19.6	75721	2.59E-04	98.2	417925	2.35E-04
Ethyl Benzene	PID	12.26	487	4.9	24645	1.98E-04	19.5	69370	2.81E-04	97.4	407083	2.39E-04
m/p-Xylene	PID	12.53	972	9.7	68848	1.82E-04	38.9	186882	2.08E-04	194.4	1118284	1.74E-04
o-Xylene	PID	13.38	485	4.9	26654	1.82E-04	19.4	67583	2.87E-04	97.0	444629	2.18E-04
1,1,2-Trichlorotrifluoroethane	FID	4.15	549	5.5	1299	4.23E-03	22.0	4514	4.86E-03	109.8	19238	5.71E-03

Table 2. Initial Calibration Results

Lab ID: Phase 10

Date Calibrated: June 24, 1999
Analyst: David Feng
Standard: CAL9802
Date Standard Prepared: July 31, 1998
Concentration Level:
Amount of Standard Injected (mL):

Compound Name	*Detector*	*RT (min)*	*Stnd Conc. (ug/L)*	LEVEL 4 Mass(ng)	Area	RF	Aver. RF	Std. Div.	%RSD	Acpt. Rng.
Dichlorodifluoromethane	ELCD	1.46	466	466	463968	1.00E-03	9.28E-04	7.83E-05	8.4	<30
Vinyl Chloride	ELCD	1.87	482	482	684285	7.04E-04	7.30E-04	3.26E-05	4.5	<30
Chloroethane	ELCD	2.43	497	497	333778	1.49E-03	1.29E-03	1.51E-04	11.7	<30
Trichlorofluoromethane	ELCD	2.75	332	332	670972	4.95E-04	4.46E-04	5.77E-05	12.9	<30
Dichloromethane	ELCD	3.89	470	470	775647	6.06E-04	5.19E-04	6.77E-05	13.0	<20
trans-1,2-Dichloroethene	ELCD	4.18	481	481	884112	5.44E-04	4.67E-04	9.03E-05	19.3	<20
1,1-Dichloroethane	ELCD	4.63	493	493	870135	5.67E-04	5.17E-04	5.35E-05	10.4	<20
cis-1,2-Dichloroethene	ELCD	5.29	496	496	855088	5.80E-04	5.26E-04	1.02E-04	19.3	<20
Chloroform	ELCD	5.69	485	485	1010069	4.80E-04	5.00E-04	4.61E-05	9.2	<20
1,1,1-Trichloroethane	ELCD	5.86	486	486	1017425	4.78E-04	4.68E-04	9.35E-06	2.0	<20
Carbon Tetrachloride	ELCD	6.06	515	515	1248437	4.13E-04	3.50E-04	4.39E-05	12.5	<20
1,2-Dichloroethane	ELCD	6.39	489	489	1031164	4.74E-04	4.31E-04	5.33E-05	12.4	<20
Trichloroethene	ELCD	7.25	500	500	1038551	4.81E-04	4.02E-04	8.22E-05	20.4	<20
1,1,2-Trichloroethane	ELCD	10.12	494	494	851363	5.80E-04	6.84E-04	9.46E-05	13.8	<20
Tetrachloroethene	ELCD	10.28	485	485	1271104	3.82E-04	3.21E-04	5.62E-05	17.5	<20
1,1,1,2-Tetrachloroethane	ELCD	12.24	508	508	1115686	4.55E-04	4.22E-04	4.58E-05	10.9	<20
1,1,2,2-Tetrachloroethane	ELCD	14.98	483	483	1082122	4.46E-04	4.64E-04	3.80E-05	8.2	<20
1,1-Dichloroethene	PID	3.29	487	487	954552	5.10E-04	5.43E-04	3.06E-05	5.6	<20
Benzene	PID	6.28	489	489	2086601	2.34E-04	2.34E-04	5.19E-06	2.2	<20
Toluene	PID	9.26	491	491	2051652	2.39E-04	2.32E-04	2.76E-05	11.9	<20
Ethyl Benzene	PID	12.26	487	487	1813562	2.69E-04	2.47E-04	3.70E-05	15.0	<20
m/p-Xylene	PID	12.53	972	972	4642517	2.09E-04	1.93E-04	1.81E-05	9.4	<20
o-Xylene	PID	13.38	485	485	1892945	2.56E-04	2.36E-04	4.57E-05	19.4	<20
1,1,2-Trichlorotrifluoroethane	FID	4.15	549	549	95106	5.77E-03	5.14E-03	7.38E-04	14.3	<30

Table 4. LCS Check Results

Lab ID: Phase 10

Date Calibrated: June 24, 1999
Calibration Standard: CAL9802
LCS Standard: CAL9803
Date Standard Prepared: July 31, 1998
Analyst: David Feng
Date LCS Checked: 24-Jun-99
Time LCS Checked: 10:30
Amount of LCS Injected (mL): 0.2

Compound Name	*Detector*	*RT (min)*	*Stnd Conc. (ug/L)*	Area	RF	Cal. Avr. RF	% Dev.	Acpt. Rng.
Dichlorodifluoromethane	ELCD	1.46	475	105973	8.96E-04	9.28E-04	-3.4	±25
Vinyl Chloride	ELCD	1.87	491	130433	7.55E-04	7.30E-04	3.1	±25
Chloroethane	ELCD	2.43	507	82058	1.24E-03	1.29E-03	-4.2	±25
Trichlorofluoromethane	ELCD	2.75	508	197148	5.15E-04	4.46E-04	15.6	±25
Dichloromethane	ELCD	3.89	489	191815	5.10E-04	5.19E-04	-1.8	±15
trans-1,2-Dichloroethene	ELCD	4.18	494	194688	5.07E-04	4.67E-04	8.7	±15
1,1-Dichloroethane	ELCD	4.63	485	197107	4.92E-04	5.17E-04	-4.8	±15
cis-1,2-Dichloroethene	ELCD	5.29	491	173428	5.66E-04	5.26E-04	7.7	±15
Chloroform	ELCD	5.69	490	195409	5.02E-04	5.00E-04	0.4	±15
1,1,1-Trichloroethane	ELCD	5.86	497	218609	4.55E-04	4.68E-04	-2.8	±15
Carbon Tetrachloride	ELCD	6.06	487	259926	3.75E-04	3.50E-04	7.0	±15
1,2-Dichloroethane	ELCD	6.39	475	230137	4.13E-04	4.31E-04	-4.1	±15
Trichloroethene	ELCD	7.25	485	237562	4.08E-04	4.02E-04	1.5	±15
1,1,2-Trichloroethane	ELCD	10.12	488	156372	6.24E-04	6.84E-04	-8.8	±15
Tetrachloroethene	ELCD	10.28	494	333576	2.96E-04	3.21E-04	-7.7	±15
1,1,1,2-Tetrachloroethane	ELCD	12.24	482	238030	4.05E-04	4.22E-04	-3.9	±15
1,1,2,2-Tetrachloroethane	ELCD	14.98	490	247641	3.96E-04	4.64E-04	-14.7	±15
1,1-Dichloroethene	PID	3.29	501	184473	5.43E-04	5.43E-04	0.0	±15
Benzene	PID	6.28	497	480730	2.07E-04	2.34E-04	-11.7	±15
Toluene	PID	9.26	496	460400	2.15E-04	2.32E-04	-7.1	±15
Ethyl Benzene	PID	12.26	493	434722	2.27E-04	2.47E-04	-8.0	±15
m/p-Xylene	PID	12.53	986	1112053	1.77E-04	1.93E-04	-8.3	±15
o-Xylene	PID	13.38	499	485787	2.05E-04	2.36E-04	-12.9	±15
1,1,2-Trichlorotrifluoroethane	PID	4.15	499	87528	5.69E-03	5.14E-03	10.7	±25

Table 3. Analytical Result of Samples

Lab ID: Phase 10
Operator: David Feng

Sample ID :			SB990624	GP-1-5A	GP-1-5B	GP-1-5C	GP-1-10	GP-2-5	GP-2-10	GP-3-5	GP-3-10	GP-3-10/dup
Date Collected :			06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99
Time Collected :			8:09	12:10	12:25	12:45	13:15	13:37	14:02	14:25	14:40	14:40
Date Analyzed :			06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99	06/24/99
Time Analyzed :			8:09	12:16	12:37	12:49	13:20	13:43	14:04	14:32	14:55	15:20
Volume Analyzed (ml) :			1	1	1	1	1	1	1	1	1	1
Compound Name	*Detector*	*RT (min)*										
Dichlorodifluoromethane	ELCD	1.47	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ELCD	1.88	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ELCD	2.47	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ELCD	2.79	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichloromethane	ELCD	3.93	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ELCD	4.22	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ELCD	4.68	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ELCD	5.34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ELCD	5.74	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloromethane	ELCD	5.92	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	ELCD	6.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ELCD	6.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ELCD	7.31	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ELCD	10.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ELCD	10.36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ELCD	12.32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ELCD	15.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	PID	3.33	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	PID	6.35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	PID	9.33	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	PID	12.33	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m/p-Xylene	PID	12.60	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	PID	13.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichlorotrifluoroethane	FID	4.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
% C13DCPE Recovery (ELCD)		8.85	NA	94	97	88	90	90	87	89	85	90
% C13DCPE Recovery (PID)		8.79	NA	108	110	109	109	109	109	109	108	109
% 4CLTOL Recovery (PID)		15.37	NA	109	111	108	110	108	106	109	106	109
% C13DCPE Recovery (FID)		8.89	NA	103	105	105	105	105	104	105	106	106
% 4CLTOL Recovery (FID)		15.78	NA	110	113	112	113	113	110	113	111	114

Unit of Concentration is ug/L
NA – Not Applicable, or Not Available

EXHIBIT 7 – PART II

TetraTech (2006)



Figure 1 - Phase I and II Boring Locations, Former Chemoil Refinery, Signal Hill, California

Table 9
Soil Vapor Analytical Data Summary - Organic Analytes
Former Chemoil Refinery,
Signal Hill, California

Boring - Sample ID (Date and Depth Sampled)	Laboratory Results (µg/m³)								
	Total VOCs	Benzene	Ethylbenzene	Methyl ter-butyl ether (MTBE)	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes, m-,p-	Xylenes, o-
Shallow Soil Gas Human Health Screening Levels[1] (µg/m³)	-	36.2	-	4,000	135,000	-	-	315,000	315,000
Laboratory Reporting Limit[2] (µg/m³)	-	1.0	1.5	1.0	1.0	1.5	1.5	1.0	2.0
Method Detection Limit[1] (µg/m³)	-	1.0	1.5	1.0	1.0	1.5	1.5	1.0	2.0
SB1									
SB1-053006-SV-5'	6,400	ND	2,100	ND	ND	4,300	ND	ND	ND
SB1-053006-SV-15'	55,280	**24,000**	26,900	ND	ND	4,380	ND	ND	ND
SB2									
SB2-053006-SV-5'	257,200	**242,000**	15,200	ND	ND	ND	ND	ND	ND
SB2-053006-SV-19.5'	338,000	**230,000**	108,000	ND	ND	ND	ND	ND	ND
SB3									
SB3-051806-SV1-15'	39,510	**3,400**	31,900	ND	ND	2,490	1,720	ND	ND
SB3-051806-SV3-15'	31,630	**2,500**	22,300	ND	ND	3,460	3,370	ND	ND
SB3-051806-SV7-15'	57,910	**2,940**	48,400	ND	ND	3,500	3,070	ND	ND
SB3-053006-SV-5'	37,700	**12,100**	25,600	ND	ND	ND	ND	ND	ND
SB3-053006-SV-15'	67,740	**7,140**	60,600	ND	ND	ND	ND	ND	ND
SB4									
SB4-053006-SV-5'	43,420	**10,100**	6,810	1,680	ND	10,300	5,490	9,040	ND
SB4-053006-SV-16.5'	1,307,500	**802,000**	159,000	ND	70,800	7,770	5,830	221,000	41,100
E1									
E1-060206-SV-15'	10,800	ND	10,800	ND	ND	ND	ND	ND	ND

Notes: Only analytes positively detected are presented in this table. For a complete list of constituents analyzed, refer to the laboratory data package.

[1] CalEPA, *Use of California Human Health Screening Levels (CHHSLs) in the Evaluation of Contaminated Properties*, January 2005.

[2] Laboratory Reporting Limit (RL) and Method Detection Limit (MDL) data presented for undiluted samples; diluted samples have higher RL/MDL values based upon each sample's dilution factor or Shallow Soil Gas Human Health Screening Level not

Highlighted cell/bold value indicates those results detected above the Shallow Soil Gas Human Health Screening Levels

µg/m³ - micrograms per cubic meter (parts per billion by volume)

ND - not detected at or above laboratory reporting limits

VOC - volatile organic compound

EXHIBIT 7 – PART III

TEC (2009)

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CASE NARRATIVE

Authorized Signature Name / Title (print)	Mark Horan, Division Manager
Signature / Date	Mark Horan, Division Manager 06/26/2009 08:49:13
Laboratory Job No. (Certificate of Analysis No.)	0906-00476
Project Name / No.	SHHC
Dates Sampled (from/to)	06/25/09 To 06/25/09
Dates Received (from/to)	06/25/09 To 06/25/09
Dates Reported (from/to)	06/26/09 To 6/26/2009
Chains of Custody Received	Yes

Comments:

Subcontracting
Organic Analyses
analyses sub-contracted

Sample Condition(s)
All samples intact

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Laboratory Job# 0906-00476

Positive Results (Organic Compounds)

Sample	Analyte	Q	Result	Units	RL	Sample	Analyte	Q	Result	Units	RL
SGP-1-5'-3V	Benzene		0.22	µg/L	0.050	SGP-1-5'-1V	Ethylbenzene		0.18	µg/L	0.10
SGP-1-5'-3V	Toluene		0.42	µg/L	0.10	SGP-1-5'-1V	m,p-Xylenes	J	0.18	µg/L	0.20
SGP-1-5'-1V	o-Xylene	J	0.05	µg/L	0.10	SGP-1-5'-3V	1,2,4-Trimethylbenzene		0.22	µg/L	0.10
SGP-1-5'-3V	1,3,5-Trimethylbenzene	J	0.05	µg/L	0.10	SGP-1-5'-3V	Benzene		0.43	µg/L	0.050
SGP-1-5'-3V	Ethylbenzene		0.78	µg/L	0.10	SGP-1-5'-2V	Isopropylbenzene		0.15	µg/L	0.10
SGP-1-5'-3V	Toluene		0.29	µg/L	0.10	SGP-1-5'-3V	m,p-Xylenes		0.80	µg/L	0.20
SGP-1-5'-3V	n-Propylbenzene	J	0.08	µg/L	0.10	SGP-1-5'-3V	o-Xylene		0.24	µg/L	0.10
SGP-1-5'-2V	1,2,4-Trimethylbenzene		0.19	µg/L	0.10	SGP-1-5'-2V	Benzene		0.46	µg/L	0.050
SGP-1-5'-2V	Ethylbenzene		0.90	µg/L	0.10	SGP-1-5'-2V	Isopropylbenzene		0.16	µg/L	0.10
SGP-1-5'-2V	Toluene		0.33	µg/L	0.10	SGP-1-5'-2V	m,p-Xylenes		0.96	µg/L	0.20
SGP-1-5'-2V	n-Propylbenzene	J	0.08	µg/L	0.10	SGP-1-5'-2V	o-Xylene		0.28	µg/L	0.10
SGP-1-15'	1,2,4-Trimethylbenzene		0.22	µg/L	0.10	SGP-1-15'	Benzene	J	0.030	µg/L	0.050
SGP-1-15'	Ethylbenzene		0.19	µg/L	0.10	SGP-1-15'	Isopropylbenzene	J	0.09	µg/L	0.10
SGP-1-15'	Toluene		0.10	µg/L	0.10	SGP-1-15'	m,p-Xylenes		0.24	µg/L	0.20
SGP-1-15'	n-Propylbenzene	J	0.06	µg/L	0.10	SGP-1-15'	o-Xylene	J	0.06	µg/L	0.10
SGP-1-25'	sec-Butylbenzene		0.11	µg/L	0.10	SGP-2-5'	Methyl-t-butyl Ether (MTBE)	J	0.06	µg/L	0.10
SGP-2-15'	1,2,4-Trimethylbenzene		0.13	µg/L	0.10	SGP-2-15'	1,3,5-Trimethylbenzene	J	0.06	µg/L	0.10
SGP-2-15'	Ethylbenzene		1.5	µg/L	0.10	SGP-2-15'	Isopropylbenzene		0.58	µg/L	0.10
SGP-2-15'	Methyl-t-butyl Ether (MTBE)		0.41	µg/L	0.10	SGP-2-15'	Toluene		0.95	µg/L	0.10
SGP-2-15'	m,p-Xylenes		4.2	µg/L	0.20	SGP-2-15'	o-Xylene		1.0	µg/L	0.10
SGP-3-5'	Benzene		0.053	µg/L	0.050	SGP-3-5'	Methyl-t-butyl Ether (MTBE)		0.14	µg/L	0.10
SGP-3-15'	Ethylbenzene	J	0.58	µg/L	1.0	SGP-3-15'	Isopropylbenzene		6.9	µg/L	1.0
SGP-3-15'	Methyl-t-butyl Ether (MTBE)		3.4	µg/L	1.0	SGP-3-15'	n-Propylbenzene		9.9	µg/L	1.0
SGP-3-15'	sec-Butylbenzene		1.6	µg/L	1.0	SGP-4-5'	Benzene	J	0.082	µg/L	0.050
SGP-4-5'	Ethylbenzene		0.89	µg/L	0.10	SGP-4-5'	Isopropylbenzene		1.0	µg/L	0.10
SGP-4-5'	Toluene		1.0	µg/L	0.10	SGP-4-5'	m,p-Xylenes		2.6	µg/L	0.20
SGP-4-5'	n-Propylbenzene		0.64	µg/L	0.10	SGP-4-5'	o-Xylene		0.63	µg/L	0.10
SGP-4-5'	sec-Butylbenzene		0.26	µg/L	0.10	SGP-4-15'	Isopropylbenzene		10	µg/L	1.0
SGP-4-15'	n-Propylbenzene		5.8	µg/L	1.0	SGP-4-15'	sec-Butylbenzene		3.1	µg/L	1.0
SGP-4-15' Dup	Isopropylbenzene		9.8	µg/L	1.0	SGP-4-15' Dup	Toluene	J	0.50	µg/L	1.0
SGP-4-15' Dup	sec-Butylbenzene		3.0	µg/L	1.0	SGP-5-15'	Isopropylbenzene		6.5	µg/L	1.0
SGP-5-15'	n-Propylbenzene		4.2	µg/L	1.0	SGP-5-15'	sec-Butylbenzene		2.7	µg/L	1.0
SGP-5-5'	1,2,4-Trimethylbenzene		0.15	µg/L	0.10	SGP-6-5'	Benzene		0.077	µg/L	0.050
SGP-6-5'	Ethylbenzene		0.22	µg/L	0.10	SGP-6-5'	Isopropylbenzene		0.45	µg/L	0.10
5'	m,p-Xylenes	J	0.15	µg/L	0.20	SGP-6-5'	n-Propylbenzene		0.28	µg/L	0.10
... 5'	sec-Butylbenzene		0.14	µg/L	0.10	SGP-6-15'	Isopropylbenzene		17	µg/L	1.0

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Sample	Analyte	Q	Result	Units	RL	Sample	Analyte	Q	Result	Units	RL
SGP-6-15'	n-Propylbenzene		12	µg/L	1.0	SGP-6-15'	sec-Butylbenzene		3.4	µg/L	1.0
SGP-6-5'	Benzene		2.1	µg/L	0.050	SGP-6-5'	Ethylbenzene		0.15	µg/L	0.10
SGP-6-5'	Isopropylbenzene		0.91	µg/L	0.10	SGP-6-5'	m,p-Xylenes	J	0.13	µg/L	0.20
SGP-6-5'	n-Propylbenzene		0.74	µg/L	0.10	SGP-6-5'	o-Xylene	J	0.06	µg/L	0.10
SGP-6-5'	sec-Butylbenzene		0.24	µg/L	0.10	SGP-7-15'	Isopropylbenzene		17	µg/L	1.0
SGP-7-15'	n-Propylbenzene		6.2	µg/L	1.0	SGP-7-15'	sec-Butylbenzene		3.0	µg/L	1.0
SGP-7-5'	Benzene		0.076	µg/L	0.050	SGP-7-5'	Isopropylbenzene		0.65	µg/L	0.10
SGP-7-5'	n-Propylbenzene		0.63	µg/L	0.10	SGP-7-5'	o-Xylene	J	0.06	µg/L	0.10
SGP-7-5'	sec-Butylbenzene		0.17	µg/L	0.10						

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 SGP-1-5'-1V					Date & Time Sampled:			06/25/09	@	8:14
Purge Volume Sampled: 1										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	06/25/09	8:27	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Benzene	0.22		µg/L	EPA 8260B	1	0.036	0.050	06/25/09	8:27	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
[illegible]m	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
B[illegible]romethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	8:27	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:27	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:27	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:27	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	8:27	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	8:27	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:27	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 SGP-1-5'-1V					Date & Time Sampled:			06/25/09	@	8:14
Purge Volume Sampled: 1										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Ychloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
t. 1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Ethylbenzene	0.18		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:27	TPU
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	8:27	TPU
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:27	TPU
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	8:27	TPU
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	8:27	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Toluene	0.12		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
T oethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
ichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 SGP-1-5'-1V							Date & Time Sampled:	06/25/09	@	8:14
Purge Volume Sampled: 1										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	8:27	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	8:27	TPU
m,p-Xylenes	*0.18*	J	µg/L	EPA 8260B	1	0.10	0.20	06/25/09	8:27	TPU
o-Xylene	*0.05*	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:27	TPU
[por Sampling Tracer]										
[illegible]panol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:27	TPU
[VOC Surrogates]										
Dibromofluoromethane	93		%REC	EPA 8260B	1	70-130	70-130	06/25/09	8:27	TPU
Toluene-D8	104		%REC	EPA 8260B	1	70-130	70-130	06/25/09	8:27	TPU
Bromofluorobenzene	88		%REC	EPA 8260B	1	70-130	70-130	06/25/09	8:27	TPU
Sample: 002 SGP-1-5'-3V							Date & Time Sampled:	06/25/09	@	8:20
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	06/25/09	8:50	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Benzene	0.43		µg/L	EPA 8260B	1	0.030	0.050	06/25/09	8:50	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	8:50	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:50	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:50	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
[illegible] Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:50	TPU
Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	8:50	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **SGP-1-5'-3V**							Date & Time Sampled:	06/25/09	@	8:20
Purge Volume Sampled: **3**										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	8:50	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
romoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:50	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Ethylbenzene	**0.78**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:50	TPU
Isopropylbenzene	**0.15**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	8:50	TPU

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Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **SGP-1-5'-3V**					Date & Time Sampled:			06/25/09	@	8:20
Purge Volume Sampled: 3										
....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:50	TPU
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	8:50	TPU
n-Propylbenzene	***0.08***	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	8:50	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Toluene	**0.29**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	8:50	TPU
1,2,4-Trimethylbenzene	**0.22**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
1,3,5-Trimethylbenzene	***0.05***	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	8:50	TPU
m,p-Xylenes	**0.80**		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	8:50	TPU
o-Xylene	**0.24**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	8:50	TPU
[VOC Vapor Sampling Trace]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	8:50	TPU
[VOC Surrogates]										
Dibromofluoromethane	91		%REC	EPA 8260B	1	70-130	70-130	06/25/09	8:50	TPU
Toluene-D8	112		%REC	EPA 8260B	1	70-130	70-130	06/25/09	8:50	TPU
Bromofluorobenzene	91		%REC	EPA 8260B	1	70-130	70-130	06/25/09	8:50	TPU
Sample: 003 **SGP-1-5'-7V**					Date & Time Sampled:			06/25/09	@	8:36
Purge Volume Sampled: 7										
[VOCs by GCMS]										

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 SGP-1-5'-7V					Date & Time Sampled:			06/25/09	@	8:38
Purge Volume Sampled: 7										
....continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	06/25/09	9:14	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Benzene	0.46		µg/L	EPA 8260B	1	0.036	0.050	06/25/09	9:14	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
[illegible]	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
[illegible]omethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	9:14	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:14	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:14	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:14	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	9:14	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	9:14	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:14	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1 [illegible]oroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
[illegible]oroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 SGP-1-5'-7V						Date & Time Sampled:		06/25/09	@ 8:38	
Purge Volume Sampled: 7										
...continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
...s 1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Ethylbenzene	0.96		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:14	TPU
Isopropylbenzene	0.16		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	9:14	TPU
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:14	TPU
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	9:14	TPU
n-Propylbenzene	*0.08*	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	9:14	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Toluene	0.33		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
T... ...ethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
... ...ichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 **SGP-1-5'-7V**						Date & Time Sampled:		06/25/09	@	8:38
Purge Volume Sampled: 7										
...continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	9:14	TPU
1,2,4-Trimethylbenzene	**0.19**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	9:14	TPU
m,p-Xylenes	**0.96**		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	9:14	TPU
o-Xylene	**0.28**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:14	TPU
[Vapor Sampling Tracer]										
[illegible] (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:14	TPU
[VOC Surrogates]										
Bromofluoromethane	96		%REC	EPA 8260B	1	70-130	70-130	06/25/09	9:14	TPU
Toluene-D8	114		%REC	EPA 8260B	1	70-130	70-130	06/25/09	9:14	TPU
Bromofluorobenzene	99		%REC	EPA 8260B	1	70-130	70-130	06/25/09	9:14	TPU
Sample: 004 **SGP-1-15'**						Date & Time Sampled:		06/25/09	@	9:30
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	06/25/09	9:41	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Benzene	*0.036*	J	µg/L	EPA 8260B	1	0.036	0.050	06/25/09	9:41	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	9:41	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:41	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:41	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
sec-Butylbenzene	**0.11**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:41	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	9:41	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU

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CERTIFICATE OF ANALYSIS

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Invoice No.	54113
Cust #	1567
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Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 SGP-1-15'							Date & Time Sampled:	06/25/09	@	9:30
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	9:41	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
omoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:41	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Ethylbenzene	0.19		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:41	TPU
ylbenzene	*0.09*	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
opyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	9:41	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **SGP-1-15'**						Date & Time Sampled:		06/25/09	@	9:30
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:41	TPU
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	9:41	TPU
n-Propylbenzene	*0.06*	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	9:41	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Toluene	**0.10**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	9:41	TPU
1,2,4-Trimethylbenzene	**0.22**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	9:41	TPU
m,p-Xylenes	**0.24**		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	9:41	TPU
o-Xylene	*0.06*	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	9:41	TPU
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	9:41	TPU
[VOC Surrogates]										
Dibromofluoromethane	87		%REC	EPA 8260B	1	70-130	70-130	06/25/09	9:41	TPU
Toluene-D8	106		%REC	EPA 8260B	1	70-130	70-130	06/25/09	9:41	TPU
Bromofluorobenzene	96		%REC	EPA 8260B	1	70-130	70-130	06/25/09	9:41	TPU
Sample: 005 **SGP-2-5'**						Date & Time Sampled:		06/25/09	@	9:53
Purge Volume Sampled: 7										
[VOCs by GCMS]										

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 · SGP-2-5'						Date & Time Sampled:		06/25/09	@	9:53
Purge Volume Sampled: 7										
...continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	06/25/09	10:04	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Benzene	<0.036		µg/L	EPA 8260B	1	0.036	0.050	06/25/09	10:04	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
[illegible]om	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
B[illegible]omethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	10:04	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:04	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:04	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:04	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	10:04	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	10:04	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:04	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
[illegible]hloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
[illegible]loroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 SGP-2-5'					Date & Time Sampled:			06/25/09	@ 9:53	
Purge Volume Sampled: 7										
...continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:04	TPU
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	10:04	TPU
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:04	TPU
Methyl-t-butyl Ether (MTBE)	*0.06*	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	10:04	TPU
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	10:28	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU

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INTERPHASE
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Date Reported	06/26/09
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Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 **SGP-2-5'**					Date & Time Sampled:			06/25/09	@	9:53
Purge Volume Sampled: 7										
....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	10:04	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	10:04	TPU
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	10:04	TPU
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:04	TPU
[Vapor Sampling Tracer]										
Ethanol (EPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:04	TPU
[VOC Surrogates]										
Dibromofluoromethane	100		%REC	EPA 8260B	1	70-130	70-130	06/25/09	10:04	TPU
Toluene-D8	101		%REC	EPA 8260B	1	70-130	70-130	06/25/09	10:04	TPU
Bromofluorobenzene	91		%REC	EPA 8260B	1	70-130	70-130	06/25/09	10:04	TPU
Sample: 006 **SGP-2-15'**					Date & Time Sampled:			06/25/09	@	10:14
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	06/25/09	10:28	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Benzene	<0.036		µg/L	EPA 8260B	1	0.036	0.050	06/25/09	10:28	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	10:28	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:28	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:28	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:28	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	10:28	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU

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LA City#	10159
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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 SGP-2-15'							Date & Time Sampled:	06/25/09	@	10:14
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	10:28	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
omoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:28	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Ethylbenzene	1.5		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:28	TPU
ylbenzene	0.58		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
xylitoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	10:28	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHIIC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 **SGP-2-15'**							Date & Time Sampled:	06/25/09	@	10:14
Purge Volume Sampled: 7										
....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:28	TPU
Methyl-t-butyl Ether (MtBE)	0.41		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	10:28	TPU
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	10:28	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Toluene	0.95		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	10:28	TPU
1,2,4-Trimethylbenzene	0.13		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
1,3,5-Trimethylbenzene	*0.06*	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	10:28	TPU
m,p-Xylenes	4.2		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	10:28	TPU
o-Xylene	1.0		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	10:28	TPU
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	10:28	TPU
[VOC Surrogates]										
Dibromofluoromethane	70		%REC	EPA 8260B	1	70-130	70-130	06/25/09	10:28	TPU
Toluene-D8	102		%REC	EPA 8260B	1	70-130	70-130	06/25/09	10:28	TPU
Bromofluorobenzene	117		%REC	EPA 8260B	1	70-130	70-130	06/25/09	10:28	TPU
Sample: 007 **SGP-3-5'**							Date & Time Sampled:	06/25/09	@	11:01
Purge Volume Sampled: 7										
[VOCs by GCMS]										

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 SGP-3-5'						Date & Time Sampled:		06/25/09 @	11:01	
Purge Volume Sampled: 7										
....continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	06/25/09	11:15	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Benzene	0.053		µg/L	EPA 8260B	1	0.036	0.050	06/25/09	11:15	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
sm	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Br...omethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	11:15	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	11:15	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	11:15	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	11:15	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	11:15	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	11:15	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	11:15	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
...hloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
...hloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 06/26/09
Date Received 06/25/09
Invoice No. 54113
Cost # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 SGP-3-5'							Date & Time Sampled:	06/25/09	@ 11:01	
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	11:15	TPU
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	11:15	TPU
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	11:15	TPU
Methyl-t-butyl Ether (MTBE)	**0.14**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	11:15	TPU
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	11:15	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Trichlorofluoropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU

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CERTIFICATE OF ANALYSIS

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Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **SGP-3-5'**					Date & Time Sampled:			06/25/09	@ 11:01	
Purge Volume Sampled: 7										
...continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	11:15	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	11:15	TPU
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	11:15	TPU
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	11:15	TPU
[Surrogate for Sampling Trace]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	11:15	TPU
[VOC Surrogates]										
Dibromofluoromethane	96		%REC	EPA 8260B	1	70-130	70-130	06/25/09	11:15	TPU
Toluene-D8	100		%REC	EPA 8260B	1	70-130	70-130	06/25/09	11:15	TPU
Bromofluorobenzene	89		%REC	EPA 8260B	1	70-130	70-130	06/25/09	11:15	TPU
Sample: 008 **SGP-3-15'**					Date & Time Sampled:			06/25/09	@ 11:19	
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	06/25/09	12:00	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	06/25/09	12:00	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	12:00	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:00	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:00	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
sec-Butylbenzene	**1.6**		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:00	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	06/25/09	12:00	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 - SGP-3-15'							Date & Time Sampled:	06/25/09	@ 11:19	
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	12:00	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
omethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,... ...oromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:00	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Ethylbenzene	*0.58*	J	µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:00	TPU
... ...ylbenzene	6.9		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
... ...opyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	06/25/09	12:00	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SIHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 SGP-3-15'							Date & Time Sampled:	06/25/09	@ 11:19	
Purge Volume Sampled: 7										
....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:00	TPU
Methyl-t-butyl Ether (MtBE)	3.4		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	06/25/09	12:00	TPU
n-Propylbenzene	5.9		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	12:00	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	06/25/09	12:00	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	06/25/09	12:00	TPU
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	12:00	TPU
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:00	TPU
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:00	TPU
[VOC Surrogates]										
Dibromofluoromethane	91		%REC	EPA 8260B	1	70-130	70-130	06/25/09	12:00	TPU
Toluene-D8	108		%REC	EPA 8260B	1	70-130	70-130	06/25/09	12:00	TPU
Bromofluorobenzene	100		%REC	EPA 8260B	1	70-130	70-130	06/25/09	12:00	TPU
Sample: 009 SGP-4-5'							Date & Time Sampled:	06/25/09	@ 11:50	
Purge Volume Sampled: 7										
[VOCs by GCMS]										

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 SGP-4-5'						Date & Time Sampled:		06/25/09	@ 11:50	
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	10	06/25/09	12:24	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	0.10	06/25/09	12:24	TPU
Benzene	0.082	J	µg/L	EPA 8260B	10	0.036	0.050	06/25/09	12:24	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	06/25/09	12:24	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	06/25/09	12:24	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	06/25/09	12:24	TPU
[illegible]rm	<0.050		µg/L	EPA 8260B	10	0.050	0.10	06/25/09	12:24	TPU
B[illegible]methane	<0.10		µg/L	EPA 8260B	10	0.10	0.20	06/25/09	12:24	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	06/25/09	12:24	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	06/25/09	12:24	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	06/25/09	12:24	TPU
sec-Butylbenzene	0.26		µg/L	EPA 8260B	10	0.050	0.10	06/25/09	12:24	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	06/25/09	12:24	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	1.0	06/25/09	12:24	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.050	06/25/09	12:24	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	12:24	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	12:24	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1[illegible]hloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
[illegible]loroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54133
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 SGP-4-5'							Date & Time Sampled:	06/25/09	@	11:50
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
[illegible]ichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
[illegible]-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Ethylbenzene	**0.99**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	12:24	TPU
Isopropylbenzene	**1.3**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	12:24	TPU
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	12:24	TPU
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	12:24	TPU
n-Propylbenzene	**0.64**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	12:24	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Toluene	**1.0**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
[illegible]oethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
[illegible]ichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 **SGP-4-5'**							Date & Time Sampled:	06/25/09	@ 11:50	
Purge Volume Sampled: 7										
...continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	12:24	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	12:24	TPU
m,p-Xylenes	**2.6**		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	12:24	TPU
o-Xylene	**0.63**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	12:24	TPU
[per Sampling Trace]										
1-Propanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	12:24	TPU
[VOC Surrogates]										
Dibromofluoromethane	87		%REC	EPA 8260B	1	70-130	70-130	06/25/09	12:24	TPU
Toluene-D8	101		%REC	EPA 8260B	1	70-130	70-130	06/25/09	12:24	TPU
Bromofluorobenzene	96		%REC	EPA 8260B	1	70-130	70-130	06/25/09	12:24	TPU
Sample: 010 **SGP-4-15'**							Date & Time Sampled:	06/25/09	@ 12:30	
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	06/25/09	12:46	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	06/25/09	12:46	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	12:46	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:46	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:46	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
sec-Butylbenzene	**3.1**		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:46	TPU
Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	06/25/09	12:46	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 SGP-4-15'						Date & Time Sampled:		06/25/09	@ 12:30	
Purge Volume Sampled: 7										
....continued										
Dibromoethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	12:46	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
omoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:46	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:46	TPU
[illegible]ylbenzene	10		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
[illegible]ipyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	06/25/09	12:46	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **SGP-4-15'**					Date & Time Sampled:			06/25/09	@ 12:30	
Purge Volume Sampled: 7										
...continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:46	TPU
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	06/25/09	12:46	TPU
n-Propylbenzene	5.8		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,1,2,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	12:46	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	06/25/09	12:46	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	06/25/09	12:46	TPU
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	12:46	TPU
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	12:46	TPU
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	12:46	TPU
[VOC Surrogates]										
Dibromofluoromethane	84		%REC	EPA 8260B	1	70-130	70-130	06/25/09	12:46	TPU
Toluene-D8	97		%REC	EPA 8260B	1	70-130	70-130	06/25/09	12:46	TPU
Bromofluorobenzene	107		%REC	EPA 8260B	1	70-130	70-130	06/25/09	12:46	TPU
Sample: 011 **SGP-4-15' Dup**					Date & Time Sampled:			06/25/09	@ 12:30	
Purge Volume Sampled: 7										
[VOCs by GCMS]										

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INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SIHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 SGP-4-15' Dup						Date & Time Sampled:		06/25/09	@ 12:30	
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	06/25/09	1:07	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	06/25/09	1:07	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
[illegible]mide	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
[illegible]omethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	1:07	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:07	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:07	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
sec-Butylbenzene	3.0		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:07	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	06/25/09	1:07	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	1:07	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:07	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
[illegible]chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
[illegible]dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 SGP-4-15' Dup							Date & Time Sampled:	06/25/09	@ 12:30	
Purge Volume Sampled: 7										
....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
t[illegible]-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:07	TPU
Isopropylbenzene	**9.8**		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	06/25/09	1:07	TPU
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:07	TPU
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	06/25/09	1:07	TPU
n-Propylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	1:07	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Toluene	***0.50***	J	µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
T[illegible]roethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
[illegible]ichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **SGP-4-15' Dup**							Date & Time Sampled:	06/25/09	@ 12:30	
Purge Volume Sampled: 7										
...continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	06/25/09	1:07	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	06/25/09	1:07	TPU
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	1:07	TPU
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:07	TPU
[per Sampling Trace]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:07	TPU
[VOC Surrogates]										
Dibromofluoromethane	83		%REC	EPA 8260B	10	70-130	70-130	06/25/09	1:07	TPU
Toluene-D8	100		%REC	EPA 8260B	10	70-130	70-130	06/25/09	1:07	TPU
Bromofluorobenzene	99		%REC	EPA 8260B	10	70-130	70-130	06/25/09	1:07	TPU
Sample: 012 **SGP-5-15'**							Date & Time Sampled:	06/25/09	@ 13:06	
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	06/25/09	1:51	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	06/25/09	1:51	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	1:51	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:51	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:51	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
sec-Butylbenzene	2.7		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:51	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	06/25/09	1:51	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

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PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 SGP-5-15'							Date & Time Sampled:	06/25/09	@ 13:06	
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	1:51	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
[illegible]romoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,[illegible]-oromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:51	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:51	TPU
[illegible]ylbenzene	6.5		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
[illegible]ipyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	06/25/09	1:51	TPU

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CERTIFICATE OF ANALYSIS

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Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 **SGP-5-15'**						Date & Time Sampled:		06/25/09	@	13:06
Purge Volume Sampled: 7										
...continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:51	TPU
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	06/25/09	1:51	TPU
n-Propylbenzene	4.2		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	1:51	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	06/25/09	1:51	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	06/25/09	1:51	TPU
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	1:51	TPU
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	1:51	TPU
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	1:51	TPU
[VOC Surrogates]										
Dibromofluoromethane	84		%REC	EPA 8260B	10	70-130	70-130	06/25/09	1:51	TPU
Toluene-D8	99		%REC	EPA 8260B	1	70-130	70-130	06/25/09	1:51	TPU
Bromofluorobenzene	105		%REC	EPA 8260B	1	70-130	70-130	06/25/09	1:51	TPU
Sample: 013 **SGP-5-5'**						Date & Time Sampled:		06/25/09	@	13:40
Purge Volume Sampled: 7										
[VOCs by GCMS]										

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 SGP-5-5'							Date & Time Sampled:	06/25/09	@	13:40
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	06/25/09	2:13	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Benzene	**0.077**		µg/L	EPA 8260B	1	0.036	0.050	06/25/09	2:13	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
[illegible]rm	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
b[illegible]methane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	2:13	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:13	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:13	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
sec-Butylbenzene	**0.14**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:13	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	2:13	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	2:13	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:13	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1[illegible]hloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
[illegible]loroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

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PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 SGP-5-5'					Date & Time Sampled:			06/25/09	@ 13:10	
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Ethylbenzene	0.22		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:13	TPU
Isopropylbenzene	0.45		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	2:13	TPU
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:13	TPU
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	2:13	TPU
n-Propylbenzene	0.28		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	2:13	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHIC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 SGP-5-5'						Date & Time Sampled:		06/25/09	@	13:40
Purge Volume Sampled: 7										
....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	2:13	TPU
1,2,4-Trimethylbenzene	0.15		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	2:13	TPU
m,p-Xylenes	0.15	J	µg/L	EPA 8260B	1	0.10	0.20	06/25/09	2:13	TPU
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:13	TPU
[Vapor Sampling Tracer]										
tert-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:13	TPU
[VOC Surrogates]										
Dibromofluoromethane	81		%REC	EPA 8260B	1	70-130	70-130	06/25/09	2:13	TPU
Toluene-D8	120		%REC	EPA 8260B	1	70-130	70-130	06/25/09	2:13	TPU
Bromofluorobenzene	97		%REC	EPA 8260B	1	70-130	70-130	06/25/09	2:13	TPU
Sample: 014 SGP-6-15'						Date & Time Sampled:		06/25/09	@	14:06
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	06/25/09	2:37	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	06/25/09	2:37	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	2:37	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	2:37	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	2:37	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
sec-Butylbenzene	3.4		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	2:37	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	06/25/09	2:37	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU

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Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cost #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 SGP-6-15'							Date & Time Sampled:	06/25/09	@ 14:06	
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	2:37	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
...omoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	2:37	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	2:37	TPU
...vibenzene	17		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
...opyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	06/25/09	2:37	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 **SGP-6-15'**							Date & Time Sampled:	06/25/09	@	14:06
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	2:37	TPU
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	06/25/09	2:37	TPU
n-Propylbenzene	12		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	2:37	TPU
T... ...chloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	06/25/09	2:37	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	06/25/09	2:37	TPU
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	2:37	TPU
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	2:37	TPU
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	2:37	TPU
[VOC Surrogates]										
Dibromofluoromethane	82		%REC	EPA 8260B	10	70-130	70-130	06/25/09	2:37	TPU
Toluene-D8	102		%REC	EPA 8260B	10	70-130	70-130	06/25/09	2:37	TPU
Bromofluorobenzene	107		%REC	EPA 8260B	10	70-130	70-130	06/25/09	2:37	TPU
S... ...ple: 015 **SGP-6-5'**							Date & Time Sampled:	06/25/09	@	14:37
Purge Volume Sampled: 7										
[VOCs by GCMS]										

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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 SGP-6-5'							Date & Time Sampled:	06/25/09	@	14:37
Purge Volume Sampled: 7										
....continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	10	06/25/09	2:58	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	0.10	06/25/09	2:58	TPU
Benzene	2.1		µg/L	EPA 8260B	1	0.036	0.050	06/25/09	2:58	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
rm	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	2:58	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:58	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:58	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
sec-Butylbenzene	0.24		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:58	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	2:58	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	2:58	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:58	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1 hloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1, ilcroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU

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Cust #	1567
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Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 SGP-6-5'					Date & Time Sampled:			06/25/09	@	14:37
Purge Volume Sampled: 7										
....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
...ichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
...1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Ethylbenzene	0.11		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:58	TPU
Isopropylbenzene	0.91		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	2:58	TPU
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:58	TPU
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	2:58	TPU
n-Propylbenzene	0.74		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	2:58	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
T...oethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
...chloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU

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Cost #	1567
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Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 SGP-6-5'					Date & Time Sampled:			06/25/09	@	14:37
Purge Volume Sampled: 7										
...continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	2:58	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	2:58	TPU
m,p-Xylenes	*0.13*	J	µg/L	EPA 8260B	1	0.10	0.20	06/25/09	2:58	TPU
o-Xylene	*0.06*	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	2:58	TPU
[SGS Sampling Tracer]										
[Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	2:58	TPU
[VOC Surrogates]										
Dibromofluoromethane	82		%REC	EPA 8260B	1	70-130	70-130	06/25/09	2:58	TPU
Toluene-D8	121		%REC	EPA 8260B	1	70-130	70-130	06/25/09	2:58	TPU
Bromofluorobenzene	94		%REC	EPA 8260B	1	70-130	70-130	06/25/09	2:58	TPU
Sample: 016 SGP-7-15'					Date & Time Sampled:			06/25/09	@	15:03
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	06/25/09	3:22	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	06/25/09	3:22	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	3:22	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	3:22	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	3:22	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
sec-Butylbenzene	3.0		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	3:22	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	06/25/09	3:22	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU

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Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 016 SGP-7-15'							Date & Time Sampled:	06/25/09	@ 15:03	
Purge Volume Sampled: 7										
...continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	3:22	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
...omoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,... ...ome-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	3:22	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	3:22	TPU
I... ...ylbenzene	17		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
...opyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	06/25/09	3:22	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 016 **SGP-7-15'**					Date & Time Sampled:			06/25/09	@	15:03
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	3:22	TPU
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	06/25/09	3:22	TPU
n-Propylbenzene	6.2		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Tetrachloroethene	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	3:22	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	06/25/09	3:22	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	06/25/09	3:22	TPU
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	06/25/09	3:22	TPU
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	06/25/09	3:22	TPU
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	06/25/09	3:22	TPU
[VOC Surrogates]										
Dibromofluoromethane	75		%REC	EPA 8260B	10	70-130	70-130	06/25/09	3:22	TPU
Toluene-D8	94		%REC	EPA 8260B	1	70-130	70-130	06/25/09	3:22	TPU
Bromofluorobenzene	103		%REC	EPA 8260B	1	70-130	70-130	06/25/09	3:22	TPU
ple: 017 **SGP-7-5'**					Date & Time Sampled:			06/25/09	@	15:26
Purge Volume Sampled: 7										
[VOCs by GCMS]										

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 06/26/09
Date Received 06/25/09
Invoice No. 54113
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 017 SGP-7-5'					Date & Time Sampled:			06/25/09	@	15:26
Purge Volume Sampled: 7										
....continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	06/25/09	3:44	TPU
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Benzene	0.076		µg/L	EPA 8260B	1	0.036	0.050	06/25/09	3:44	TPU
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
rm	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
b. methane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	3:44	TPU
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	3:44	TPU
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	3:44	TPU
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
sec-Butylbenzene	0.17		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	3:44	TPU
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	06/25/09	3:44	TPU
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	3:44	TPU
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	3:44	TPU
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1 hloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
dloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU

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CERTIFICATE OF ANALYSIS

0906-00476

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	06/26/09
Date Received	06/25/09
Invoice No.	54113
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 017 · SGP-7-5'						Date & Time Sampled:		06/25/09	@ 15:26	
Purge Volume Sampled: 7										
...continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
...ichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
...,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	3:44	TPU
Isopropylbenzene	**0.95**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	06/25/09	3:44	TPU
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	3:44	TPU
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	06/25/09	3:44	TPU
n-Propylbenzene	**0.63**		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,1,1,2-Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	3:44	TPU
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
T... ...ethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
... ...chloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU

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Date Reported	06/26/09
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Invoice No.	54113
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Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 017 SGP-7-5'						Date & Time Sampled:		06/25/09 @	15:26	
Purge Volume Sampled: 7										
...continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	06/25/09	3:44	TPU
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	06/25/09	3:44	TPU
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	06/25/09	3:44	TPU
o-Xylene	0.06	J	µg/L	EPA 8260B	1	0.050	0.10	06/25/09	3:44	TPU
per Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	06/25/09	3:44	TPU
[VOC Surrogates]										
Dibromofluoromethane	92		%REC	EPA 8260B	1	70-130	70-130	06/25/09	3:44	TPU
Toluene-D8	116		%REC	EPA 8260B	1	70-130	70-130	06/25/09	3:44	TPU
Bromofluorobenzene	94		%REC	EPA 8260B	1	70-130	70-130	06/25/09	3:44	TPU

Respectfully Submitted:

Mark Horan - Division Manager

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Mark Horan, the Division Manager at 951.779.0310. You may also contact both Trevor Boyce, President and Robert Morgan, Chief Operating Officer at president@microbac.com.

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USDA-EPA-NELAP Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research
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FDA#	2030513
LA City#	10159
ELAP#'s	2373
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QUALITY CONTROL DATA REPORT

INTERPHASE
LOS ANGELES, CA 90040

0906-00476

Date Reported	06/26/2009
Date Received	06/25/2009
Date Sampled	06/25/2009
Invoice No.	54113
Customer #	1567
Customer P.O.	

Project: SHHC

Method # EPA 8260B
QC Reference # 14559 Date Analyzed: 6/25/2009 Technician: TPU
Samples 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017

Results

	LCS %REC	LCS %DUP	LCS %RPD	BLKSRR% REC
1,1-Dichloroethene	93	87	7	
Benzene	90	92	2	
Bromofluorobenzene				93
Chlorobenzene	92	95	3	
Dibromofluoromethane				101
Toluene	88	97	9	
Toluene D8				100
Trichloroethene	92	95	3	

Control Ranges

LCS %REC	LCS %RPD	BLKSRR%REC
70 - 130	0 - 25	
70 - 130	0 - 25	
		70 - 130
70 - 130	0 - 25	
		70 - 130
70 - 130	0 - 25	
		70 - 130
70 - 130	0 - 25	

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QUALITY CONTROL DATA REPORT

INTERPHASE

0906-00476

Date Reported 06/26/2009
Date Received 06/25/2009
Date Sampled 06/25/2009

Project: SHHC

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL
14559	1,1,1,2-Tetrachloroethane	<0.050		µg/L	0.050
	1,1,1-Trichloroethane	<0.050		µg/L	0.050
	1,1,2,2-Tetrachloroethane	<0.10		µg/L	0.10
	1,1,2-Trichloroethane	<0.050		µg/L	0.050
	1,1-Dichloroethane	<0.050		µg/L	0.050
	1,1-Dichloroethene	<0.050		µg/L	0.050
	1,1-Dichloropropene	<0.050		µg/L	0.050
	1,2,3-Trichlorobenzene	<0.050		µg/L	0.050
	1,2,3-Trichloropropane	<0.050		µg/L	0.050
	1,2,4-Trichlorobenzene	<0.050		µg/L	0.050
	1,2,4-Trimethylbenzene	<0.050		µg/L	0.050
	1,2-Dibromo-3-Chloropropane	<0.50		µg/L	0.50
	1,2-Dibromoethane (EDB)	<0.050		µg/L	0.050
	1,2-Dichlorobenzene	<0.050		µg/L	0.050
	1,2-Dichloroethane	<0.050		µg/L	0.050
	1,2-Dichloropropane	<0.050		µg/L	0.050
	1,3,5-Trimethylbenzene	<0.050		µg/L	0.050
	1,3-Dichlorobenzene	<0.050		µg/L	0.050
	1,3-Dichloropropane	<0.050		µg/L	0.050
	1,4-Dichlorobenzene	<0.050		µg/L	0.050
	2,2-Dichloropropane	<0.050		µg/L	0.050
	2-Butanone (MEK)	<0.50		µg/L	0.50
	2-Chlorotoluene	<0.050		µg/L	0.050
	2-Hexanone	<0.50		µg/L	0.50
	4-Chlorotoluene	<0.050		µg/L	0.050
	4-Isopropyltoluene	<0.050		µg/L	0.050
	4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	0.50
	Acetone	<5.0		µg/L	5.0
	Benzene	<0.030		µg/L	0.030
	Bromobenzene	<0.050		µg/L	0.050
	Bromochloromethane	<0.050		µg/L	0.050
	Bromodichloromethane	<0.050		µg/L	0.050
	Bromoform	<0.050		µg/L	0.050
	Bromomethane	<0.10		µg/L	0.10
	Carbon Disulfide	<0.50		µg/L	0.50
	Carbon Tetrachloride	<0.025		µg/L	0.025
	Chlorobenzene	<0.050		µg/L	0.050
	Chloroethane	<0.050		µg/L	0.050
	Chloroform	<0.050		µg/L	0.050
	Chloromethane	<0.10		µg/L	0.10
	cis-1,2-Dichloroethene	<0.050		µg/L	0.050
	cis-1,3-Dichloropropene	<0.050		µg/L	0.050
	Dibromochloromethane	<0.050		µg/L	0.050
	Dibromomethane	<0.050		µg/L	0.050
	Dichlorodifluoromethane	<0.050		µg/L	0.050

Ref	Test Name	Result	Qualif	Units	MDL
	Diisopropyl Ether (DIPE)	<0.050		µg/L	0.050
	Ethylbenzene	<0.050		µg/L	0.050
	Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	0.050
	Hexachlorobutadiene	<0.050		µg/L	0.050
	Isopropanol (IPA)	<0.50		µg/L	0.50
	Isopropylbenzene	<0.050		µg/L	0.050
	m,p-Xylenes	<0.10		µg/L	0.10
	Methylene Chloride	<1.0		µg/L	1.0
	Methyl-t-Butyl Ether (MTBE)	<0.050		µg/L	0.050
	Naphthalene	<0.032		µg/L	0.032
	n-Butylbenzene	<0.050		µg/L	0.050
	n-Propylbenzene	<0.050		µg/L	0.050
	o-Xylene	<0.050		µg/L	0.050
	sec-Butylbenzene	<0.050		µg/L	0.050
	Styrene	<0.050		µg/L	0.050
	t-Amyl Methyl Ether (TAME)	<0.050		µg/L	0.050
	t-Butanol (TBA)	<0.50		µg/L	0.50
	tert-Butylbenzene	<0.050		µg/L	0.050
	Tetrachloroethene	<0.050		µg/L	0.050
	Toluene	<0.050		µg/L	0.050
	trans-1,2-Dichloroethene	<0.050		µg/L	0.050
	trans-1,3-Dichloropropene	<0.050		µg/L	0.050
	Trichloroethene	<0.050		µg/L	0.050
	Trichlorofluoromethane	<0.050		µg/L	0.050
	Trichlorotrifluoroethane	<0.25		µg/L	0.25
	Vinyl Chloride	<0.013		µg/L	0.013

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QUALITY CONTROL DATA REPORT

0906-00476

INTERPHASE

Date Reported	**06/26/2009**
Date Received	**06/25/2009**
Date Sampled	**06/25/2009**

Project: SHHC

RESPECTFULLY SUBMITTED: _____

MICROBAC LABORATORIES, INC.

For any feedback concerning our services, please contact Mark Horan, the Division Manager at 951.779.0310. You may also contact both Trevor Boyce, President and Robert Morgan, Chief Operating Officer at president@microbac.com.

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Southern California Division

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Chain of Custody Record

Workorder No.: **090600476**

Page 1 of 2

Project No:	Project Name:
1008	SHHC
Project Manager:	**Phone:** / **Fax:**
Paola Calderon	13232787700 / 13232787707
Customer Name:	**Address:**
INTERPHASE	6200 PEACHTREE STREET
Email:	LOS ANGELES, CA 90040
Paola@interphase-inc.com	

Analyses Requested

Lab #	Sample ID	Grab/Comp	Date Sampled	Time Sampled	Sample Matrix	Container & # & Type	Preserved	TPH-Gasoline (EPA 8015M)	TPH-Diesel (EPA 8015M)	TPH-Motor Oil (EPA 8015M)	BTEX (EPA 8021B)	MTBE (EPA 8021B)	TPH-Gasoline (EPA 8260B)	TPH-Diesel (EPA 8260B)	TPH-Motor Oil (EPA 8260B)	BTEX (EPA 8260B)	MTBE (EPA 8260B)	Oxygenates (EPA 8260B)	Ethanol (EPA 8260B)	Naphthalene (EPA 8260B)	Lead (EPA 6010B)	Special Instructions
001	SGP-1-5'-1V	Grab	6/25/2009	8:14	sv	glass bulb												X					
002	SGP-1-5'-3V	Grab	6/25/2009	8:20	sv	glass bulb												X					
003	SGP-1-5'-7V	Grab	6/25/2009	8:38	sv	glass bulb												X					
004	SGP-1-15'	Grab	6/25/2009	9:30	sv	glass bulb												X					
005	SGP-2-5'	Grab	6/25/2009	9:53	sv	glass bulb												X					
006	SGP-2-15'	Grab	6/25/2009	10:14	sv	glass bulb												X					
007	SGP-3-5'	Grab	6/25/2009	11:01	sv	glass bulb												X					
008	SGP-3-15'	Grab	6/25/2009	11:19	sv	glass bulb												X					
009	SGP-4-5'	Grab	6/25/2009	11:50	sv	glass bulb												X					
010	SGP-4-15'	Grab	6/25/2009	12:30	sv	glass bulb												X					

Type Analysis: ☐ Standard ☐ Rush ☐ Normal ☐ Other

Special Instructions

Disposal: ☐ Return ☐ Lab Disposal

1) Relinquished by (Sampler's Signature)	Date: 6/25/	Time: 1915	2) Relinquished by	Date	Time	3) Relinquished to	Date	Time
4) Received by	Date: 6/25/	Time: 1945	5) Received by	Date	Time	6) Relinquished to Laboratory by	Date	Time

This section is to be completed by laboratory personnel

Samples Chilled: ☐ Yes ☐ No ☐ Temp Pads
Custody Seals: ☐ Yes ☐ No
Samples Intact: ☐ Yes ☐ No
Temp C:
Delivery: ☐ Courier ☐ Walk In ☐ Client/Other

Report Delivery Formats: ☐ Paper ☐ Email ☐ FAX
☐ EDD Type: .....
☐ PDF (Fax Server) .....

Laboratory Notes:

Microbac

Southern California Division

Chain of Custody Record

090600476

Page 2 of 2

Project No.	Project Name
1008	SHHC

Project Manager	Phone	Fax
Paola Calderon	13232787700	13232787707

Customer Name	Address
INTERPHASE	6200 PEACHTREE STREET
Email:	LOS ANGELES, CA 90040

Analyses Requested

Lab #	Sample ID	Grab Comp	Date Sampled	Time Sampled	Sample matrix	Container # & Type	Preserved	Total Petroleum Hydrocarbons (TPH)	Other (specify)	Oxygenates (5) (MTBE, TBA, DIPE, ETBE, TAME)	Oil & Grease (HEM)	Volatile Organics (VOC)	Semi-Volatile Organics (SVOC)	Polynuclear Aromatic Hydrocarbons (PAH)	Polychlorinated Biphenyls (PCB)	Pesticides	Chlorinated Herbicides	Organophosphorus Pesticides	Metals (specify)	Asbestos (specify)	Lead (Pb)	Total Petroleum Hydrocarbons (TPH)	Volatile Organics (VOC)	Semi-Volatile Organics (SVOC)	Polynuclear Aromatic Hydrocarbons (PAH)	Polychlorinated Biphenyls (PCB)	Pesticides	Chlorinated Herbicides	Organophosphorus Pesticides	Metals (specify)	Asbestos (specify)	Lead (Pb)	Special Instructions
011	SGP-4-15' Dup	grab	6/25/2009	12:30	sv	glass bulb																											
012	SGP-5-15'	grab	6/25/2009	13:06	sv	glass bulb																											
013	SGP-5-5'	grab	6/25/2009	13:40	sv	glass bulb																											
014	SGP-6-15'	grab	6/25/2009	14:06	sv	glass bulb																											
015	SGP-6-5'	grab	6/25/2009	14:37	sv	glass bulb																											
016	SGP-7-15'	grab	6/25/2009	15:03	sv	glass bulb																											
017	SGP-7-5'	grab	6/25/2009	15:26	sv	glass bulb																											

Type Analysis: ○ Low Report ○ Med Report ○ Screen ● Other

Special Instructions

1) Relinquished by (Sampler's Signature)	Date	Time	2) Relinquished by	Date	Time	3) Relinquished by	Date	Time
	6/25	1546						
2) Received by	Date	Time	3) Received by	Date	Time	4) Received for Laboratory By	Date	Time
	6/25	1546						

Disposal: ○ Return ○ Lab Disposal

Samples Chilled: ○ Yes ○ No ● Ice Pack

Custody Seals: ○ Yes ○ No

Samples Intact: ○ Yes ○ No

Temp:

Delivery: ○ Courier ○ Walk In ○ UPS Fed Ex

Report Delivery Options: ○ Fax ○ Email ○ U.S. Mail ○ EDD Type: ○ Other

Laboratory Notes:

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CASE NARRATIVE

Authorized Signature Name / Title (print)	Mark Horan, Division Manager
Signature / Date	Mark Horan, Division Manager 07/13/2009 11:57:3-
Laboratory Job No. (Certificate of Analysis No.)	0907-00132
Project Name / No.	SITHC
Dates Sampled (from/to)	07/10/09 To 07/10/09
Dates Received (from/to)	07/10/09 To 07/10/09
Dates Reported (from/to)	07/13/09 To 7/13/2009
Chains of Custody Received	Yes

Comments:

Subcontracting
Organic Analyses
No analyses sub-contracted

Sample Condition(s)
All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Q	Result	Units	RL	Sample	Analyte	Q	Result	Units	RL
GUADRY-3-15'	Isopropylbenzene		1.3	µg/L	1.0	GUADRY-3-15'	n-Propylbenzene	J	0.67	µg/L	1.0
GUADRY-3-15'	sec-Butylbenzene		3.0	µg/L	1.0	GUADRY-3-5'	sec-Butylbenzene	J	0.53	µg/L	1.0
GUADRY-4-15'	Isopropylbenzene		1.9	µg/L	1.0	GUADRY-4-15'	Toluene	J	0.51	µg/L	1.0
GUADRY-4-15'	n-Propylbenzene		1.2	µg/L	1.0	GUADRY-4-15'	sec-Butylbenzene		3.0	µg/L	1.0
GUADRY-4-5'	Benzene		0.051	µg/L	0.050	GUADRY-4-5'	Toluene		0.28	µg/L	0.10
GUADRY-5-15'	sec-Butylbenzene		2.1	µg/L	1.0	GUADRY-5-5'	Toluene	J	0.093	µg/L	0.10
HRA-3-15'	Toluene		0.13	µg/L	0.10	HSU-3-5'	Benzene		0.086	µg/L	0.050
HSU-3-5'	Toluene		0.45	µg/L	0.10	HSU-3-5'	m,p-Xylenes	J	0.12	µg/L	0.20
HSU-3-15'	1,2,4-Trimethylbenzene		0.14	µg/L	0.10	HSU-3-15'	Toluene	J	0.068	µg/L	0.10
HSU-3-15' DUP	1,2,4-Trimethylbenzene	J	0.095	µg/L	0.10	HSU-3-15' DUP	Toluene	J	0.069	µg/L	0.10
HSU-4-5'	Benzene		0.050	µg/L	0.050	HRA-1-5	Toluene		0.18	µg/L	0.10

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 GUNDRY-3-15'							Date & Time Sampled:	07/10/09	@ 7:33	
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	10	07/10/09	7:55	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/10/09	7:55	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	7:55	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	7:55	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	7:55	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
sec-Butylbenzene	3.0		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	7:55	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/10/09	7:55	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	7:55	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	7:55	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 GUNDRY-3-15'							Date & Time Sampled:	07/10/09	@	7:33
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
.uis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	7:55	JCT
Isopropylbenzene	1.1		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/10/09	7:55	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	7:55	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/10/09	7:55	JCT
n-Propylbenzene	0.67	J	µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	7:55	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Vinylfluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 **GUNDRY-3-15'**							Date & Time Sampled:	07/10/09	@	7:33
Purge Volume Sampled: 7										
....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/10/09	7:55	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/10/09	7:55	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	7:55	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	7:55	JCT
[Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	7:55	JCT
[VOC Surrogates]										
Dibromofluoromethane	103		%REC	EPA 8260B	10	70-130	70-130	07/10/09	7:55	JCT
Toluene-D8	109		%REC	EPA 8260B	10	70-130	70-130	07/10/09	7:55	JCT
Bromofluorobenzene	126		%REC	EPA 8260B	10	70-130	70-130	07/10/09	7:55	JCT
Sample: 002 **GUNDRY-3-5'**							Date & Time Sampled:	07/10/09	@	7:58
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/10/09	8:09	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/10/09	8:09	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	8:09	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:09	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:09	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
sec-Butylbenzene	0.58	J	µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:09	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/10/09	8:09	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 GUNDRY-3-5'					Date & Time Sampled:			07/10/09	@ 7:58	
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	8:09	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:09	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:09	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/10/09	8:09	JCT

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6200 PEACHTREE STREET
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Date Reported	07/13/09
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Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 GUNDRY-3-5'							Date & Time Sampled:	07/10/09	@	7:58
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:09	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/10/09	8:09	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	8:09	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/10/09	8:09	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/10/09	8:09	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	8:09	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:09	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:09	JCT
[VOC Surrogates]										
Dibromofluoromethane	107		%REC	EPA 8260B	10	70-130	70-130	07/10/09	8:09	JCT
Toluene-D8	101		%REC	EPA 8260B	10	70-130	70-130	07/10/09	8:09	JCT
Bromofluorobenzene	121		%REC	EPA 8260B	10	70-130	70-130	07/10/09	8:09	JCT
Sample: 003 GUNDRY-4-15'							Date & Time Sampled:	07/10/09	@	8:23
Purge Volume Sampled: 7										
Cs by GCMS)										

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6200 PEACHTREE STREET
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Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 GUNDRY-4-15'					Date & Time Sampled:			07/10/09	@	8:23
Purge Volume Sampled: 7										
....continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/10/09	8:38	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/10/09	8:38	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
noform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
omomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	8:38	JCT
1-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:38	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:38	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
sec-Butylbenzene	3.9		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:38	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/10/09	8:38	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	8:38	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:38	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 GUNDRY-4-15'						Date & Time Sampled:		07/10/09	@	8:23
Purge Volume Sampled: 7										
....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Ethyl-t-butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:38	JCT
Isopropylbenzene	1.9		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/10/09	8:38	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	8:38	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/10/09	8:38	JCT
n-Propylbenzene	1.2		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	8:38	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Toluene	0.51	J	µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	8:38	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SIHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 GUNDRY-4-15'							Date & Time Sampled:	07/10/09	@	8:23
Purge Volume Sampled: 7										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/10/09	6:38	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	6:38	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	6:38	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/10/09	6:38	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	6:38	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	6:38	JCT
[Vapor Sampling Tracer]										
2-Propanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	6:38	JCT
[VOC Surrogates]										
DibromoFluoromethane	103		%REC	EPA 8260B	10	70-130	70-130	07/10/09	6:38	JCT
Toluene-D8	113		%REC	EPA 8260B	10	70-130	70-130	07/10/09	6:38	JCT
Bromofluorobenzene	140	J	%REC	EPA 8260B	10	70-130	70-130	07/10/09	6:38	JCT
Sample: 004 GUNDRY-4-5'							Date & Time Sampled:	07/10/09	@	8:52
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	9:21	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Benzene	0.051		µg/L	EPA 8260B	1	0.038	0.050	07/10/09	9:21	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	9:21	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	9:21	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	9:21	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	9:21	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	9:21	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 GUNDRY-4-5'						Date & Time Sampled:		07/10/09	@	8:52
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	9:21	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	9:21	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	9:21	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
ylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	9:21	JCT

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Project: SHHC

Date Reported 07/13/09
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Cust # 1567
Permit Number
Customer P.O.

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **GUNDRY-4-5'**							Date & Time Sampled:	07/10/09	@ 8:52	
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	9:21	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	9:21	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	9:21	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Toluene	**0.28**		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	9:21	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	9:21	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	9:21	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	9:21	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	9:21	JCT
[VOC Surrogates]										
Dibromofluoromethane	101		%REC	EPA 8260B	1	70-130	70-130	07/10/09	9:21	JCT
Toluene-D8	101		%REC	EPA 8260B	1	70-130	70-130	07/10/09	9:21	JCT
Bromofluorobenzene	112		%REC	EPA 8260B	1	70-130	70-130	07/10/09	9:21	JCT
Sample: 005 **GUNDRY-5-15'**							Date & Time Sampled:	07/10/09	@ 9:35	
Purge Volume Sampled: 7										
ICs by GCMS]										

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 GUNDRY-5-15'							Date & Time Sampled:	07/10/09	@ 9:35	
Purge Volume Sampled: 7										
...continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/10/09	9:50	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Benzene	<0.030		µg/L	EPA 8260B	10	0.030	0.50	07/10/09	9:50	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
noform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
...omomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	9:50	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	9:50	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	9:50	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
sec-Butylbenzene	2.1		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	9:50	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/10/09	9:50	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	9:50	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	9:50	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
...-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
...-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 GUNDRY-5-15'							Date & Time Sampled:	07/10/09	@	9:35
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
...3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
...ans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	9:50	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/10/09	9:50	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	9:50	JCT
Methyl-t-Butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/10/09	9:50	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	9:50	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
...ichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6280 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 GUNDRY-5-15'						Date & Time Sampled:		07/10/09	@	9:35
Purge Volume Sampled: 7										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/10/09	9:50	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/10/09	9:50	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/10/09	9:50	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/10/09	9:50	JCT
[Vapor Sampling Traces]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/10/09	9:50	JCT
[VOC Surrogates]										
Dibromofluoromethane	98		%REC	EPA 8260B	10	70-130	70-130	07/10/09	9:50	JCT
Toluene-D8	116		%REC	EPA 8260B	10	70-130	70-130	07/10/09	9:50	JCT
Bromofluorobenzene	125		%REC	EPA 8260B	10	70-130	70-130	07/10/09	9:50	JCT
Sample: 006 GUNDRY-5-5'						Date & Time Sampled:		07/10/09	@	9:58
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	10:33	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Benzene	<0.030		µg/L	EPA 8260B	1	0.030	0.050	07/10/09	10:33	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	10:33	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	10:33	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	10:33	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	10:33	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	10:33	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT

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LOS ANGELES, CA 90040

Date Reported	07/13/09
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Invoice No.	54403
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Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 GUNDRY-5-5'							Date & Time Sampled:	07/10/09	@	9:58
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	10:33	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	10:33	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	10:33	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	10:33	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 **GUNDRY-5-5'**							Date & Time Sampled:	07/10/09	@	9:56
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	10:33	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	10:33	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	10:33	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Toluene	*0.093*	J	µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	10:33	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	10:33	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	10:33	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	10:33	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	10:33	JCT
[VOC Surrogates]										
Dibromofluoromethane	99		%REC	EPA 8260B	1	70-130	70-130	07/10/09	10:33	JCT
Toluene-D8	97		%REC	EPA 8260B	1	70-130	70-130	07/10/09	10:33	JCT
Bromofluorobenzene	105		%REC	EPA 8260B	1	70-130	70-130	07/10/09	10:33	JCT
Sample: 007 **HILL-4-15'**							Date & Time Sampled:	07/10/09	@	10:40
Purge Volume Sampled: 7										
8s by GCMS]										

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 HILL-4-15'					Date & Time Sampled:			07/10/09	@ 10:40	
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	11:02	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Benzene	<0.036		µg/L	EPA 8260B	1	0.036	0.050	07/10/09	11:02	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:02	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:02	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:02	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:02	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	11:02	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:02	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:02	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 HILL-4-15'						Date & Time Sampled:		07/10/09	@ 10:40	
Purge Volume Sampled: 7										
....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:02	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	11:02	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:02	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	11:02	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:02	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT

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Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SIHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 HILL-4-15'						Date & Time Sampled:		07/10/09	@ 10:40	
Purge Volume Sampled: 7										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	11:02	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	11:02	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:02	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:02	JCT
[2 Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:02	JCT
[VOC Surrogates]										
Dibromofluoromethane	99		%REC	EPA 8260B	1	70-130	70-130	07/10/09	11:02	JCT
Toluene-D8	96		%REC	EPA 8260B	1	70-130	70-130	07/10/09	11:02	JCT
Bromofluorobenzene	106		%REC	EPA 8260B	1	70-130	70-130	07/10/09	11:02	JCT
Sample: 008 HILL-4-5'						Date & Time Sampled:		07/10/09	@ 11:03	
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	11:16	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Benzene	<0.036		µg/L	EPA 8260B	1	0.036	0.050	07/10/09	11:16	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:16	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:16	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:16	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:16	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	11:16	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 HILL-4-5'						Date & Time Sampled:		07/10/09	@ 11:03	
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:16	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:16	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:16	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	11:16	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 **HILL-4-5'**							Date & Time Sampled:	07/10/09	@	11:03
Purge Volume Sampled: 7										
....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:16	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	11:16	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:16	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	11:16	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	11:16	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:16	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:16	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:16	JCT
[VOC Surrogates]										
Dibromofluoromethane	95		%REC	EPA 8260B	1	70-130	70-130	07/10/09	11:16	JCT
Toluene-D8	97		%REC	EPA 8260B	1	70-130	70-130	07/10/09	11:16	JCT
Bromofluorobenzene	106		%REC	EPA 8260B	1	70-130	70-130	07/10/09	11:16	JCT
Sample: 009 **HILL-3-15'**							Date & Time Sampled:	07/10/09	@	11:27
Purge Volume Sampled: 7										
...s by GCMS]										

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 HILL-3-15'							Date & Time Sampled:	07/10/09	@	11:27
Purge Volume Sampled: 7										
....continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	11:45	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Benzene	<0.035		µg/L	EPA 8260B	1	0.035	0.050	07/10/09	11:45	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
oform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
omomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:45	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:45	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:45	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:45	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	11:45	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:45	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:45	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT

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Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 HILL-3-15'					Date & Time Sampled:			07/10/09	@ 11:27	
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:45	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	11:45	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:45	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	11:45	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,1,1,2-Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:45	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Toluene	0.13		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT

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WATER · AIR · SOIL · WASTES · FOOD · PHARMACEUTICALS · NUTRACEUTICALS · COSMETICS

CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 **HILL-3-15'**						Date & Time Sampled:		07/10/09	@	11:27
Purge Volume Sampled: 7										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	11:45	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	11:45	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	11:45	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	11:45	JCT
[Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	11:45	JCT
[VOC Surrogates]										
Dibromofluoromethane	91		%REC	EPA 8260B	1	70-130	70-130	07/10/09	11:45	JCT
Toluene-D8	99		%REC	EPA 8260B	1	70-130	70-130	07/10/09	11:45	JCT
Bromofluorobenzene	102		%REC	EPA 8260B	1	70-130	70-130	07/10/09	11:45	JCT
Sample: 010 **HILL-3-5'**						Date & Time Sampled:		07/10/09	@	11:50
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	12:00	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Benzene	0.086		µg/L	EPA 8260B	1	0.036	0.050	07/10/09	12:00	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:00	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:00	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:00	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:00	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	12:00	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT

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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 HILL-3-5'					Date & Time Sampled:			07/10/09	@ 11:50	
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:00	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:00	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Dibylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:00	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	12:00	JCT

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PAOLA CALDERON
6280 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **HILL-3-5'**							Date & Time Sampled:	07/10/09	@ 11:50	
Purge Volume Sampled: 7										
...continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:00	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	12:00	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:00	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Toluene	**0.25**		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Trichlorotrifluoroethane	<0.75		µg/L	EPA 8260B	1	0.75	0.50	07/10/09	12:00	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
Vinyl Chloride	<0.015		µg/L	EPA 8260B	1	0.015	0.050	07/10/09	12:00	JCT
m,p-Xylenes	***0.12***	J	µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:00	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:00	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:00	JCT
[VOC Surrogates]										
Dibromofluoromethane	99		%REC	EPA 8260B	1	70-130	70-130	07/10/09	12:00	JCT
Toluene-D8	98		%REC	EPA 8260B	1	70-130	70-130	07/10/09	12:00	JCT
Bromofluorobenzene	102		%REC	EPA 8260B	1	70-130	70-130	07/10/09	12:00	JCT
Sample: 011 **HILL-2-15'**							Date & Time Sampled:	07/10/09	@ 12:10	
Purge Volume Sampled: 7										
...s by GCMS]										

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Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 HILL-2-15'						Date & Time Sampled:		07/10/09	@ 12:19	
Purge Volume Sampled: 7										
....continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	12:28	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Benzene	<0.036		µg/L	EPA 8260B	1	0.036	0.050	07/10/09	12:28	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
...oform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
...omomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:28	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:28	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:28	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:28	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	12:28	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:28	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:28	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT

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Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 HILL-2-15'					Date & Time Sampled:			07/10/09	@ 12:19	
Purge Volume Sampled: 7										
....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:28	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	12:28	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:28	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Naphthalene	<0.037		µg/L	EPA 8260B	1	0.037	0.050	07/10/09	12:28	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:28	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Toluene	*0.068*	J	µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,1,2-Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **HILL-2-15'**						Date & Time Sampled:		07/10/09	@ 12:19	
Purge Volume Sampled: 7										
....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	12:28	JCT
1,2,4-Trimethylbenzene	**0.11**		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	12:28	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:28	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:28	JCT
[2 Vapor Sampling Tracer]										
2-propanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:28	JCT
[VOC Surrogates]										
Dibromofluoromethane	91		%REC	EPA 8260B	1	70-130	70-130	07/10/09	12:28	JCT
Toluene-D8	99		%REC	EPA 8260B	1	70-130	70-130	07/10/09	12:28	JCT
Bromofluorobenzene	102		%REC	EPA 8260B	1	70-130	70-130	07/10/09	12:28	JCT
Sample: 012 **HILL-2-15'-DUP**						Date & Time Sampled:		07/10/09	@ 12:19	
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	12:57	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Benzene	<0.036		µg/L	EPA 8260B	1	0.036	0.050	07/10/09	12:57	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:57	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:57	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:57	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:57	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	12:57	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 HILL-2-15-DUP					Date & Time Sampled:			07/10/09	@ 12:19	
Purge Volume Sampled: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:57	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:57	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:57	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	12:57	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 **HILL-2-15'-DUP**					Date & Time Sampled:			07/10/09	@	12:19
Purge Volume Sampled: 7										
....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:57	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	12:57	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:57	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Toluene	*0.069*	J	µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	12:57	JCT
1,2,4-Trimethylbenzene	*0.099*	J	µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	12:57	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	12:57	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	12:57	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	12:57	JCT
[VOC Surrogates]										
1-Bromofluoroethane	91		%REC	EPA 8260B	1	70-130	70-130	07/10/09	12:57	JCT
Toluene-D8	99		%REC	EPA 8260B	1	70-130	70-130	07/10/09	12:57	JCT
Bromofluorobenzene	103		%REC	EPA 8260B	1	70-130	70-130	07/10/09	12:57	JCT
Sample: 013 **HILL-2-5'**					Date & Time Sampled:			07/10/09	@	13:09
Purge Volume Sampled: 7										
.Cs by GCMS]										

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Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHIC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 HILL-2-5'					Date & Time Sampled:			07/10/09	@ 13:09	
Purge Volume Sampled: 7										
...continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	1:26	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Benzene	<0.036		µg/L	EPA 8260B	1	0.036	0.050	07/10/09	1:26	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
noform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
...omomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	1:26	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:26	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:26	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:26	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	1:26	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	1:26	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:26	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 : HILL-2-5'							Date & Time Sampled:	07/10/09	@ 13:09	
Purge Volume Sampled: 7										
....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:26	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	1:26	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:26	JCT
Methyl-t-Butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	1:26	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	1:26	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **HILL-2-5'**					Date & Time Sampled:			07/10/09	@	13:09
Purge Volume Sampled: 7										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	1:26	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	1:26	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	1:26	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:26	JCT
(Vapor Sampling Tracer)										
2-propanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:26	JCT
[VOC Surrogates]										
Dibromofluoromethane	90		%REC	EPA 8260B	1	70-130	70-130	07/10/09	1:26	JCT
Toluene-D8	99		%REC	EPA 8260B	1	70-130	70-130	07/10/09	1:26	JCT
Bromofluorobenzene	105		%REC	EPA 8260B	1	70-130	70-130	07/10/09	1:26	JCT
Sample: 014 **HILL-1-15'**					Date & Time Sampled:			07/10/09	@	13:31
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	1:55	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Benzene	<0.036		µg/L	EPA 8260B	1	0.036	0.050	07/10/09	1:55	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	1:55	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:55	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:55	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:55	JCT
rbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	1:55	JCT
robenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 - HILL-1-15'						Date & Time Sampled:		07/10/09	@ 13:30	
Purge Volume Sampled: 7										
.....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	1:55	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:55	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:55	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	1:55	JCT

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Date Reported	07/13/09
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Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 HILL-1-15'					Date & Time Sampled:			07/10/09	@	13:31
Purge Volume Sampled: 7										
...continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:55	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	1:55	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	1:55	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	1:55	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	1:55	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	1:55	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	1:55	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	1:55	JCT
[VOC Surrogates]										
Dibromofluoromethane	93		%REC	EPA 8260B	1	70-130	70-130	07/10/09	1:55	JCT
Toluene-D8	98		%REC	EPA 8260B	1	70-130	70-130	07/10/09	1:55	JCT
Bromofluorobenzene	104		%REC	EPA 8260B	1	70-130	70-130	07/10/09	1:55	JCT
Sample: 015 HILL-1-5'					Date & Time Sampled:			07/10/09	@	13:54
Purge Volume Sampled: 7										
Cs by GCMS]										

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/13/09
Date Received 07/10/09
Invoice No. 54403
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 : HILL-1-5'							Date & Time Sampled:	07/10/09	@	13:51
Purge Volume Sampled: 7										
....continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/10/09	2:09	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Benzene	**0.050**		µg/L	EPA 8260B	1	0.036	0.050	07/10/09	2:09	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	2:09	JCT
1-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	2:09	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	2:09	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	2:09	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/10/09	2:09	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	2:09	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	2:09	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 HLL-1-5'					Date & Time Sampled:			07/10/09	@ 13:54	
Purge Volume Sampled: 7										
....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
uns-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	2:09	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/10/09	2:09	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	2:09	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/10/09	2:09	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	2:09	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Toluene	0.18		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
richlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT

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CERTIFICATE OF ANALYSIS

0907-00132

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/13/09
Date Received	07/10/09
Invoice No.	54403
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 HILL-1-5'					Date & Time Sampled:			07/10/09	@	13:54
Purge Volume Sampled: 7										
....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/10/09	2:09	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/10/09	2:09	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/10/09	2:09	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/10/09	2:09	JCT
[Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/10/09	2:09	JCT
[VOC Surrogates]										
Dibromofluoromethane	92		%REC	EPA 8260B	1	70-130	70-130	07/10/09	2:09	JCT
Toluene-D8	99		%REC	EPA 8260B	1	70-130	70-130	07/10/09	2:09	JCT
Bromofluorobenzene	104		%REC	EPA 8260B	1	70-130	70-130	07/10/09	2:09	JCT

Respectfully Submitted:

Mark Horan - Division Manager

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications. The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value. Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time.
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Mark Horan, the Division Manager at 951.779.0310. You may also contact both Trevor Boyce, President and Robert Morgan, Chief Operating Officer at president@microbac.com.

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QUALITY CONTROL DATA REPORT

INTERPHASE
LOS ANGELES, CA 90040

0907-00132

Date Reported	07/13/2009
Date Received	07/10/2009
Date Sampled	07/10/2009
Invoice No.	54403
Customer #	1567
Customer P.O.	

Project: SHHC

Method # EPA 8260B
QC Reference # 14690 **Date Analyzed:** 7/10/2009 **Technician:** JLT
Samples 021 002 003 001 005 006 007 008 009 010 011 012 013 014 015

Results

	LCS %REC	LCS %DUP	LCS %RPD	BLKSRR% REC
1,1-Dichloroethene	100	95	5.0	
Benzene	97	100	2.0	
Bromodichloromethane				112
Chlorobenzene	101	101	2.8	
Dibromochloromethane				109
Toluene	96	98	2.1	
Toluene-D8				95
Trichloroethene	93	94	2.2	

Control Ranges

LCS %REC	LCS %RPD	BLKSRR%REC
70 - 130	0 - 25	
70 - 130	0 - 25	
		70 - 130
70 - 130	0 - 25	
		70 - 130
70 - 130	0 - 25	
		70 - 130
70 - 130	0 - 25	

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QUALITY CONTROL DATA REPORT

INTERPHASE

0907-00132

Date Reported	**07/13/2009**
Date Received	**07/10/2009**
Date Sampled	**07/10/2009**

Project: SHIC

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL
24990	1,1,1,2-Tetrachloroethane	<0.050		µg/L	0.050
	1,1,1-Trichloroethane	<0.050		µg/L	0.050
	1,1,2,2-Tetrachloroethane	<0.10		µg/L	0.10
	1,1,2-Trichloroethane	<0.050		µg/L	0.050
	1,1-Dichloroethane	<0.050		µg/L	0.050
	1,1-Dichloroethene	<0.050		µg/L	0.050
	1,1-Dichloropropene	<0.050		µg/L	0.050
	1,2,3-Trichlorobenzene	<0.050		µg/L	0.050
	1,2,3-Trichloropropane	<0.050		µg/L	0.050
	1,2,4-Trichlorobenzene	<0.050		µg/L	0.050
	1,2,4-Trimethylbenzene	<0.050		µg/L	0.050
	1,2-Dibromo-3-Chloropropane	<0.50		µg/L	0.50
	1,2-Dibromoethane (EDB)	<0.050		µg/L	0.050
	1,2-Dichlorobenzene	<0.050		µg/L	0.050
	1,2-Dichloroethane	<0.050		µg/L	0.050
	1,2-Dichloropropane	<0.050		µg/L	0.050
	1,3,5-Trimethylbenzene	<0.050		µg/L	0.050
	1,3-Dichlorobenzene	<0.050		µg/L	0.050
	1,3-Dichloropropane	<0.050		µg/L	0.050
	1,4-Dichlorobenzene	<0.050		µg/L	0.050
	2,2-Dichloropropane	<0.050		µg/L	0.050
	2-Butanone (MEK)	<0.50		µg/L	0.50
	2-Chlorotoluene	<0.050		µg/L	0.050
	2-Hexanone	<0.50		µg/L	0.50
	4-Chlorotoluene	<0.050		µg/L	0.050
	4-Isopropyltoluene	<0.050		µg/L	0.050
	4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	0.50
	Acetone	<5.0		µg/L	5.0
	Benzene	<0.036		µg/L	0.036
	Bromobenzene	<0.050		µg/L	0.050
	Bromochloromethane	<0.050		µg/L	0.050
	Bromodichloromethane	<0.050		µg/L	0.050
	Bromoform	<0.050		µg/L	0.050
	Bromomethane	<0.10		µg/L	0.10
	Carbon Disulfide	<0.50		µg/L	0.50
	Carbon Tetrachloride	<0.025		µg/L	0.025
	Chlorobenzene	<0.050		µg/L	0.050
	Chloroethane	<0.050		µg/L	0.050
	Chloroform	<0.050		µg/L	0.050
	Chloromethane	<0.10		µg/L	0.10
	cis-1,2-Dichloroethene	<0.050		µg/L	0.050
	cis-1,3-Dichloropropene	<0.050		µg/L	0.050
	Dibromochloromethane	<0.050		µg/L	0.050
	Dibromomethane	<0.050		µg/L	0.050
	Dichlorodifluoromethane	<0.050		µg/L	0.050
	Diisopropyl Ether (DIPE)	<0.050		µg/L	0.050
	Ethylbenzene	<0.050		µg/L	0.050
	Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	0.050
	Hexachlorobutadiene	<0.050		µg/L	0.050
	Isopropanol (IPA)	<0.50		µg/L	0.50
	Isopropylbenzene	<0.050		µg/L	0.050
	m,p-Xylenes	<0.10		µg/L	0.10
	Methylene Chloride	<1.0		µg/L	1.0
	Methyl-t-Butyl Ether (MTBE)	<0.050		µg/L	0.050
	Naphthalene	<0.032		µg/L	0.032
	n-Butylbenzene	<0.050		µg/L	0.050
	n-Propylbenzene	<0.050		µg/L	0.050
	o-Xylene	<0.050		µg/L	0.050
	sec-Butylbenzene	<0.050		µg/L	0.050
	Styrene	<0.050		µg/L	0.050
	t-Amyl Methyl Ether (TAME)	<0.050		µg/L	0.050
	t-Butanol (TBA)	<0.50		µg/L	0.50
	tert-Butylbenzene	<0.050		µg/L	0.050
	Tetrachloroethene	<0.050		µg/L	0.050
	Toluene	<0.050		µg/L	0.050
	trans-1,2-Dichloroethene	<0.050		µg/L	0.050
	trans-1,3-Dichloropropene	<0.050		µg/L	0.050
	Trichloroethene	<0.050		µg/L	0.050
	Trichlorofluoromethane	<0.050		µg/L	0.050
	Trichlorotrifluoroethane	<0.25		µg/L	0.25
	Vinyl Chloride	<0.013		µg/L	0.013

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FDA#	2030513
LA City#	10159
ELAP's	2373
	2562
	2665
	2429
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QUALITY CONTROL DATA REPORT

INTERPHASE

0907-00132

Date Reported	**07/13/2009**
Date Received	**07/10/2009**
Date Sampled	**07/10/2009**

Project: SHHC

RESPECTFULLY SUBMITTED: _____
MICROBAC LABORATORIES, INC.

For any feedback concerning our services, please contact Mark Horan, the Division Manager at 951.779.0310. You may also contact both Trevor Boyce, President and Robert Morgan, Chief Operating Officer at president@microbac.com.

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Signal Hill, CA 90755
V: 562.498.7005 F: 562.498.8617
www.microbac.com socal@microbac.com

Chain of Custody Record

Microbac WO#: **090700132**

Project No:	Project Name: SHHC	Phone:	Fax: 13232787707
Project Manager: Paola Calderon			
Customer Name: (Report and Billing) INTERPHASE	Address: (Report and Billing) 6200 PEACHTREE STREET		
Email:	LOS ANGELES, CA 90040		

Analyses Requested (circle appropriate)

Turn Around: ○ 24hr RUSH* ○ 48hr RUSH* ○ Normal ○ Other ____

*PRIOR approval, additional fee, work received after 4 pm will be processed next work day

Special Instructions

Lab # (Lab use only)	Sample ID (As it should appear on report)	Grab/ Comp	Date sampled	Time sampled	Sample matrix	Container # & Type	Preserved	Micro: Plate Cnt., Coliform, E.Coli	Chem: BOD, TSS, TDS, pH	Chem: Cyanide, Ammonia, TKN, Oil & Grease	IC: Br, SO4, PO4, NO3, Cl	Metals: Title 22(CAM) or RCRA	LUFT Gas or 8015 GRO or C4-C12	LUFT Diesel or 8015 DRO or C13-C40	VOCs by GCMS: 8260 or 624	VOCs by GCMS: BTEX, OXYs	SVOCs: 8270 or 625	Pest. &/or PCBs: 608 or 8081/8082				
001	GUNDRY-3-15'		7/10/2009	7:33	Vapor	Bulb									X							
002	GUNDRY-3-5'		7/10/2009	7:58	Vapor	Bulb									X							
003	GUNDRY-4-15'		7/10/2009	8:23	Vapor	Bulb									X							
004	GUNDRY-4-5'		7/10/2009	8:52	Vapor	Bulb									X							
005	GUNDRY-5-15'		7/10/2009	9:35	Vapor	Bulb									X							
006	GUNDRY-5-5'		7/10/2009	9:58	Vapor	Bulb									X							
007	HILL-4-15'		7/10/2009	10:40	Vapor	Bulb									X							
008	HILL-4-5'		7/10/2009	11:03	Vapor	Bulb									X							
009	HILL-3-15'		7/10/2009	11:27	Vapor	Bulb									X							
010	HILL-3-5'		7/10/2009	11:50	Vapor	Bulb									X							

1) Relinquished by: (Sampler's Signature)	Date: 7/10/09	Time: 1415	3) Relinquished by:	Date:	Time:	5) Relinquished by:	Date:	Time:
2) Received by:	Date: 7/10/09	Time: 1415	4) Received by:	Date:	Time	6) Received for Laboratory by:	Date:	Time:

Disposal: ○ Return ○ Lab Disposal

Unless other arrangements are made samples will be disposed of 60 days after receipt.

This Section is to be completed by Laboratory personnel

Samples Chilled: ○ Yes ○ No ◉ From Field

Custody Seals: ○ Yes ◉ No

Samples Intact: ◉ Yes ○ No

Temp C:

Delivery: ○ Courier ○ Walk In ○ UPS/Fed Ex

Report Delivery Formats: ☐ Paper ☐ EMAIL ☐ XLS ☐ EDD, Type _____ ☐ EDF, EPA Site ID _____

Laboratory Notes:

CHEMISTRY - MICROBIOLOGY - FOOD SAFETY - CONSUMER PRODUCTS - MOBILE LABORATORIES - PHARMACEUTICALS - NUTRACEUTICALS - COSMETICS

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

White Copy - Original (Accompanies Samples) Yellow Copy - Microbac Files Pink Copy - Client Copy

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Chain of Custody Record

Microbac WO#: **090700132**

Project No:	Project Name: SHHC		
Project Manager: Paola Calderon	Phone:	Fax: 13232787707	
Customer Name: (Report and Billing) INTERPHASE	Address: (Report and Billing) 6200 PEACHTREE STREET		
Email:	LOS ANGELES, CA 90040		

Analyses Requested (circle appropriate)

Turn Around: ○ 24hr RUSH* ○ 48hr RUSH* ○ Normal ○ Other ____

*APPROVAL required. Additional fee, work received after 4 pm will be processed next work day

Lab # (Lab use only)	Sample ID (As it should appear on report)	Grab / Comp	Date sampled	Time sampled	Sample matrix	Container # & Type	Preserved	Metals: Pb(s) Cr(t), Cd/Ni, E. Coli	Chem: BOD, TSS, TDS, pH	Chem: Cyanide, Ammonia, TKN, Oil & Grease	IC: Br, SO4, PO4, NO3, Cl	Mobile: Title 22(CAM) or RCRA	LUFT Gas or 8015 GRO or C4-C12	LUFT Diesel or 8015 DRO or C13-C40	VOCs by GCMS: 8260 or 624	VOCs by GCMS: BTEX, OXYs	SVOCs: 8270 or 625	Pest, Met PCBs: 608 or 8081/8082				Special Instructions
011	HILL-2-15'		7/10/2009	12:19	Vapor	Bulb									X							
012	HILL-2-15'-DUP		7/10/2009	12:19	Vapor	Bulb									X							
013	HILL-2-5'		7/10/2009	13:09	Vapor	Bulb									X							
014	HILL-1-15'		7/10/2009	13:31	Vapor	Bulb									X							
015	HILL-1-5'		7/10/2009	13:54	Vapor	Bulb									X							

1) Relinquished by: (Sampler's Signature)	Date: 7/10/09	Time: 1415	3) Relinquished by:	Date:	Time:	5) Relinquished by:	Date:	Time:
2) Received by:	Date: 7/10/09	Time: 1415	4) Received by:	Date:	Time:	6) Received for Laboratory by:	Date:	Time:

Disposal: ○ Return ○ Lab Disposal
Unless other arrangements are made samples will be disposed of 60 days after receipt.

This Section is to be completed by Laboratory personnel.

Samples Chilled: ○ Yes ○ No ◉ From Field
Custody Seals: ○ Yes ◉ No
Samples Intact: ◉ Yes ○ No
Temp C:
Delivery: ○ Courier ○ Walk In ○ UPS/Fed Ex

Report Delivery Formats: ☐ Paper ☐ EMAIL ☐ XLS ☐ EDD, Type _____ ☐ EDF, EPA Site ID _____

Laboratory Notes:

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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CASE NARRATIVE

Authorized Signature Name / Title (print)	Mark Horan, Division Manager
Signature / Date	[signature]
Laboratory Job No. (Certificate of Analysis No.)	0907-00110
Project Name / No.	SHHC
Dates Sampled (from/to)	07/09/09 To 07/09/09
Dates Received (from/to)	07/09/09 To 07/09/09
Dates Reported (from/to)	07/10/09 To 7/10/2009
Chains of Custody Received	Yes

Comments:

Subcontracting
Organic Analyses
No analyses sub-contracted

Sample Condition(s)
All samples intact

The data and observations, and other accompanying documents, represent only the sample(s) analyzed and is rendered with discretion. This report is not to be reproduced, except in its entirety, for advertising or other purposes without approval from the laboratory.

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Laboratory Job# 0907-00110

Positive Results (Organic Compounds)

Sample	Analyte	Q	Result	Units	RL	Sample	Analyte	Q	Result	Units	RL
WA-SG7-0-15	Isopropylbenzene	J	0.075	ug/L	0.10	WA-SG7-1-15'	Toluene	J	0.008	ug/L	0.10
WA-SG7-1-15'	m,p-Xylene	J	0.13	ug/L	0.20	WA-SG7-1-5'	Benzene	J	0.043	ug/L	0.050
WA-SG7-1-5'	Ethylbenzene	J	0.061	ug/L	0.10	WA-SG7-1-5	Toluene		0.35	ug/L	0.10
WA-SG7-1-5'	m,p-Xylene	J	0.19	ug/L	0.20	WA-SG7-1-5	o-Xylene	J	0.083	ug/L	0.10
WA-SG7-2-15'	Ethylbenzene		1.6	ug/L	1.0	WA-SG7-2-15'	Isopropylbenzene		47	ug/L	1.0
WA-SG7-2-15'	Toluene	J	0.60	ug/L	1.0	WA-SG7-2-5'	n-Propylbenzene		6.7	ug/L	1.0
WA-SG7-2-5'	sec-Butylbenzene		1.6	ug/L	1.0	WA-SG7-2-5'	Isopropylbenzene		23	ug/L	1.0
WA-SG7-2-5	Toluene	J	0.64	ug/L	1.0	WA-SG7-2-5'	n-Propylbenzene		2.2	ug/L	1.0
WA-SG7-2-5'	sec-Butylbenzene		1.3	ug/L	1.0	WA-SG7-3-15'	Ethylbenzene	J	0.62	ug/L	1.0
WA-SG7-3-15	Isopropylbenzene		81	ug/L	1.0	WA-SG7-3-15'	Toluene	J	0.74	ug/L	1.0
WA-SG7-3-15	n-Propylbenzene		17	ug/L	1.0	WA-SG7-3-5'	sec-Butylbenzene		8.9	ug/L	1.0
WA-SG7-3-5'	sec-Butylbenzene	J	0.63	ug/L	1.0	WA-SG7-3-5'	Benzene		0.051	ug/L	0.050
WA-SG7-3-5'	Isopropylbenzene		0.28	ug/L	0.10	WA-SG7-3-5'	Toluene		0.13	ug/L	0.10
WA-SG7-4-5'	Ethylbenzene		0.20	ug/L	0.10	WA-SG7-4-5'	Toluene		0.17	ug/L	0.10
WA-SG7-4-5'	m,p-Xylene		0.78	ug/L	0.20	WA-SG7-4-5	o-Xylene		0.14	ug/L	0.10
WA-SG8-1-15'	Isopropylbenzene		9.4	ug/L	1.0	WA-SG8-1-15'	n-Propylbenzene	J	0.57	ug/L	1.0
WA-SG8-1-15'	sec-Butylbenzene		2.3	ug/L	1.0	WA-SG8-1-15'	sec-Butylbenzene	J	0.51	ug/L	1.0
WA-SG8-2-15'	Isopropylbenzene		16	ug/L	1.0	WA-SG8-2-15'	Toluene	J	0.62	ug/L	1.0
WA-SG8-2-15'	n-Propylbenzene		5.9	ug/L	1.0	WA-SG8-2-15'	sec-Butylbenzene		2.8	ug/L	1.0
WA-SG8-2-5'	Benzene		0.089	ug/L	0.050	WA-SG8-2-5'	Isopropylbenzene		0.10	ug/L	0.10
WA-SG8-2-5'	Toluene		0.25	ug/L	0.10	WA-SG8-2-5'	m,p-Xylenes	J	0.12	ug/L	0.20
WA-SG8-2-5'	Isopropylbenzene	J	0.63	ug/L	1.0	WA-SG8-2-5'	sec-Butylbenzene		1.8	ug/L	1.0
WA-SG8-2-5'-DUP	Isopropylbenzene	J	0.52	ug/L	1.0	WA-SG8-2-5'-DUP	sec-Butylbenzene		1.7	ug/L	1.0

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice Nu.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 **WALNUT-1-15'**					Date & Time Sampled:			07/09/09	@	6:12
Purge Volume Sampled: 7										
(VOCs by GCMS)										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/09/09	8:27	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Benzene	<0.036		µg/l	EPA 8260B	1	0.036	0.050	07/09/09	8:27	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	8:27	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:27	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:27	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:27	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/09/09	8:27	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	8:27	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:27	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT

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INTERPHASE
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Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 **WALNUT-1-15'**					Date & Time Sampled:			07/09/09	@	6:12
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
t-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:27	JCT
Isopropylbenzene	***0.075***	J	µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/09/09	8:27	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:27	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/09/09	8:27	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	8:27	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Toluene	***0.088***	J	µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Trifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/10/09
Date Received 07/09/09
Invoice No. 54363
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 **WALNUT-1-15'**					Date & Time Sampled:			07/09/09	@	8:12
Purge Volume Sampled: 7										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/09/09	8:27	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/09/09	8:27	JCT
m,p-Xylenes	*0.13*	J	µg/L	EPA 8260B	1	0.10	0.20	07/09/09	8:27	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:27	JCT
[C Vapor Sampling Tracer]										
Propanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:27	JCT
[VOC Surrogates]										
Dibromofluoromethane	98		%REC	EPA 8260B	1	70-130	70-130	07/09/09	8:27	JCT
Toluene-D8	93		%REC	EPA 8260B	1	70-130	70-130	07/09/09	8:27	JCT
Bromofluorobenzene	125		%REC	EPA 8260B	1	70-130	70-130	07/09/09	8:27	JCT
Sample: 002 **WALNUT-1-5'**					Date & Time Sampled:			07/09/09	@	8:33
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/09/09	8:53	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Benzene	*0.043*	J	µg/L	EPA 8260B	1	0.036	0.050	07/09/09	8:53	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	8:53	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:53	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:53	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:53	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/09/09	8:53	JCT
robenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT

The data and information in this analytical report, represent only the sample(s) analyzed and should not be considered representative of any other sample. This report is not to be reproduced, wholly or in part, for advertising or other purposes without approval from the laboratory.

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **WALNUT-1-5'**					Date & Time Sampled:			07/08/09	@	8:33
Purge Volume Samples: 7										
....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	8:53	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:53	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Ethylbenzene	*0.061*	J	µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:53	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/09/09	8:53	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/10/09
Date Received 07/09/09
Invoice No. 54363
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **WALNUT-1-5'**					Date & Time Sampled:			07/09/09	@	8:33
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:53	JCT
Methyl-t-butyl Ether (MBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/09/09	8:53	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	8:53	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Toluene	**0.15**		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/09/09	8:53	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/09/09	8:53	JCT
m,p-Xylenes	***0.19***	J	µg/L	EPA 8260B	1	0.10	0.20	07/09/09	8:53	JCT
o-Xylene	***0.055***	J	µg/L	EPA 8260B	1	0.050	0.10	07/09/09	8:53	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	8:53	JCT
[VOC Surrogates]										
Dibromofluoromethane	112		%REC	EPA 8260B	1	70-130	70-130	07/09/09	8:53	JCT
Toluene-D8	91		%REC	EPA 8260B	1	70-130	70-130	07/09/09	8:53	JCT
Bromofluorobenzene	117		%REC	EPA 8260B	1	70-130	70-130	07/09/09	8:53	JCT
Sample: 003 **WALNUT-2-15'**					Date & Time Sampled:			07/09/09	@	9:05
Purge Volume Sampled: 7										
s by GCMS)										

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LOS ANGELES, CA 90040

Date Reported	07/10/09
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Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 **WALNUT-2-15'**					Date & Time Sampled:			07/08/09	@	9:05
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/09/09	9:42	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/09/09	9:42	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
romoform	<0.050		µg/l	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
romomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	9:42	JCT
t-Butanol (TBA)	<0.50		µg/l	EPA 8260B	10	0.50	10	07/09/09	9:42	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	9:42	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
sec-Butylbenzene	1.8		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	9:42	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/09/09	9:42	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	9:42	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	9:42	JCT
Dibromomethane	<0.050		µg/l	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
ichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 **WALNUT-2-15'**					Date & Time Sampled:			07/09/09	@	9:05
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Ethylbenzene	**1.6**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	9:42	JCT
Isopropylbenzene	**47**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/09/09	9:42	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	9:42	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Naphthalene	<0.052		µg/L	EPA 8260B	10	0.052	0.50	07/09/09	9:42	JCT
n-Propylbenzene	**8.7**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	9:42	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Toluene	***0.60***	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SIBIC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 **WALNUT-2-15'**					Date & Time Sampled:			07/08/09	@	9:05
Purge Volume Sampled: 7										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/09/09	9:42	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/09/09	9:42	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	9:42	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	9:42	JCT
[Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	9:42	JCT
[VOC Surrogates]										
Dibromofluoromethane	88		%REC	EPA 8260B	10	70-130	70-130	07/09/09	9:42	JCT
Toluene-D8	85		%REC	EPA 8260B	10	70-130	70-130	07/09/09	9:42	JCT
Bromofluorobenzene	102		%REC	EPA 8260B	10	70-130	70-130	07/09/09	9:42	JCT
Sample: 004 **WALNUT-2-5'**					Date & Time Sampled:			07/08/09	@	9:47
Purge Volume Sampled: 7										
[VOCs by GC/MS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/09/09	10:27	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/09/09	10:27	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	10:27	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:27	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:27	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
sec-Butylbenzene	1.3		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:27	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/09/09	10:27	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/10/09
Date Received 07/09/09
Invoice No. 54363
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **WALNUT-2-5'**					Date & Time Sampled:			07/09/09	@	9:47
Purge Volume Sampled: 7										
.....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	10:27	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
_-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:27	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:27	JCT
Isopropylbenzene	23		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
ylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/09/09	10:27	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SBHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **WALNUT-2-5'**						Date & Time Sampled:		07/09/09	@	9:47
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:27	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/09/09	10:27	JCT
n-Propylbenzene	2.2		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	10:27	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Toluene	0.84	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/09/09	10:27	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/09/09	10:27	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	10:27	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:27	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:27	JCT
[VOC Surrogates]										
Dibromofluoromethane	95		%REC	EPA 8260B	10	70-130	70-130	07/09/09	10:27	JCT
Toluene-D8	92		%REC	EPA 8260B	10	70-130	70-130	07/09/09	10:27	JCT
Bromofluorobenzene	110		%REC	EPA 8260B	10	70-130	70-130	07/09/09	10:27	JCT
Sample: 005 **WALNUT-3-15'**						Date & Time Sampled:		07/09/09	@	10:31
Purge Volume Sampled: 7										
[by GCMS]										

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Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 **WALNUT-3-15'**					Date & Time Sampled:			07/09/09	@	10:31
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/09/09	10:49	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/09/09	10:49	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	10:49	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:49	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:49	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
sec-Butylbenzene	**0.9**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
tert-Butylbenzene	***0.63***	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:49	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/09/09	10:49	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	10:49	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:49	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT

Test data and observations, and other accompanying documents, represent only the sample(s) analyzed and is rendered upon condition that it not be reproduced, wholly or in part, for advertising or other purposes without prior written authority from the laboratory.
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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/10/09
Date Received 07/09/09
Invoice No. 54363
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 **WALNUT-3-15'**						Date & Time Sampled:		07/09/09	@	10:31
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
...3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
...s-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Ethylbenzene	*0.62*	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:49	JCT
Isopropylbenzene	**81**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/09/09	10:49	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:49	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/09/09	10:49	JCT
n-Propylbenzene	**17**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	10:49	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Toluene	*0.74*	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
...,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
...trichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No	54303
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 **WALNUT-3-15'**					Date & Time Sampled:			07/09/09	@	10:31
Purge Volume Sampled: 7										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/09/09	10:49	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/09/09	10:49	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	10:49	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	10:49	JCT
[VOC Vapor Sampling Trace]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	10:49	JCT
[VOC Surrogates]										
Dibromofluoromethane	82		%REC	EPA 8260B	10	70-130	70-130	07/09/09	10:49	JCT
Toluene-D8	83		%REC	EPA 8260B	10	70-130	70-130	07/09/09	10:49	JCT
Bromofluorobenzene	117		%REC	EPA 8260B	10	70-130	70-130	07/09/09	10:49	JCT
Sample: 006 **WALNUT-3-5'**					Date & Time Sampled:			07/09/09	@	10:58
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/09/09	11:12	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Benzene	**0.051**		µg/L	EPA 8260B	1	0.036	0.050	07/09/09	11:12	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	11:12	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	11:12	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	11:12	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	11:12	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/09/09	11:12	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SIHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 **WALNUT-3-5'**					Date & Time Sampled:			07/09/09	0	10:56
Purge Volume Sampled: 7										
.....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	11:12	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	11:12	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	11:12	JCT
Isopropylbenzene	**0.28**		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/09/09	11:12	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SDHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 **WALNUT-3-5'**					Date & Time Sampled:			07/09/09	@	10:58
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	11:12	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/09/09	11:12	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	11:12	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Toluene	0.13		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/09/09	11:12	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/09/09	11:12	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	11:12	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	11:12	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	11:12	JCT
[VOC Surrogates]										
Dibromofluoromethane	97		%REC	EPA 8260B	1	70-130	70-130	07/09/09	11:12	JCT
Toluene-D8	91		%REC	EPA 8260B	1	70-130	70-130	07/09/09	11:12	JCT
Bromofluorobenzene	104		%REC	EPA 8260B	1	70-130	70-130	07/09/09	11:12	JCT
Sample: 007 **WALNUT-4-15'**					Date & Time Sampled:			07/09/09	@	11:22
Purge Volume Sampled: 7										
[% by GCMS]										

The data and information on this and other accompanying documents, represent only the sample(s) analyzed and in no case should it be construed, wholly or in part, for advertising or other purposes without approval from the laboratory.
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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **WALNUT-4-15'**					Date & Time Sampled:			07/09/09	@ 11:22	
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/09/09	11:36	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/09/09	11:36	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
roform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
romethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	11:36	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	11:36	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	11:36	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	11:36	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/09/09	11:36	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	11:36	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	11:36	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
ichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **WALNUT-4-15'**						Date & Time Sampled:		07/09/09	@ 11:22	
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	11:36	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/09/09	11:36	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	11:36	JCT
Methyl-t-Butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Naphthalene	<0.012		µg/L	EPA 8260B	10	0.012	0.50	07/09/09	11:36	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	11:36	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT

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0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/10/09
Date Received 07/09/09
Invoice No. 54365
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **WALNUT-4-15'**					Date & Time Sampled:			07/09/09	@	11:22
Purge Volume Sampled: 7										
.....continued										
Trichlorofluoromethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/09/09	11:36	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/09/09	11:36	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	11:36	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	11:36	JCT
[Vapor Sampling Tracer]										
Isopropyl (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	11:36	JCT
[VOC Surrogates]										
Dibromofluoromethane	100		%REC	EPA 8260B	10	70-130	70-130	07/09/09	11:36	JCT
Toluene-D8	90		%REC	EPA 8260B	10	70-130	70-130	07/09/09	11:36	JCT
Bromofluorobenzene	113		%REC	EPA 8260B	10	70-130	70-130	07/09/09	11:36	JCT
Sample: 008 **WALNUT-4-5'**					Date & Time Sampled:			07/09/09	@	10:48
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	10	07/09/09	12:19	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Benzene	<0.030		µg/L	EPA 8260B	10	0.036	0.050	07/09/09	12:19	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	0.20	07/09/09	12:19	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	07/09/09	12:19	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	07/09/09	12:19	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	1.0	07/09/09	12:19	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.050	07/09/09	12:19	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 **WALNUT-4-5'**					Date & Time Sampled:			07/09/09	@	11:46
Purge Volume Sampled: 7										
.....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	0.20	07/09/09	12:19	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	07/09/09	12:19	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Ethylbenzene	0.26		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	1.0	07/09/09	12:19	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
ylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	2.0	07/09/09	12:19	JCT

The data and information in this and other accompanying documents represent only the sample(s) analyzed and is rendered upon collection. Our liability is limited to the amount paid for analysis and other expenses without approval from the laboratory.

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/10/09
Date Received 07/09/09
Invoice No. 54363
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 **WALNUT-4-5'**						Date & Time Sampled:		07/09/09	@	11:45
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	07/09/09	12:19	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.050	07/09/09	12:19	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	0.20	07/09/09	12:19	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Toluene	**0.17**		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	0.50	07/09/09	12:19	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.050	07/09/09	12:19	JCT
m,p-Xylenes	**0.78**		µg/L	EPA 8260B	10	0.10	0.20	07/09/09	12:19	JCT
o-Xylene	**0.18**		µg/L	EPA 8260B	10	0.050	0.10	07/09/09	12:19	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	07/09/09	12:19	JCT
[VOC Surrogate%]										
Dibromofluoromethane	105		%REC	EPA 8260B	10	70-130	70-130	07/09/09	12:19	JCT
Toluene-D8	99		%REC	EPA 8260B	10	70-130	70-130	07/09/09	12:19	JCT
Bromofluorobenzene	112		%REC	EPA 8260B	10	70-130	70-130	07/09/09	12:19	JCT
Sample: 009 **GUNDRY-1-15'**						Date & Time Sampled:		07/09/09	@	12:23
Purge Volume Sampled: 7										
's by GCMS]										

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	09/10/09
Date Received	09/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 **GUNDRY-1-15'**					Date & Time Sampled:			07/09/09	@	12:23
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/09/09	12:42	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/09/09	12:42	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	12:42	JCT
n-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	12:42	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	12:42	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
sec-Butylbenzene	**2.3**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
tert-Butylbenzene	***0.51***	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	12:42	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/09/09	12:42	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	12:42	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	12:42	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 **GUNDRY-1-15'**						Date & Time Sampled:		07/09/09	@ 12:23	
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
s-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	12:42	JCT
Isopropylbenzene	**9.2**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/09/09	12:42	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	12:42	JCT
Methyl-t-Butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/09/09	12:42	JCT
n-Propylbenzene	***0.57***	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	12:42	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
orofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT

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Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 **GUNDRY-1-15'**					Date & Time Sampled:			07/09/09	@	12:23
Purge Volume Sampled: 7										
.....continued										
Trichlorofluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/09/09	12:42	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/09/09	12:42	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	12:42	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	12:42	JCT
VC Vapor Sampling Tracer)										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	12:42	JCT
[VOC Surrogates]										
Dibromofluoromethane	98		%REC	EPA 8260B	10	70-130	70-130	07/09/09	12:42	JCT
Toluene-D8	92		%REC	EPA 8260B	10	70-130	70-130	07/09/09	12:42	JCT
Bromofluorobenzene	136	J	%REC	EPA 8260B	10	70-130	70-130	07/09/09	12:42	JCT
Sample: 010 **GUNDRY-7-15'**					Date & Time Sampled:			07/09/09	@	12:52
Purge Volume Sampled: 7										
{VOCs by GCMS}										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/09/09	1:07	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/09/09	1:07	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	1:07	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	1:07	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	1:07	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
sec-Butylbenzene	2.8		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	1:07	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/09/09	1:07	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **GUNDRY-7-15'**						Date & Time Sampled:		07/09/09	@	12:52
Purge Volume Sampled: 7										
.....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	1:07	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	1:07	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	1:07	JCT
Isopropylbenzene	**16**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
ylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/09/09	1:07	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
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Invoice No	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **GUNDRY-7-15'**						Date & Time Sampled:		07/09/09	@	12:52
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	1:07	JCT
Methyl t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/09/09	1:07	JCT
n-Propylbenzene	**5.9**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	1:07	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Toluene	***0.82***	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/09/09	1:07	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/09/09	1:07	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	1:07	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	1:07	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	1:07	JCT
[VOC Surrogates]										
Dibromofluoromethane	85		%REC	EPA 8260B	10	70-130	70-130	07/09/09	1:07	JCT
Toluene-D8	89		%REC	EPA 8260B	10	70-130	70-130	07/09/09	1:07	JCT
Bromofluorobenzene	127		%REC	EPA 8260B	10	70-130	70-130	07/09/09	1:07	JCT
Sample: 011 **GUNDRY-1-5'**						Date & Time Sampled:		07/09/09	@	13:16
Purge Volume Sampled: 7										
s by GCMS]										

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **GUNDRY-1-5'**						Date & Time Sampled:		07/09/09	@	13:18
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	07/09/09	1:55	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Benzene	**0.089**		µg/L	EPA 8260B	1	0.036	0.050	07/09/09	1:55	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
...nzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
...omethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	1:55	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	1:55	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	1:55	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	1:55	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.025	0.050	07/09/09	1:55	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	1:55	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	1:55	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
...ichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT

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Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **GUNDRY-1-S'**					Date & Time Sampled:			07/09/09	@ 13:10	
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	1:55	JCT
Isopropylbenzene	0.10		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	07/09/09	1:55	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	1:55	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	07/09/09	1:55	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	07/09/09	1:55	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Toluene	0.25		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/10/09
Date Received 07/09/09
Invoice Nu. 54363
Cust # 1567
Permit Number
Customer P.O.

Project: SHEC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **GUNDRY-1-5'**					Date & Time Sampled:			07/09/09	@	13:18
Purge Volume Sampled: 7										
....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	1	0.25	0.50	07/09/09	1:55	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.013	0.050	07/09/09	1:55	JCT
m,p-Xylenes	*0.12*	J	µg/L	EPA 8260B	1	0.10	0.20	07/09/09	1:55	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	07/09/09	1:55	JCT
[Vapor Sampling Trocar]										
2-propanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	07/09/09	1:55	JCT
[VOC Surrogates]										
Dibromofluoromethane	92		%REC	EPA 8260B	1	70-130	70-130	07/09/09	1:55	JCT
Toluene-D8	103		%REC	EPA 8260B	1	70-130	70-130	07/09/09	1:55	JCT
Bromofluorobenzene	119		%REC	EPA 8260B	1	70-130	70-130	07/09/09	1:55	JCT
Sample: 012 **GUNDRY-2-15'**					Date & Time Sampled:			07/09/09	@	14:00
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/09/09	2:19	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/09/09	2:19	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	2:19	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:19	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:19	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
sec-Butylbenzene	**1.8**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:19	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/09/09	2:19	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 **GUNDRY-2-15'**					Date & Time Sampled:			07/09/09	@	14:00
Purge Volume Sampled: **7**										
.....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	2:19	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:19	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:19	JCT
Isopropylbenzene	***0.63***	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/09/09	2:19	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 **GUNDRY-2-15'**					Date & Time Sampled:			07/09/09	@	14:00
Purge Volume Sampled: 7										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:19	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/09/09	2:19	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	2:19	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/09/09	2:19	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/09/09	2:19	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	2:19	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:19	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:19	JCT
[VOC Surrogates]										
Dibromofluoromethane	95		%REC	EPA 8260B	10	70-130	70-130	07/09/09	2:19	JCT
Toluene-D8	105		%REC	EPA 8260B	10	70-130	70-130	07/09/09	2:19	JCT
Bromofluorobenzene	135	I	%REC	EPA 8260B	10	70-130	70-130	07/09/09	2:19	JCT
Sample: 013 **GUNDRY-2-15'-DUP**					Date & Time Sampled:			07/09/09	@	14:00
Purge Volume Sampled: 7										
's by GCMS]										

The data and information in this and other accompanying documents, applies only to the sample(s) and constituent(s) that were tested, which are subject to change, for advertising or other purposes without prior approval from the laboratory.
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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **GUNDRY-2-15'-DUP**					Date & Time Sampled:			07/08/09	@	14:00
Purge Volume Sampled: 7										
.....continued										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/09/09	2:42	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Benzene	<0.035		µg/L	EPA 8260B	10	0.035	0.50	07/09/09	2:42	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
moform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
promomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	2:42	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:42	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:42	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
sec-Butylbenzene	**1.7**		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:42	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/09/09	2:42	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	2:42	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:42	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
ichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SBHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **GUNDRY-2-15'-DUP**						Date & Time Sampled:		07/09/09	@	14:00
Purge Volume Sampled: 7										
.....continued										
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
t-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:42	JCT
Isopropylbenzene	***0.52***	J	µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/09/09	2:42	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:42	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/09/09	2:42	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	2:42	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,1,2-Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT

The data and information cited, and other accompanying documents, represent only the sample(s) analyzed and is rendered upon request. Microbac is not responsible for, and is expressly relieved of any liability with respect to, the collection of samples by others and the use of this report by others.

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CERTIFICATE OF ANALYSIS

0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **GUNDRY-2-15'-DUP**					Date & Time Sampled:			07/09/09	@	14:00
Purge Volume Sampled: 7										
.....continued										
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/09/09	2:42	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/09/09	2:42	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	2:42	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	2:42	JCT
[IC Vapor Sampling Trace]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	2:42	JCT
[VOC Surrogates]										
Dibromofluoromethane	93		%REC	EPA 8260B	10	70-130	70-130	07/09/09	2:42	JCT
Toluene-D8	103		%REC	EPA 8260B	10	70-130	70-130	07/09/09	2:42	JCT
Bromofluorobenzene	132	I	%REC	EPA 8260B	10	70-130	70-130	07/09/09	2:42	JCT
Sample: 014 **GUNDRY-2-5'**					Date & Time Sampled:			07/09/09	@	14:40
Purge Volume Sampled: 7										
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	10	5.0	100	07/09/09	3:30	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Benzene	<0.036		µg/L	EPA 8260B	10	0.036	0.50	07/09/09	3:30	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Bromoform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	3:30	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	3:30	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	3:30	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	3:30	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	10	0.025	0.50	07/09/09	3:30	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT

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0907-00110

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PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 **GUNDRY-2-5'**						Date & Time Sampled:		07/09/09	@	14:46
Purge Volume Sampled: 7										
.....continued										
Chloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Chloroform	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	3:30	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	3:30	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	3:30	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
ylene Chloride	<1.0		µg/L	EPA 8260B	10	1.0	20	07/09/09	3:30	JCT

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0907-00110

INTERPHASE
PAOLA CALDERON
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/10/09
Date Received	07/09/09
Invoice No.	54363
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 **GUNDRY-2-5'**					Date & Time Sampled:			07/09/09	@	14:46
Purge Volume Sampled: 7										
....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	3:30	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	10	0.032	0.50	07/09/09	3:30	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Styrene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	3:30	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Toluene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Trichlorotrifluoroethane	<0.25		µg/L	EPA 8260B	10	0.25	5.0	07/09/09	3:30	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	10	0.013	0.50	07/09/09	3:30	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	10	0.10	2.0	07/09/09	3:30	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	10	0.050	1.0	07/09/09	3:30	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	10	0.50	10	07/09/09	3:30	JCT
[VOC Surrogates]										
Dibromofluoromethane	99		%REC	EPA 8260B	10	70-130	70-130	07/09/09	3:30	JCT
Toluene-D8	103		%REC	EPA 8260B	10	70-130	70-130	07/09/09	3:30	JCT
Bromofluorobenzene	107		%REC	EPA 8260B	10	70-130	70-130	07/09/09	3:30	JCT

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Respectfully Submitted:

Mark Horan - Division Manager

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications. The reported result may be biased high
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

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QUALITY CONTROL DATA REPORT

INTERPHASE
LOS ANGELES, CA 90040

0907-00110

Date Reported	07/10/2009
Date Received	07/09/2009
Date Sampled	07/09/2009
Invoice No.	54363
Customer #	1567
Customer P.O.	

Project: SHHC

Method # EPA 8260B
QC Reference # 14693 Date Analyzed: 7/9/2009 Technician: JCI
Samples 001 002 003 004 005 006 007 008 009 010 011 012 013 014

Results

	LCS %REC	LCS %DUP	LCS %RPD	BLKSRR% REC
1,1-Dichloroethene	101	97	4	
Benzene	96	97	1	
Bromofluorobenzene				110
Chlorobenzene	99	101	2	
Dibromofluoromethane				112
Toluene	95	96	1	
Toluene-D8				95
Trichloroethene	94	94	0	

Control Ranges

LCS %REC	LCS %RPD	BLKSRR%REC
70 - 130	0 - 25	
70 - 130	0 - 25	
		70 - 130
70 - 130	0 - 25	
		70 - 130
70 - 130	0 - 25	
		70 - 130
70 - 130	0 - 25	

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WATER · AIR · SOIL · WASTES · FOOD · PHARMACEUTICALS · NUTRACEUTICALS · COSMETICS

QUALITY CONTROL DATA REPORT

INTERPHASE

0907-00110

Date Reported 07/10/2009
Date Received 07/09/2009
Date Sampled 07/09/2009

Project: SBHC

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL	Ref	Test Name	Result	Qualif	Units	MDL
34691	1,1,1,2-Tetrachloroethane	<0.050		µg/L	0.050		Diisopropyl Ether (DIPE)	<0.050		µg/L	0.050
	1,1,1-Trichloroethane	<0.050		µg/L	0.050		Ethylbenzene	<0.050		µg/L	0.050
	1,1,2,2-Tetrachloroethane	<0.10		µg/L	0.10		Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	0.050
	1,1,2-Trichloroethane	<0.050		µg/L	0.050		Hexachlorobutadiene	<0.050		µg/L	0.050
	1,1-Dichloroethane	<0.050		µg/L	0.050		Isopropanol (IPA)	<0.50		µg/L	0.50
	1,1-Dichloroethene	<0.050		µg/L	0.050		Isopropylbenzene	<0.050		µg/L	0.050
	1,1-Dichloropropene	<0.050		µg/L	0.050		m,p-Xylenes	<0.10		µg/L	0.10
	1,2,3-Trichlorobenzene	<0.050		µg/L	0.050		Methylene Chloride	<1.0		µg/L	1.0
	1,2,3-Trichloropropane	<0.050		µg/L	0.050		Methyl-t-Butyl Ether (MTBE)	<0.050		µg/L	0.050
	1,2,4-Trichlorobenzene	<0.050		µg/L	0.050		Naphthalene	<0.032		µg/L	0.032
	1,2,4-Trimethylbenzene	<0.050		µg/L	0.050		n-Butylbenzene	<0.050		µg/L	0.050
	1,2-Dibromo-3-Chloropropane	<0.50		µg/L	0.50		n-Propylbenzene	<0.050		µg/L	0.050
	1,2-Dibromoethane (EDB)	<0.050		µg/L	0.050		o-Xylene	<0.050		µg/L	0.050
	1,2-Dichlorobenzene	<0.050		µg/L	0.050		sec-Butylbenzene	<0.050		µg/L	0.050
	1,2-Dichloroethane	<0.050		µg/L	0.050		Styrene	<0.050		µg/L	0.050
	1,2-Dichloropropane	<0.050		µg/L	0.050		t-Amyl Methyl Ether (TAME)	<0.050		µg/L	0.050
	1,3,5-Trimethylbenzene	<0.050		µg/L	0.050		t-Butanol (TBA)	<0.50		µg/L	0.50
	1,3-Dichlorobenzene	<0.050		µg/L	0.050		tert-Butylbenzene	<0.050		µg/L	0.050
	1,3-Dichloropropane	<0.050		µg/L	0.050		Tetrachloroethene	<0.050		µg/L	0.050
	1,4-Dichlorobenzene	<0.050		µg/L	0.050		Toluene	<0.050		µg/L	0.050
	2,2-Dichloropropane	<0.050		µg/L	0.050		trans-1,2-Dichloroethene	<0.050		µg/L	0.050
	2-Butanone (MEK)	<0.50		µg/L	0.50		trans-1,3-Dichloropropene	<0.050		µg/L	0.050
	2-Chlorotoluene	<0.050		µg/L	0.050		Trichloroethene	<0.050		µg/L	0.050
	2-Hexanone	<0.50		µg/L	0.50		Trichlorofluoromethane	<0.050		µg/L	0.050
	4-Chlorotoluene	<0.050		µg/L	0.050		Trichlorotrifluoroethane	<0.25		µg/L	0.25
	4-Isopropyltoluene	<0.050		µg/L	0.050		Vinyl Chloride	<0.013		µg/L	0.013
	4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	0.50						
	Acetone	<5.0		µg/L	5.0						
	Benzene	<0.036		µg/L	0.036						
	Bromobenzene	<0.050		µg/L	0.050						
	Bromochloromethane	<0.050		µg/L	0.050						
	Bromodichloromethane	<0.050		µg/L	0.050						
	Bromoform	<0.050		µg/L	0.050						
	Bromomethane	<0.10		µg/L	0.10						
	Carbon Disulfide	<0.50		µg/L	0.50						
	Carbon Tetrachloride	<0.025		µg/L	0.025						
	Chlorobenzene	<0.050		µg/L	0.050						
	Chloroethane	<0.050		µg/L	0.050						
	Chloroform	<0.050		µg/L	0.050						
	Chloromethane	<0.10		µg/L	0.10						
	cis-1,2-Dichloroethene	<0.050		µg/L	0.050						
	cis-1,3-Dichloropropene	<0.050		µg/L	0.050						
	Dibromochloromethane	<0.050		µg/L	0.050						
	Dibromomethane	<0.050		µg/L	0.050						
	Dichlorodifluoromethane	<0.050		µg/L	0.050						

Microbac Laboratories, Inc.
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FDA#	2B0513
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ELAP#'s	2370
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QUALITY CONTROL DATA REPORT

INTERPHASE

0907-00110

Date Reported	**07/10/2009**
Date Received	**07/09/2009**
Date Sampled	**07/09/2009**

Project: SIHIC

RESPECTFULLY SUBMITTED: _____
MICROBAC LABORATORIES, INC.

For any feedback concerning our services, please contact Mark Horan, the Division Manager at 951.779.0310. You may also contact both Trevor Boyce, President and Robert Morgan, Chief Operating Officer at president@microbac.com.

Microbac

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www.microbac.com socal@microbac.com

Chain of Custody Record

Microbac WO#: **090700110**

Page 1 of 2

Project No:	Project Name: SHHC	
Project Manager: Paola Calderon	Phone:	Fax: 13232787707
Customer Name: (Report and Billing) INTERPHASE	Address: (Report and Billing) 6200 PEACHTREE STREET LOS ANGELES, CA 90040	
Email:		

Analyses Requested (circle appropriate)

Lab # (Lab use only)	Sample ID (As it should appear on report)	Grab/ Comp	Date sampled	Time sampled	Sample matrix	Container # & Type	Preserved	Micro: Plate Cnt, Coliform, E.Coli	Chem: BOD, TSS, TDS, pH	Chem: Cyanide, Ammonia, TKN, Oil & Grease	TC by SOX, POH, NO3, Cl	Metals: Title 22(CAM) or RCRA	LUFT Gas or 8015 GRO or C4-C12	LUFT Diesel or 8015 DRO or C13-C40	VOCs by GCMS: 8260 or 624	VOCs by GCMS: BTEX, OXYs	SVOCs: 8270 or 625	Pest. &/or PCBs: 608 or 8081/8082			
001	WALNUT-1-15'		7/9/2009	8:12	Vapor	Bulb									X						
002	WALNUT-1-5'		7/9/2009	8:33	Vapor	Bulb									X						
003	WALNUT-2-15'		7/9/2009	9:05	Vapor	Bulb									X						
004	WALNUT-2-5'		7/9/2009	9:47	Vapor	Bulb									X						
005	WALNUT-3-15'		7/9/2009	10:31	Vapor	Bulb									X						
006	WALNUT-3-5'		7/9/2009	10:58	Vapor	Bulb									X						
007	WALNUT-4-15'		7/9/2009	11:22	Vapor	Bulb									X						
008	WALNUT-4-5'		7/9/2009	11:46	Vapor	Bulb									X						
009	GUNDRY-1-15'		7/9/2009	12:23	Vapor	Bulb									X						
010	GUNDRY-7-15'		7/9/2009	12:52	Vapor	Bulb									X						

Turn Around
- ○ 24hr RUSH*
- ○ 48hr RUSH*
- ○ Normal
- ○ Other ____

*PRIOR approval, additional fee, work received after 4 pm will be processed next work day.

Special Instructions

1) Relinquished by: (Sampler's Signature)	Date: 7/10	Time: 1500	3) Relinquished by:	Date:	Time:	5) Relinquished by:	Date:	Time:
2) Received by:	Date: 7/9/09	Time: 1500	4) Received by:	Date:	Time:	6) Received for Laboratory by:	Date:	Time:

Disposal:
- ○ Return
- ○ Lab Disposal

Unless other arrangements are made samples will be disposed of 60 days after receipt

This Section is to be completed by Laboratory personnel:

Samples Chilled	Custody Seals	Samples Intact	Temp C	Delivery
○ Yes ○ No ◉ From Field	○ Yes ◉ No	◉ Yes ○ No		○ Courier ○ Walk In ○ UPS/Fed Ex

Report Delivery Formats
- ☐ Paper ☐ EMAIL ☐ XLS
- ☐ EDD, Type _____
- ☐ EDF, EPA Site ID _____

Laboratory Notes:

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

White Copy - Original (Accompanies Samples) Yellow Copy - Microbac Files Pink Copy - Client Copy

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Chain of Custody Record

Microbac WO#: **090700110**

Page 2 of 2

Project No:	Project Name: SHHC	Analyses Requested (circle appropriate)	Turn Around
Project Manager: Paola Calderon	Phone: Fax: 13232787707		○ 24hr RUSH* ○ 48hr RUSH* ○ Normal ○ Other
Customer Name: (Report and Bill to) INTERPHASE	Address: (Report and Bill to) 6200 PEACHTREE STREET LOS ANGELES, CA 90040		*PM OK approval required for work received after 4 pm will be processed next work day
Email:			Special Instructions

Lab # (Lab use only)	Sample ID (As it should appear on report)	Grab/ Comp	Date sampled	Time sampled	Sample matrix	Container # & Type	Preserved	Micro: Plate Cnt, Coliform, E Coli	Chem: BOD, TSS, TDS, pH	Chem: Cyanide, Ammonia, TKN, Oil & Grease	IC: Br, SO4, PO4, NO3, Cl	Metals: Title 22(CAM) or RCRA	LUFT Gas or 8015 GRO or C4-C12	LUFT Diesel or 8015 DRO or C13-C45	VOCs by GCMS: 8260 or 624	VOCs by GCMS: BTEX, OXYs	SVOCs: 8270 or 625	Pest. &/or PCBs: 608 or 8081/8082				
011	GUNDRY-1-5'		7/9/2009	13:18	Vapor	Bulb									X							
012	GUNDRY-2-15'		7/9/2009	14:00	Vapor	Bulb									X							
013	GUNDRY-2-15'-DUP		7/9/2009	14:00	Vapor	Bulb									X							
014	GUNDRY-2-5'		7/9/2009	14:46	Vapor	Bulb									X							

1) Relinquished by: (Sampler's Signature)	Date:	Time:	3) Relinquished by:	Date:	Time:	5) Relinquished by:	Date:	Time:
[signature]	7/9/09	1500						
2) Received by: [signature]	Date: 7/9/09	Time: 1500	4) Received by:	Date:	Time:	6) Reserved for Laboratory by:	Date:	Time:

This Section is to be completed by Laboratory personnel

Samples Chilled	Custody Seals	Samples Intact	Temp C	Delivery
○ Yes ○ No ◉ From Field	○ Yes ◉ No	◉ Yes ○ No		○ Courier ○ Walk In ○ UPS/Fed Ex

Report Delivery Formats
☐ Paper ☐ EMAIL ☐ XLS
☐ EDD, Type _____
☐ EDF, EPA Site ID _____

Disposal
○ Return
○ Lab Disposal
Unless other arrangements are made samples will be disposed of 60 days after receipt

Laboratory Notes:

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The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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EXHIBIT 7 – PART IV

TEC (2010)

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CASE NARRATIVE

Authorized Signature Name / Title (print)	Robert R. Clark, PhD, Division Manager
Signature / Date	Robert R. Clark, PhD, Division Manager 03/30/10 12:24:56
Laboratory Job No. (Certificate of Analysis No.)	1003-00431
Project Name / No.	SHHC
Dates Sampled (from/to)	03/29/10 To 03/29/10
Dates Received (from/to)	03/29/10 To 03/29/10
Dates Reported (from/to)	03/30/10 To 3/30/2010
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

010 HIGH VACUUM IN VAPOR SAMPLE

011 HIGH VACUUM IN VAPOR SAMPLE

All other samples intact

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Laboratory Job# 1003-00431

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Sample	Analyte	Result	Qual	Units	RL
SGP-WD-1-5'-IV	Toluene	*0.077*	J	µg/L	0.10	SGP-WD-1-5'-IV	1,1,1-Trichloroethane	0.10		µg/L	0.10
SGP-WD-1-5'-IV	Benzene	0.056		µg/L	0.050	SGP-WD-1-5-IV	Toluene	0.16		µg/L	0.10
SGP-WD-1-5'-IV	Benzene	*0.039*	J	µg/L	0.050	SGP-WD-1-5'-IV	Toluene	0.14		µg/L	0.10
SGP-WD-2-10'	1,1,1-Trichloroethane	*0.050*	J	µg/L	0.10	SGP-WD-2-10	C4-C12	99	J	µg/L	100
SGP-WD-2-10'	Isopropylbenzene	*0.062*	J	µg/L	0.10	SGP-WD-2-10'	Methyl-t-butyl Ether (MtBE)	0.15		µg/L	0.10
SGP-WD-2-10'	Toluene	*0.071*	J	µg/L	0.10	SGP-WD-2-5'	1,1,1-Trichloroethane	0.35		µg/L	0.10
SGP-WD-2-5	Benzene	*0.047*	J	µg/L	0.050	SGP-WD-2-5'	Toluene	0.16		µg/L	0.10
SGP-WD-2-5'	m,p-Xylenes	*0.13*	J	µg/L	0.20	SGP-WD-2-5'-DUP	1,1,1-Trichloroethane	0.34		µg/L	0.10
SGP-WD-2-5'-DUP	Benzene	*0.047*	J	µg/L	0.050	SGP-WD-2-5'-DUP	Toluene	0.16		µg/L	0.10
SGP-WD-2-5'-DUP	m,p-Xylenes	*0.12*	J	µg/L	0.20	SGP-WD-3-10	C4-C12	5300		µg/L	1000
SGP-WD-3-10'	Isopropylbenzene	4.9		µg/L	1.0	SGP-WD-3-10'	sec-Butylbenzene	1.5		µg/L	1.0
SGP-WD-3-5'	C4-C12	5400		µg/L	1000	SGP-WD-4-10'	C4-C12	9100		µg/L	2000
SGP-WD-4-10'	Toluene	*0.53*	J	µg/L	1.0	SGP-WD-4-10'	sec-Butylbenzene	*0.51*	J	µg/L	1.0
SGP-WD-4-5'	1,1,1-Trichloroethane	0.27		µg/L	0.10	SGP-WD-4-5'	C4-C12	380		µg/L	100
SGP-WD-4-5'	Toluene	*0.066*	J	µg/L	0.10	SGP-WD-5-10'	C4-C12	800		µg/L	200
SGP-WD-5-5'	1,1,1-Trichloroethane	0.38		µg/L	0.10	SGP-WD-5-5'	Benzene	*0.049*	J	µg/L	0.050
SGP-WD-5-5'	C4-C12	180		µg/L	100	SGP-WD-5-5	Toluene	0.13		µg/L	0.10
SGP-WD-6-10'	1,1,1-Trichloroethane	0.12		µg/L	0.10	SGP-WD-6-10	Benzene	0.053		µg/L	0.050
SGP-WD-6-10'	C4-C12	100		µg/L	100	SGP-WD-6-10'	Toluene	0.13		µg/L	0.10
SGP-WD-6-5'	1,1,1-Trichloroethane	0.49		µg/L	0.10	SGP-WD-6-5'	Benzene	0.073		µg/L	0.050
SGP-WD-6-5'	Toluene	0.20		µg/L	0.10	SGP-WD-6-5'	m,p-Xylenes	*0.10*	J	µg/L	0.20

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 SGP-WD-1-5'-1V						Date & Time Sampled:		03/29/10	@	8:22
Purge Volume Sampled: 1										
PH Gasoline by GCMS]										
H-C12	<50		µg/L	CA LUFT	1	50	100	03/29/10	8:37	JCT
OCs by GCMS)										
etone	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	8:37	JCT
Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Benzene	<0.036		µg/L	EPA 8260B	1	0.040	0.050	03/29/10	8:37	JCT
omobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
omochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
omoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
omomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	8:37	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	8:37	JCT
Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	8:37	JCT
Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
t-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
rbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	8:37	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	8:37	JCT
lorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
loroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
loromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	8:37	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
promochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	8:37	JCT
bromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
chlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 **SGP-WD-1-5'-1V**						Date & Time Sampled:		03/29/10	@ 8:22	
Purge Volume Sampled: 1										
.....continued										
1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Isopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Cymbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	8:37	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	8:37	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	8:37	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	8:37	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1,1,2,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	8:37	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Toluene	***0.077***	J	µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT

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Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 **SGP-WD-1-5'-1V**						Date & Time Sampled:		03/29/10	@	8:22
Purge Volume Sampled: **1**										
.....continued										
1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Trichlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	8:37	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
Vinyl Chloride	<0.010		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	8:37	JCT
p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	8:37	JCT
Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	8:37	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	8:37	JCT
[VOC Surrogates]										
Dibromofluoromethane	109		%REC	EPA 8260B			70-130	03/29/10	8:37	JCT
Toluene-D8	98		%REC	EPA 8260B			70-130	03/29/10	8:37	JCT
Bromofluorobenzene	104		%REC	EPA 8260B			70-130	03/29/10	8:37	JCT
Sample: 002 **SGP-WD-1-5'-3V**						Date & Time Sampled:		03/29/10	@	8:49
Purge Volume Sampled: **3**										
[TPH Gasoline by GCMS]										
TPH-C12	<50		µg/L	CA LUFT	1	50	100	03/29/10	9:03	JCT
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	9:03	JCT
tert-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Benzene	**0.056**		µg/L	EPA 8260B	1	0.040	0.050	03/29/10	9:03	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:03	JCT
tert-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:03	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 88577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **SGP-WD-1-5'-3V**					Date & Time Sampled:			03/29/10	@	8:40
Purge Volume Sampled: 3										
.....continued										
Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:03	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
·-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
t-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:03	JCT
bon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	9:03	JCT
lorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
oroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
loromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:03	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
hlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
romochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:03	JCT
romomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
,-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
,-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
is-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
is-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **SGP-WD-1-5'-3V**						Date & Time Sampled:		03/29/10	@	8:49
Purge Volume Sampled: 3										
.....continued										
Isopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:03	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	9:03	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:03	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	9:03	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:03	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Toluene	0.16		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,3,5-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,1,1-Trichloroethane	0.10		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Trichlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	9:03	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
Vinyl Chloride	<0.010		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	9:03	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:03	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:03	JCT
[DC Vapor Sampling Tracer]										

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Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **SGP-WD-1-5'-3V**					Date & Time Sampled:			03/29/10	@	8:49
Purge Volume Sampled: 3										
.....continued										
opropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:03	JCT
[VOC Surrogates]										
bromofluoromethane	108		%REC	EPA 8260B			70-130	03/29/10	9:03	JCT
luene-D8	92		%REC	EPA 8260B			70-130	03/29/10	9:03	JCT
Bromofluorobenzene	106		%REC	EPA 8260B			70-130	03/29/10	9:03	JCT
Sample: 003 **SGP-WD-1-5'-7V**					Date & Time Sampled:			03/29/10	@	9:08
Purge Volume Sampled: 7										
PH Gasoline by GCMS)										
-C12	<50		µg/L	CA LUFT	1	50	100	03/29/10	9:26	JCT
[VOCs by GCMS]										
etone	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	9:26	JCT
myl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Benzene	*0.030*	J	µg/L	EPA 8260B	1	0.040	0.050	03/29/10	9:26	JCT
omobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
omochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
omoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
omomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:26	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:26	JCT
Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:26	JCT
Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
t-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
rbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:26	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	9:26	JCT
lorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
loroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
loromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:26	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: SHHC

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 **SGP-WD-1-5'-7V**								Date & Time Sampled:	03/29/10 @	9:00
Purge Volume Sampled: 7										
.....continued										
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:26	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Isopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Xylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:26	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	9:26	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:26	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	03/29/10	9:26	JCT

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Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 **SGP-WD-1-5'-7V**						Date & Time Sampled:		03/29/10	@	9:08
Purge Volume Sampled: 7										
.....continued										
Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:26	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
luene	0.14		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
chlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Trichlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	9:26	JCT
2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
Vinyl Chloride	<0.010		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	9:26	JCT
p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:26	JCT
lylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:26	JCT
[VOC Vapor Sampling Tracer]										
ipropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:26	JCT
QC Surrogates]										
Dibromofluoromethane	112		%REC	EPA 8260B			70-130	03/29/10	9:26	JCT
luene-D8	99		%REC	EPA 8260B			70-130	03/29/10	9:26	JCT
omofluorobenzene	107		%REC	EPA 8260B			70-130	03/29/10	9:26	JCT
ample: 004 **SGP-WD-2-10'**						Date & Time Sampled:		03/29/10	@	9:36
Purge Volume Sampled: 3										
TPH Gasoline by GCMS]										
-C12	99	J	µg/L	CA LUFT	1	50	100	03/29/10	9:49	JCT
OCs by GCMS]										

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Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **SGP-WD-2-10'**						Date & Time Sampled:		03/29/10	@ 9:36	
Purge Volume Sampled: 3										
.....continued										
etone	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	9:49	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
nzene	<0.036		µg/L	EPA 8260B	1	0.040	0.050	03/29/10	9:49	JCT
omobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
omodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
omoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:49	JCT
utanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:49	JCT
utanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:49	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
c-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
t-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:49	JCT
rbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	9:49	JCT
lorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
loroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
loromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:49	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
romochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:49	JCT
romomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT

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Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **SGP-WD-2-10'**						Date & Time Sampled:		03/29/10	@ 9:36	
Purge Volume Sampled: **3**										
.....continued										
1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
ans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
ns-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
sopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
yl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
exachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:49	JCT
opropylbenzene	*0.062*	J	µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	9:49	JCT
Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:49	JCT
ethyl-t-Butyl Ether (MtBE)	**0.15**		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	9:49	JCT
Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
rene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:49	JCT
trachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Toluene	*0.071*	J	µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1,1,1-Trichloroethane	*0.050*	J	µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
chloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported: 03/30/10
Date Received: 03/29/10
Invoice No.: 58577
Cust #: 1567
Permit Number:
Customer P.O.:

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **SGP-WD-2-10'**					Date & Time Sampled:			03/29/10	@	9:36
Purge Volume Sampled: 3										
.....continued										
2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
ichlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	9:49	JCT
2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
ayl Chloride	<0.013		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	9:49	JCT
p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	9:49	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	9:49	JCT
OC Vapor Sampling Tracer]										
opropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	9:49	JCT
[VOC Surrogates]										
bromofluoromethane	105		%REC	EPA 8260B			70-130	03/29/10	9:49	JCT
luene-D8	95		%REC	EPA 8260B			70-130	03/29/10	9:49	JCT
Bromofluorobenzene	121		%REC	EPA 8260B			70-130	03/29/10	9:49	JCT
Sample: 005 **SGP-WD-2-5'**					Date & Time Sampled:			03/29/10	@	10:02
Purge Volume Sampled: 3										
PH Gasoline by GCMS]										
H-C12	<50		µg/L	CA LUFT	1	50	100	03/29/10	10:14	JCT
[VOCs by GCMS]										
etone	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	10:14	JCT
tiyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Benzene	*0.047*	J	µg/L	EPA 8260B	1	0.040	0.050	03/29/10	10:14	JCT
omobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
omochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
omoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
omomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	10:14	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:14	JCT
Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:14	JCT
Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT

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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 **SGP-WD-2-5'**					Date & Time Sampled:			03/29/10	@	10:02
Purge Volume Sampled: 3										
.....continued										
c-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
ert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
rbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:14	JCT
rbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	10:14	JCT
Chlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
lorodethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
loroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Chloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	10:14	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:14	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
is-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
is-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Isopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 **SGP-WD-2-5'**					Date & Time Sampled:			03/29/10	@ 10:02	
Purge Volume Sampled: **3**										
....continued										
hyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:14	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
ethylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	10:14	JCT
Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:14	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
aphthalene	<0.032		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	10:14	JCT
Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	10:14	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
luene	**0.16**		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1,1-Trichloroethane	**0.35**		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
richlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Trichlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	10:14	JCT
2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
Vinyl Chloride	<0.010		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	10:14	JCT
o-Xylenes	***0.13***	J	µg/L	EPA 8260B	1	0.10	0.20	03/29/10	10:14	JCT
Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:14	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:14	JCT
OC Surrogates]										

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LOS ANGELES, CA 90040

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Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 SGP-WD-2-5'						Date & Time Sampled:		03/29/10	@	10:02
Purge Volume Sampled: 3										
...continued										
promofluoromethane	107		%REC	EPA 8260B			70-130	03/29/10	10:14	JCT
Toluene-D8	95		%REC	EPA 8260B			70-130	03/29/10	10:14	JCT
omofluorobenzene	108		%REC	EPA 8260B			70-130	03/29/10	10:14	JCT
Sample: 006 SGP-WD-2-5'-DUP						Date & Time Sampled:		03/29/10	@	10:02
Purge Volume Sampled: 3										
PH Gasoline by GCMS)										
C4-C12	<50		µg/L	CA LUFT	1	50	100	03/29/10	10:37	JCT
OCs by GCMS)										
olane	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	10:37	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
nzene	0.047	J	µg/L	EPA 8260B	1	0.040	0.050	03/29/10	10:37	JCT
omobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
omodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
omoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	10:37	JCT
utanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:37	JCT
Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:37	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
c-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
t-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:37	JCT
rbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	10:37	JCT
lorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
loroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
loromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	10:37	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
promochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT

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LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 **SGP-WD-2-5'-DUP**					Date & Time Sampled:			03/29/10	@ 10:02	
Purge Volume Sampled: 3										
.....continued										
2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:37	JCT
promomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Isopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:37	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	10:37	JCT
Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:37	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	10:37	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: SHHC

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 3567
Permit Number
Customer P.O.

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 **SGP-WD-2-5'-DUP**					Date & Time Sampled:			03/29/10	@	10:02
Purge Volume Sampled: 3										
.....continued										
1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	10:37	JCT
trachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
luene	**0.16**		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1,1-Trichloroethane	**0.34**		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
ichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
ichlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	10:37	JCT
2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
nyl Chloride	<0.010		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	10:37	JCT
p-Xylenes	***0.12***	J	µg/L	EPA 8260B	1	0.10	0.20	03/29/10	10:37	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	10:37	JCT
[VOC Vapor Sampling Tracer]										
propanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	10:37	JCT
[VOC Surrogates]										
bromofluoromethane	106		%REC	EPA 8260B			70-130	03/29/10	10:37	JCT
luene-D8	99		%REC	EPA 8260B			70-130	03/29/10	10:37	JCT
Bromofluorobenzene	107		%REC	EPA 8260B			70-130	03/29/10	10:37	JCT
Sample: 007 **SGP-WD-3-10'**					Date & Time Sampled:			03/29/10	@	10:46
Purge Volume Sampled: 3										
PH Gasoline by GCMS)										
-C12	**5300**		µg/L	CA LUFT	10	500	1000	03/29/10	10:59	JCT
[VOCs by GCMS]										
etone	<50.00		µg/L	EPA 8260B	10	50	100	03/29/10	10:59	JCT
myl Methyl Ether (TAME)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	03/30/10
Date Received	03/29/10
Invoice No.	58577
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **SGP-WD-3-10'**					Date & Time Sampled:			03/29/10	@	10:40
Purge Volume Sampled: 3										
.....continued										
nzene	<0.36		µg/L	EPA 8260B	10	0.36	0.50	03/29/10	10:59	JCT
Bromobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
promochloromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
promodichloromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
Bromoform	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
promomethane	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	10:59	JCT
Butanol (TBA)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	10:59	JCT
2-Butanone (MEK)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	10:59	JCT
Butylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
c-Butylbenzene	1.5		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
tert-Butylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
rbon Disulfide	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	10:59	JCT
rbon Tetrachloride	<0.25		µg/L	EPA 8260B	10	0.25	0.50	03/29/10	10:59	JCT
Chlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
loroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
loroform	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
Chloromethane	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	10:59	JCT
Chlorotoluene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
Chlorotoluene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
Dibromochloromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
2-Dibromoethane (EDB)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
2-Dibromo-3-Chloropropane	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	10:59	JCT
Dibromomethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
2-Dichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
3-Dichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1,4-Dichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
chlorodifluoromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1-Dichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1,2-Dichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1-Dichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
s-1,2-Dichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT

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Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **SGP-WD-3-10'**					Date & Time Sampled:			03/29/10	@ 10:46	
Purge Volume Sampled: 3										
.....continued										
ans-1,2-Dichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1,2-Dichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
3-Dichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
2-Dichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1,1-Dichloropropene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
is-1,3-Dichloropropene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
ans-1,3-Dichloropropene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
Diisopropyl Ether (DIPE)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
ylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
hyl-t-Butyl Ether (EtBE)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
Hexachlorobutadiene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
Hexanone	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	10:59	JCT
Isopropylbenzene	4.9		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
4-Isopropyltoluene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
thylene Chloride	<10.00		µg/L	EPA 8260B	10	10	20	03/29/10	10:59	JCT
Methyl-2-Pentanone (MIBK)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	10:59	JCT
Methyl-t-Butyl Ether (MtBE)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
phthalene	<0.32		µg/L	EPA 8260B	10	0.32	0.50	03/29/10	10:59	JCT
Propylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
Styrene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1,1,2-Tetrachloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1,2,2-Tetrachloroethane	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	10:59	JCT
Tetrachloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
luene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
2,3-Trichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1,2,4-Trichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1,1-Trichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
1,2-Trichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
Trichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
2,3-Trichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
chlorofluoromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT

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Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **SGP-WD-3-10'**					Date & Time Sampled:			03/29/10	@ 10:46	
Purge Volume Sampled: 3										
.....continued										
chlorotrifluoroethane	<2.00		µg/L	EPA 8260B	10	2.0	2.0	03/29/10	10:59	JCT
2,4-Trimethylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
3,5-Trimethylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
yl Chloride	<0.13		µg/L	EPA 8260B	10	0.13	0.50	03/29/10	10:59	JCT
p-Xylenes	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	10:59	JCT
Xylene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	10:59	JCT
OC Vapor Sampling Tracer]										
Isopropanol (IPA)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	10:59	JCT
OC Surrogates]										
promofluoromethane	98		%REC	EPA 8260B			70-130	03/29/10	10:59	JCT
Toluene-D8	92		%REC	EPA 8260B			70-130	03/29/10	10:59	JCT
omofluorobenzene	119		%REC	EPA 8260B			70-130	03/29/10	10:59	JCT
Sample: 008 **SGP-WD-3-5'**					Date & Time Sampled:			03/29/10	@ 11:10	
Purge Volume Sampled: 3										
PH Gasoline by GCMS]										
C4-C12	5400		µg/L	CA LUFT	10	500	1000	03/29/10	11:24	JCT
OCs by GCMS]										
etone	<50.00		µg/L	EPA 8260B	10	50	100	03/29/10	11:24	JCT
t-Amyl Methyl Ether (TAME)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
nzene	<0.36		µg/L	EPA 8260B	10	0.36	0.50	03/29/10	11:24	JCT
omobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
Bromochloromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
omodichloromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
omoform	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
Bromomethane	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	11:24	JCT
utanol (TBA)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:24	JCT
Butanone (MEK)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:24	JCT
n-Butylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
c-Butylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
t-Butylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 **SGP-WD-3-5'**						Date & Time Sampled:		03/29/10	@ 11:10	
Purge Volume Sampled: 3										
.....continued										
rbon Disulfide	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:24	JCT
rbon Tetrachloride	<0.25		µg/L	EPA 8260B	10	0.25	0.50	03/29/10	11:24	JCT
lorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
loroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
Chloroform	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
loromethane	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	11:24	JCT
Chlorotoluene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
-Chlorotoluene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
promochloromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
2-Dibromoethane (EDB)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
2-Dibromo-3-Chloropropane	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:24	JCT
promomethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
2-Dichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
3-Dichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
4-Dichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
chlorodifluoromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1,1-Dichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
2-Dichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1-Dichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
cis-1,2-Dichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
ns-1,2-Dichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
2-Dichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1,3-Dichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
2-Dichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1-Dichloropropene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
cis-1,3-Dichloropropene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
ns-1,3-Dichloropropene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
sopropyl Ether (DIPE)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
Ethylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
hyl-t-Butyl Ether (ETBE)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
exachlorobutadiene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT

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CERTIFICATE OF ANALYSIS

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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 **SGP-WD-3-5'**							Date & Time Sampled:	03/29/10	@ 11:10	
Purge Volume Sampled: 3										
.....continued										
Hexanone	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:24	JCT
Y-propylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
Isopropyltoluene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
ethylene Chloride	<10.00		µg/L	EPA 8260B	10	10	20	03/29/10	11:24	JCT
4-Methyl-2-Pentanone (MIBK)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:24	JCT
Ethyl-t-butyl Ether (MtBE)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
aphthalene	<0.32		µg/L	EPA 8260B	10	0.32	0.50	03/29/10	11:24	JCT
n-Propylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
ystyrene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1,1,2-Tetrachloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1,1,2,2-Tetrachloroethane	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	11:24	JCT
Tetrachloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
luene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1,2,3-Trichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
2,4-Trichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1,1-Trichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1,1,2-Trichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
ichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
2,3-Trichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
Trichlorofluoromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
ichlorotrifluoroethane	<2.00		µg/L	EPA 8260B	10	2.0	2.0	03/29/10	11:24	JCT
2,4-Trimethylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
1,3,5-Trimethylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
nyl Chloride	<0.13		µg/L	EPA 8260B	10	0.13	0.50	03/29/10	11:24	JCT
m,p-Xylenes	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	11:24	JCT
o-Xylene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:24	JCT
[VOC Vapor Sampling Tracer]										
opropanol (IPA)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:24	JCT
[VOC Surrogates]										
bromofluoromethane	100		%REC	EPA 8260B			70-130	03/29/10	11:24	JCT
luene-D8	102		%REC	EPA 8260B			70-130	03/29/10	11:24	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: SHHC

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 **SGP-WD-3-5'**					Date & Time Sampled:			03/29/10	@	11:10
Purge Volume Sampled: 3										
.....continued										
romofluorobenzene	113		%REC	EPA 8260B			70-130	03/29/10	11:24	JCT
Sample: 009 **SGP-WD-4-10'**					Date & Time Sampled:			03/29/10	@	11:36
Purge Volume Sampled: 3										
[TPH Gasoline by GCMS]										
H-C12	**9100**		µg/L	CA LUFT	10	500	1000	03/29/10	11:49	JCT
VOCs by GCMS]										
Acetone	<50.00		µg/L	EPA 8260B	10	50	100	03/29/10	11:49	JCT
Amyl Methyl Ether (TAME)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
enzene	<0.36		µg/L	EPA 8260B	10	0.36	0.50	03/29/10	11:49	JCT
Bromobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
romochloromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
romodichloromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Bromoform	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
romomethane	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	11:49	JCT
Butanol (TBA)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:49	JCT
2-Butanone (MEK)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:49	JCT
-Butylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
c-Butylbenzene	*0.51*	J	µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
tert-Butylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
arbon Disulfide	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:49	JCT
arbon Tetrachloride	<0.25		µg/L	EPA 8260B	10	0.25	0.50	03/29/10	11:49	JCT
Chlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
hloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
hloroform	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Chloromethane	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	11:49	JCT
-Chlorotoluene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Chlorotoluene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Dibromochloromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
2-Dibromoethane (EDB)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
2-Dibromo-3-Chloropropane	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:49	JCT

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Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 **SGP-WD-4-10'**						Date & Time Sampled:		03/29/10	@ 11:35	
Purge Volume Sampled: 3										
....continued										
bromomethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,2-Dichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
3-Dichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
4-Dichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Dichlorodifluoromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1-Dichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
2-Dichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,1-Dichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
s-1,2-Dichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
is-1,2-Dichloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,2-Dichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
3-Dichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
2-Dichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,1-Dichloropropene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
s-1,3-Dichloropropene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
is-1,3-Dichloropropene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Diisopropyl Ether (DIPE)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
hylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
hyl-t-Butyl Ether (ETBE)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Hexachlorobutadiene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Hexanone	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:49	JCT
opropylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
4-Isopropyltoluene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Methylene Chloride	<10.00		µg/L	EPA 8260B	10	10	20	03/29/10	11:49	JCT
Methyl-2-Pentanone (MIBK)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:49	JCT
Methyl-t-butyl Ether (MtBE)	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
phthalene	<0.32		µg/L	EPA 8260B	10	0.32	0.50	03/29/10	11:49	JCT
Propylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Styrene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,1,2-Tetrachloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,2,2-Tetrachloroethane	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	11:49	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 **SGP-WD-4-10'**					Date & Time Sampled:			03/29/10	@ 11:36	
Purge Volume Sampled: 3										
.....continued										
-trachloroethese	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
Toluene	*0.53*	J	µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,3-Trichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
2,4-Trichlorobenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,1,1-Trichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,2-Trichloroethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
richloroethene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,2,3-Trichloropropane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
richlorofluoromethane	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
richlorotrifluoroethane	<2.00		µg/L	EPA 8260B	10	2.0	2.0	03/29/10	11:49	JCT
1,2,4-Trimethylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
1,3,5-Trimethylbenzene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
nyl Chloride	<0.13		µg/L	EPA 8260B	10	0.13	0.50	03/29/10	11:49	JCT
m,p-Xylenes	<1.00		µg/L	EPA 8260B	10	1.0	2.0	03/29/10	11:49	JCT
-Xylene	<0.50		µg/L	EPA 8260B	10	0.50	1.0	03/29/10	11:49	JCT
OC Vapor Sampling Tracer]										
Isopropanol (IPA)	<5.00		µg/L	EPA 8260B	10	5.0	10	03/29/10	11:49	JCT
OC Surrogates]										
promofluoromethane	93		%REC	EPA 8260B			70-130	03/29/10	11:49	JCT
Toluene-D8	93		%REC	EPA 8260B			70-130	03/29/10	11:49	JCT
promofluorobenzene	125		%REC	EPA 8260B			70-130	03/29/10	11:49	JCT
Sample: 010 **SGP-WD-4-5'**					Date & Time Sampled:			03/29/10	@ 12:02	
Purge Volume Sampled: 3										
PH Gasoline by GCMS]										
C4-C12	380		µg/L	CA LUFT	1	50	100	03/29/10	12:17	JCT
OCs by GCMS]										
tzene	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	12:17	JCT
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
nzene	<0.036		µg/L	EPA 8260B	1	0.040	0.050	03/29/10	12:17	JCT
promobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **SGP-WD-4-5'**					Date & Time Sampled:			03/29/10	@	12:02
Purge Volume Sampled: 3										
.....continued										
omochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
omoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
omomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	12:17	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:17	JCT
Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:17	JCT
Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
t-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
rbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:17	JCT
Carbon Tetrachloride	<0.075		µg/L	EPA 8260B	1	0.050	0.050	03/29/10	12:17	JCT
lorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
loroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
loromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	12:17	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:17	JCT
bromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
chlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
ns-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT

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CERTIFICATE OF ANALYSIS

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INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: SHHC

Date Reported	03/30/10
Date Received	03/29/10
Invoice No.	58577
Cust #	1567
Permit Number	
Customer P.O.	

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **SGP-WD-4-5'**					Date & Time Sampled:			03/29/10	@	12:02
Purge Volume Sampled: 5										
.....continued										
3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
sopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
ylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
exachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
lexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:17	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
ethylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	12:17	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:17	JCT
Ethyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
aphthalene	<0.030		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	12:17	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
rene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	12:17	JCT
trachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
luene	*0.066*	J	µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1,1-Trichloroethane	**0.27**		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
chloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
chlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	12:17	JCT
2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT

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LOS ANGELES, CA 90040

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Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **SGP-WD-4-5'**					Date & Time Sampled:			03/29/10	@	12:02
Purge Volume Sampled: 3										
.....continued										
3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:17	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	12:17	JCT
p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	12:17	JCT
Xylene	<0.050		µg/L	EPA 8260B	1	0.030	0.10	03/29/10	12:17	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:17	JCT
[QC Surrogates]										
Dibromofluoromethane	101		%REC	EPA 8260B			70-130	03/29/10	12:17	JCT
Toluene-D8	96		%REC	EPA 8260B			70-130	03/29/10	12:17	JCT
Bromofluorobenzene	111		%REC	EPA 8260B			70-130	03/29/10	12:17	JCT
Sample: 011 **SGP-WD-5-10'**					Date & Time Sampled:			03/29/10	@	12:24
Purge Volume Sampled: 3										
[TPH Gasoline by GCMS]										
C6-C12	160		µg/L	CA LUFT	1	50	100	03/29/10	12:41	JCT
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	12:41	JCT
Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Benzene	<0.036		µg/L	EPA 8260B	1	0.040	0.050	03/29/10	12:41	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	12:41	JCT
Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:41	JCT
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:41	JCT
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:41	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	12:41	JCT

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Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **SGP-WD-5-10'**					Date & Time Sampled:			03/29/10	@ 12:24	
Purge Volume Sampled: 3										
.....continued										
ilorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
ilorofarm	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
iloromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	12:41	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:41	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
s-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
ns-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
s-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
ns-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Diisopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
hylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
hyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:41	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	03/30/10
Date Received	03/29/10
Invoice No.	58577
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **SGP-WD-5-10'**						Date & Time Sampled:		03/29/10	@ 12:24	
Purge Volume Sampled: 3										
.....continued										
Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	12:41	JCT
Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:41	JCT
ethyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	12:41	JCT
Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
ylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	12:41	JCT
trachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
Toluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
ichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
ichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
ichlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	12:41	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
yl Chloride	<0.013		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	12:41	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	12:41	JCT
Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	12:41	JCT
OC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	12:41	JCT
OC Surrogates]										
promofluoromethane	105		%REC	EPA 8260B			70-130	03/29/10	12:41	JCT
Toluene-D8	97		%REC	EPA 8260B			70-130	03/29/10	12:41	JCT
amofluorobenzene	106		%REC	EPA 8260B			70-130	03/29/10	12:41	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 **SGP-WD-5-5'**						Date & Time Sampled:		03/29/10	@ 12:44	
Purge Volume Sampled: 3										
PH Gasoline by GCMS]										
-C12	180		µg/L	CA LUFT	1	50	100	03/29/10	1:05	JCT
DCs by GCMS]										
etone	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	1:05	JCT
Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Benzene	*0.039*	J	µg/L	EPA 8260B	1	0.040	0.050	03/29/10	1:05	JCT
omobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
omochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
omoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
omomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:05	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:05	JCT
Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:05	JCT
Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
t-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
rbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:05	JCT
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	1:05	JCT
lorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
loroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
loromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:05	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
promochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1,2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:05	JCT
promomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Chlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: SIHC

Date Reported	03/30/10
Date Received	03/29/10
Invoice No.	58577
Cust #	1567
Permit Number	
Customer P.O.	

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 **SGP-WD-5-5'**						Date & Time Sampled:		03/29/10	@ 12:44	
Purge Volume Sampled: **3**										
.....continued										
1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Isopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Xylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:05	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
p-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	1:05	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:05	JCT
Methyl-t-butyl Ether (MTBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.032	0.050	03/29/10	1:05	JCT
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:05	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Toluene	0.13		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
1,1-Trichloroethane	0.38		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT

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LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 **SGP-WD-5-5'**						Date & Time Sampled:		03/29/10	@ 12:44	
Purge Volume Sampled: 3										
.....continued										
1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Trichlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	1:05	JCT
2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	1:05	JCT
p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:05	JCT
Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:05	JCT
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 5260B	1	0.50	1.0	03/29/10	1:05	JCT
[VOC Surrogates]										
Dibromofluoromethane	104		%REC	EPA 8260B			70-130	03/29/10	1:05	JCT
Toluene-D8	98		%REC	EPA 8260B			70-130	03/29/10	1:05	JCT
Bromofluorobenzene	105		%REC	EPA 8260B			70-130	03/29/10	1:05	JCT
Sample: 013 **SGP-WD-6-10'**						Date & Time Sampled:		03/29/10	@ 13:18	
Purge Volume Sampled: 3										
[TPH Gasoline by GCMS]										
C6-C12	**100**		µg/L	CA LUFT	1	50	100	03/29/10	1:32	JCT
[VOCs by GCMS]										
Acetone	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	1:32	JCT
Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Benzene	**0.053**		µg/L	EPA 8260B	1	0.040	0.050	03/29/10	1:32	JCT
Bromobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Bromoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Bromomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:32	JCT
Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:32	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	03/30/10
Date Received	03/29/10
Invoice No.	58577
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **SGP-WD-6-10'**						Date & Time Sampled:		03/29/10	@	13:18
Purge Volume Sampled: 3										
.....continued										
-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:32	JCT
-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
c-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
rt-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:32	JCT
rbon Tetrachloride	<0.025		µg/L	EPA 8260B	1	0.020	0.050	03/29/10	1:32	JCT
lorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Chloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
loroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
loromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:32	JCT
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
bromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:32	JCT
bromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
s-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
ans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
s-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
ans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

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LOS ANGELES, CA 90040

Date Reported	03/30/10
Date Received	03/29/10
Invoice No.	58577
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 SGP-WD-6-10'					Date & Time Sampled:			03/29/10	@	13:18
Purge Volume Sampled: 3										
.....continued										
Isopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Ethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
hyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
exachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:32	JCT
opropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	1:32	JCT
Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:32	JCT
ethyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	1:32	JCT
Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
yrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:32	JCT
etrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
Toluene	0.13		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,1,1-Trichloroethane	0.17		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
chloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
chlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
chlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	1:32	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
yl Chloride	<0.013		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	1:32	JCT
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:32	JCT
Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:32	JCT
DC Vapor Sampling Tracer]										

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	03/30/10
Date Received	03/29/10
Invoice No.	58577
Cust #	1567
Permit Number	
Customer P.O.	

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **SGP-WD-6-10'**					Date & Time Sampled:			03/29/10	@	13:18
Purge Volume Sampled: 3										
.....continued										
...propanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:32	JCT
[VOC Surrogates]										
promofluoromethane	101		%REC	EPA 8260B			70-130	03/29/10	1:32	JCT
luene-D8	96		%REC	EPA 8260B			70-130	03/29/10	1:32	JCT
Bromofluorobenzene	106		%REC	EPA 8260B			70-130	03/29/10	1:32	JCT
Sample: 014 **SGP-WD-6-5'**					Date & Time Sampled:			03/29/10	@	13:34
Purge Volume Sampled: 3										
PH Gasoline by GCMS]										
-C12	<50		µg/L	CA LUFT	1	50	100	03/29/10	1:54	JCT
[VOCs by GCMS]										
elone	<5.0		µg/L	EPA 8260B	1	5.0	10	03/29/10	1:54	JCT
tnyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Benzene	0.071		µg/L	EPA 8260B	1	0.040	0.050	03/29/10	1:54	JCT
omobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
omochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
omoform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
omomethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:54	JCT
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:54	JCT
Butanone (MEK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:54	JCT
Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
t-Butylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
rbon Disulfide	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:54	JCT
Carbon Tetrachloride	<0.075		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	1:54	JCT
lorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
loroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Chloroform	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
loromethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:54	JCT
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT

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CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 SGP-WD-6-5'					Date & Time Sampled:			03/29/10	@	13:34
Purge Volume Sampled: 3										
.....continued										
Chlorotoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
2-Dibromoethane (EDB)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
2-Dibromo-3-Chloropropane	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:54	JCT
Dibromomethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
3-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Isopropyl Ether (DIPE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Methylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
2-Hexanone	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:54	JCT
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Methylene Chloride	<1.0		µg/L	EPA 8260B	1	1.0	2.0	03/29/10	1:54	JCT
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:54	JCT
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Naphthalene	<0.032		µg/L	EPA 8260B	1	0.030	0.050	03/29/10	1:54	JCT

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CHEMISTRY · MICROBIOLOGY · FOOD SAFETY · CONSUMER PRODUCTS · MOBILE LABORATORIES
WATER · AIR · SOIL · WASTES · FOOD · PHARMACEUTICALS · NUTRACEUTICALS · COSMETICS

CERTIFICATE OF ANALYSIS

1003-00431

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 03/30/10
Date Received 03/29/10
Invoice No. 58577
Cust # 1567
Permit Number
Customer P.O.

Project: SHHC

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 **SGP-WD-6-5'**						Date & Time Sampled:		03/29/10	@	13:34
Purge Volume Sampled: 3										
.....continued										
Propylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Styrene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:54	JCT
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Toluene	**0.20**		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,1,1-Trichloroethane	**0.42**		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Trichloroethene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,2,3-Trichloropropane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,1,2-Trichlorotrifluoroethane	<0.20		µg/L	EPA 8260B	1	0.20	0.20	03/29/10	1:54	JCT
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
Vinyl Chloride	<0.013		µg/L	EPA 8260B	1	0.010	0.050	03/29/10	1:54	JCT
m,p-Xylenes	***0.10***	J	µg/L	EPA 8260B	1	0.10	0.20	03/29/10	1:54	JCT
o-Xylene	<0.050		µg/L	EPA 8260B	1	0.050	0.10	03/29/10	1:54	JCT
{VOC Vapor Sampling Tracer}										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1	0.50	1.0	03/29/10	1:54	JCT
{VOC Surrogates}										
Dibromofluoromethane	106		%REC	EPA 8260B			70-130	03/29/10	1:54	JCT
Toluene-D8	98		%REC	EPA 8260B			70-130	03/29/10	1:54	JCT
Bromofluorobenzene	103		%REC	EPA 8260B			70-130	03/29/10	1:54	JCT

Respectfully Submitted:

Robert R. Clark, PhD - Division Manager

The data and information on this, and other accompanying documents, represent only the sample(s) analyzed and is rendered upon condition that it is not to be reproduced, wholly or in part, for advertising or other purposes without approval from the laboratory.
USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research
MEMBER ACIL

Microbac

Microbac Laboratories, Inc.
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FDA#	2036513
LA City#	10159
ELAP#'s	2373
	2562
	2665
	2679
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QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
H1 = BOD dilution water is over specifications . The reported result may be biased high.
H = Surrogate recoveries are not calculated due to sample dilution.
J = Estimated value; Value exceeds calibration level of instrument.
H1 = Analyte was prepared and/or analyzed outside of the analytical method holding time
M = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Robert Clark, the Division Manager at 951.779.0310. You may also contact both Trevor Boyce, President and Robert Morgan, Chief Operating Officer at president@microbac.com.

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PDA#	3030513
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QUALITY CONTROL DATA REPORT

INTERPHASE
LOS ANGELES, CA 90040

1003-00431

Date Reported	03/30/2010
Date Received	03/29/2010
Date Sampled	03/29/2010
Invoice No.	58577
Customer #	1567
Customer P.O.	

Project: SHHC

Method # CA LUFT
Reference # 21142 Date Analyzed: 3/29/2010 Technician: JCT
Samples 001 002 003 004 005 006 007 008 009 010 011 012 013 014

Results	LCS %REC	LCS %DUP	LCS %RPD
C12	99	95	3.7

Control Ranges	LCS %REC	LCS %RPD
	70 - 130	0 - 25

Method # EPA 8260B
Reference # 21141 Date Analyzed: 3/29/2010 Technician: JCT
Samples 001 002 003 004 005 006 007 008 009 010 011 012 013 014

Results	LCS %REC	LCS %DUP	LCS %RPD	BLKSRR% REC
1,1-Dichloroethene	110	105	5.0	
zene	105	100	5.2	
nofluorobenzene				108
probenzene	104	98	5.5	
Dibromofluoromethan				109
luene	103	99	4.6	
luene-D8				100
hloroethene	108	101	6.4	

Control Ranges	LCS %REC	LCS %RPD	BLKSRR%REC
	70 - 130	0 - 25	
	70 - 130	0 - 25	
			70 - 130
	70 - 130	0 - 25	
			70 - 130
	70 - 130	0 - 25	
			70 - 130
	70 - 130	0 - 25	

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QUALITY CONTROL DATA REPORT

INTERPHASE

1003-00431

Date Reported 03/30/2010
Date Received 03/29/2010
Date Sampled 03/29/2010

Project: SHHC

ethod blank results

Ref	Test Name	Result	Qualif	Units	MDL	Ref	Test Name	Result	Qualif	Units	MDL
21341	1,1,1,2-Tetrachloroethane	<0.050		µg/L	0.050		Diisopropyl Ether (DIPE)	<0.050		µg/L	0.050
	1,1,1-Trichloroethane	<0.050		µg/L	0.050		Ethylbenzene	<0.050		µg/L	0.050
	1,1,2,2-Tetrachloroethane	<0.10		µg/L	0.10		Ethyl-t-Butyl Ether (ETBE)	<0.050		µg/L	0.050
	1,1,2-Trichloroethane	<0.050		µg/L	0.050		Hexachlorobutadiene	<0.050		µg/L	0.050
	1,1-Dichloroethane	<0.050		µg/L	0.050		Isopropanol (IPA)	<0.50		µg/L	0.50
	1,1-Dichloroethene	<0.050		µg/L	0.050		Isopropylbenzene	<0.050		µg/L	0.050
	1,1-Dichloropropene	<0.050		µg/L	0.050		m,p-Xylenes	<0.10		µg/L	0.10
	1,2,3-Trichlorobenzene	<0.050		µg/L	0.050		Methylene Chloride	<1.0		µg/L	1.0
	1,2,3-Trichloropropane	<0.050		µg/L	0.050		Methyl-t-Butyl Ether (MTBE)	<0.050		µg/L	0.050
	1,2,4-Trichlorobenzene	<0.050		µg/L	0.050		Naphthalene	<0.032		µg/L	0.032
	1,2,4-Trimethylbenzene	<0.050		µg/L	0.050		n-Butylbenzene	<0.050		µg/L	0.050
	1,2-Dibromo-3-Chloropropane	<0.50		µg/L	0.50		n-Propylbenzene	<0.050		µg/L	0.050
	1,2-Dibromoethane (EDB)	<0.050		µg/L	0.050		o-Xylene	<0.050		µg/L	0.050
	1,2-Dichlorobenzene	<0.050		µg/L	0.050		sec-Butylbenzene	<0.050		µg/L	0.050
	1,2-Dichloroethane	<0.050		µg/L	0.050		Styrene	<0.050		µg/L	0.050
	1,2-Dichloropropane	<0.050		µg/L	0.050		t-Amyl Methyl Ether (TAME)	<0.050		µg/L	0.050
	1,3,5-Trimethylbenzene	<0.050		µg/L	0.050		t-Butanol (TBA)	<0.50		µg/L	0.50
	1,3-Dichlorobenzene	<0.050		µg/L	0.050		tert-Butylbenzene	<0.050		µg/L	0.050
	1,3-Dichloropropane	<0.050		µg/L	0.050		Tetrachloroethene	<0.050		µg/L	0.050
	1,4-Dichlorobenzene	<0.050		µg/L	0.050		Toluene	<0.050		µg/L	0.050
	2,2-Dichloropropane	<0.050		µg/L	0.050		trans 1,2-Dichloroethene	<0.050		µg/L	0.050
	2-Butanone (MEK)	<0.50		µg/L	0.50		trans-1,3-Dichloropropene	<0.050		µg/L	0.050
	2-Chlorotoluene	<0.050		µg/L	0.050		Trichloroethene	<0.050		µg/L	0.050
	2-Hexanone	<0.50		µg/L	0.50		Trichlorofluoromethane	<0.050		µg/L	0.050
	4-Chlorotoluene	<0.050		µg/L	0.050		Trichlorotrifluoroethane	<0.20		µg/L	0.20
	4-Isopropyltoluene	<0.050		µg/L	0.050		Vinyl Chloride	<0.013		µg/L	0.013
	4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	0.50	21142	C4-C12	<50		µg/L	50
	Acetone	<5.0		µg/L	5.0						
	Benzene	<0.036		µg/L	0.036						
	Bromobenzene	<0.050		µg/L	0.050						
	Bromochloromethane	<0.050		µg/L	0.050						
	Bromodichloromethane	<0.050		µg/L	0.050						
	Bromoform	<0.050		µg/L	0.050						
	Bromomethane	<0.10		µg/L	0.10						
	Carbon Disulfide	<0.50		µg/L	0.50						
	Carbon Tetrachloride	<0.025		µg/L	0.025						
	Chlorobenzene	<0.050		µg/L	0.050						
	Chloroethane	<0.050		µg/L	0.050						
	Chloroform	<0.050		µg/L	0.050						
	Chloromethane	<0.10		µg/L	0.10						
	cis-1,2-Dichloroethene	<0.050		µg/L	0.050						
	cis-1,3-Dichloropropene	<0.050		µg/L	0.050						
	Dibromochloromethane	<0.050		µg/L	0.050						
	Dibromomethane	<0.050		µg/L	0.050						
	Dichlorodifluoromethane	<0.050		µg/L	0.050						

Microbac

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www.microbac.com socal@microbac.com

Chain of Custody Record

Microbac WO#: **100300431**

Project No:	Project Name: SHHC	Phone:	Fax: 13232787707
Project Manager: ROSE WILLIAMS			
Customer Name: (Report and Billing) INTERPHASE	Address: (Report and Billing) 6200 PEACHTREE STREET, LOS ANGELES, CA 90040		
Email:			

Analyses Requested (circle appropriate)

Lab # (Lab use only)	Sample ID (As it should appear on report)	Grab/ Comp	Date sampled	Time sampled	Sample matrix	Container # & Type	Preserved	Micro: Plate Cnt, Coliform, E.Coli	Chem: BOD, TSS, TDS, pH	Chem: Cyanide, Ammonia, TKN, Oil & Grease	IC: Fl, SO4, PO4, NO3, Cl	Metals: Title 22(CAM) or RCRA	LUFT Gas C4-C12	LUFT Diesel or 8015 DRO or C13 C40	VOCs by GCMS: 8260	VOCs by GCMS: BTEX, OXYs	SVOCs: 8270 or 625	Pest. &/or PCBs: 608 or 8081/8082				
001	SGP-WD-1-5'-1V		3/29/2010	8:22	Vapor	Bulb							X		X							
002	SGP-WD-1-5'-3V		3/29/2010	8:49	Vapor	Bulb							X		X							
003	SGP-WD-1-5'-7V		3/29/2010	9:08	Vapor	Bulb							X		X							
004	SGP-WD-2-10'		3/29/2010	9:36	Vapor	Bulb							X		X							
005	SGP-WD-2-5'		3/29/2010	10:02	Vapor	Bulb							X		X							
006	SGP-WD-2-5'-DUP		3/29/2010	10:02	Vapor	Bulb							X		X							
007	SGP-WD-3-10'		3/29/2010	10:46	Vapor	Bulb							X		X							
008	SGP-WD-3-5'		3/29/2010	11:10	Vapor	Bulb							X		X							
009	SGP-WD-4-10'		3/29/2010	11:36	Vapor	Bulb							X		X							
010	SGP-WD-4-5'		3/29/2010	12:02	Vapor	Bulb							X		X							

Turn Around
- ○ 24hr RUSH*
- ○ 48hr RUSH*
- ○ Normal
- ○ Other ____

*PRIOR approval, additional fee, work received after 4 pm will be processed next work day.

Special Instructions

1) Relinquished by: (Sampler's Signature)	Date: 3/29/10	Time: 14:00	3) Relinquished by:	Date:	Time:	5) Relinquished by:	Date:	Time:
2) Received by:	Date: 3/29/10	Time: 1400	4) Received by:	Date:	Time:	6) Received for Laboratory by:	Date:	Time:

Disposal
- ○ Return
- ○ Lab Disposal

Unless other arrangements are made samples will be disposed of 60 days after reciept.

This Section is to be completed by Laboratory personnel:

Samples Chilled: ○ Yes ○ No ◉ From Field

Custody Seals: ○ Yes ◉ No

Samples Intact: ◉ Yes ○ No

Temp C:

Delivery: ○ Courier ○ Walk In ○ UPS/Fed Ex

Report Delivery Formats: ☐ Paper ☐ EMAIL ☐ XLS ☐ EDD, Type _____ ☐ EDF, EPA Site ID _____

Laboratory Notes:

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

White Copy - Original (Accompanies Samples) Yellow Copy - Microbac Files Pink Copy - Client Copy

Microbac

Southern California Division
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Signal Hill, CA 90755
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www.microbac.com socal@microbac.com

Chain of Custody Record

Microbac WO# **100300431**

Project No:	Project Name: SHHC	Phone:	Fax: 13232787707
Project Manager: ROSE WILLIAMS			
Customer Name: (Report and Billing) INTERPHASE	Address: (Report and Billing) 6200 PEACHTREE STREET LOS ANGELES, CA 90040		
Email:			

Analyses Requested (circle appropriate)

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011	SGP-WD-5-10'		3/29/2010	12:24	Vapor	Bulb							X		X							
012	SGP-WD-5-5'		3/29/2010	12:44	Vapor	Bulb							X		X							
013	SGP-WD-6-10'		3/29/2010	13:18	Vapor	Bulb							X		X							
014	SGP-WD-6-5'		3/29/2010	13:34	Vapor	Bulb							X		X							

Turn Around
- ○ 24hr RUSH*
- ○ 48hr RUSH*
- ○ Normal
- ○ Other ____

*PRIOR approval, additional fee, work received after 4 pm will be processed next work day.

Special Instructions

1) Relinquished by: (Sampler's Signature)	Date: 5/29/10	Time: 1400	3) Relinquished by:	Date:	Time:	5) Relinquished by:	Date:	Time:
2) Received by:	Date: 5/29/10	Time: 1400	4) Received by:	Date:	Time:	6) Received for Laboratory by:	Date:	Time:

Disposal
- ○ Return
- ○ Lab Disposal

Unless other arrangements are made samples will be disposed of 60 days after receipt.

This Section is to be completed by Laboratory personnel:

Samples Chilled: ○ Yes ○ No ◉ From Field

Custody Seals: ○ Yes ◉ No

Samples Intact: ◉ Yes ○ No

Temp C:

Delivery: ○ Courier ○ Walk In ○ UPS/Fed Ex

Report Delivery Formats: ☐ Paper ☐ EMAIL ☐ XLS ☐ EDD, Type _____ ☐ EDF, EPA Site ID _____

Laboratory Notes:

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

White Copy - Original (Accompanies Samples) Yellow Copy - Microbac Files Pink Copy - Client Copy

ATTACHMENT D

Laboratory Reports for TO-15 Analysis

Calscience
Environmental
Laboratories, Inc.

April 07, 2010

Stephen Testa
InterPhase Environmental, Inc.
6200 Peachtree Street
Los Angeles, CA 90040-4015

Subject: **Calscience Work Order No.:** **10-03-2265**
Client Reference: **SHHC / 1008**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/30/2010 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Amanda Porter

Calscience Environmental
Laboratories, Inc.
Amanda Porter
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

InterPhase Environmental, Inc.
6200 Peachtree Street
Los Angeles, CA 90040-4015

Date Received: 03/30/10
Work Order No: 10-03-2265
Preparation: N/A
Method: EPA TO-15
Units: ug/L

Project: SHHC / 1008

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SGP-WD-2-5	10-03-2265-1-A	03/29/10 12:50	Air	GC/MS AA	N/A	03/30/10 21:48	100330L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	0.27	0.053	11.2		t-1,2-Dichloroethene	ND	0.022	11.2	
Benzene	0.047	0.018	11.2		t-1,3-Dichloropropene	ND	0.051	11.2	
Benzyl Chloride	ND	0.087	11.2		Ethylbenzene	0.081	0.024	11.2	
Bromodichloromethane	ND	0.038	11.2		4-Ethyltoluene	ND	0.028	11.2	
Bromoform	ND	0.058	11.2		Hexachloro-1,3-Butadiene	ND	0.18	11.2	
Bromomethane	ND	0.022	11.2		2-Hexanone	ND	0.069	11.2	
2-Butanone	0.052	0.050	11.2		Methyl-t-Butyl Ether (MTBE)	ND	0.061	11.2	
Carbon Disulfide	ND	0.070	11.2		Methylene Chloride	ND	0.19	11.2	
Carbon Tetrachloride	ND	0.035	11.2		4-Methyl-2-Pentanone	0.077	0.069	11.2	
Chlorobenzene	0.18	0.026	11.2		o-Xylene	0.043	0.024	11.2	
Chloroethane	ND	0.015	11.2		p/m-Xylene	0.12	0.097	11.2	
Chloroform	ND	0.027	11.2		Styrene	ND	0.072	11.2	
Chloromethane	ND	0.012	11.2		Tetrachloroethene	ND	0.038	11.2	
Dibromochloromethane	ND	0.048	11.2		Toluene	0.17	0.021	11.2	
Dichlorodifluoromethane	ND	0.028	11.2		Trichloroethene	ND	0.030	11.2	
1,1-Dichloroethane	ND	0.023	11.2		Trichlorofluoromethane	ND	0.063	11.2	
1,1-Dichloroethene	ND	0.022	11.2		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.13	11.2	
1,2-Dibromoethane	ND	0.043	11.2		1,1,1-Trichloroethane	0.25	0.031	11.2	
Dichlorotetrafluoroethane	ND	0.18	11.2		1,1,2-Trichloroethane	ND	0.031	11.2	
1,2-Dichlorobenzene	ND	0.034	11.2		1,3,5-Trimethylbenzene	ND	0.028	11.2	
1,2-Dichloroethane	ND	0.023	11.2		1,1,2,2-Tetrachloroethane	ND	0.077	11.2	
1,2-Dichloropropane	ND	0.026	11.2		1,2,4-Trimethylbenzene	ND	0.063	11.2	
1,3-Dichlorobenzene	ND	0.034	11.2		1,2,4-Trichlorobenzene	ND	0.17	11.2	
1,4-Dichlorobenzene	ND	0.034	11.2		Vinyl Acetate	ND	0.079	11.2	
c-1,3-Dichloropropene	ND	0.025	11.2		Vinyl Chloride	ND	0.014	11.2	
c-1,2-Dichloroethene	ND	0.022	11.2						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	171	57-129	2	1,2-Dichloroethane-d4	105	47-137	
Toluene-d8	101	78-156					

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

InterPhase Environmental, Inc.	Date Received:	03/30/10
6200 Peachtree Street	Work Order No:	10-03-2265
Los Angeles, CA 90040-4015	Preparation:	N/A
	Method:	EPA TO-15
	Units:	ug/L
Project: SHHC / 1008		Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SGP-WD-4-10	10-03-2265-2-A	03/29/10 12:35	Air	GC/MS AA	N/A	03/30/10 23:27	100330L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	0.70	147		t-1,2-Dichloroethene	ND	0.29	147	
Benzene	ND	0.23	147		t-1,3-Dichloropropene	ND	0.67	147	
Benzyl Chloride	ND	1.1	147		Ethylbenzene	ND	0.32	147	
Bromodichloromethane	ND	0.49	147		4-Ethyltoluene	ND	0.36	147	
Bromoform	ND	0.76	147		Hexachloro-1,3-Butadiene	ND	2.4	147	
Bromomethane	ND	0.29	147		2-Hexanone	ND	0.80	147	
2-Butanone	ND	0.65	147		Methyl-t-Butyl Ether (MTBE)	ND	1.1	147	
Carbon Disulfide	ND	0.92	147		Methylene Chloride	ND	2.6	147	
Carbon Tetrachloride	ND	0.46	147		4-Methyl-2-Pentanone	ND	0.80	147	
Chlorobenzene	2.5	0.34	147		o-Xylene	ND	0.32	147	
Chloroethane	ND	0.19	147		p/m-Xylene	ND	1.3	147	
Chloroform	ND	0.36	147		Styrene	ND	0.94	147	
Chloromethane	ND	0.15	147		Tetrachloroethene	ND	0.50	147	
Dibromochloromethane	ND	0.63	147		Toluene	ND	0.28	147	
Dichlorodifluoromethane	ND	0.36	147		Trichloroethene	ND	0.39	147	
1,1-Dichloroethane	ND	0.30	147		Trichlorofluoromethane	ND	0.63	147	
1,1-Dichloroethene	ND	0.29	147		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1.7	147	
1,2-Dibromoethane	ND	0.56	147		1,1,1-Trichloroethane	ND	0.40	147	
Dichlorotetrafluoroethane	ND	2.1	147		1,1,2-Trichloroethane	ND	0.40	147	
1,2-Dichlorobenzene	ND	0.44	147		1,3,5-Trimethylbenzene	ND	0.36	147	
1,2-Dichloroethane	ND	0.30	147		1,1,2,2-Tetrachloroethane	ND	1.0	147	
1,2-Dichloropropane	ND	0.34	147		1,2,4-Trimethylbenzene	ND	1.1	147	
1,3-Dichlorobenzene	ND	0.44	147		1,2,4-Trichlorobenzene	ND	2.2	147	
1,4-Dichlorobenzene	ND	0.44	147		Vinyl Acetate	ND	1.0	147	
c-1,3-Dichloropropene	ND	0.33	147		Vinyl Chloride	ND	0.19	147	
c-1,2-Dichloroethene	ND	0.29	147						

Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	156	57-129		2	1,2-Dichloroethane-d4	103	47-137	
Toluene-d8	94	78-156						

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

InterPhase Environmental, Inc.	Date Received:	03/30/10
6200 Peachtree Street	Work Order No:	10-03-2265
Los Angeles, CA 90040-4015	Preparation:	N/A
	Method:	EPA TO-15
	Units:	ug/L
Project: SHHC / 1008		Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-021-8,483**	**N/A**	**Air**	**GC/MS AA**	**N/A**	**03/30/10 12:56**	**100330L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	0.0048	1		t-1,2-Dichloroethene	ND	0.0020	1	
Benzene	ND	0.0016	1		t-1,3-Dichloropropene	ND	0.0045	1	
Benzyl Chloride	ND	0.0078	1		Ethylbenzene	ND	0.0022	1	
Bromodichloromethane	ND	0.0034	1		4-Ethyltoluene	ND	0.0025	1	
Bromoform	ND	0.0052	1		Hexachloro-1,3-Butadiene	ND	0.016	1	
Bromomethane	ND	0.0019	1		2-Hexanone	ND	0.0061	1	
2-Butanone	ND	0.0044	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0072	1	
Carbon Disulfide	ND	0.0062	1		Methylene Chloride	ND	0.017	1	
Carbon Tetrachloride	ND	0.0031	1		4-Methyl-2-Pentanone	ND	0.0061	1	
Chlorobenzene	ND	0.0023	1		o-Xylene	ND	0.0022	1	
Chloroethane	ND	0.0013	1		p/m-Xylene	ND	0.0087	1	
Chloroform	ND	0.0024	1		Styrene	ND	0.0064	1	
Chloromethane	ND	0.0010	1		Tetrachloroethene	ND	0.0034	1	
Dibromochloromethane	ND	0.0043	1		Toluene	ND	0.0019	1	
Dichlorodifluoromethane	ND	0.0025	1		Trichloroethene	ND	0.0027	1	
1,1-Dichloroethane	ND	0.0020	1		Trichlorofluoromethane	ND	0.0056	1	
1,1-Dichloroethene	ND	0.0020	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.011	1	
1,2-Dibromoethane	ND	0.0038	1		1,1,1-Trichloroethane	ND	0.0027	1	
Dichlorotetrafluoroethane	ND	0.014	1		1,1,2-Trichloroethane	ND	0.0027	1	
1,2-Dichlorobenzene	ND	0.0030	1		1,3,5-Trimethylbenzene	ND	0.0025	1	
1,2-Dichloroethane	ND	0.0020	1		1,1,2,2-Tetrachloroethane	ND	0.0069	1	
1,2-Dichloropropane	ND	0.0023	1		1,2,4-Trimethylbenzene	ND	0.0074	1	
1,3-Dichlorobenzene	ND	0.0030	1		1,2,4-Trichlorobenzene	ND	0.015	1	
1,4-Dichlorobenzene	ND	0.0030	1		Vinyl Acetate	ND	0.0070	1	
c-1,3-Dichloropropene	ND	0.0023	1		Vinyl Chloride	ND	0.0013	1	
c-1,2-Dichloroethene	ND	0.0020	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	101	57-129		1,2-Dichloroethane-d4	104	47-137	
Toluene-d8	96	78-156					

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

InterPhase Environmental, Inc.
6200 Peachtree Street
Los Angeles, CA 90040-4015

Date Received: N/A
Work Order No: 10-03-2265
Preparation: N/A
Method: EPA TO-15

Project: SHHC / 1008

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-021-8,483	Air	GC/MS AA	N/A	03/30/10	100330L01

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	106	101	60-156	44-172	5	0-40	
Carbon Tetrachloride	97	95	64-154	49-169	2	0-32	
1,2-Dibromoethane	108	106	54-144	39-159	2	0-36	
1,2-Dichlorobenzene	101	98	34-160	13-181	3	0-47	
1,2-Dichloroethane	105	103	69-153	55-167	1	0-30	
1,2-Dichloropropane	106	106	67-157	52-172	1	0-35	
1,4-Dichlorobenzene	100	97	36-156	16-176	3	0-47	
c-1,3-Dichloropropene	120	122	61-157	45-173	1	0-35	
Ethylbenzene	115	113	52-154	35-171	2	0-38	
o-Xylene	112	110	52-148	36-164	2	0-38	
p/m-Xylene	105	103	42-156	23-175	2	0-41	
Tetrachloroethene	104	100	56-152	40-168	4	0-40	
Toluene	110	107	56-146	41-161	3	0-43	
Trichloroethene	104	105	63-159	47-175	1	0-34	
1,1,2-Trichloroethane	103	107	65-149	51-163	3	0-37	
Vinyl Chloride	100	97	45-177	23-199	4	0-36	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Microbac

Southern California Division
1401 Research Park Drive, Suite 100
Riverside, CA 92507
V: 951.779.0310 • 800.798.9336 F: 951.779.0344
3299 Hill Street, Suite 305
Signal Hill, CA 90755
V: 562.498.7005 F: 562.498.8617
www.microbac.com socal@microbac.com

Chain of Custody Record

Microbac WO# 2265

Page ____ of ____

Project No: 1008	Project Name: SHHC
Project Manager: Stephan Testa	Phone: 209 754 1422 Fax:
Customer Name: (Report and Billing) TEC	Address: (Report and Billing) 19814 Jesus Maria Rd Mokelumne Hill, CA 95245
Email: stesta@goldrush.com	

Analyses Requested (circle appropriate)

Turn Around
- ○ 24hr RUSH*
- ○ 48hr RUSH*
- ◉ Normal
- ○ Other ____

*PRIOR approval, additional fee. work received after 4 pm will be processed next work day.

Lab # (Lab use only)	Sample ID (As it should appear on report)	Grab/ Comp	Date sampled	Time sampled	Sample matrix	Container # & Type	Preserved	Micro: Plate Cnt., Coliform, E.Coli	Chem: BOD, TSS, TDS, pH	Chem: Cyanide, Ammonia, TKN, Oil & Grease	IC: Br, SO4, PO4, NO3, Cl	Metals: Title 22(CAM) or RCRA	LUFT Gas or 8015 GRO or C4-C12	LUFT Diesel or 8015 DRO or C13-C40	VOCs by GCMS: 8260 or 624	VOCs by GCMS: BTEX, OXYs	SVOCs: 8270 or 625	Pest. &/or PCBs: 608 or 8081/8082	TO-15				Special Instructions
1	SGP-WD-2-5																		X				
2	SGP-WD-4-10																		X				

	Date:	Time:		Date:	Time:		Date:	Time:
1) Relinquished by: (Sampler's Signature) SM	3/29	1°°pm	3) Relinquished by: Tom Williamson	3/30/10	1321	5) Relinquished by: Alex Mungo	3/30/10	19:15
2) Received by:	3/29	1:00pm	4) Received by: Alex Mungo CEL	3/30/10	13:21	6) Received for Laboratory by: Danny G col	3/30/10	19:15

This Section is to be completed by Laboratory personnel:

- Samples Chilled: ○ Yes ◉ No ○ From Field
- Custody Seals: ○ Yes ○ No
- Samples Intact: ○ Yes ○ No
- Temp C:
- Delivery: ○ Courier ○ Walk In ○ UPS/Fed Ex

Report Delivery Formats
- ☐ Paper ☐ EMAIL ☐ XLS
- ☐ EDD, Type _____
- ☐ EDF, EPA Site ID _____

Disposal
- ○ Return
- ○ Lab Disposal

Unless other arrangements are made samples will be disposed of 60 days after receipt.

Laboratory Notes:

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

White Copy - Original (Accompanies Samples) Yellow Copy - Microbac Files Pink Copy - Client Copy

Environmental Laboratories, Inc.

SAMPLE RECEIPT FORM

Cooler 0 of 0

CLIENT: INTERPHASE DATE: 03/30/10

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature ____.___ °C + 0.5 °C (CF) = ____.___ °C ☐ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: ☑ Air ☐ Filter ☐ Metals Only ☐ PCBs Only Initial: AM

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☑ N/A Initial: AM

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: RS

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☑	☐
☑ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☐500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna ☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☑Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ Checked by: RS

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: VB

Preservative: h: HCL n: HNO3 na_2: $Na_2S_2O_4$ Na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered Scanned by: RS

EXHIBIT 8 – PART I

E^{x}PONENT (2009)

EXHIBIT 8

HUMAN HEALTH RISK ASSESSMENT

Exponent

Exponent
500 12th Street, Suite 220
Oakland, CA 94607

telephone 510-268-5000
facsimile 510-268-5099
www.exponent.com

November 23, 2009

Stephen Testa
Testa Environmental Corporation
19814 Jesus Maria Road
Mokelumne Hill, California 95245

Subject: Initial Soil Vapor Intrustion Evaluation
Former Chemoil Refinery
Signal Hill, California
Project No. 0906735.000

Dear Mr. Testa:

This letter report presents the results of an initial evaluation of potential health risks to offsite receptors associated with potential intrusion of volatile chemicals in soil vapor and groundwater into indoor air in the vicinity of the former Chemoil Refinery, located in Signal Hill, California (the Site; see Figure 1). As discussed further below, potential soil vapor intrusion is not likely to be of concern for current offsite receptors; however, health risks associated with potential vapor intrusion into indoor air will be re-evaluated following completion of Phase III sampling.

Background

Based on information provided in the "Report of Phase II Additional Site Characterization," which was conducted by Testa Environmental Corporation (TEC) on behalf of the current property owner, Signal Hill Holding Company (TEC 2009),[1] the site was used as a dairy farm prior to 1922, and was operated as a refinery from 1922 until early 1994. From 1994 to 1997, there was limited operation of the wastewater treatment facility, after which all aboveground structures were dismantled. The site is currently vacant (TEC 2009). With regard to current offsite land use, commercial/industrial developments are located to the north, east, and west of the site, and a residential development is located south of the site; an elementary school is also located north of the site, beyond the commercial/industrial area (see Figure 2).

[1] TEC. 2009. Report on phase II additional site characterization, former Chemoil Refinery, SLIC No. 453A, Signal Hill, California. Volume I. Testa Environmental Corporation. September 30.

Data Included in Evaluation

In 2009, soil vapor samples were collected at a total of 20 locations along the southern (Sgp-1 through Sgp-7), western (Gdy-1 through Gdy-5), and eastern (Wnt-1 through Wnt-4) property boundaries, and along Hill Street (Hill-1 through Hill-4), which is north of the site, adjacent to the elementary school (TEC 2009). Soil vapor sampling locations are shown in Figure 3. Soil vapor samples were collected from 5 and 15 ft below ground surface (bgs) at each location and were analyzed for volatile organic compounds (VOCs) by EPA Method 8260B. In addition, duplicate soil vapor samples were collected from two locations (Sgp-7 @ 15 ft and Wnt-1 @ 15 ft) and analyzed by EPA Method TO-15. These soil vapor data are presented in Table 1. Based on the surrounding land use, the soil vapor data were divided into four groups: data from Sgp-1 through Sgp-7 were used to evaluate potential vapor intrusion under a residential scenario, data from Gdy-1 through Gdy-5 and from Wnt-1 through Wnt-4 were used to evaluate potential vapor intrusion under a commercial scenario, and data from Hill-1 through Hill-4 were used to evaluate potential vapor intrusion under a residential scenario as a surrogate for the existing elementary school site. In each case, the data from 5 ft bgs and 15 ft bgs were evaluated separately.

Groundwater samples were collected on a quarterly basis from 1985 to 1999, and again from October 2001 to the present (TEC 2009). At present, groundwater samples are collected from a total of 13 groundwater monitoring wells (MW-1, MW-1A, MW-3, and MW-8 through MW-16) (see Figure 4) and are analyzed for VOCs by EPA Method 8260B, and semivolatile organic compounds (SVOCs) by EPA Method 8270C. For purposes of this evaluation, data from these monitoring wells from the previous four quarters (4th quarter 2008 and 1st through 3rd quarters 2009) were included. These data are presented in Table 2. It should be noted that groundwater monitoring wells MW-11 through MW-16 were installed in the spring of 2009; therefore, data are available only for the 2nd and 3rd quarters in 2009. Of these groundwater monitoring wells, MW-9 is closest to the eastern property boundary, MW-1A and MW-12 are closest to the western property boundary, and MW-1 and MW-13 through MW-16 are closest to the southern property boundary. Therefore, the data for these wells were used to evaluate potential vapor intrusion from groundwater in each of these offsite areas. The elementary school is located upgradient from the site; therefore, potential vapor intrusion from groundwater was not evaluated for that area. Importantly, groundwater monitoring well MW-3 is the closest monitoring well to the elementary school. Samples collected from this monitoring well during the previous four quarters were non-detect for VOCs and SVOCs.

Chemicals of Potential Concern

All chemicals detected in soil vapor were selected as chemicals of potential concern (COPCs), with the exception of heptane and propylene. These chemicals were detected in one of two

samples analyzed by EPA Method TO-15 at concentrations of 139 $\mu g/m^3$ and 327 $\mu g/m^3$, respectively. Heptane has no established regulatory criteria; however, based on the results of several inhalation studies in rats, potential adverse effects were observed only at very high doses (greater than 10,000 parts per million [ppm], which is equivalent to approximately 47,000,000 $\mu g/m^3$).[2] Therefore, potential adverse health effects would not be expected at the relatively low concentration detected in soil vapor at the site. With regard to propylene, a chronic reference exposure level (REL) of 3000 $\mu g/m^3$ has been developed by the Office of Environmental Health Hazard Assessment (OEHHA).[3] This value is nearly an order of magnitude higher than the concentration detected in soil vapor at the site; therefore, potential adverse health effects also would not be expected. In addition, if a chemical was not detected in soil vapor, but was detected in groundwater in the same vicinity, then that chemical was also identified as a COPC in soil vapor in that area. For example, n-butylbenzene was not detected in any soil vapor sample, but was detected in groundwater collected from monitoring well MW-9, which is the nearest groundwater monitoring well to the eastern site boundary. Therefore, n-butylbenzene was included in the soil vapor evaluation for that area. For detected chemicals, the maximum detected concentration within each of the four areas was used as the exposure-point concentration (EPC). For chemicals that were not detected in soil vapor, one-half of the maximum limit of detection was used. The soil vapor EPCs are presented in Table 3.

For groundwater, all of the volatile chemicals detected in samples collected from groundwater monitoring wells closest to the eastern, western, and southern site boundaries were selected as COPCs, except for 4-isopropyltoluene and tert-butanol. Only limited toxicity information is available for these chemicals. The oral LD_{50} (lethal dose for 50% of the test animals) for 4-isopropyltoluene in rats is greater than 4,000 mg/kg,[4] indicating that the chemical is relatively non-toxic according to acute toxicity classifications developed for pesticides.[5] Similarly, the oral LD_{50} for tert-butanol in rats is greater than 5,000 mg/kg,[6] indicating that it is also relatively non-toxic. Similar to soil vapor, the maximum detected concentration within each of the three areas was used as the EPC. The groundwater EPCs are presented in Table 4.

---

[2] NLS. 2009. Hazardous Substances Data Bank. National Library of Medicine. Heptane. Accessed November 20, 2009. http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.

[3] OEHHA. 2009. Toxicity Database. Office of Environmental Health Hazard Assessment. Accessed November 19, 2009. http://www.oehha.org/risk/ChemicalDB/index.asp.

[4] NLS. 2009. Hazardous Substances Data Bank. National Library of Medicine. 4-Isopropyltoluene. Accessed November 20, 2009. http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.

[5] WHO. 2006. The WHO recommended classification of pesticides by hazard and guidelines to classification 2004. World Health Organization. June.

[6] NLS. 2009. Hazardous Substances Data Bank. National Library of Medicine. Tert-Butanol. Accessed November 20, 2009. http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.

Risk Calculations

Evaluating potential exposure to COPCs in soil vapor or groundwater via inhalation of vapors in indoor air requires estimating vapor emissions and resulting indoor air concentrations. The Johnson and Ettinger model[7] was used as prescribed by the California Environmental Protection Agency (Cal-EPA) guidance for evaluating vapor intrusion.[8] This model has been parameterized by the U.S. Environmental Protection Agency (EPA)[9] and was modified to reflect Cal-EPA-specific toxicity criteria, as appropriate.[10] The toxicity criteria for the COPCs are presented in Table 5. Default model input assumptions were used for the majority of the model parameters; however, site-specific information was used for some parameters (e.g., soil vapor and groundwater sampling depth and soil type). Model output sheets and additional information regarding site-specific parameter assumptions are included in Attachment A.

Results and Conclusions

Potential noncancer risks are expressed in terms of a hazard index, and potential cancer risks are expressed in terms of a theoretical lifetime excess cancer risk. A hazard index less than 1 is generally considered acceptable by regulatory agencies. Theoretical lifetime excess cancer risks are generally compared to an acceptable risk range of 1×10^{-6} to 1×10^{-4}; cancer risk estimates of less than 1×10^{-6} are considered to be so low as to warrant no further investigation or analysis. The estimated noncancer hazard indexes and theoretical lifetime excess cancer risks for offsite receptors adjacent to each of the site's boundaries are summarized below.

Northern Boundary

The estimated noncancer hazard indexes associated with exposure to COPCs in indoor air due to chemicals in soil vapor in the vicinity of the elementary school north of the site, assuming a residential exposure scenario, are summarized in Table 6. The total hazard indexes due to vapors in indoor air, using concentrations measured in soil vapor at 5 and 15 ft bgs, are 5×10^{-3}

---

[7] Johnson, P.C., and R.A. Ettinger. 1991. Heuristic model for predicting the intrusion rate of contaminant vapors in buildings. Environ. Sci. Technol. 25:1445–1452.

[8] Cal-EPA. 2005. Guidance for the evaluation and mitigation of subsurface vapor intrusion to indoor air. Interim final. California Environmental Protection Agency, Department of Toxic Substances Control, Sacramento, CA. February 7.

[9] U.S. EPA. 2003. User's guide for evaluating subsurface vapor intrusion into buildings. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Toxics Integration Branch, Washington, DC.

[10] Cal-EPA. 2009. Screening model spreadsheets. California Environmental Protection Agency, Department of Toxic Substances Control. http://www.dtsc.ca.gov/AssessingRisk/OE_Models.cfm.

and 4×10^{-3}, respectively. These values are well below 1, indicating that potential exposure to COPCs in indoor air by children or adults present at the elementary school should not pose a noncarcinogenic health risk under the conditions evaluated. As noted previously, the elementary school is located upgradient of the site; therefore, potential exposure to vapors from groundwater was not included in this evaluation. Groundwater monitoring well MW-3 is the closest monitoring well to the elementary school. Groundwater samples collected from MW-3 during the previous four quarters were non-detect for VOCs and SVOCs.

The estimated excess cancer risks associated with exposure to COPCs in indoor air due to chemicals in soil vapor in the vicinity of the elementary school north of the site, assuming a residential scenario, are also summarized in Table 6. The total excess cancer risks due to vapors in indoor air, using concentrations measured in soil vapor at 5 and 15 ft, are 8×10^{-7} and 7×10^{-8}, respectively. These values are below the lower end of the generally acceptable risk range, indicating that potential exposure to COPCs in indoor air by children or adults present at the elementary school should not pose a carcinogenic health risk under the conditions evaluated.

Southern Boundary

The estimated noncancer hazard indexes associated with exposure to COPCs in indoor air due to chemicals in soil vapor and groundwater in the vicinity of the southern property boundary, assuming a residential exposure scenario, are summarized in Table 7. The total hazard indexes due to vapors in indoor air, using concentrations measured in soil vapor at 5 and 15 ft, are 1×10^{-1} and 6×10^{-2}, respectively. The total hazard indexes due to exposure to vapors in indoor air, using the concentrations measured in groundwater, is 8×10^{-1}. These values are below 1, indicating that potential exposure to COPCs in indoor air by residents adjacent to the southern property boundary should not pose a noncarcinogenic health risk under the conditions evaluated.

The estimated excess cancer risks associated with exposure to COPCs in indoor air due to chemicals in soil vapor in the vicinity of the eastern property boundary, assuming a residential scenario, are also summarized in Table 7. The total excess cancer risks due to vapors in indoor air, using concentrations measured in soil vapor at 5 and 15 ft, are 2×10^{-5} and 7×10^{-7}, respectively. The total estimated excess cancer risk due to exposure to vapors in indoor air, using the concentrations measured in groundwater, is 4×10^{-6}. The estimated excess cancer risks are below the generally acceptable risk range based on maximum COPC concentrations in soil vapor collected at 15 ft bgs, but in the lower end to the middle of the risk range based on maximum COPC concentrations in soil vapor collected at 5 ft bgs and in groundwater.

With regard to chemicals in soil vapor measured at 5 ft bgs, the largest contributor to the total estimated cancer risk is benzene (maximum detected concentration of 2100 $\mu g/m^3$). The relatively higher soil vapor concentrations in these samples is indicative of a local shallow

source in soil coincident with an unlined culvert that paralleled the southern property line (TEC 2009). Further, current residents are located farther south of the sampling locations and on the opposite side of a flood-control channel,[1] which would prevent lateral migration of shallow soil vapor. Therefore, the total estimated cancer risk using soil vapor data from 15 ft bgs (maximum detected benzene concentration of 36 $\mu g/m^3$) of 7×10^{-7} may be more indicative of potential health risks to residents in this area. With regard to chemicals in groundwater, the largest contributor to the total estimated cancer risk is naphthalene (maximum detected concentration of 220 $\mu g/L$), which was not detected in any of the soil vapor samples collected along the southern boundary. The difference between the estimated cancer risk based on soil vapor data collected at 15 ft bgs and that based on groundwater data is likely due to a number of factors, including (1) the COPCs are primarily aromatic hydrocarbons that may be biodegrading in the vadose zone, and (2) there is greater uncertainty in the groundwater model relative to the soil vapor model, because the soil vapor concentration must be estimated from groundwater concentrations in the groundwater model, whereas measured soil vapor concentrations are used in the soil vapor model. As such, the estimated excess cancer risks based on the maximum COPC concentrations in groundwater likely overstate the potential health risks to residents adjacent to the southern property boundary.

Eastern Boundary

The estimated noncancer hazard indexes associated with exposure to COPCs in indoor air due to chemicals in soil vapor and groundwater in the vicinity of the eastern property boundary, assuming a commercial exposure scenario, are summarized in Table 8. The total hazard indexes due to vapors in indoor air, using concentrations measured in soil vapor at 5 and 15 ft, are 2×10^{-2} and 3×10^{-2}, respectively. The total hazard indexes due to exposure to vapors in indoor air, using the concentrations measured in groundwater, is 2×10^{-1}. These values are below 1, indicating that potential exposure to COPCs in indoor air by workers adjacent to the eastern property boundary should not pose a noncarcinogenic health risk under the conditions evaluated.

The estimated excess cancer risks associated with exposure to COPCs in indoor air due to chemicals in soil vapor in the vicinity of the eastern property boundary, assuming a commercial scenario, are also summarized in Table 8. The total excess cancer risk due to vapors in indoor air, using concentrations measured in soil vapor at 5 and 15 ft, are 3×10^{-7} and 2×10^{-7}, respectively. The total estimated theoretical lifetime excess cancer risk due to exposure to chemical vapors in indoor air, using the concentrations measured in groundwater, is 1×10^{-5}. The estimated excess cancer risks are below the generally acceptable risk range based on maximum COPC concentrations in soil vapor, but in the middle of the risk range based on maximum COPC concentrations in groundwater. As discussed above, there is more uncertainty

[1] Personal communication, Stephen Testa, Testa Environmental Corporation, November 11, 2009.

associated with the groundwater model than with the soil vapor model; therefore, the estimated excess cancer risks based on the maximum COPC concentrations in groundwater likely overstate the potential health risks to commercial workers adjacent to the eastern property boundary.

Western Boundary

The estimated noncancer hazard indexes associated with exposure to COPCs in indoor air due to chemicals in soil vapor and groundwater in the vicinity of the western property boundary, assuming a commercial exposure scenario, are summarized in Table 9. The total hazard indexes due to vapors in indoor air, using concentrations measured in soil vapor at 5 and 15 ft, are 5×10^{-3} and 6×10^{-3}, respectively. The total hazard index due to exposure to vapors in indoor air, using the concentrations measured in groundwater, is 4. The estimated hazard indexes are well below 1 based on the maximum COPC concentrations in soil vapor, but above 1 based on maximum COPC concentrations in groundwater. Again, this difference is likely due to a number of factors, and the estimated hazard indexes based on the maximum COPC concentrations in groundwater likely overstate the potential health risks to commercial workers adjacent to the western property boundary.

The estimated excess cancer risks associated with exposure to COPCs in indoor air due to chemicals in soil vapor in the vicinity of the western property boundary, assuming a commercial scenario, are also summarized in Table 9. The total excess cancer risks due to vapors in indoor air, using concentrations measured in soil vapor at 5 and 15 ft, are 3×10^{-7} and 4×10^{-6}, respectively. The total estimated excess cancer risk due to exposure to chemical vapors in indoor air, using the concentrations measured in groundwater, is 4×10^{-5}. As before, this difference is likely due to a number of factors, and the estimated excess cancer risks based on the maximum COPC concentrations in groundwater likely overstate the potential health risks to commercial workers adjacent to the western property boundary.

Summary and Conclusions

This report presents the results of an initial evaluation of potential health risks to offsite receptors associated with potential intrusion of volatile chemicals in soil vapor and groundwater into indoor air in the vicinity of the former Chemoil Refinery site. This evaluation was conducted separately for offsite receptors located adjacent to or near the northern, southern, eastern, and western property boundaries, to reflect differences in current land use. It is important to note that this evaluation was based on data collected near or along the property boundaries and that the detected concentrations are representative of conditions offsite. Further, this evaluation was based on maximum detected concentrations, which were assumed to be

representative of concentrations to which offsite receptors would be exposed for 25 or 30 years. This latter assumption is particularly conservative because aromatic hydrocarbons are known to biodegrade over time. The results of this initial evaluation can be summarized as follows:

- **Northern boundary:** Estimated noncancer hazard indexes and excess cancer risks, assuming a residential scenario as a surrogate for the elementary school, were below levels generally considered acceptable by regulatory agencies.
- **Southern boundary:** Estimated noncancer hazard indexes, assuming a residential scenario, were below levels generally considered acceptable by regulatory agencies. The estimated cancer risk based on soil vapor data collected at 15 ft bgs was below the generally accepted risk range; however, the estimated cancer risks based on soil vapor data collected at 5 ft bgs and on groundwater were within the acceptable risk range. Importantly, the higher soil vapor concentrations at 5 ft bgs are indicative of a localized shallow soil source coincident with an unlined culvert that paralleled the southern boundary. Current residents are located farther south of the sampling locations, on the opposite side of a flood-control channel, which would prevent lateral migration of shallow soil gas. Further, estimated risks based on groundwater data are driven by naphthalene, which was not detected in the 15-ft soil vapor samples. Estimated health risks based on groundwater data are likely more uncertain than those based on soil vapor data because of additional assumptions required in the model and potential biodegradation of the COPCs in the vadose zone.
- **Eastern and western boundaries:** Estimated noncancer hazard indexes and excess cancer risks based on soil vapor data, assuming a commercial scenario, were below levels generally considered acceptable by regulatory agencies. However, the estimated hazard index based on groundwater data for the western boundary was above 1, and the estimated excess cancer risks based on groundwater data were within the generally acceptable risk range for both boundaries. As above, estimated health risks based on groundwater data are likely more uncertain than those based on soil vapor data because of additional assumptions required in the model and potential biodegradation of the COPCs in the vadose zone.

In summary, potential soil vapor intrusion is not likely to be of concern for current offsite receptors; however, health risks associated with potential vapor intrusion into indoor air will be re-evaluated following completion of Phase III sampling.

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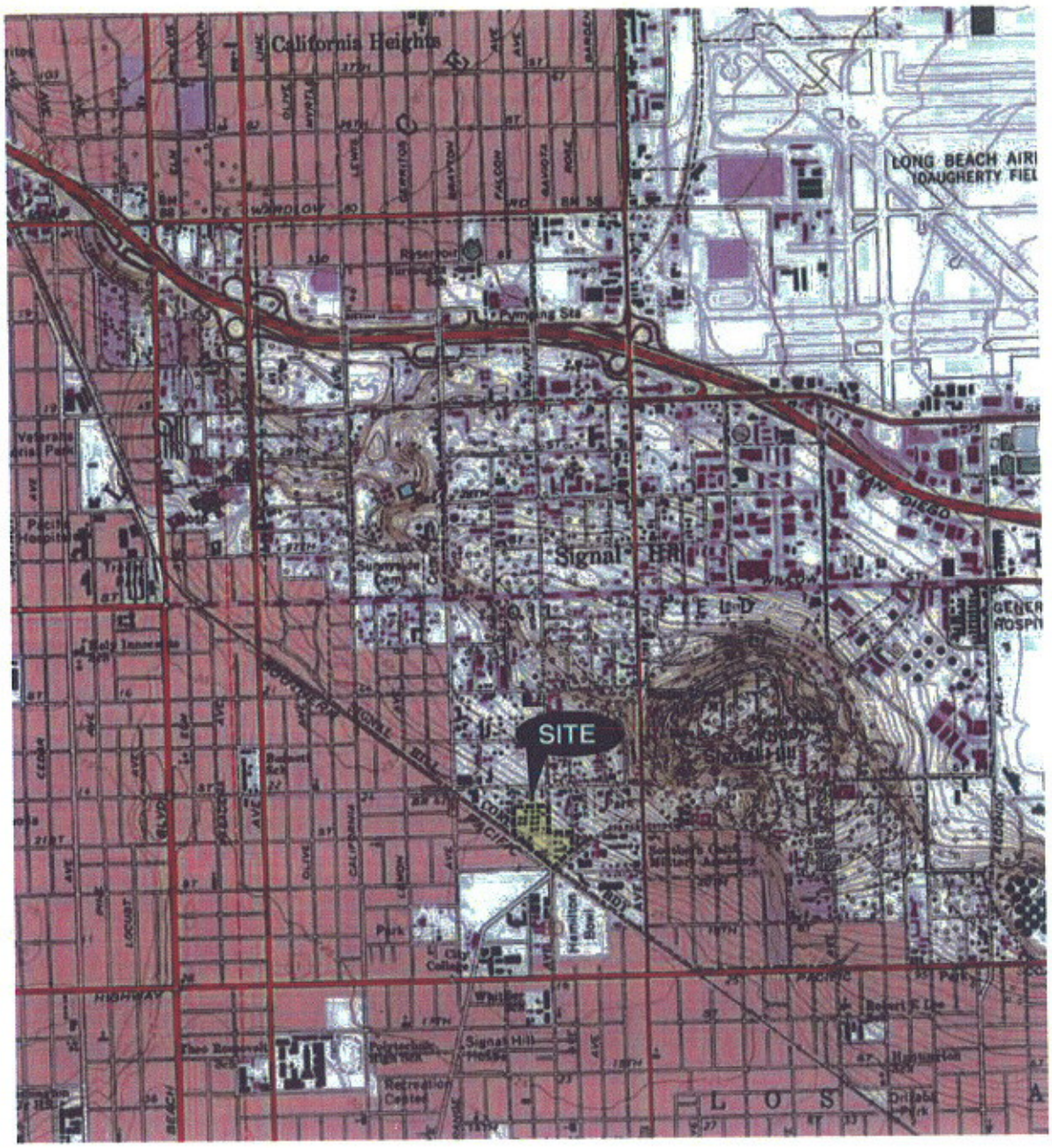
Please contact me at (510) 268-5006 if you have any questions regarding this evaluation.

Sincerely,

Gregory P. Brorby, DABT
Senior Managing Scientist

Attachments

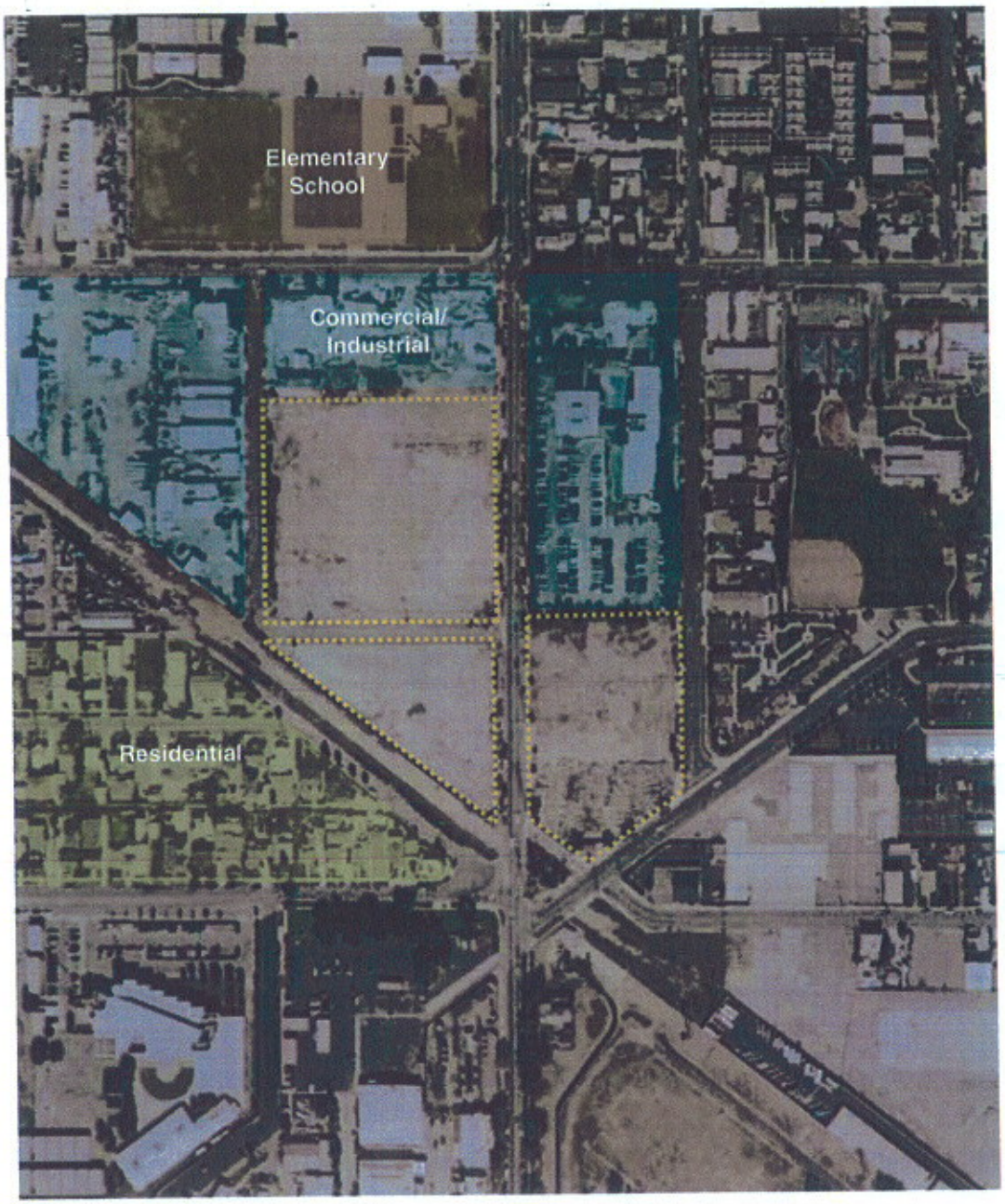
Figures



Source: USGS Long Beach, CA (1981)

Figure 1. Site location map, former Chemoil refinery, Signal Hill, California

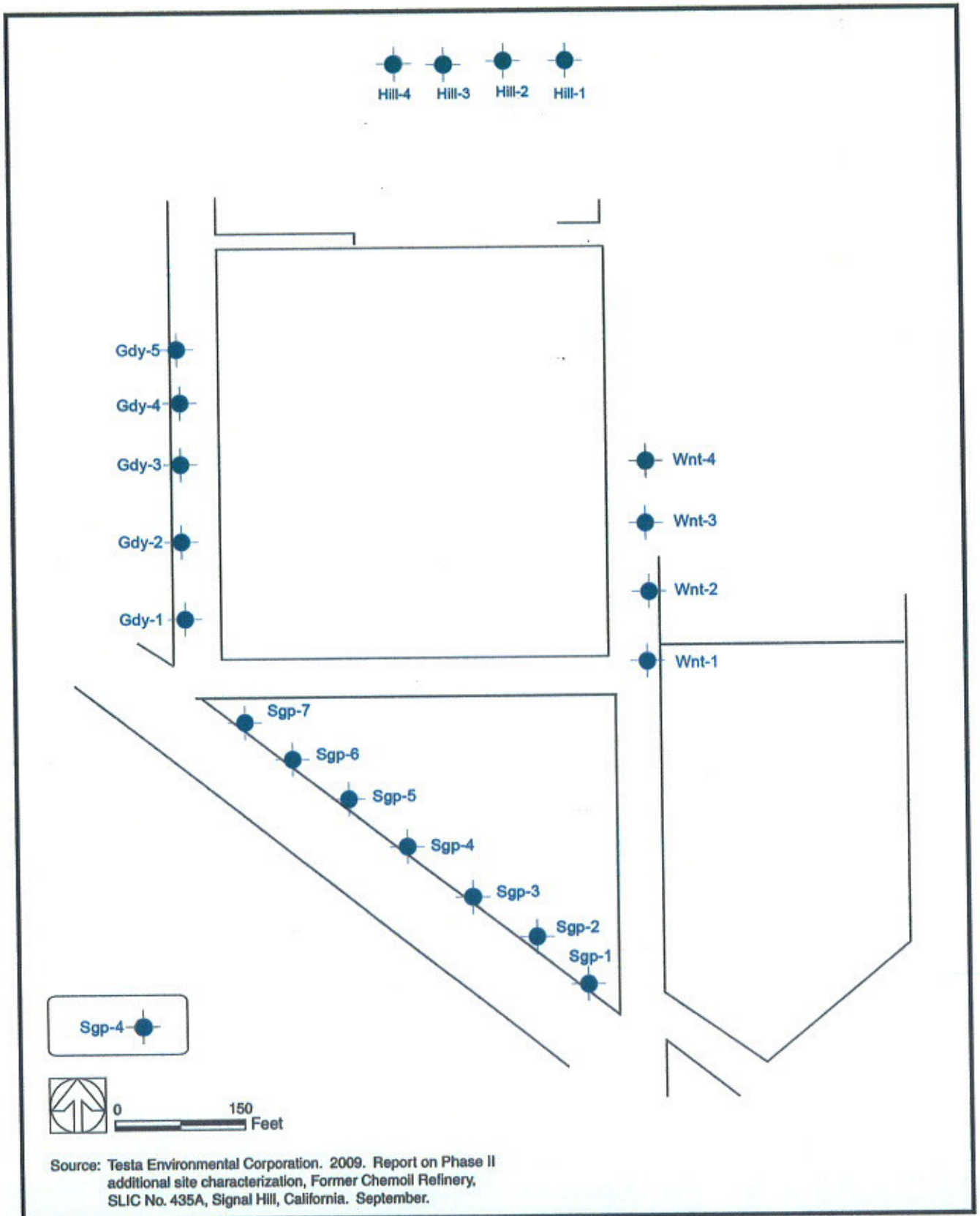
0906735.000 0101 11/19/09 WA



Source: Testa Environmental Corporation. 2009. Report on Phase II additional site characterization, Former Chemoil Refinery, SLIC No. 435A, Signal Hill, California. September.

Figure 2. Offsite development, former Chemoil refinery, Signal Hill, California

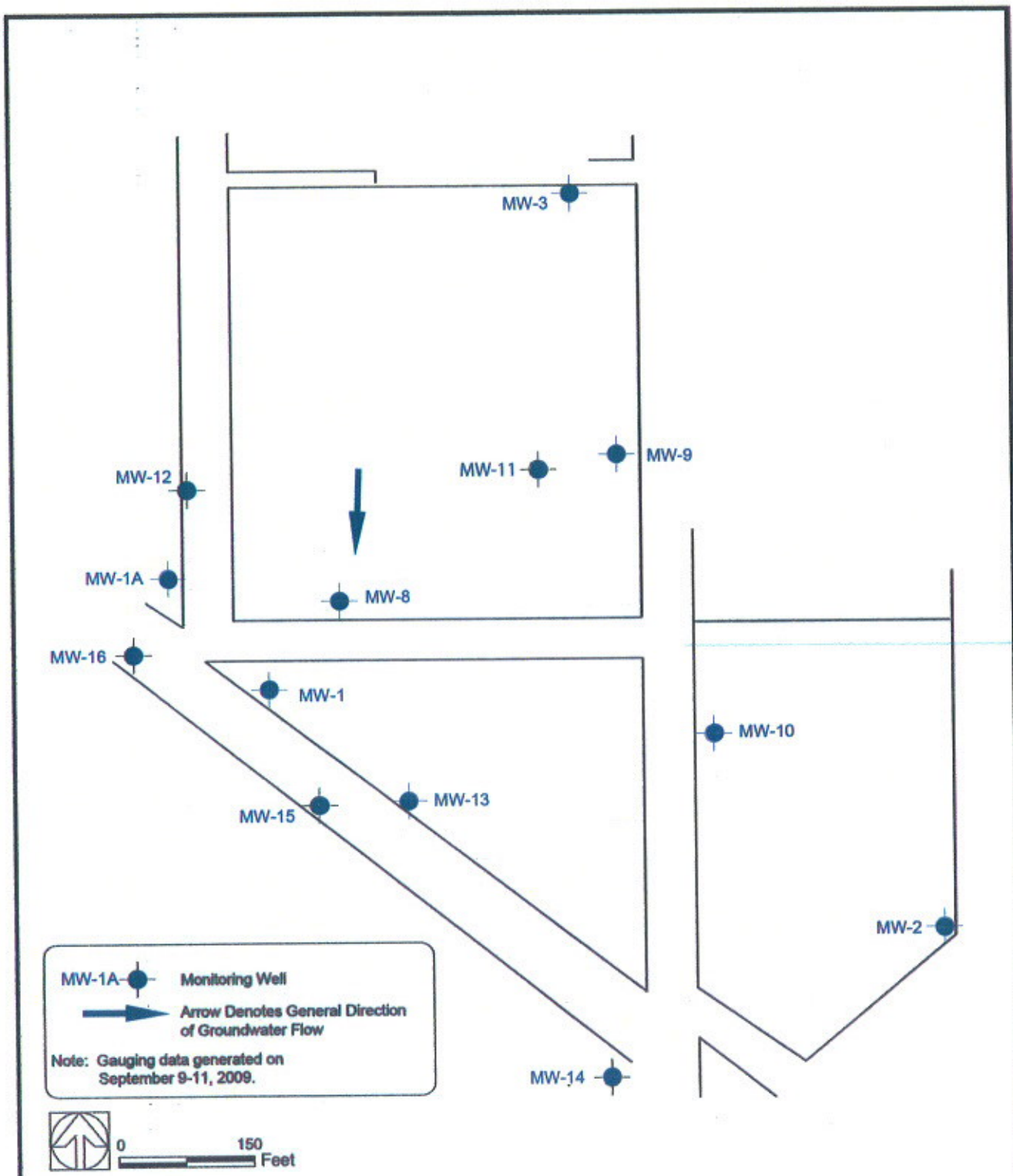
0906735.000 0101 11/19/09 WA



Source: Testa Environmental Corporation. 2009. Report on Phase II additional site characterization, Former Chemoil Refinery, SLIC No. 435A, Signal Hill, California. September.

Figure 3. 2009 Soil vapor sampling locations, former Chemoil refinery, Signal Hill, California

0906735.000 0101 11/18/09 WA



Source: Testa Environmental Corporation. 2009. Report on Phase II additional site characterization, Former Chemoil Refinery, SLIC No. 435A, Signal Hill, California. September.

Figure 4. Groundwater sampling locations, former Chemoil refinery, Signal Hill, California

0606735.000 0101 11/19/09 WA

Tables

Table 1. Analytical data for chemicals detected in soil vapor ($\mu g/m^3$) using EPA Method 8260B (unless otherwise noted)

Chemcial	Sgp-1-5-1V	Sgp-1-5-3V	Sgp-1-5-7V	Sgp-1-15	Sgp-2-5	Sgp-2-15	Sgp-3-5	Sgp-3-15	Sgp-4-5	Sgp-4-15
Benzene	220	430	460	36	<36	<36	53	<36	82	<36
t-Butanol (TBA)	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500
n-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
sec-Butylbenzene	<50	<50	<50	110	<50	<50	<50	1600	260	3100
Tert-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cyclohexane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
1,2-Dichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
cis-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Ethylbenzene	180	780	960	190	<50	1500	<50	580	990	<50
Heptane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	<50	150	160	90	<50	580	<50	6900	1300	10000
4-isopropyltoluene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
MTBE	<50	<50	<50	<50	60	410	140	3400	<50	<50
Naphthalene	<32	<32	<32	<32	<32	<32	<32	<32	<32	<32
n-Propylbenzene	<50	80	80	60	<50	<50	<50	5900	640	5800
Propylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	120	290	330	100	<50	950	<50	<50	1000	<50
1,1,1-Trichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
1,2,4-Trimethylbenzene	<50	220	190	220	<50	130	<50	<50	<50	<50
1,3,5-Trimethylbenzene	<50	50	<50	<50	<50	60	<50	<50	<50	<50
m,p-Xylenes	180	800	960	240	<100	4200	<100	<100	2600	<100
o-Xylenes	50	240	280	60	<50	1000	<50	<50	630	<50

Note: NA - Not Analyzed

* Analyzed Using EPA Method TO-15

Table 1. (cont.)

Chemcial	Sgp-4-15 DUP	Sgp-5-5	Sgp-5-15	Sgp-6-5	Sgp-6-15	Sgp-7-5	Sgp-7-15	Sgp7-15 DUP	Sgp-7-15*
Benzene	<36	77	<36	2100	<36	76	<36	<36	<479
t-Butanol (TBA)	<500	<500	<500	<500	<500	<500	<500	<500	NA
n-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	NA
sec-Butylbenzene	3000	140	2700	240	3400	170	3000	2800	NA
Tert-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	NA
Cyclohexane	NA	NA	NA	NA	NA	NA	NA	NA	895
1,1-Dichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<607
1,2-Dichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<607
cis-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50	<595
Ethylbenzene	<50	220	<50	110	<50	<50	<50	<50	<651
Heptane	NA	NA	NA	NA	NA	NA	NA	NA	<615
Isopropylbenzene	9800	450	6500	910	17000	950	17000	16000	NA
4-isopropyltoluene	<50	<50	<50	<50	<50	<50	<50	<50	NA
MTBE	<50	<50	<50	<50	<50	<50	<50	<50	<541
Naphthalene	<32	<32	<32	<32	<32	<32	<32	<32	NA
n-Propylbenzene	<50	280	4200	740	12000	630	6200	5900	NA
Propylene	NA	NA	NA	NA	NA	NA	NA	NA	<516
Toluene	500	<50	<50	<50	<50	<50	<50	820	<565
1,1,1-Trichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<818
1,2,4-Trimethylbenzene	<50	150	<50	<50	<50	<50	<50	<50	<737
1,3,5-Trimethylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<737
m,p-Xylenes	<100	150	<100	130	<100	<100	<100	<100	<1303
o-Xylenes	<50	<50	<50	60	<50	60	<50	<50	<651

Note: NA - Not Analyzed

* Analyzed Using EPA Method TO-15

Table 1. (cont.)

Chemcial	Gdy-1-5	Gdy-1-15	Gdy-2-5	Gdy-2-15	Gdy-2-15 DUP	Gdy-3-5	Gdy-3-15	Gdy-4-5	Gdy-4-15	Gdy-5-5	Gdy-5-15
Benzene	89	<36	<36	<36	<36	<36	<36	51	<36	<36	<36
t-Butanol (TBA)	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500
n-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
sec-Butylbenzene	<50	2300	<50	1800	1700	580	3000	<50	3900	<50	2100
Tert-Butylbenzene	<50	510	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cyclohexane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
1,2-Dichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
cis-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Ethylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Heptane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	100	9200	<50	630	520	<50	1100	<50	1900	<50	<50
4-isopropyltoluene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
MTBE	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Naphthalene	<32	<32	<32	<32	<32	<32	<32	<32	<32	<32	<32
n-Propylbenzene	<50	570	<50	<50	<50	<50	670	<50	1200	<50	<50
Propylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	250	<50	<50	<50	<50	<50	<50	280	510	93	<50
1,1,1-Trichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
1,2,4-Trimethylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
1,3,5-Trimethylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
m,p-Xylenes	120	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
o-Xylenes	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50

Note: NA - Not Analyzed

* Analyzed Using EPA Method TO-15

Table 1. (cont.)

Chemcial	Wnt-1-5	Wnt-1-15	Wnt-1-15*	Wnt-2-5	Wnt-2-15	Wnt-3-5	Wnt-3-15	Wnt-4-5	Wnt-4-15
Benzene	43	<36	17.9	<36	<36	51	<36	<36	<36
t-Butanol (TBA)	<500	<500	NA	<500	<500	<500	<500	<500	<500
n-Butylbenzene	<50	<50	NA	<50	<50	<50	<50	<50	<50
sec-Butylbenzene	<50	<50	NA	1300	1800	<50	8900	<50	<50
Tert-Butylbenzene	<50	<50	NA	<50	<50	<50	630	<50	<50
Cyclohexane	NA	NA	234.1	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	<50	<50	13.4	<50	<50	<50	<50	<50	<50
1,2-Dichloroethane	<50	<50	17.8	<50	<50	<50	<50	<50	<50
cis-1,2-Dichloroethene	<50	<50	154.6	<50	<50	<50	<50	<50	<50
Ethylbenzene	61	<50	91.2	<50	1600	<50	620	260	<50
Heptane	NA	NA	139.4	NA	NA	NA	NA	NA	NA
Isopropylbenzene	<50	75	NA	23000	47000	280	81000	<50	<50
4-isopropyltoluene	<50	<50	NA	<50	<50	<50	<50	<50	<50
MTBE	<50	<50	<11	<50	<50	<50	<50	<50	<50
Naphthalene	<32	<32	NA	<32	<32	<32	<32	<32	<32
n-Propylbenzene	<50	<50	NA	2200	8700	<50	17000	<50	<50
Propylene	NA	NA	327.0	NA	NA	NA	NA	NA	NA
Toluene	150	88	1092.9	840	600	130	740	170	<50
1,1,1-Trichloroethane	<50	<50	180.0	<50	<50	<50	<50	<50	<50
1,2,4-Trimethylbenzene	<50	<50	<15	<50	<50	<50	<50	<50	<50
1,3,5-Trimethylbenzene	<50	<50	<15	<50	<50	<50	<50	<50	<50
m,p-Xylenes	190	130	477.6	<100	<100	<100	<100	780	<100
o-Xylenes	65	<50	112.9	<50	<50	<50	<50	180	<50

Note: NA - Not Analyzed

* Analyzed Using EPA Method TO-15

Table 1. (cont.)

Chemcial	Hill-1-5	Hill-1-15	Hill-2-5	Hill-2-15	Hill-2-15 DUP	Hill-3-5	Hill-3-15	Hill-4-5	Hill-4-15
Benzene	50	<36	<36	<36	<36	86	<36	<36	<36
t-Butanol (TBA)	<500	<500	<500	<500	<500	<500	<500	<500	<500
n-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50
sec-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50
Tert-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cyclohexane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<50
1,2-Dichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<50
cis-1,2-Dichloroethene	<50	<50	<50	<50	<50	<50	<50	<50	<50
Ethylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50
Heptane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50
4-Isopropyltoluene	<50	<50	<50	<50	<50	<50	<50	<50	<50
MTBE	<50	<50	<50	<50	<50	<50	<50	<50	<50
Naphthalene	<32	<32	<32	<32	<32	<32	<32	<32	<32
n-Propylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50
Propylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	180	<50	<50	68	69	250	130	<50	<50
1,1,1-Trichloroethane	<50	<50	<50	<50	<50	<50	<50	<50	<50
1,2,4-Trimethylbenzene	<50	<50	<50	110	99	<50	<50	<50	<50
1,3,5-Trimethylbenzene	<50	<50	<50	<50	<50	<50	<50	<50	<50
m,p-Xylenes	<100	<100	<100	<100	<100	120	<100	<100	<100
o-Xylenes	<50	<50	<50	<50	<50	<50	<50	<50	<50

Note: NA - Not Analyzed

* Analyzed Using EPA Method TO-15

Table 2. Analytical data for chemicals detected in groundwater (µg/L) using EPA Method 8270C (unless otherwise noted)

Sample Location	Sample Date	Benzene	Bromobenzene	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	MTBE	Naphthalene	n-Propylbenzene	n-Butylbenzene
MW-1	Dec-08	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
MW-1	Mar-09	<13	<12	<14	<13	<13	<15	<15	<12	<14	<14
MW-1	Jul-09	<5	<5	<5	<5	57	<5	<5	14	36	<5
MW-1	Sep-09	<5	<5	<5	7.8	19	<5	<5	8.5	7.4	<5
MW-1A	Dec-08	<50	<50	<50	<50	<50	<50	<50	74	<50	<50
MW-1A	Mar-09	<13	<12	<14	<13	42	<15	<15	100	20	<14
MW-1A	Jul-09	<5	<5	<5	<5	22	<5	14	120	9.6	<5
MW-1A	Sep-09	<25	<25	<25	<25	28	<25	<25	81	<25	<25
MW-2	Dec-08	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW-2	Mar-09	<2.6	<2.4	<2.7	<2.6	<2.5	<2.9	<3.1	<2.4	<2.7	<2.8
MW-2	Jul-09	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW-2	Sep-09	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW-3	Dec-08	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
MW-3	Mar-09	<13	<12	<14	<13	<13	<15	<15	<12	<14	<14
MW-3	Jul-09	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW-3	Sep-09	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW-8	Dec-08	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
MW-8	Mar-09	<26	<24	<27	<26	35	<29	<31	66	<27	<28
MW-8	Jul-09	<5	<5	<5	<5	40	<5	18	88	32	<5
MW-8	Sep-09	33	<25	<25	<25	53	<25	<25	130	46	<25
MW-9	Dec-08	160	<5	<5	32	68	<5	<5	100	59	5.6
MW-9	Mar-09	140	<2.4	<2.7	26	40	<2.9	<3.1	100	36	4.4
MW-9	Jul-09	170	<5	<5	31	53	<5	<5	140	54	7.4
MW-9	Sep-09	270	<5	<5	98	54	<5	<5	120	53	<5
MW-10	Dec-08	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
MW-10	Mar-09	<13	<12	<14	<13	<13	<15	<15	<12	<14	<14
MW-10	Jul-09	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW-10	Sep-09	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW-11	Jul-09	5000	<50	74	610	100	<50	<50	290	100	<50
MW-11	Sep-09	4600	<100	<100	680	<100	<100	<100	250	<100	<100
MW-12	Jul-09	680	<100	<100	2500	870	390	<100	580	1100	580
MW-12	Sep-09	320	<25	<25	1400	210	86	<25	250	240	41
MW-13	Jul-09	<5	<5	<5	<5	49	<5	15	220	41	<5
MW-13	Sep-09	<5	<5	<5	10	39	<5	16	180	33	<5
MW-14	Jul-09	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW-14	Sep-09	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW-15	Jul-09	<5	<5	<5	<5	72	<5	<5	220	40	<5
MW-15	Sep-09	<25	<25	<25	<25	92	<25	<25	190	46	<25
MW-16	Jul-09	<5	<5	<5	8.8	170	14	8.1	150	98	8.7
MW-16	Sep-09	<25	<25	<25	<25	150	<25	27	130	120	<25

* Analyzed Using EPA Method 8270C

Table 2. (cont.)

Sample Location	Sample Date	sec-Butylbenzene	Tert-Butanol	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Toluene	m,p-Xylenes	o-Xylene	2,4-Dimethyl-phenol*	2-Methyl-naphthalene*	Naphthalene*
MW-1	Dec-08	<50	<1000	<50	<50	<50	<100	<50	<11	<11	<11
MW-1	Mar-09	<14	<240	<13	<13	<13	<27	<14	<2.7	<3.4	<2.7
MW-1	Jul-09	6.1	<100	<5	<5	<5	<10	<5	<25	<25	<25
MW-1	Sep-09	<5	210	6.4	<5	<5	13	<5	<10	<10	<10
MW-1A	Dec-08	<50	<1000	<50	<50	<50	<100	<50	<11	12	26
MW-1A	Mar-09	<14	<240	<13	<13	<13	<27	<14	<2.7	<3.4	<2.7
MW-1A	Jul-09	<5	<100	<5	<5	<5	<10	<5	<25	<25	<25
MW-1A	Sep-09	<25	<500	<25	<25	<25	<50	<25	<10	17	34
MW-2	Dec-08	<5	<100	<5	<5	<5	<10	<5	<11	<11	<11
MW-2	Mar-09	<2.8	<48	<2.6	<2.6	<2.6	<5.4	<2.7	<2.7	<3.4	<2.7
MW-2	Jul-09	<5	<100	<5	<5	<5	<10	<5	<10	<10	<10
MW-2	Sep-09	<5	<100	<5	<5	<5	<10	<5	<10	<10	<10
MW-3	Dec-08	<50	<1000	<50	<50	<50	<100	<50	<11	<11	<11
MW-3	Mar-09	<14	<240	<13	<13	<13	<27	<14	<2.7	<3.4	<2.7
MW-3	Jul-09	<5	<100	<5	<5	<5	<10	<5	<10	<10	<10
MW-3	Sep-09	<5	<100	<5	<5	<5	<10	<5	<10	<10	<10
MW-8	Dec-08	<50	<1000	<50	<50	<50	<100	<50	<11	<11	<11
MW-8	Mar-09	<28	560	<26	<26	<26	<54	<27	<2.7	<3.4	4.5
MW-8	Jul-09	5.4	710	<5	<5	<5	<10	<5	<25	<25	<25
MW-8	Sep-09	<25	<500	<25	<25	<25	<50	<25	<10	<10	46
MW-9	Dec-08	10	<100	5.8	<5	<5	50	<5	<11	<11	<11
MW-9	Mar-09	7.2	<48	5.7	2.8	3.1	48	3.7	<2.7	<3.4	<2.7
MW-9	Jul-09	12	<100	7.2	<5	<5	41	<5	<10	<10	19
MW-9	Sep-09	7.9	<100	19	6	5.3	100	8	<10	20	39
MW-10	Dec-08	<50	<1000	<50	<50	<50	<100	<50	<11	<11	<11
MW-10	Mar-09	<14	<240	<13	<13	<13	<27	<14	<2.7	<3.4	<2.7
MW-10	Jul-09	<5	<100	<5	<5	<5	<10	<5	<10	<10	<10
MW-10	Sep-09	<5	<100	<5	<5	<5	<10	<5	<10	<10	<10
MW-11 / R-4	Jul-09	<50	<1000	170	90	<50	130	<50	36	53	82
MW-11 / R-4	Sep-09	<100	<2000	160	<100	<100	<200	<100	<10	68	89
MW-12	Jul-09	470	<2000	3400	1100	<100	3400	1200	<10	18	91
MW-12	Sep-09	50	<500	1400	210	<25	2200	360	<10	17	90
MW-13	Jul-09	10	<100	<5	<5	<5	<10	<5	<25	<25	<25
MW-13	Sep-09	8.4	180	8.1	<5	<5	17	<5	<10	34	30
MW-14	Jul-09	<5	<100	<5	<5	<5	<10	<5	<10	<10	<10
MW-14	Sep-09	<5	<100	<5	<5	<5	<10	<10	<10	<10	<10
MW-15	Jul-09	18	<100	<5	<5	<5	<10	<5	<10	<10	<10
MW-15	Sep-09	26	<500	<25	<25	<25	<50	<25	<10	86	58
MW-16	Jul-09	28	<100	<5	18	<5	<10	<5	<10	<10	<10
MW-16	Sep-09	26	<500	<25	<25	<25	<50	<25	<10	59	64

* Analyzed Using EPA Method 8270C

Table 3. Exposure-point concentrations for chemicals of potential concern in soil vapor

	Maximum Detected Value on Northern Perimeter ($\mu g/m^3$)		Maximum Detected Value on Southern Perimeter ($\mu g/m^3$)		Maximum Detected Value on Eastern Perimeter ($\mu g/m^3$)		Maximum Detected Value on Western Perimeter ($\mu g/m^3$)	
Chemical	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft
Benzene	86	18*	2100	36	51	18	89	18*
n-Butylbenzene	N/A	N/A	25*	25*	25*	25*	25*	25*
sec-Butylbenzene	N/A	N/A	260	3400	1300	8900	580	3900
Tert-Butylbenzene	N/A	N/A	N/A	N/A	25*	630	25*	510
Cyclohexane	N/A	N/A	N/A	895	N/A	234	N/A	N/A
1,1-Dichloroethane	N/A	N/A	N/A	N/A	25*	13	N/A	895
1,2-Dichloroethane	N/A	N/A	N/A	N/A	25*	18	N/A	N/A
cis-1,2-Dichloroethene	N/A	N/A	N/A	N/A	25*	155	N/A	N/A
Ethylbenzene	N/A	N/A	990	1500	260	1600	25*	25*
Isopropylbenzene	N/A	N/A	1300	17000	23000	81000	100	9200
MTBE	N/A	N/A	140	3400	N/A	N/A	25*	25*
Naphthalene	N/A	N/A	16*	16*	16*	16*	16*	16*
n-Propylbenzene	N/A	N/A	740	12000	2200	17000	25*	1200
Toluene	250	130	1000	950	840	1093	280	510
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	25*	180	N/A	N/A
1,2,4-Trimethylbenzene	25*	110	220	220	25*	25*	25*	25*
1,3,5-Trimethylbenzene	N/A	N/A	50	60	25*	25*	25*	25*
m,p-Xylenes	120	50*	2600	4200	780	478	120	50*
o-Xylenes	N/A	N/A	630	1000	180	113	25*	25*

Note: N/A - Not Applicable

*Detected in groundwater or the corresponding soil gas sample at another depth; half the detection limit used.

Table 4. Exposure-point concentrations for chemicals of potential concern in groundwater

Chemical	Maximum Detected Value on Southern Perimeter (µg/L)	Maximum Detected Value on Eastern Perimeter (µg/L)	Maximum Detected Value on Western Perimeter (µg/L)
Benzene	N/A	270	680
n-Butylbenzene	8.7	7.4	580
sec-Butylbenzene	29	12	470
Ethylbenzene	10	98	2500
Isopropylbenzene	170	68	870
2-Methylnaphathalene	86	20	18
MTBE	27	N/A	14
Naphthalene	220	140	580
n-Propylbenzene	120	59	1100
Toluene	N/A	5.3	N/A
1,2,4-Trimethylbenzene	8.1	19	3400
1,3,5-Trimethylbenzene	18	6	1100
m,p-Xylenes	17	100	3400
o-Xylene	N/A	8	1200

Note: N/A - Not Applicable

Table 5. Summary of toxicity criteria for chemicals of potential concern

Chemical	Inhalation IUR $(\mu g/m^3)^{-1}$		Inhalation RfC (mg/m^3)	
Benzene	2.90E-05	o	3.00E-02	i
Bromobenzene	N/A		6.00E-02	i
n-Butylbenzene	N/A		1.40E-01	d
sec-Butylbenzene	N/A		1.40E-01	d
Tert-Butylbenzene	N/A		1.40E-01	d
Cyclohexane	N/A		6.00E+00	i
1,1-Dichloroethane	1.60E-06	o	7.00E-01	d
1,2-Dichloroethane	2.10E-05	o	4.00E-01	o
cis-1,2-Dichloroethene	N/A		3.50E-02	d
Ethylbenzene	2.50E-06	o	1.00E+00	i
Isopropylbenzene	N/A		4.00E-01	i
2-Methylnaphathalene	N/A		1.40E-02	d
Methyl tertiary butyl ether	2.60E-07	o	3.00E+00	i
Naphthalene	3.40E-05	o	3.00E-03	i
n-Propylbenzene	N/A		1.40E-01	d
1,1,1-Trichloroethane	N/A		5.00E+00	i
Toluene	N/A		3.00E-01	o
1,2,4-Trimethylbenzene	N/A		7.00E-03	d
1,3,5-Trimethylbenzene	N/A		6.00E-03	d
p-Xylene	N/A		1.00E-01	i
o-Xylene	N/A		1.00E-01	i

Note: EPA - U.S. Environmental Protection Agency
i - EPA Integrated Risk Information System (IRIS) database
IUR - inhalation unit risk
N/A - not applicable
o - OEHHA Toxicity Criteria Database
OEHHA - Office of Environmental Health Hazard Assessment
d - DTSC J&E Spreadsheets (2009)
RfC - reference concentration

Table 6. Results for resident using data from northern perimeter

	Exposure to Indoor Air Using Maximum Soil Gas Concentrations at 5 ft		Exposure to Indoor Air Using Maximum Soil Gas Concentrations at 15 ft	
Chemical	Estimated Excess Cancer Risk	Estimated Non-Cancer Hazard	Estimated Excess Cancer Risk	Estimated Non-Cancer Hazard
Benzene	7.8E-07	2.1E-03	6.7E-08	1.8E-04
Toluene	NA	6.0E-04	NA	1.3E-04
1,2,4-Trimethylbenzene	NA	2.0E-03	NA	3.4E-03
p-Xylene	NA	7.9E-04	NA	1.3E-04
TOTAL	**8E-07**	**5E-03**	**7E-08**	**4E-03**

Note: NA - Not Applicable

Table 7. Results for resident using data from southern perimeter

Chemical	Exposure to Indoor Air Using Maximum Soil Gas Concentrations at 5 ft		Exposure to Indoor Air Using Maximum Soil Gas Concentrations at 15 ft		Exposure to Indoor Air Using Maxiumum Groundwater Concentrations	
	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient
Benzene	1.9E-05	5.1E-02	1.3E-07	3.6E-04	NA	NA
n-Butylbenzene	NA	9.4E-05	NA	3.7E-05	NA	1.0E-03
sec-Butylbenzene	NA	9.8E-04	NA	5.0E-03	NA	2.5E-04
Cyclohexane	NA	NA	NA	4.1E-05	NA	NA
Ethylbenzene	6.9E-07	6.4E-04	4.2E-07	3.9E-04	1.4E-07	1.3E-04
Isopropylbenzene (Cumene)	NA	1.9E-03	NA	9.8E-03	NA	6.3E-01
2-Methylnaphthalene	NA	NA	NA	NA	NA	6.2E-03
MTBE	1.3E-08	3.8E-05	1.3E-07	3.9E-04	7.1E-09	2.1E-05
Naphthalene	1.3E-07	2.9E-03	4.9E-08	1.1E-03	3.6E-06	8.1E-02
n-Propylbenzene	NA	2.9E-03	NA	1.8E-02	NA	1.2E-02
Toluene	NA	2.4E-03	NA	9.5E-04	NA	NA
1,2,4-Trimethylbenzene	NA	1.7E-02	NA	6.8E-03	NA	9.7E-03
1,3,5-Trimethylbenzene	NA	4.6E-03	NA	2.2E-03	NA	2.5E-02
p-Xylene	NA	1.7E-02	NA	1.1E-02	NA	2.3E-03
o-Xylene	NA	4.5E-03	NA	3.0E-03	NA	NA
TOTAL	**2E-05**	**1E-01**	**7E-07**	**6E-02**	**4E-06**	**8E-01**

Note: NA - Not Applicable

Table 8. Results for commercial worker using data from eastern perimeter

Chemical	Exposure to Indoor Air Using Maximum Soil Gas Concentrations at 5 ft		Exposure to Indoor Air Using Maximum Soil Gas Concentrations at 15 ft		Exposure to Indoor Air Using Maxiumum Groundwater Concentrations	
	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient
Benzene	1.4E-07	4.4E-04	2.0E-08	6.5E-05	1.2E-06	3.9E-02
n-Butylbenzene	NA	3.4E-05	NA	1.3E-05	NA	3.0E-04
sec-Butylbenzene	NA	1.8E-03	NA	4.7E-03	NA	3.6E-05
tert-Butylbenzene	NA	3.3E-05	NA	3.3E-04	NA	NA
Cyclohexane	NA	NA	NA	3.9E-06	NA	NA
1,1-Dichloroethane	3.3E-09	8.2E-06	6.9E-10	1.7E-06	NA	NA
1,2-Dichloroethane	5.4E-08	1.8E-05	1.7E-08	5.6E-06	NA	NA
cis-1,2-Dichloroethylene	NA	1.6E-04	NA	4.1E-04	NA	NA
Ethylbenzene	5.4E-08	6.0E-05	1.3E-07	1.5E-04	4.2E-07	4.7E-04
Isopropylbenzene (Cumene)	NA	1.2E-02	NA	1.7E-02	NA	9.0E-02
2-Methylnaphthalene	NA	NA	NA	NA	NA	5.2E-04
Naphthalene	3.8E-08	1.0E-03	1.5E-08	4.0E-04	5.7E-07	1.9E-02
n-Propylbenzene	NA	3.1E-03	NA	9.3E-03	NA	2.1E-03
Toluene	NA	7.2E-04	NA	3.9E-04	NA	8.6E-05
1,1,1-Trichloroethane	NA	1.2E-06	NA	3.5E-06	NA	NA
1,2,4-Trimethylbenzene	NA	7.1E-04	NA	2.8E-04	NA	8.2E-03
1,3,5-Trimethylbenzene	NA	8.3E-04	NA	3.2E-04	NA	2.9E-03
p-Xylene	NA	1.8E-03	NA	4.6E-04	NA	4.8E-03
o-Xylene	NA	4.6E-04	NA	1.2E-04	NA	3.0E-04
TOTAL	**3E-07**	**2E-02**	**2E-07**	**3E-02**	**1E-05**	**2E-01**

Note: NA - Not Applicable

Table 9. Results for commercial worker using data from western perimeter

Chemical	Exposure to Indoor Air Using Maximum Soil Gas Concentrations at 5 ft		Exposure to Indoor Air Using Maximum Soil Gas Concentrations at 15 ft		Exposure to Indoor Air Using Maximum Groundwater Concentrations	
	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient
Benzene	2.4E-07	7.7E-04	2.0E-08	6.5E-05	3.1E-05	9.8E-02
n-Butylbenzene	NA	3.4E-05	NA	1.3E-05	NA	2.4E-02
sec-Butylbenzene	NA	7.8E-04	NA	2.0E-03	NA	1.4E-03
tert-Butylbenzene	NA	3.3E-05	NA	2.6E-04	NA	NA
Ethylbenzene	5.2E-09	5.8E-06	2.1E-09	2.3E-06	1.1E-05	1.2E-02
Isopropylbenzene (Cumene)	NA	5.2E-05	NA	1.9E-03	NA	1.2E+00
2-Methylnaphthalene	NA	NA	NA	NA	NA	4.7E-04
MTBE	6.7E-10	2.4E-06	2.9E-10	1.0E-06	1.1E-09	3.9E-06
Naphthalene	3.8E-08	1.0E-03	1.5E-08	4.0E-04	2.8E-06	7.7E-02
n-Propylbenzene	NA	3.5E-05	NA	6.6E-04	NA	3.9E-02
Toluene	NA	2.4E-04	NA	1.8E-04	NA	NA
1,2,4-Trimethylbenzene	NA	7.1E-04	NA	2.8E-04	NA	1.5E+00
1,3,5-Trimethylbenzene	NA	8.3E-04	NA	3.2E-04	NA	5.3E-01
p-Xylene	NA	2.8E-04	NA	4.8E-05	NA	1.6E-01
o-Xylene	NA	6.4E-05	NA	2.7E-05	NA	4.5E-02
TOTAL	**3E-07**	**5E-03**	**4E-08**	**6E-03**	**4E-05**	**4E+00**

Note: NA - Not Applicable

Attachment A

Johnson & Ettinger Modeling Spreadsheets



Johnson & Ettinger Modeling Sheets

This appendix includes the model output sheets from the Johnson and Ettinger model (Johnson and Ettinger 1991), which was used to estimate infiltration of chemicals in soil vapor into indoor air. This model has been has been parameterized by U.S. EPA (2003) and was modified to reflect Cal-EPA-specific toxicity criteria, as appropriate (see Section 4.3 of the main text). Default model input parameters recommended by U.S. EPA were used, except as follows. The soil vapor sampling depth was set to 152 cm (5 ft) or 457 cm (15 ft) depending on the depth indicated in the Phase II report (TEC 2009). The soil types ("silt loam" and "sandy loam" for strata A and B, respectively) and thickness of soil stratum A (396 cm, or 13 ft) are based on a recommendation from Stephen Testa of Testa Environmental Corporation (Testa 2009). The depth to groundwater of 549 cm (18 ft) is based on the depth indicated in the Phase II report (TEC 2009). Input soil parameters for dry bulk density, total soil porosity, and water-filled soil porosity of soil stratum A were based on default values for loamy sand. The average soil temperature was assumed to be 19°C based on Figure 8 of U.S. EPA's (2003) guidance. All other parameters were default parameters used by Cal-EPA in their calculation of California Human Health Screening Levels (Cal-EPA 2005).

References

Cal-EPA. 2005. Human-exposure-based screening numbers developed to aid estimation of cleanup costs for contaminated soil. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment. January.

Johnson, P.C., and R.A. Ettinger. 1991. Heuristic model for predicting the intrusion rate of contaminant vapors in buildings. Environ. Sci. Technol. 25:1445–1452.

TEC. 2009. Report on Phase II additional site characterization, September 2009, former Chemoil Refinery, SLIC No. 453A, Signal Hill, California. Volume I. Testa Environmental Corporation. September 30.

Testa, S. 2009. E-mail letter from Stephen Testa of Testa Environmental Corporation to Greg Brorby of Exponent. Re: Additional questions. November 01.

U.S. EPA. 2003. User's guide for evaluating subsurface vapor intrusion into buildings. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Toxics Integration Branch, Washington, DC.

Resident using 5 ft. soil vapor data along northern perimeter

SG-ADV
Version 3.1; 02/04

Program modified by ROR of Exponent to accommodate multiple chemicals

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	8.50E+01			Benzene
108883	2.50E+02			Toluene
95636	2.50E+01			1,2,4-Trimethylbenzene
106423	1.20E+02			p-Xylene

Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical co

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Totals must add up to value of Ls (cell F24): Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
15	152	19	152	0	0	SL		

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SL	1.49	0.439	0.18								

MORE

ENTER Enclosed space floor thickness, L_{slab} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm-s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1200	1000	244	0.1	0.5	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H ($atm\text{-}m^3/mol$)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

	Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapo permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
Benzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.798	2.28E-09	4,000	8.60E+01	3.39E+04
Toluene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.798	2.28E-09	4,000	2.50E+02	3.39E+04
1,2,4-Trimethylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.799	2.28E-09	4,000	2.50E+01	3.39E+04
p-Xylene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.798	2.28E-09	4,000	1.20E+02	3.39E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,ts}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{ts} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{ts} (unitless)	Vapor viscosity at ave. soil temperature, μ_{ts} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	1.00E+06	4.00E-04	15	8,030	4.19E-03	1.75E-01	1.78E-04	5.08E-03	0.00E+00	0.00E+00	5.08E-03	137
Toluene	1.00E+06	4.00E-04	15	8,056	4.84E-03	2.02E-01	1.78E-04	5.02E-03	0.00E+00	0.00E+00	5.02E-03	137
1,2,4-Trimethylbenzene	1.00E+06	4.00E-04	15	11,579	4.11E-03	1.72E-01	1.78E-04	3.50E-03	0.00E+00	0.00E+00	3.50E-03	137
p-Xylene	1.00E+06	4.00E-04	15	10,143	5.38E-03	2.24E-01	1.78E-04	4.44E-03	0.00E+00	0.00E+00	4.44E-03	137

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	15	8.60E+01	0.10	8.33E+01	5.08E-03	4.00E+02	1.33E+267	7.57E-04	6.51E-02	2.9E-05	3.0E-02
Toluene	15	2.50E+02	0.10	8.33E+01	5.02E-03	4.00E+02	1.60E+270	7.51E-04	1.88E-01	NA	3.0E-01
1,2,4-Trimethylbenzene	15	2.50E+01	0.10	8.33E+01	3.50E-03	4.00E+02	#NUM!	5.77E-04	1.44E-02	NA	7.0E-03
p-Xylene	15	1.20E+02	0.10	8.33E+01	4.44E-03	4.00E+02	4.83E+305	6.89E-04	8.26E-02	NA	1.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	7.8E-07	2.1E-03
Toluene	NA	6.0E-04
1,2,4-Trimethylbenzene	NA	2.0E-03
p-Xylene	NA	7.9E-04
	8E-07	5E-03

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Resident using 15 ft. soil vapor data along northern perimeter

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Program modified by ROR of Exponent to accommodate multiple chemicals

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.80E+01			Benzene
108883	1.30E+02			Toluene
95636	1.10E+02			1,2,4-Trimethylbenzene
106423	5.00E+01			p-Xylene

Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical co

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_s (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Totals must add up to value of La (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
15	457	19	396	61	0	SL		

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SL	1.49	0.439	0.18	SL	1.52	0.367	0.103				

MORE

ENTER Enclosed space floor thickness, L_{slab} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm-s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	0.8	0

ENTER Averaging time for carcinogens, AT_a (yrs)	ENTER Averaging time for noncarcinogens, AT_{nc} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.76	591.79	92.14	0.0E+00	3.0E-01
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

	Exposure duration, t (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{ra} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc., ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
Benzene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.798	2.28E-09	4,000	1.80E+01	3.39E+04
Toluene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.798	2.28E-09	4,000	1.30E+02	3.39E+04
1,2,4-Trimethylbenzene	9.46E+08	442	0.259	0.284	16,000	0.307	2.86E-09	0.798	2.28E-09	4,000	1.10E+02	3.39E+04
p-Xylene	9.46E+08	442	0.259	0.284	17,000	0.307	2.86E-09	0.798	2.28E-09	4,000	5.00E+01	3.39E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,ts}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{ts} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{ts} (unitless)	Vapor viscosity at ave. soil temperature, μ_{ts} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	1.00E+06	4.00E-04	15	8,090	4.19E-03	1.75E-01	1.78E-04	5.09E-03	6.88E-03	0.00E+00	5.40E-03	442
Toluene	1.00E+06	4.00E-04	15	9,056	4.84E-03	2.02E-01	1.78E-04	5.02E-03	6.78E-03	0.00E+00	5.34E-03	442
1,2,4-Trimethylbenzene	1.00E+06	4.00E-04	15	11,579	4.11E-03	1.72E-01	1.78E-04	3.50E-03	6.12E-03	0.00E+00	3.72E-03	442
p-Xylene	1.00E+06	4.00E-04	15	10,143	5.38E-03	2.24E-01	1.78E-04	4.44E-03	7.76E-03	0.00E+00	4.72E-03	442

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	15	1.80E+01	0.10	8.33E+01	5.09E-03	4.00E+02	1.33E+267	3.14E-04	5.86E-03	2.9E-05	3.0E-02
Toluene	15	1.30E+02	0.10	8.33E+01	5.02E-03	4.00E+02	1.60E+270	3.11E-04	4.05E-02	NA	3.0E-01
1,2,4-Trimethylbenzene	15	1.10E+02	0.10	8.33E+01	3.50E-03	4.00E+02	#NUM!	2.25E-04	2.48E-02	NA	7.0E-03
p-Xylene	15	5.00E+01	0.10	8.33E+01	4.44E-03	4.00E+02	4.93E+305	2.78E-04	1.40E-02	NA	1.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	6.7E-08	1.8E-04
Toluene	NA	1.3E-04
1,2,4-Trimethylbenzene	NA	3.4E-03
p-Xylene	NA	1.3E-04
	7E-08	4E-03

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

Resident using 5 ft. soil vapor data along southern perimeter

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Program modified by ROR of Exponent to accommodate multiple chemicals

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (ug/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	2.16E+03			Benzene
104518	2.60E+01			n-Butylbenzene
135988	2.60E+02			sec-Butylbenzene
100414	9.60E+02			Ethylbenzene
98828	1.30E+03			Cumene
1634044	1.40E+02			MTBE
91203	1.80E+01			Naphthalene
103651	7.40E+02			n-Propylbenzene
108883	1.00E+03			Toluene
95636	2.20E+02			1,2,4-Trimethylbenzene
108678	8.00E+01			1,3,5-Trimethylbenzene
106423	2.60E+03			p-Xylene
95476	8.30E+02			o-Xylene

Note: Same as Isopropylbenzene

Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical co

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_f (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Totals must add up to value of L_T (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
10	150	15	150	0	0	SIL		

MORE

ENTER Stratum A SCS soil type (used to estimate default soil parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum B SCS soil type (used to estimate default soil parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum C SCS soil type (used to estimate default soil parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)
SIL	1.48	0.439	0.18								

MORE

ENTER Enclosed space floor thickness, L_{slab} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	0.6	5

ENTER Averaging time for carcinogens, AT_c (yrs)	ENTER Averaging time for noncarcinogens, AT_{nc} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_c (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
n-Butylbenzene	5.70E-02	6.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	6.12E-06	1.39E-02	25	88,730	446.50	679.00	134.22	0.0E+00	1.4E-01
Ethylbenzene	7.50E-02	7.80E-06	7.85E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	88.15	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.19	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

	Exposure duration, T (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_e (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
Benzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	2.10E+03	3.39E+04
n-Butylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	2.50E+01	3.39E+04
sec-Butylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	2.60E+02	3.39E+04
Ethylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	9.80E+02	3.39E+04
Cumene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	1.30E+03	3.39E+04
MTBE	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	1.40E+02	3.39E+04
Naphthalene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	1.60E+01	3.39E+04
n-Propylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	7.40E+02	3.39E+04
Toluene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	1.00E+03	3.39E+04
1,2,4-Trimethylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	2.20E+02	3.39E+04
1,3,5-Trimethylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	5.00E+01	3.39E+04
p-Xylene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	2.60E+03	3.39E+04
o-Xylene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.795	2.12E-09	4,000	9.30E+02	3.39E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, ΔH_{vap} (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	1.00E+06	4.00E-04	15	8,092	5.55E-03	1.75E-01	1.78E-04	5.08E-03	0.00E+00	0.00E+00	5.08E-03	137
n-Butylbenzene	1.00E+06	4.00E-04	15	11,794	8.74E-03	3.65E-01	1.78E-04	5.29E-03	0.00E+00	0.00E+00	5.29E-03	137
sec-Butylbenzene	1.00E+06	4.00E-04	15	107,157	3.38E-04	1.41E-02	1.78E-04	5.30E-03	0.00E+00	0.00E+00	5.30E-03	137
Ethylbenzene	1.00E+06	4.00E-04	15	10,052	6.65E-03	2.31E-01	1.78E-04	4.53E-03	0.00E+00	0.00E+00	4.53E-03	137
Cumene	1.00E+06	4.00E-04	15	12,618	7.60E-01	3.10E+01	1.78E-04	3.76E-03	0.00E+00	0.00E+00	3.76E-03	137
MTBE	1.00E+06	4.00E-04	15	7,179	4.66E-04	2.03E-02	1.78E-04	6.92E-03	0.00E+00	0.00E+00	6.92E-03	137
Naphthalene	1.00E+06	4.00E-04	15	12,823	3.09E-04	1.29E-02	1.78E-04	3.42E-03	0.00E+00	0.00E+00	3.42E-03	137
n-Propylbenzene	1.00E+06	4.00E-04	15	11,251	7.21E-03	3.01E-01	1.78E-04	3.47E-03	0.00E+00	0.00E+00	3.47E-03	137
Toluene	1.00E+06	4.00E-04	15	9,056	6.64E-03	2.02E-01	1.78E-04	5.02E-03	0.00E+00	0.00E+00	5.02E-03	137
1,2,4-Trimethylbenzene	1.00E+06	4.00E-04	15	11,679	4.11E-03	1.72E-01	1.78E-04	3.30E-03	0.00E+00	0.00E+00	3.30E-03	137
1,3,5-Trimethylbenzene	1.00E+06	4.00E-04	15	11,661	3.93E-03	1.64E-01	1.78E-04	3.45E-03	0.00E+00	0.00E+00	3.45E-03	137
p-Xylene	1.00E+06	4.00E-04	15	10,149	6.39E-03	2.24E-01	1.78E-04	4.44E-03	0.00E+00	0.00E+00	4.44E-03	137
o-Xylene	1.00E+06	4.00E-04	15	10,202	5.42E-03	1.91E-01	1.78E-04	5.02E-03	0.00E+00	0.00E+00	5.02E-03	137

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C_{subsc} ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	15	2.10E+03	0.10	8.33E+01	8.08E-03	4.00E+02	1.33E+297	7.67E-04	1.89E+00	2.9E-05	3.0E-02
n-Butylbenzene	15	2.50E+01	0.10	8.33E+01	3.92E-03	4.00E+02	#NUM!	5.40E-04	1.33E-02	NA	1.4E-01
sec-Butylbenzene	15	2.60E+02	0.10	8.33E+01	3.90E-03	4.00E+02	#NUM!	5.51E-04	1.43E-01	NA	1.4E-01
Ethylbenzene	15	9.80E+02	0.10	8.33E+01	4.33E-03	4.00E+02	#NUM!	6.79E-04	6.68E-01	2.5E-06	1.0E+00
Cumene	15	1.30E+03	0.10	8.33E+01	3.78E-03	4.00E+02	#NUM!	8.08E-04	7.91E-01	NA	4.0E-01
MTBE	15	1.40E+02	0.10	8.33E+01	8.92E-03	4.00E+02	1.87E+229	8.40E-04	1.18E-01	2.6E-07	8.0E+00
Naphthalene	15	1.60E+01	0.10	8.33E+01	3.42E-03	4.00E+02	#NUM!	5.66E-04	9.06E-03	3.4E-05	3.0E-03
n-Propylbenzene	15	7.40E+02	0.10	8.33E+01	3.47E-03	4.00E+02	#NUM!	5.71E-04	4.24E-01	NA	1.4E-01
Toluene	15	1.00E+03	0.10	8.33E+01	8.03E-03	4.00E+02	1.80E+270	7.61E-04	7.61E-01	NA	5.0E-01
1,2,4-Trimethylbenzene	15	2.20E+02	0.10	8.33E+01	3.30E-03	4.00E+02	#NUM!	5.77E-04	1.27E-01	NA	7.0E-03
1,3,5-Trimethylbenzene	15	5.00E+01	0.10	8.33E+01	3.45E-03	4.00E+02	#NUM!	5.74E-04	2.87E-02	NA	6.0E-03
p-Xylene	15	2.60E+03	0.10	8.33E+01	4.44E-03	4.00E+02	4.93E+305	6.69E-04	1.73E+00	NA	1.0E-01
o-Xylene	15	9.30E+02	0.10	8.33E+01	5.02E-03	4.00E+02	1.52E+270	7.61E-04	4.23E-01	NA	1.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	1.9E-05	5.1E-02
n-Butylbenzene	NA	9.4E-05
sec-Butylbenzene	NA	9.8E-04
Ethylbenzene	6.9E-07	6.4E-04
Cumene	NA	1.9E-03
MTBE	1.3E-08	3.8E-05
Naphthalene	1.3E-07	2.9E-03
n-Propylbenzene	NA	2.9E-03
Toluene	NA	2.4E-03
1,2,4-Trimethylbenzene	NA	1.7E-02
1,3,5-Trimethylbenzene	NA	4.6E-03
p-Xylene	NA	1.7E-02
o-Xylene	NA	4.5E-03
	2E-05	1E-01

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

Resident using 15 ft. soil vapor data along southern perimeter

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Program modified by ROR of Exponent to accommodate multiple chemicals

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical	
71432	3.80E+01			Benzene	
104516	2.60E+01			n-Butylbenzene	
135988	3.40E+03			sec-Butylbenzene	
110827	8.90E+02			Cyclohexane	
100414	1.80E+03			Ethylbenzene	
98828	1.70E+04			Cumene	Note: Same as Isopropylbenzene
1634044	2.40E+03			MTBE	
91203	1.60E+01			Naphthalene	
103651	1.20E+04			n-Propylbenzene	
108883	9.50E+02			Toluene	
95636	2.20E+02			1,2,4-Trimethylbenzene	
108678	8.00E+01			1,3,5-Trimethylbenzene	
106423	4.30E+03			p-Xylene	Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical co
95476	1.00E+03			o-Xylene	

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_s (cm)	ENTER Soil gas sampling depth below grade, L_g (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
15	400	18	366	61	0	SR		

Totals must add up to value of L_s (cell F24)

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)
SC	1.49	0.429	0.15	SL	1.62	0.387	0.183				

MORE ↓

ENTER Enclosed space floor thickness, L_{floor} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor/wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	0.6	0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	134.22	0.0E+00	1.4E-01
Cyclohexane	8.00E-02	9.10E-06	1.50E-01	25	7,158	353.93	553.15	84.15	0.0E+00	6.0E+00
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	88.15	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.19	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.76	591.79	92.14	0.0E+00	3.0E-01
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

	Exposure duration, t (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_w (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc., C_{source} ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
Benzene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	3.00E+01	3.39E+04
n-Butylbenzene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	2.60E+01	3.39E+04
sec-Butylbenzene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	3.40E+03	3.39E+04
Cyclohexane	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	5.90E+02	3.39E+04
Ethylbenzene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	1.60E+03	3.39E+04
Cumene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	1.70E+04	3.39E+04
MTBE	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	3.40E+03	3.39E+04
Naphthalene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	1.60E+01	3.39E+04
n-Propylbenzene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	1.20E+04	3.39E+04
Toluene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	9.50E+02	3.39E+04
1,2,4-Trimethylbenzene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	2.20E+02	3.39E+04
1,3,5-Trimethylbenzene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	6.00E+01	3.39E+04
p-Xylene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	4.20E+03	3.39E+04
o-Xylene	9.46E+08	442	0.259	0.284	ERROR	0.307	2.66E-09	0.798	2.28E-09	4,000	1.00E+03	3.39E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,s}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	1.00E+06	4.00E-04	15	8,090	4.19E-03	1.75E-01	1.78E-04	8.08E-03	8.08E-03	0.00E+00	5.40E-03	442
n-Butylbenzene	1.00E+06	4.00E-04	15	11,734	8.74E-03	3.65E-01	1.75E-04	8.29E-03	8.75E-03	0.00E+00	3.66E-03	442
sec-Butylbenzene	1.00E+06	4.00E-04	15	197,157	3.36E-04	1.41E-02	1.78E-04	3.30E-03	5.78E-03	0.00E+00	2.51E-03	442
Cyclohexane	1.00E+06	4.00E-04	15	7,864	1.14E-01	4.76E+00	1.78E-04	4.62E-03	8.08E-03	0.00E+00	4.91E-03	442
Ethylbenzene	1.00E+06	4.00E-04	15	10,052	6.45E-03	2.31E-01	1.78E-04	4.33E-03	7.57E-03	0.00E+00	4.60E-03	442
Cumene	1.00E+06	4.00E-04	15	12,618	7.80E-01	3.13E+01	1.78E-04	3.75E-03	8.06E-03	0.00E+00	3.99E-03	442
MTBE	1.00E+06	4.00E-04	15	7,179	4.89E-04	3.03E-02	1.78E-04	5.92E-03	1.03E-02	0.00E+00	6.29E-03	442
Naphthalene	1.00E+06	4.00E-04	15	12,620	3.99E-04	1.20E-02	1.78E-04	3.42E-03	6.66E-03	0.00E+00	3.63E-03	442
n-Propylbenzene	1.00E+06	4.00E-04	15	11,761	7.21E-03	3.01E-01	1.78E-04	3.47E-03	6.07E-03	0.00E+00	3.69E-03	442
Toluene	1.00E+06	4.00E-04	15	9,096	4.84E-03	2.02E-01	1.78E-04	5.02E-03	6.78E-03	0.00E+00	5.34E-03	442
1,2,4-Trimethylbenzene	1.00E+06	4.00E-04	15	11,579	4.11E-03	1.72E-01	1.78E-04	3.50E-03	6.12E-03	0.00E+00	3.72E-03	442
1,3,5-Trimethylbenzene	1.00E+06	4.00E-04	15	11,661	3.93E-03	1.64E-01	1.78E-04	3.48E-03	6.09E-03	0.00E+00	3.69E-03	442
p-Xylene	1.00E+06	4.00E-04	15	10,143	6.38E-03	2.24E-01	1.78E-04	4.44E-03	7.78E-03	0.00E+00	4.72E-03	442
o-Xylene	1.00E+06	4.00E-04	15	10,202	3.82E-03	1.31E-01	1.78E-04	5.02E-03	8.79E-03	0.00E+00	5.34E-03	442

	Convection path height, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	15	3.00E+01	0.10	8.33E+01	5.08E-03	4.00E+02	1.33E+297	3.14E-04	1.13E-02	2.9E-05	3.0E-02
n-Butylbenzene	15	2.60E+01	0.10	8.33E+01	3.29E-03	4.00E+02	#NUM!	2.15E-04	5.35E-03	NA	1.4E-01
sec-Butylbenzene	15	3.40E+03	0.10	8.33E+01	3.30E-03	4.00E+02	#NUM!	2.14E-04	7.27E-01	NA	1.4E-01
Cyclohexane	15	5.90E+02	0.10	8.33E+01	4.82E-03	4.00E+02	1.73E+293	2.69E-04	2.49E-01	NA	6.0E+00
Ethylbenzene	15	1.60E+03	0.10	8.33E+01	4.33E-03	4.00E+02	#NUM!	2.73E-04	4.10E-01	2.5E-06	1.0E+00
Cumene	15	1.70E+04	0.10	8.33E+01	3.75E-03	4.00E+02	#NUM!	2.60E-04	4.09E+00	NA	4.0E-01
MTBE	15	3.40E+03	0.10	8.33E+01	5.92E-03	4.00E+02	1.61E+224	3.59E-04	1.22E+00	2.6E-07	3.0E+00
Naphthalene	15	1.60E+01	0.10	8.33E+01	3.42E-03	4.00E+02	#NUM!	3.31E-04	3.83E-03	3.4E-05	3.0E-03
n-Propylbenzene	15	1.20E+04	0.10	8.33E+01	3.47E-03	4.00E+02	#NUM!	2.24E-04	2.69E+00	NA	1.4E-01
Toluene	15	9.50E+02	0.10	8.33E+01	5.02E-03	4.00E+02	1.60E+270	3.11E-04	2.96E-01	NA	3.0E-01
1,2,4-Trimethylbenzene	15	2.20E+02	0.10	8.33E+01	3.50E-03	4.00E+02	#NUM!	2.25E-04	4.99E-02	NA	7.0E-03
1,3,5-Trimethylbenzene	15	6.00E+01	0.10	8.33E+01	3.48E-03	4.00E+02	#NUM!	2.24E-04	1.34E-02	NA	6.0E-03
p-Xylene	15	4.20E+03	0.10	8.33E+01	4.44E-03	4.00E+02	4.93E+305	2.75E-04	1.17E+00	NA	1.0E-01
o-Xylene	15	1.00E+03	0.10	8.33E+01	5.02E-03	4.00E+02	1.52E+270	3.11E-04	3.11E-01	NA	1.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	1.3E-07	3.6E-04
n-Butylbenzene	NA	3.7E-05
sec-Butylbenzene	NA	5.0E-03
Cyclohexane	NA	4.1E-05
Ethylbenzene	4.2E-07	3.9E-04
Cumene	NA	9.8E-03
MTBE	1.3E-07	3.9E-04
Naphthalene	4.9E-08	1.1E-03
n-Propylbenzene	NA	1.8E-02
Toluene	NA	9.5E-04
1,2,4-Trimethylbenzene	NA	6.8E-03
1,3,5-Trimethylbenzene	NA	2.2E-03
p-Xylene	NA	1.1E-02
o-Xylene	NA	3.0E-03
	7E-07	6E-02

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Resident using groundwater data along southern perimeter

GW-ADV Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES X

Program modified by ROR of Exponent to accommodate multiple chemicals

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_w (µg/L)	#REF!	Chemical	
104518	8.70E+02		n-Butylbenzene	
135988	2.80E+01		sec-Butylbenzene	
100414	1.00E+01		Ethylbenzene	
98828	1.70E+02		Cumene	Note: same as Isopropylbenzene
91576	9.60E+01		2-Methylnaphthalene	
1634044	2.70E+01		MTBE	
91203	2.20E+02		Naphthalene	
103651	1.20E+02		n-Propylbenzene	
95636	9.10E+00		1,2,4-Trimethylbenzene	
108678	1.30E+01		1,3,5-Trimethylbenzene	
106423	1.70E+01		p-Xylene	Note: results reported as "m,p-xylene"; p-xylene has the most conservative physical constants

MORE

ENTER Average soil/ groundwater temperature, T_s (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{wt} (cm)	ENTER Totals must add up to value of L_{wt} (net 0219) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
10	10	640	396	183	0	B	SL	SP		

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)
SL	1.48	0.439	0.18	SL	1.62	0.357	0.133				

MORE

ENTER Enclosed space floor thickness, L_{slab} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.5	5

MORE

ENTER Averaging time for carcinogens, AT_c (yrs)	ENTER Averaging time for noncarcinogens, AT_{nc} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	26	350	1.0E-06	1

Used to calculate risk-based groundwater concentration.

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization he normal oiling poir ΔH_v> (cal/mol)	Normal boiling point, T_b (°K)	Critical temperature, T_c (°K)	Organic carbon partition coefficient, K_{oc} (cm^3/g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	1.11E+03	2.00E+00	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	9.66E+02	3.94E+00	0.0E+00	1.4E-01
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	3.63E+02	1.69E+02	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01
2-Methylnaphthalene	5.22E-02	7.75E-06	5.17E-04	25	12,600	514.25	761.00	2.81E+03	2.46E+01	0.0E+00	1.4E-02
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	7.28E+00	5.10E+04	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	2.00E+03	3.10E+01	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	5.62E+02	6.00E+01	0.0E+00	1.4E-01
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	1.35E+03	5.70E+01	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	1.38E+03	2.00E+00	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	3.89E+02	1.85E+02	0.0E+00	1.0E-01

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, t (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_e (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} [cm²]	Stratum A soil effective vapor permeability, k_v (cm^2)	Thickness of capillary zone, L_{cz} (cm)	Total porosity in capillary zone, n_{cz} (cm^3/cm^3)	Air-filled porosity in capillary zone, θ_{acz} (cm^3/cm^3)	Water-filled porosity in capillary zone, θ_{wcz} (cm^3/cm^3)	Floor-wall seam perimeter, X_{crack} (cm)
9.46E+08	534	0.259	0.284	ERROR	0.307	2.39E-09	0.795	2.28E-09	25.00	0.367	0.067	0.320	4,000

	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H_{TS} (atm-m³/mol)	Henry's law constant at ave. groundwater temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
n-Butylbenzene	3.39E+04	1.00E+06	4.00E-04	15	11,734	8.74E-03	3.65E-01	1.78E-04	3.26E-03	5.75E-03	0.00E+00	5.09E-05	8.46E-04	534
sec-Butylbenzene	3.39E+04	1.00E+06	4.00E-04	15	107,157	3.98E-04	1.41E-02	1.78E-04	3.30E-03	5.76E-03	0.00E+00	1.34E-04	1.65E-03	534
Ethylbenzene	3.39E+04	1.00E+06	4.00E-04	15	10,052	5.55E-03	2.31E-01	1.78E-04	4.33E-03	7.57E-03	0.00E+00	6.78E-05	1.12E-03	534
Cumene	3.39E+04	1.00E+06	4.00E-04	15	12,518	7.50E-01	3.13E+01	1.78E-04	3.75E-03	6.56E-03	0.00E+00	5.42E-05	9.15E-04	534
2-Methylnaphthalene	3.39E+04	1.00E+06	4.00E-04	15	16,123	2.95E-04	1.23E-02	1.78E-04	3.02E-03	5.27E-03	0.00E+00	1.36E-04	1.61E-03	534
MTBE	3.39E+04	1.00E+06	4.00E-04	15	7,379	4.85E-04	2.03E-02	1.78E-04	5.62E-03	1.03E-02	0.00E+00	1.83E-04	2.32E-03	534
Naphthalene	3.39E+04	1.00E+06	4.00E-04	15	12,820	3.09E-04	1.29E-02	1.78E-04	3.42E-03	5.96E-03	0.00E+00	1.38E-04	1.69E-03	534
n-Propylbenzene	3.39E+04	1.00E+06	4.00E-04	15	11,251	7.21E-03	3.01E-01	1.78E-04	3.47E-03	6.07E-03	0.00E+00	5.40E-05	9.00E-04	534
1,2,4-Trimethylbenzene	3.39E+04	1.00E+06	4.00E-04	15	11,579	4.11E-03	1.72E-01	1.78E-04	3.50E-03	6.12E-03	0.00E+00	5.73E-05	9.45E-04	534
1,3,5-Trimethylbenzene	3.39E+04	1.00E+06	4.00E-04	15	11,581	3.93E-03	1.64E-01	1.78E-04	3.48E-03	6.08E-03	0.00E+00	5.61E-05	9.62E-04	534
p-Xylene	3.39E+04	1.00E+06	4.00E-04	15	10,143	5.39E-03	2.24E-01	1.78E-04	4.44E-03	7.78E-03	0.00E+00	6.93E-05	1.16E-03	534

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
n-Butylbenzene	15	3.17E+03	0.10	8.33E+01	3.29E-03	4.00E+02	#NUM!	4.60E-05	1.46E-01	NA	1.4E-01
sec-Butylbenzene	15	4.08E+02	0.10	8.33E+01	3.30E-03	4.00E+02	#NUM!	8.77E-05	3.58E-02	NA	1.4E-01
Ethylbenzene	15	2.31E+03	0.10	8.33E+01	4.33E-03	4.00E+02	#NUM!	6.05E-05	1.40E-01	2.5E-06	1.0E+00
Cumene	15	5.32E+06	0.10	8.33E+01	3.75E-03	4.00E+02	#NUM!	4.97E-05	2.64E+02	NA	4.0E-01
2-Methylnaphthalene	15	1.08E+03	0.10	8.33E+01	3.02E-03	4.00E+02	#NUM!	6.58E-05	9.10E-02	NA	1.4E-02
MTBE	15	5.47E+02	0.10	8.33E+01	5.62E-03	4.00E+02	1.61E+229	1.22E-04	6.67E-02	2.6E-07	3.0E+00
Naphthalene	15	2.83E+03	0.10	8.33E+01	3.42E-03	4.00E+02	#NUM!	5.89E-05	2.65E-01	3.4E-05	3.0E-03
n-Propylbenzene	15	3.61E+04	0.10	8.33E+01	3.47E-03	4.00E+02	#NUM!	4.87E-05	1.76E+00	NA	1.4E-01
1,2,4-Trimethylbenzene	15	1.39E+03	0.10	8.33E+01	3.50E-03	4.00E+02	#NUM!	5.12E-05	7.11E-02	NA	7.0E-03
1,3,5-Trimethylbenzene	15	2.65E+03	0.10	8.33E+01	3.48E-03	4.00E+02	#NUM!	5.15E-05	1.52E-01	NA	6.0E-03
p-Xylene	15	9.61E+03	0.10	8.33E+01	4.44E-03	4.00E+02	4.93E+305	5.24E-05	2.39E-01	NA	1.0E-01

END

RESULTS SHEET

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

	Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
n-Butylbenzene	NA	NA	NA	2.00E+03	NA
sec-Butylbenzene	NA	NA	NA	3.94E+03	NA
Ethylbenzene	NA	NA	NA	1.69E+05	NA
Cumene	NA	NA	NA	6.13E+04	NA
2-Methylnaphthalene	NA	NA	NA	2.46E+04	NA
MTBE	NA	NA	NA	5.10E+07	NA
Naphthalene	NA	NA	NA	3.10E+04	NA
n-Propylbenzene	NA	NA	NA	6.00E+04	NA
1,2,4-Trimethylbenzene	NA	NA	NA	5.70E+04	NA
1,3,5-Trimethylbenzene	NA	NA	NA	2.00E+03	NA
p-Xylene	NA	NA	NA	1.65E+05	NA

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	1.0E-03
NA	2.5E-04
1.4E-07	1.3E-04
NA	6.3E-01
NA	6.2E-03
7.1E-09	2.1E-05
3.6E-06	8.1E-02
NA	1.2E-02
NA	9.7E-03
NA	2.5E-02
NA	2.3E-03
TOTALS 4E-06	8E-01

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Commercial worker using 5 ft. soil vapor data along eastern perimeter

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Program modified by ROR of Exponent to accommodate multiple chemicals

Soil Gas Concentration Data

ENTER Chemical CAS #s (numbers only, no dashes)	ENTER Soil gas conc., C_g (ug/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	6.10E+01			Benzene
104518	2.30E+04			n-Butylbenzene
135988	1.30E+03			sec-Butylbenzene
98066	2.80E+03			tert-Butylbenzene
75343	2.80E+01			1,1-Dichloroethane
107062	2.80E+01			1,2-Dichloroethane
156592	2.80E+01			cis-1,2-Dichloroethylene
100414	2.80E+02			Ethylbenzene
98828	2.30E+04			Cumene
91203	1.60E+01			Naphthalene
103651	2.20E+03			n-Propylbenzene
108883	8.40E+02			Toluene
71556	2.80E+01			1,1,1-Trichloroethane
95636	2.80E+01			1,2,4-Trimethylbenzene
108678	2.80E+01			1,3,5-Trimethylbenzene
106423	7.80E+02			p-Xylene
95476	1.80E+02			o-Xylene

Note: same as Isopropylbenzene

Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_f (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
15	183	15	183	0	0	SL		

MORE

ENTER Stratum A SCS soil type (used for Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum B SCS soil type (used for Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum C SCS soil type (used for Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)
SL	1.48	0.409	0.148								

MORE

ENTER Enclosed space floor thickness, L_{slab} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	1	5

ENTER Averaging time for carcinogens, AT_c (yrs)	ENTER Averaging time for noncarcinogens, AT_{nc} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	89,730	446.50	679.00	134.22	0.0E+00	1.4E-01
tert-Butylbenzene	5.65E-02	8.02E-06	1.19E-02	25	8,980	442.10	1220.00	134.22	0.0E+00	1.4E-01
1,1-Dichloroethane	7.42E-02	1.05E-05	5.61E-03	25	6,895	330.55	523.00	98.96	1.6E-06	7.0E-01
1,2-Dichloroethane	1.04E-01	9.90E-06	9.77E-04	25	7,643	356.65	561.00	98.96	2.1E-05	4.0E-01
cis-1,2-Dichloroethylene	7.36E-02	1.13E-05	4.07E-03	25	7,192	333.65	544.00	96.94	0.0E+00	3.5E-02
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.19	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,1,1-Trichloroethane	7.80E-02	8.80E-06	1.72E-02	25	7,136	347.24	545.00	133.40	0.0E+00	5.0E+00
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

	Exposure duration, t (sec)	Source-building separation, L_s (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_e (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc., C_{source} ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
Benzene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	5.10E+01	6.75E+04
n-Butylbenzene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	2.80E+01	6.75E+04
sec-Butylbenzene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	1.30E+03	6.75E+04
tert-Butylbenzene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	2.30E+01	6.75E+04
1,1-Dichloroethane	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	2.30E+01	6.75E+04
1,2-Dichloroethane	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	2.30E+01	6.75E+04
cis-1,2-Dichloroethylene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	2.60E+02	6.75E+04
Ethylbenzene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	2.30E+04	6.75E+04
Cumene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	1.40E+01	6.75E+04
Naphthalene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	3.20E+03	6.75E+04
n-Propylbenzene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	6.40E+02	6.75E+04
Toluene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	2.80E+03	6.75E+04
1,1,1-Trichloroethane	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	2.80E+01	6.75E+04
1,2,4-Trimethylbenzene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	2.80E+01	6.75E+04
1,3,5-Trimethylbenzene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	7.80E+02	6.75E+04
p-Xylene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	1.80E+02	6.75E+04
o-Xylene	7.88E+08	137	0.258	ERROR	ERROR	0.307	2.89E-09	0.799	2.29E-09	4,000	1.80E+02	6.75E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,w}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	1.00E+08	4.00E-04	15	8,092	4.19E-03	1.78E-01	1.78E-04	3.09E-03	0.00E+00	0.00E+00	3.09E-03	137
n-Butylbenzene	1.00E+08	4.00E-04	15	10,734	8.74E-03	3.86E-01	1.78E-04	3.29E-03	0.00E+00	0.00E+00	3.29E-03	137
sec-Butylbenzene	1.00E+08	4.00E-04	15	107,187	3.36E-04	1.41E-02	1.78E-04	3.30E-03	0.00E+00	0.00E+00	3.30E-03	137
tert-Butylbenzene	1.00E+08	4.00E-04	15	9,486	6.66E-03	2.97E-01	1.78E-04	3.29E-03	0.00E+00	0.00E+00	3.29E-03	137
1,1-Dichloroethane	1.00E+08	4.00E-04	15	7,361	4.94E-03	1.81E-01	1.78E-04	4.26E-03	0.00E+00	0.00E+00	4.26E-03	137
1,2-Dichloroethane	1.00E+08	4.00E-04	15	8,453	7.29E-04	3.04E-02	1.78E-04	8.01E-03	0.00E+00	0.00E+00	8.01E-03	137
cis-1,2-Dichloroethylene	1.00E+08	4.00E-04	15	7,942	3.12E-03	1.30E-01	1.78E-04	4.26E-03	0.00E+00	0.00E+00	4.26E-03	137
Ethylbenzene	1.00E+08	4.00E-04	15	10,092	6.86E-03	2.31E-01	1.78E-04	3.30E-03	0.00E+00	0.00E+00	3.30E-03	137
Cumene	1.00E+08	4.00E-04	15	10,549	7.90E-03	3.13E-01	1.78E-04	3.75E-03	0.00E+00	0.00E+00	3.75E-03	137
Naphthalene	1.00E+08	4.00E-04	15	12,500	3.08E-04	1.28E-02	1.78E-04	3.42E-03	0.00E+00	0.00E+00	3.42E-03	137
n-Propylbenzene	1.00E+08	4.00E-04	15	11,231	7.21E-03	3.01E-01	1.78E-04	3.47E-03	0.00E+00	0.00E+00	3.47E-03	137
Toluene	1.00E+08	4.00E-04	15	8,998	6.64E-03	2.72E-01	1.78E-04	3.92E-03	0.00E+00	0.00E+00	3.92E-03	137
1,1,1-Trichloroethane	1.00E+08	4.00E-04	15	7,797	1.31E-02	5.46E-01	1.78E-04	4.80E-03	0.00E+00	0.00E+00	4.80E-03	137
1,2,4-Trimethylbenzene	1.00E+08	4.00E-04	15	11,679	4.11E-03	1.72E-01	1.78E-04	3.85E-03	0.00E+00	0.00E+00	3.85E-03	137
1,3,5-Trimethylbenzene	1.00E+08	4.00E-04	15	11,895	9.93E-03	1.44E-01	1.78E-04	3.46E-03	0.00E+00	0.00E+00	3.46E-03	137
p-Xylene	1.00E+08	4.00E-04	15	10,748	6.96E-03	2.24E-01	1.78E-04	4.44E-03	0.00E+00	0.00E+00	4.44E-03	137
o-Xylene	1.00E+08	4.00E-04	15	10,392	5.62E-03	1.91E-01	1.78E-04	5.05E-03	0.00E+00	0.00E+00	5.05E-03	137

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe) (unitless)	Indoor source vapor attenuation coefficient, α (unitless)	Indoor source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	15	5.10E+01	0.10	6.93E+01	8.58E-02	4.00E+02	1.33E+267	3.79E-04	1.93E-02	2.9E-05	3.0E-02
n-Butylbenzene	15	2.80E+01	0.10	6.93E+01	3.32E-02	4.00E+02	#VALUE!	3.78E-04	8.84E-03	NA	1.4E-01
sec-Butylbenzene	15	1.30E+03	0.10	6.93E+01	3.30E-02	4.00E+02	#VALUE!	3.79E-04	3.88E-01	NA	1.4E-01
tert-Butylbenzene	15	2.30E+01	0.10	6.93E+01	3.29E-02	4.00E+02	#VALUE!	3.79E-04	6.83E-03	NA	1.4E-01
1,1-Dichloroethane	15	2.30E+01	0.10	6.93E+01	4.26E-02	4.00E+02	#VALUE!	3.33E-04	6.84E-03	1.6E-06	7.3E-01
1,2-Dichloroethane	15	2.30E+01	0.10	6.93E+01	8.01E-02	4.00E+02	7.23E+228	6.24E-04	1.08E-02	2.1E-05	4.0E-01
cis-1,2-Dichloroethylene	15	2.60E+02	0.10	6.93E+01	4.25E-02	4.00E+02	#VALUE!	3.34E-04	8.14E-03	NA	3.5E-02
Ethylbenzene	15	2.30E+04	0.10	6.93E+01	4.30E-02	4.00E+02	#VALUE!	3.36E-04	6.79E-02	2.5E-06	1.0E+00
Cumene	15	1.40E+01	0.10	6.93E+01	3.75E-02	4.00E+02	#VALUE!	3.04E-04	6.98E+00	NA	4.0E-01
Naphthalene	15	3.20E+03	0.10	6.93E+01	3.42E-02	4.00E+02	#VALUE!	2.82E-04	4.53E-03	3.4E-05	3.0E-03
n-Propylbenzene	15	6.40E+02	0.10	6.93E+01	3.47E-02	4.00E+02	#VALUE!	2.87E-04	8.30E-01	NA	1.4E-01
Toluene	15	2.80E+03	0.10	6.93E+01	8.02E-02	4.00E+02	1.80E+270	3.79E-04	3.19E-01	NA	3.0E-01
1,1,1-Trichloroethane	15	2.80E+01	0.10	6.93E+01	4.80E-02	4.00E+02	2.88E+101	3.98E-04	8.98E-03	NA	6.9E+00
1,2,4-Trimethylbenzene	15	2.80E+01	0.10	6.93E+01	3.85E-02	4.00E+02	#VALUE!	2.86E-04	7.21E-03	NA	7.0E-03
1,3,5-Trimethylbenzene	15	7.80E+02	0.10	6.93E+01	3.46E-02	4.00E+02	#VALUE!	2.87E-04	7.11E-03	NA	6.0E-03
p-Xylene	15	1.80E+02	0.10	6.93E+01	4.44E-02	4.00E+02	4.81E+306	3.94E-04	2.99E-01	NA	1.0E-01
o-Xylene	15	1.80E+02	0.10	6.93E+01	5.05E-02	4.00E+02	1.46E+379	3.79E-04	8.78E-02	NA	1.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	1.4E-07	4.4E-04
n-Butylbenzene	NA	3.4E-05
sec-Butylbenzene	NA	1.8E-03
tert-Butylbenzene	NA	3.3E-05
1,1-Dichloroethane	3.3E-09	8.2E-06
1,2-Dichloroethane	5.4E-08	1.8E-05
cis-1,2-Dichloroethylene	NA	1.6E-04
Ethylbenzene	5.4E-08	6.0E-05
Cumene	NA	1.2E-02
Naphthalene	3.8E-08	1.0E-03
n-Propylbenzene	NA	3.1E-03
Toluene	NA	7.2E-04
1,1,1-Trichloroethane	NA	1.2E-06
1,2,4-Trimethylbenzene	NA	7.1E-04
1,3,5-Trimethylbenzene	NA	8.3E-04
p-Xylene	NA	1.8E-03
o-Xylene	NA	4.6E-04
	3E-07	2E-02

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Commercial worker using 15 ft. soil vapor data along eastern perimeter

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Program modified by ROR of Exponent to accommodate multiple chemicals

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.60E+01			Benzene
104518	2.70E+01			n-Butylbenzene
135988	4.90E+00			sec-Butylbenzene
98066	6.30E+00			tert-Butylbenzene
110827	2.34E+02			Cyclohexane
75343	1.30E+01			1,1-Dichloroethane
107062	1.60E+01			1,2-Dichloroethane
156592	1.30E+02			cis-1,2-Dichloroethylene
100414	1.60E+03			Ethylbenzene
98828	6.10E+04			Cumene
91203	1.20E+01			Naphthalene
103651	1.70E+04			n-Propylbenzene
108883	1.09E+05			Toluene
71556	1.50E+02			1,1,1-Trichloroethane
95636	2.60E+01			1,2,4-Trimethylbenzene
108678	2.60E+01			1,3,5-Trimethylbenzene
106423	4.70E+02			p-Xylene
95476	1.10E+02			o-Xylene

Note: cumene = isopropylbenzene

Note: xylenes reported as "m,p-xylenes"; p-xylene has the most conservative physical p

SCREEN

ENTER Depth below grade to bottom of enclosed space floor, L_f (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Stratum A soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
10	457	10	SAND		

Totally must add up to value of L_T next (cm)

ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)
366	91	0

SCREEN

ENTER Stratum A, SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)
SAND	1.48	0.439	0.18	SAND	1.62	0.337	0.103				

SCREEN

ENTER Enclosed space floor thickness, L_{slab} (cm)	ENTER Bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)
10	40	1000	1000	244	0.1	1

ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)

6

SCREEN

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	25	350

RISK

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, ΔH_{vb} (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	134.22	0.0E+00	1.4E-01
tert-Butylbenzene	5.65E-02	8.02E-06	1.19E-02	25	8,980	442.10	1220.00	134.22	0.0E+00	1.4E-01
Cyclohexane	8.00E-02	9.10E-06	1.50E-01	25	7,158	353.93	553.15	84.15	0.0E+00	6.0E+00
1,1-Dichloroethane	7.42E-02	1.05E-05	5.61E-03	25	6,895	330.55	523.00	98.96	1.6E-06	7.0E-01
1,2-Dichloroethane	1.04E-01	9.90E-06	9.77E-04	25	7,643	356.65	561.00	98.96	2.1E-05	4.0E-01
cis-1,2-Dichloroethylene	7.36E-02	1.13E-05	4.07E-03	25	7,192	333.65	544.00	96.94	0.0E+00	3.5E-02
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.19	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,1,1-Trichloroethane	7.80E-02	8.80E-06	1.72E-02	25	7,136	347.24	545.00	133.40	0.0E+00	5.0E+00
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

	Exposure duration, T (sec)	Source-building separation, L_s (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, θ_{ts} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{ra} (unitless)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc., C_{sg} ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
Benzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.86E+01	8.78E+04
n-Butylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	2.30E+01	8.78E+04
sec-Butylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	6.80E+02	8.78E+04
tert-Butylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	2.34E+02	8.78E+04
Cyclohexane	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.90E+01	8.78E+04
1,1-Dichloroethane	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.86E+01	8.78E+04
1,2-Dichloroethane	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.86E+02	8.78E+04
cis-1,2-Dichloroethylene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.86E+02	8.78E+04
Ethylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	8.70E+04	8.78E+04
Cumene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.86E+01	8.78E+04
Methylene chloride	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.72E+04	8.78E+04
n-Propylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.86E+03	8.78E+04
Toluene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.86E+02	8.78E+04
1,1,1-Trichloroethane	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	2.30E+01	8.78E+04
1,2,4-Trimethylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	2.30E+01	8.78E+04
1,3,5-Trimethylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	2.30E+01	8.78E+04
o-Xylene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	4.78E+02	8.78E+04
p-Xylene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.99E-09	0.795	2.38E-09	4,000	1.13E+03	8.78E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm-m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	1.02E+05	4.00E-04	15	8,092	5.55E-03	2.27E-01	1.78E-04	6.00E-03	6.59E-03	0.00E+00	3.42E-03	442
n-Butylbenzene	1.02E+05	4.00E-04	15	11,734	8.78E-03	3.60E-01	1.78E-04	3.29E-03	5.70E-03	0.00E+00	2.90E-03	442
sec-Butylbenzene	1.02E+05	4.00E-04	15	107,157	3.39E-04	1.41E-02	1.78E-04	3.70E-03	5.79E-03	0.00E+00	3.51E-03	442
tert-Butylbenzene	1.02E+05	4.00E-04	15	8,488	6.66E-03	2.73E-01	1.78E-04	3.29E-03	5.70E-03	0.00E+00	3.47E-03	442
Cyclohexane	1.02E+05	4.00E-04	15	7,584	1.44E-01	5.76E+00	1.78E-04	4.92E-03	6.09E-03	0.00E+00	4.81E-03	442
1,1-Dichloroethane	1.02E+05	4.00E-04	15	7,381	4.84E-03	1.81E-01	1.78E-04	4.29E-03	7.49E-03	0.00E+00	4.95E-03	442
1,2-Dichloroethane	1.02E+05	4.00E-04	15	8,429	7.29E-04	3.04E-02	1.78E-04	6.01E-03	1.06E-02	0.00E+00	6.36E-03	442
cis-1,2-Dichloroethylene	1.02E+05	4.00E-04	15	7,843	3.13E-03	1.30E-01	1.78E-04	4.76E-03	7.45E-03	0.00E+00	4.90E-03	442
Ethylbenzene	1.02E+05	4.00E-04	15	10,062	8.86E-03	3.31E-01	1.78E-04	4.33E-03	7.57E-03	0.00E+00	4.90E-03	442
Cumene	1.02E+05	4.00E-04	15	12,819	7.80E-03	3.13E-01	1.78E-04	3.73E-03	6.89E-03	0.00E+00	3.96E-03	442
Naphthalene	1.02E+05	4.00E-04	15	13,800	3.99E-04	1.66E-02	1.78E-04	3.42E-03	5.85E-03	0.00E+00	3.43E-03	442
n-Propylbenzene	1.02E+05	4.00E-04	15	11,285	7.21E-03	3.01E-01	1.78E-04	3.47E-03	6.07E-03	0.00E+00	3.86E-03	442
Toluene	1.02E+05	4.00E-04	15	8,696	6.64E-03	2.72E-01	1.78E-04	5.02E-03	8.79E-03	0.00E+00	5.34E-03	442
1,1,1-Trichloroethane	1.02E+05	4.00E-04	15	7,797	7.31E-03	2.99E-01	1.78E-04	4.80E-03	7.47E-03	0.00E+00	4.71E-03	442
1,2,4-Trimethylbenzene	1.02E+05	4.00E-04	15	11,673	6.11E-03	2.50E-01	1.78E-04	3.66E-03	6.13E-03	0.00E+00	3.72E-03	442
1,3,5-Trimethylbenzene	1.02E+05	4.00E-04	15	11,661	3.93E-03	1.84E-01	1.78E-04	3.44E-03	6.59E-03	0.00E+00	3.98E-03	442
o-Xylene	1.02E+05	4.00E-04	15	10,163	6.38E-03	2.54E-01	1.78E-04	4.44E-03	7.19E-03	0.00E+00	4.72E-03	442
p-Xylene	1.02E+05	4.00E-04	15	10,262	7.93E-03	1.81E-01	1.78E-04	5.00E-03	6.79E-03	0.00E+00	5.34E-03	442

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, UNIT ($(\mu g/m^3)^{-1}$)	Reference conc., RfC (mg/m^3)
Benzene	15	1.86E+01	0.10	8.33E+01	9.09E-03	4.00E+02	3.52E+267	1.37E-04	2.83E-03	2.9E-02	3.1E-02
n-Butylbenzene	15	2.30E+01	0.10	8.33E+01	3.29E-03	4.00E+02	#NUM!	1.02E-04	2.83E-03	NA	1.4E-01
sec-Butylbenzene	15	6.80E+02	0.10	8.33E+01	3.91E-03	4.00E+02	#NUM!	1.02E-04	8.81E-04	NA	1.4E-01
tert-Butylbenzene	15	2.30E+02	0.10	8.33E+01	3.29E-03	4.00E+02	#NUM!	1.02E-04	2.83E-03	NA	1.4E-01
Cyclohexane	15	2.34E+02	0.10	8.33E+01	4.84E-03	4.00E+02	1.73E+295	1.40E-04	3.39E-03	NA	6.0E+00
1,1-Dichloroethane	15	1.90E+01	0.10	8.33E+01	4.29E-03	4.00E+02	#NUM!	1.38E-04	1.79E-03	1.6E-06	7.0E-01
1,2-Dichloroethane	15	1.86E+01	0.10	8.33E+01	6.01E-03	4.00E+02	7.43E+329	1.82E-04	3.31E-03	2.1E-05	4.0E-01
cis-1,2-Dichloroethylene	15	1.86E+02	0.10	8.33E+01	4.76E-03	4.00E+02	#NUM!	1.54E-04	2.09E-02	NA	3.5E-02
Ethylbenzene	15	1.80E+03	0.10	8.33E+01	4.83E-03	4.00E+02	#NUM!	1.37E-04	3.19E-01	2.5E-06	1.0E+00
Cumene	15	4.10E+04	0.10	8.33E+01	3.73E-03	4.00E+02	#NUM!	1.30E-04	7.73E+00	NA	4.0E-01
Naphthalene	15	1.30E+01	0.10	8.33E+01	3.42E-03	4.00E+02	#NUM!	1.10E-04	1.79E-03	3.4E-05	3.0E-03
n-Propylbenzene	15	1.70E+04	0.10	8.33E+01	3.47E-03	4.00E+02	#NUM!	1.12E-04	1.90E+00	NA	1.4E-01
Toluene	15	1.86E+03	0.10	8.33E+01	5.02E-03	4.00E+02	1.80E+270	1.95E-04	1.73E-01	NA	3.0E-01
1,1,1-Trichloroethane	15	1.80E+02	0.10	8.33E+01	4.80E-03	4.00E+02	3.95E+301	1.41E-04	2.84E-03	NA	1.0E+00
1,2,4-Trimethylbenzene	15	2.30E+01	0.10	8.33E+01	3.66E-03	4.00E+02	#NUM!	1.18E-04	2.83E-03	NA	7.0E-03
1,3,5-Trimethylbenzene	15	2.30E+01	0.10	8.33E+01	3.44E-03	4.00E+02	#NUM!	1.12E-04	2.83E-03	NA	6.1E-03
o-Xylene	15	4.78E+02	0.10	8.33E+01	4.44E-03	4.00E+02	6.91E+308	1.40E-04	6.67E-02	NA	1.0E-01
p-Xylene	15	1.13E+03	0.10	8.33E+01	5.00E-03	4.00E+02	5.80E+370	1.58E-04	1.79E-02	NA	1.3E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	2.0E-08	6.5E-05
n-Butylbenzene	NA	1.3E-05
sec-Butylbenzene	NA	4.7E-03
tert-Butylbenzene	NA	3.3E-04
Cyclohexane	NA	3.9E-05
1,1-Dichloroethane	6.9E-10	1.7E-06
1,2-Dichloroethane	1.7E-08	5.6E-06
cis-1,2-Dichloroethylene	NA	4.1E-04
Ethylbenzene	1.3E-07	1.5E-04
Cumene	NA	1.7E-02
Naphthalene	1.5E-08	4.0E-04
n-Propylbenzene	NA	9.3E-03
Toluene	NA	3.9E-04
1,1,1-Trichloroethane	NA	3.5E-06
1,2,4-Trimethylbenzene	NA	2.8E-04
1,3,5-Trimethylbenzene	NA	3.2E-04
p-Xylene	NA	4.6E-04
o-Xylene	NA	1.2E-04
	2E-07	3E-02

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Commercial worker using groundwater data along eastern perimeter

GW-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES

OR

CALCULATE INCREMENTAL RISK FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES X

Program modified by ROR of Exponent to accommodate multiple chemicals

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_{w} (ug/L)	Chemical
71432	2.70E+02	Benzene
104518	7.40E+00	n-Butylbenzene
135988	1.30E+01	sec-Butylbenzene
100414	8.80E+01	Ethylbenzene
98828	8.80E+01	Cumene
91576	3.00E+01	2-Methylnaphthalene
91203	1.40E+02	Naphthalene
103651	8.30E+01	n-Propylbenzene
108883	8.30E+00	Toluene
95636	1.90E+01	1,2,4-Trimethylbenzene
108678	6.00E+00	1,3,5-Trimethylbenzene
106423	1.00E+02	p-Xylene
95476	5.00E+00	o-Xylene

Note: same as isopropylbenzene

Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical constants

MORE ⇩

ENTER Average soil/ groundwater temperature, T_s (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_f (cm)	ENTER Depth below grade to water table, L_{wt} (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
10	15	549	259	113	0	B	SL	SL		

MORE ⇩

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SP	1.69	0.459	0.18	SL	1.69	0.387	0.123				

MORE ⇩

ENTER Enclosed space floor thickness, L_{slab} (cm)	ENTER Soil-gas pressure differential, ΔP ($g/cm-s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	1	0

MORE ⇩

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1

Used to calculate risk-based groundwater concentration

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of porization: he norma oiling poir $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Organic carbon partition coefficient, K_{oc} (cm^3/g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF $(ug/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	5.69E+01	1.79E+03	2.9E-05	3.0E-02
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	1.11E+03	2.00E+00	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	9.88E+02	3.84E+00	0.0E+00	1.4E-01
Ethylbenzene	7.50E-02	7.80E-06	7.88E-03	25	8,501	409.34	617.20	3.63E+02	1.69E+02	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.18E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01
2-Methylnaphthalene	5.22E-02	7.75E-06	5.17E-04	25	12,600	514.26	781.00	2.81E+03	2.46E+01	0.0E+00	1.4E-02
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	2.00E+03	3.10E+01	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.89E-06	1.07E-02	25	9,123	432.20	630.00	5.62E+02	6.00E+01	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	1.82E+02	5.25E+02	0.0E+00	4.0E-01
1,2,4-Trimethylbenzene	6.05E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	1.35E+03	5.70E+01	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	1.35E+03	2.00E+00	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.84E-03	25	8,525	411.52	616.20	3.89E+02	1.85E+02	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,691	417.60	630.30	3.63E+02	1.78E+02	0.0E+00	1.0E-01

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, t (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Thickness of capillary zone, L_{cz} (cm)	Total porosity in capillary zone, n_{cz} (cm^3/cm^3)	Air-filled porosity in capillary zone, $\theta_{a,cz}$ (cm^3/cm^3)	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm^3/cm^3)	Floor-wall seam perimeter, X_{crack} (cm)
7.88E+06	534	0.268	0.284	ERROR	0.307	2.88E-09	0.795	2.29E-09	25.00	0.387	0.067	0.320	4.000

	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,ts}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. groundwater temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	6.78E+04	1.00E+06	4.00E-04	15	8,030	4.19E-03	1.75E-01	1.78E-04	5.08E-03	5.58E-03	0.00E+00	8.16E-05	1.35E-03	534
n-Butylbenzene	6.78E+04	1.00E+06	4.00E-04	15	11,734	8.74E-03	3.65E-01	1.78E-04	3.29E-03	5.75E-03	0.00E+00	5.09E-05	8.48E-04	534
sec-Butylbenzene	6.78E+04	1.00E+06	4.00E-04	15	107,157	3.38E-04	1.41E-02	1.78E-04	3.30E-03	5.78E-03	0.00E+00	1.34E-04	1.66E-03	534
Ethylbenzene	6.78E+04	1.00E+06	4.00E-04	15	10,052	5.55E-03	2.31E-01	1.78E-04	4.33E-03	7.51E-03	0.00E+00	6.78E-05	1.12E-03	534
Cumene	6.78E+04	1.00E+06	4.00E-04	15	12,518	7.50E-01	3.13E+01	1.78E-04	3.75E-03	6.56E-03	0.00E+00	5.42E-05	9.16E-04	534
2-Methylnaphthalene	6.78E+04	1.00E+06	4.00E-04	15	15,123	2.86E-04	1.23E-02	1.78E-04	3.02E-03	5.27E-03	0.00E+00	1.33E-04	1.61E-03	534
Naphthalene	6.78E+04	1.00E+06	4.00E-04	15	13,820	3.09E-04	1.29E-02	1.78E-04	3.42E-03	5.98E-03	0.00E+00	1.36E-04	1.69E-03	534
n-Propylbenzene	6.78E+04	1.00E+06	4.00E-04	15	11,251	7.21E-03	3.01E-01	1.78E-04	3.47E-03	6.07E-03	0.00E+00	5.40E-05	9.00E-04	534
Toluene	6.78E+04	1.00E+06	4.00E-04	15	9,056	4.84E-03	2.02E-01	1.78E-04	5.02E-03	8.78E-03	0.00E+00	7.89E-05	1.31E-03	534
1,2,4-Trimethylbenzene	6.78E+04	1.00E+06	4.00E-04	15	11,579	4.11E-03	1.72E-01	1.78E-04	3.50E-03	6.12E-03	0.00E+00	5.75E-05	9.45E-04	534
1,3,5-Trimethylbenzene	6.78E+04	1.00E+06	4.00E-04	15	11,551	3.93E-03	1.64E-01	1.78E-04	3.46E-03	6.06E-03	0.00E+00	5.81E-05	9.52E-04	534
p-Xylene	6.78E+04	1.00E+06	4.00E-04	15	10,143	5.38E-03	2.24E-01	1.78E-04	4.44E-03	7.78E-03	0.00E+00	8.98E-05	1.16E-03	534
o-Xylene	6.78E+04	1.00E+06	4.00E-04	15	10,302	3.62E-03	1.51E-01	1.78E-04	5.02E-03	8.78E-03	0.00E+00	8.25E-05	1.36E-03	534

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $[\mu g/m^3]^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	15	4.72E+04	0.10	8.33E+01	5.08E-03	4.00E+02	1.33E+257	3.62E-05	1.71E+00	2.9E-05	3.0E-02
n-Butylbenzene	15	2.70E+03	0.10	8.33E+01	3.29E-03	4.00E+02	#NUM!	2.30E-05	6.21E-02	NA	1.4E-01
sec-Butylbenzene	15	1.69E+02	0.10	8.33E+01	3.30E-03	4.00E+02	#NUM!	4.39E-05	7.41E-03	NA	1.4E-01
Ethylbenzene	15	2.27E+04	0.10	8.33E+01	4.33E-03	4.00E+02	#NUM!	3.03E-05	6.87E-01	2.5E-06	1.0E+00
Cumene	15	2.13E+05	0.10	8.33E+01	3.75E-03	4.00E+02	#NUM!	2.48E-05	5.28E+01	NA	4.0E-01
2-Methylnaphthalene	15	2.48E+02	0.10	8.33E+01	3.02E-03	4.00E+02	#NUM!	4.29E-05	1.05E-02	NA	1.4E-02
Naphthalene	15	1.80E+03	0.10	8.33E+01	3.42E-03	4.00E+02	#NUM!	4.49E-05	8.11E-02	3.4E-05	3.0E-03
n-Propylbenzene	15	1.76E+04	0.10	8.33E+01	3.47E-03	4.00E+02	#NUM!	2.44E-05	4.33E-01	NA	1.4E-01
Toluene	15	1.07E+03	0.10	8.33E+01	5.02E-03	4.00E+02	1.60E+270	3.82E-05	3.77E-02	NA	3.0E-01
1,2,4-Trimethylbenzene	15	3.26E+03	0.10	8.33E+01	3.50E-03	4.00E+02	#NUM!	2.56E-05	6.34E-02	NA	7.0E-03
1,3,5-Trimethylbenzene	15	9.84E+02	0.10	8.33E+01	3.48E-03	4.00E+02	#NUM!	2.58E-05	2.53E-02	NA	6.0E-03
p-Xylene	15	2.24E+04	0.10	8.33E+01	4.44E-03	4.00E+02	4.93E+305	3.12E-05	7.00E-01	NA	1.0E-01
o-Xylene	15	1.21E+03	0.10	8.33E+01	5.02E-03	4.00E+02	1.52E+270	3.64E-05	4.40E-02	NA	1.0E-01

END

RESULTS SHEET

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS: INCREMENTAL RISK CALCULATIONS:

	Indoor exposure groundwater conc., carcinogen (ug/L)	Indoor exposure groundwater conc., noncarcinogen (ug/L)	Risk-based indoor exposure groundwater conc., (ug/L)	Pure component water solubility, S (ug/L)	Final indoor exposure groundwater conc., (ug/L)	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	NA	NA	NA	1.79E+06	NA	1.2E-05	3.9E-02
n-Butylbenzene	NA	NA	NA	2.00E+03	NA	NA	3.0E-04
sec-Butylbenzene	NA	NA	NA	3.94E+03	NA	NA	3.8E-05
Ethylbenzene	NA	NA	NA	1.69E+05	NA	4.2E-07	4.7E-04
Cumene	NA	NA	NA	6.13E+04	NA	NA	9.0E-02
2-Methylnaphthalene	NA	NA	NA	2.46E+04	NA	NA	5.2E-04
Naphthalene	NA	NA	NA	3.10E+04	NA	6.7E-07	1.9E-02
n-Propylbenzene	NA	NA	NA	6.00E+04	NA	NA	2.1E-03
Toluene	NA	NA	NA	5.26E+05	NA	NA	8.6E-05
1,2,4-Trimethylbenzene	NA	NA	NA	5.70E+04	NA	NA	8.2E-03
1,3,5-Trimethylbenzene	NA	NA	NA	2.00E+03	NA	NA	2.8E-03
p-Xylene	NA	NA	NA	1.85E+05	NA	NA	4.8E-03
o-Xylene	NA	NA	NA	1.78E+05	NA	NA	3.0E-04
					TOTALS	1E-05	2E-01

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Commercial worker using 5 ft soil vapor data along western perimeter

SG-AZV Version 3.1; 02/04

Program modified by ROR of Exponent to accommodate multiple chemicals

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (ug/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	8.90E+01			Benzene
104518	2.80E+01			n-Butylbenzene
135988	3.90E+02			sec-Butylbenzene
98066	2.50E+01			tert-Butylbenzene
100414	2.50E+01			Ethylbenzene
98828	1.00E+02			Cumene
1634044	2.50E+01			MTBE
91203	1.60E+01			Naphthalene
103651	2.50E+01			n-Propylbenzene
108883	2.80E+02			Toluene
95636	2.50E+01			1,2,4-Trimethylbenzene
108678	2.50E+01			1,3,5-Trimethylbenzene
108423	1.20E+02			p-Xylene
95476	2.50E+01			o-Xylene

Note: cumene reported as "m,p-xylenes"; p-xylene has the most conservative physical co

Note: same as isopropylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Totals must add up to value of L_T (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
15	152	19	137	0	0	SR		

MORE

ENTER Stratum A SCS soil type (used for Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum B SCS soil type (used for Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum C SCS soil type (used for Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)
SE	1.49	0.409	0.18								

MORE

ENTER Enclosed space floor thickness, L_{slab} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)
15	40	1000	1000	244	0.1	1

ENTER Average vapor flow rate into bldg. OR, Leave blank to calculate Q_{soil} (L/m)

0

ENTER Averaging time for carcinogens, AT_c (yrs)	ENTER Averaging time for noncarcinogens, AT_{nc} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	134.22	0.0E+00	1.4E-01
tert-Butylbenzene	5.65E-02	8.02E-06	1.19E-02	25	8,980	442.10	1220.00	134.22	0.0E+00	1.4E-01
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	88.15	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.19	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

	Exposure duration, T (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
Benzene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	6.90E+01	6.78E+04
n-Butylbenzene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	2.50E+01	6.78E+04
sec-Butylbenzene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	5.80E+02	6.78E+04
tert-Butylbenzene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	2.50E+01	6.78E+04
Ethylbenzene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	2.50E+01	6.78E+04
Cumene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	1.00E+02	6.78E+04
MTBE	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	2.50E+01	6.78E+04
Naphthalene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	1.80E+01	6.78E+04
n-Propylbenzene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	2.60E+01	6.78E+04
Toluene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	2.50E+01	6.78E+04
1,2,4-Trimethylbenzene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	2.50E+01	6.78E+04
1,3,5-Trimethylbenzene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	1.20E+02	6.78E+04
p-Xylene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	2.50E+01	6.78E+04
o-Xylene	7.88E+08	137	0.259	ERROR	ERROR	0.307	2.66E-09	0.798	2.23E-09	4,000	2.50E+01	6.78E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	1.00E+06	4.00E-04	15	8,030	4.18E-03	1.71E-01	1.78E-04	5.08E-03	0.00E+00	0.00E+00	5.08E-03	137
n-Butylbenzene	1.00E+06	4.00E-04	15	11,734	8.74E-03	3.65E-01	1.78E-04	3.29E-03	0.00E+00	0.00E+00	3.29E-03	137
sec-Butylbenzene	1.00E+06	4.00E-04	15	137,137	3.38E-04	1.41E-02	1.78E-04	5.30E-03	0.00E+00	0.00E+00	5.30E-03	137
tert-Butylbenzene	1.00E+06	4.00E-04	15	9,466	8.55E-03	3.57E-01	1.78E-04	3.26E-03	0.00E+00	0.00E+00	3.26E-03	137
Ethylbenzene	1.00E+06	4.00E-04	15	10,052	5.55E-03	2.31E-01	1.78E-04	4.33E-03	0.00E+00	0.00E+00	4.33E-03	137
Cumene	1.00E+06	4.00E-04	15	12,518	7.50E-01	3.13E+01	1.78E-04	3.75E-03	0.00E+00	0.00E+00	3.75E-03	137
MTBE	1.00E+06	4.00E-04	15	7,179	4.89E-04	2.03E-02	1.78E-04	5.92E-03	0.00E+00	0.00E+00	5.92E-03	137
Naphthalene	1.00E+06	4.00E-04	15	12,829	3.06E-04	1.29E-02	1.78E-04	3.42E-03	0.00E+00	0.00E+00	3.42E-03	137
n-Propylbenzene	1.00E+06	4.00E-04	15	11,251	7.21E-03	3.01E-01	1.78E-04	3.47E-03	0.00E+00	0.00E+00	3.47E-03	137
Toluene	1.00E+06	4.00E-04	15	9,056	6.84E-03	2.02E-01	1.78E-04	5.02E-03	0.00E+00	0.00E+00	5.02E-03	137
1,2,4-Trimethylbenzene	1.00E+06	4.00E-04	15	11,570	4.11E-03	1.72E-01	1.78E-04	3.56E-03	0.00E+00	0.00E+00	3.56E-03	137
1,3,5-Trimethylbenzene	1.00E+06	4.00E-04	15	13,561	3.93E-03	1.64E-01	1.78E-04	3.48E-03	0.00E+00	0.00E+00	3.48E-03	137
p-Xylene	1.00E+06	4.00E-04	15	10,143	5.38E-03	2.24E-01	1.78E-04	4.44E-03	0.00E+00	0.00E+00	4.44E-03	137
o-Xylene	1.00E+06	4.00E-04	15	10,302	3.82E-03	1.55E-01	1.78E-04	5.02E-03	0.00E+00	0.00E+00	5.02E-03	137

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	15	6.90E+01	0.10	8.33E+01	5.08E-03	4.00E+02	1.20E+267	3.79E-04	3.27E-02	2.9E-05	3.0E-02
n-Butylbenzene	15	2.50E+01	0.10	8.33E+01	3.29E-03	4.00E+02	#NUM!	2.75E-04	6.88E-03	NA	1.4E-01
sec-Butylbenzene	15	5.80E+02	0.10	8.33E+01	5.30E-03	4.00E+02	#NUM!	2.76E-04	1.60E-01	NA	1.4E-01
tert-Butylbenzene	15	2.50E+01	0.10	8.33E+01	3.26E-03	4.00E+02	#NUM!	2.73E-04	6.83E-03	NA	1.4E-01
Ethylbenzene	15	2.50E+01	0.10	8.33E+01	4.33E-03	4.00E+02	#NUM!	3.33E-04	8.45E-03	2.5E-06	1.0E+00
Cumene	15	1.00E+02	0.10	8.33E+01	3.75E-03	4.00E+02	#NUM!	3.04E-04	3.04E-02	NA	4.0E-01
MTBE	15	2.50E+01	0.10	8.33E+01	5.92E-03	4.00E+02	1.61E+228	4.20E-04	1.05E-02	2.6E-07	3.0E+00
Naphthalene	15	1.80E+01	0.10	8.33E+01	3.42E-03	4.00E+02	#NUM!	2.63E-04	4.73E-03	3.4E-05	3.0E-03
n-Propylbenzene	15	2.60E+01	0.10	8.33E+01	3.47E-03	4.00E+02	#NUM!	2.67E-04	7.18E-03	NA	1.4E-01
Toluene	15	2.50E+02	0.10	8.33E+01	5.02E-03	4.00E+02	1.80E+270	3.76E-04	1.05E-01	NA	3.0E-01
1,2,4-Trimethylbenzene	15	2.50E+01	0.10	8.33E+01	3.56E-03	4.00E+02	#NUM!	2.66E-04	7.21E-03	NA	7.0E-03
1,3,5-Trimethylbenzene	15	2.50E+01	0.10	8.33E+01	3.48E-03	4.00E+02	#NUM!	2.67E-04	7.17E-03	NA	6.0E-03
p-Xylene	15	1.20E+02	0.10	8.33E+01	4.44E-03	4.00E+02	4.83E+305	3.44E-04	4.13E-02	NA	1.0E-01
o-Xylene	15	2.50E+01	0.10	8.33E+01	5.02E-03	4.00E+02	1.92E+270	3.76E-04	9.39E-03	NA	1.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	2.4E-07	7.7E-04
n-Butylbenzene	NA	3.4E-05
sec-Butylbenzene	NA	7.8E-04
tert-Butylbenzene	NA	3.3E-05
Ethylbenzene	5.2E-09	5.8E-05
Cumene	NA	5.2E-05
MTBE	6.7E-10	2.4E-06
Naphthalene	3.8E-08	1.0E-03
n-Propylbenzene	NA	3.5E-05
Toluene	NA	2.4E-04
1,2,4-Trimethylbenzene	NA	7.1E-04
1,3,5-Trimethylbenzene	NA	8.3E-04
p-Xylene	NA	2.8E-04
o-Xylene	NA	6.4E-05
	3E-07	5E-03

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Commercial worker using 15 ft. soil vapor data along western perimeter

SG-ADV Version 3.1; 02/04

Reset to Defaults

Program modified by RDR of Exponent to accommodate multiple chemicals

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (ug/m^3)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.80E+01			Benzene
104518	2.50E+01			n-Butylbenzene
135988	3.90E+00			sec-Butylbenzene
98066	6.10E+02			tert-Butylbenzene
100414	2.00E+01			Ethylbenzene
98828	9.20E+03			Cumene
1634044	2.90E+01			MTBE
91203	1.80E+01			Naphthalene
103651	1.30E+03			n-Propylbenzene
108883	5.10E+02			Toluene
95636	2.60E+01			1,2,4-Trimethylbenzene
108678	2.00E+01			1,3,5-Trimethylbenzene
106423	9.00E+01			p-Xylene
95476	2.00E+01			o-Xylene

Note: same as iso-propylbenzene

Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical co

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_f (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
15	457	15	396	61	0	SL		

MORE

ENTER Stratum A SCS soil type (used to estimate Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (used to estimate Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (used to estimate Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SL	1.48	0.458	0.18	SL	1.62	0.367	0.105				

MORE

ENTER Enclosed space floor thickness, L_{slab} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\cdot s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	134.22	0.0E+00	1.4E-01
tert-Butylbenzene	5.65E-02	8.02E-06	1.19E-02	25	8,980	442.10	1220.00	134.22	0.0E+00	1.4E-01
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	88.15	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.18	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	5.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
o-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
p-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

	Exposure duration, t (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_e (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
Benzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	1.87E+01	6.75E+04
n-Butylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	6.75E+04
sec-Butylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	3.90E+03	6.75E+04
tert-Butylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	5.10E+02	6.75E+04
Ethylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	6.75E+04
Cumene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	9.20E+03	6.75E+04
MTBE	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	6.75E+04
Naphthalene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	1.60E+01	6.75E+04
n-Propylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	1.20E+03	6.75E+04
Toluene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	5.10E+02	6.75E+04
1,2,4-Trimethylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	6.75E+04
1,3,5-Trimethylbenzene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	6.75E+04
o-Xylene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	5.00E+01	6.75E+04
p-Xylene	7.88E+08	442	0.259	0.284	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	6.75E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,s}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	1.00E+06	4.00E-04	15	8,030	4.19E-03	1.75E-01	1.78E-04	5.06E-03	6.66E-05	0.00E+00	3.40E-03	442
n-Butylbenzene	1.00E+06	4.00E-04	15	11,734	8.74E-03	3.65E-01	1.78E-04	3.29E-03	5.75E-05	0.00E+00	3.00E-03	442
sec-Butylbenzene	1.00E+06	4.00E-04	15	107,157	3.38E-04	1.41E-02	1.78E-04	3.30E-03	5.76E-05	0.00E+00	3.01E-03	442
tert-Butylbenzene	1.00E+06	4.00E-04	15	8,488	8.55E-03	3.57E-01	1.78E-04	3.23E-03	5.70E-05	0.00E+00	3.47E-03	442
Ethylbenzene	1.00E+06	4.00E-04	15	10,052	5.55E-03	2.31E-01	1.78E-04	4.33E-03	7.57E-05	0.00E+00	4.60E-03	442
Cumene	1.00E+06	4.00E-04	15	12,518	7.50E-01	3.13E+01	1.78E-04	3.75E-03	6.56E-05	0.00E+00	3.99E-03	442
MTBE	1.00E+06	4.00E-04	15	12,518	4.88E-04	2.03E-02	1.78E-04	5.82E-03	1.03E-02	0.00E+00	6.20E-03	442
Naphthalene	1.00E+06	4.00E-04	15	7,179	3.09E-04	1.29E-02	1.78E-04	3.40E-03	5.96E-05	0.00E+00	3.63E-03	442
n-Propylbenzene	1.00E+06	4.00E-04	15	12,820	7.21E-03	3.01E-01	1.78E-04	3.47E-03	6.07E-05	0.00E+00	3.69E-03	442
Toluene	1.00E+06	4.00E-04	15	11,251	4.84E-03	2.02E-01	1.78E-04	5.02E-03	8.78E-05	0.00E+00	5.34E-03	442
1,2,4-Trimethylbenzene	1.00E+06	4.00E-04	15	9,056	4.11E-03	1.72E-01	1.78E-04	3.50E-03	6.12E-05	0.00E+00	3.72E-03	442
1,3,5-Trimethylbenzene	1.00E+06	4.00E-04	15	11,579	9.23E-03	3.84E-01	1.78E-04	3.48E-03	6.09E-05	0.00E+00	3.69E-03	442
o-Xylene	1.00E+06	4.00E-04	15	11,561	5.38E-03	2.24E-01	1.78E-04	4.44E-03	7.79E-05	0.00E+00	4.72E-03	442
p-Xylene	1.00E+06	4.00E-04	15	10,143	3.62E-03	1.51E-01	1.78E-04	5.02E-03	8.78E-05	0.00E+00	5.34E-03	442

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C_{inside} ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	15	1.60E+01	0.10	6.33E+02	3.04E-03	4.00E+02	1.33E+297	1.87E-04	2.83E-03	2.9E-05	3.0E-02
n-Butylbenzene	15	2.50E+01	0.10	6.33E+01	3.29E-03	4.00E+02	#NUM!	1.07E-04	2.67E-03	NA	1.4E-01
sec-Butylbenzene	15	3.90E+03	0.10	6.33E+01	3.30E-03	4.00E+02	#NUM!	1.07E-04	4.17E-01	NA	1.4E-01
tert-Butylbenzene	15	5.10E+02	0.10	6.33E+01	3.23E-03	4.00E+02	#NUM!	1.06E-04	5.39E-02	NA	1.4E-01
Ethylbenzene	15	2.50E+01	0.10	6.33E+01	4.33E-03	4.00E+02	#NUM!	1.37E-04	3.41E-03	2.5E-06	1.0E+00
Cumene	15	9.20E+03	0.10	6.33E+01	3.75E-03	4.00E+02	#NUM!	1.50E-04	1.11E+00	NA	4.0E-01
MTBE	15	2.50E+01	0.10	6.33E+01	5.82E-03	4.00E+02	1.81E+229	1.79E-04	4.48E-03	2.6E-07	3.0E+00
Naphthalene	15	1.60E+01	0.10	6.33E+01	3.40E-03	4.00E+02	#NUM!	1.10E-04	5.78E-03	3.4E-05	3.0E-03
n-Propylbenzene	15	1.20E+03	0.10	6.33E+01	3.47E-03	4.00E+02	#NUM!	1.12E-04	1.54E-01	NA	1.4E-01
Toluene	15	5.10E+02	0.10	6.33E+01	5.02E-03	4.00E+02	1.86E+270	1.56E-04	7.94E-02	NA	3.0E-01
1,2,4-Trimethylbenzene	15	2.50E+01	0.10	6.33E+01	3.50E-03	4.00E+02	#NUM!	1.13E-04	2.82E-03	NA	7.0E-05
1,3,5-Trimethylbenzene	15	2.50E+01	0.10	6.33E+01	3.48E-03	4.00E+02	#NUM!	1.12E-04	2.80E-03	NA	6.0E-05
o-Xylene	15	5.00E+01	0.10	6.33E+01	4.44E-03	4.00E+02	4.93E+305	1.40E-04	6.83E-03	NA	2.0E-01
p-Xylene	15	2.50E+01	0.10	6.33E+01	5.02E-03	4.00E+02	1.92E+270	1.58E-04	3.89E-03	NA	1.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	2.0E-08	6.5E-05
n-Butylbenzene	NA	1.3E-05
sec-Butylbenzene	NA	2.0E-03
tert-Butylbenzene	NA	2.6E-04
Ethylbenzene	2.1E-09	2.3E-06
Cumene	NA	1.9E-03
MTBE	2.9E-10	1.0E-06
Naphthalene	1.5E-08	4.0E-04
n-Propylbenzene	NA	6.6E-04
Toluene	NA	1.8E-04
1,2,4-Trimethylbenzene	NA	2.8E-04
1,3,5-Trimethylbenzene	NA	3.2E-04
p-Xylene	NA	4.8E-05
o-Xylene	NA	2.7E-05
	4E-08	6E-03

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Commercial worker using groundwater data along western perimeter

GW-ADV Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

Program modified by RDR of Exponent to accommodate multiple chemicals

YES

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES X

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc. C_{gw} (µg/L)	#REF!	Chemical	
71432	5.80E+02		Benzene	
104518	5.30E+03		n-Butylbenzene	
135988	4.70E+03		sec-Butylbenzene	
100414	2.80E+03		Ethylbenzene	
98828	8.70E+02		Cumene	Note: same as isopropylbenzene
91576	1.80E+01		2-Methylnaphthalene	
1634044	1.40E+01		MTBE	
91203	5.80E+02		Naphthalene	
103651	1.10E+03		n-Propylbenzene	
95636	3.40E+03		1,2,4-Trimethylbenzene	
108678	1.10E+03		1,3,5-Trimethylbenzene	
106423	3.40E+03		p-Xylene	Note: results reported as "m,p-xylenes"; p-xylene may be most conservative physical constants
95476	1.30E+03		o-Xylene	

MORE

ENTER Average soil/ groundwater temperature, T_s (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{wt} (cm)	ENTER Total must add up to value of L_{crit} (cell C36) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, h_B (cm)	ENTER Thickness of soil stratum C, h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
19	15	346	304	152	0	B	SL	SL		

MORE

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_A^b (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_B^b (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters	1.49	0.439	0.16	SL	1.62	0.387	0.105	Lookup Soil Parameters			

MORE

ENTER Enclosed space floor thickness, L_{seal} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\cdot s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	1	5

MORE

ENTER Averaging time for carcinogens, AT_c (yrs)	ENTER Averaging time for noncarcinogens, AT_{nc} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	1	25	1.0E-06	1

Used to calculate risk-based groundwater concentration

END

CHEMICAL PROPERTIES SHEET

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of porization he norma oiling poir $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Organic carbon partition coefficient, K_{oc} (cm^3/g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	5.89E+01	1.78E+03	2.9E-05	3.0E-02
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	1.11E+03	2.00E+00	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	9.66E+02	3.94E+00	0.0E+00	1.4E-01
Ethylbenzene	7.50E-02	7.80E-06	7.88E-03	25	8,501	409.34	617.20	3.63E+02	1.69E+02	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01
2-Methylnaphthalene	5.22E-02	7.75E-06	5.17E-04	25	12,600	514.26	761.00	2.81E+03	2.45E+01	0.0E+00	1.4E-02
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,878	328.30	497.10	7.26E+00	5.10E+04	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	2.00E+03	3.10E+01	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	638.00	5.62E+02	6.00E+01	0.0E+00	1.4E-01
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,359	442.30	649.17	1.35E+03	5.70E+01	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	1.35E+03	2.00E+00	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.84E-03	25	8,525	411.52	616.20	3.89E+02	1.85E+02	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	3.63E+02	1.78E+02	0.0E+00	1.0E-01

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, T (sec)	Source-building separation, L_c (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_e (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Thickness of capillary zone, L_{cz} (cm)	Total porosity in capillary zone, n_{cz} (cm^3/cm^3)	Air-filled porosity in capillary zone, $\theta_{a,cz}$ (cm^3/cm^3)	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm^3/cm^3)	Floor-wall seam perimeter, X_{crack} (cm)
7.88E+08	534	0.259	0.284	ERROR	0.307	2.86E-09	0.758	2.23E-09	25.00	0.367	0.067	0.320	4,000

	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. groundwater temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Benzene	6.78E+04	1.00E+06	4.00E-04	15	8,030	4.19E-03	1.75E-01	1.78E-04	3.04E-03	6.68E-03	0.00E+00	8.18E-05	1.35E-03	534
n-Butylbenzene	6.78E+04	1.00E+06	4.00E-04	15	11,734	8.74E-03	3.85E-01	1.78E-04	3.29E-03	5.75E-03	0.00E+00	5.09E-05	8.46E-04	534
sec-Butylbenzene	6.78E+04	1.00E+06	4.00E-04	15	107,157	3.38E-04	1.41E-02	1.78E-04	3.30E-03	5.76E-03	0.00E+00	1.34E-04	1.65E-03	534
Ethylbenzene	6.78E+04	1.00E+06	4.00E-04	15	10,082	5.55E-03	2.31E-01	1.78E-04	4.33E-03	7.57E-03	0.00E+00	6.76E-05	1.12E-03	534
Cumene	6.78E+04	1.00E+06	4.00E-04	15	12,518	7.50E-01	3.13E+01	1.78E-04	3.75E-03	6.56E-03	0.00E+00	5.42E-05	9.18E-04	534
2-Methylnaphthalene	6.78E+04	1.00E+06	4.00E-04	15	16,123	2.95E-04	1.23E-02	1.78E-04	3.02E-03	5.27E-03	0.00E+00	1.38E-04	1.51E-03	534
MTBE	6.78E+04	1.00E+06	4.00E-04	15	7,179	4.86E-04	2.03E-02	1.78E-04	5.92E-03	1.03E-02	0.00E+00	1.83E-04	2.32E-03	534
Naphthalene	6.78E+04	1.00E+06	4.00E-04	15	12,820	3.09E-04	1.29E-02	1.78E-04	3.42E-03	5.96E-03	0.00E+00	1.36E-04	1.69E-03	534
n-Propylbenzene	6.78E+04	1.00E+06	4.00E-04	15	11,251	7.21E-03	3.01E-01	1.78E-04	3.47E-03	6.07E-03	0.00E+00	5.40E-05	9.00E-04	534
1,2,4-Trimethylbenzene	6.78E+04	1.00E+06	4.00E-04	15	11,579	4.11E-03	1.72E-01	1.78E-04	3.50E-03	6.12E-03	0.00E+00	5.75E-05	9.45E-04	534
1,3,5-Trimethylbenzene	6.78E+04	1.00E+06	4.00E-04	15	11,581	3.93E-03	1.64E-01	1.78E-04	3.48E-03	6.08E-03	0.00E+00	5.81E-05	9.52E-04	534
p-Xylene	6.78E+04	1.00E+06	4.00E-04	15	10,143	5.38E-03	2.24E-01	1.78E-04	4.44E-03	7.75E-03	0.00E+00	6.98E-05	1.16E-03	534
o-Xylene	6.78E+04	1.00E+06	4.00E-04	15	10,302	3.62E-03	1.51E-01	1.78E-04	5.02E-03	8.76E-03	0.00E+00	8.27E-05	1.38E-03	534

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3$)$^{-1}$	Reference conc., RfC (mg/m^3)
Benzene	15	1.19E+05	0.10	8.33E+01	5.06E-03	4.00E+02	1.33E+267	3.62E-05	4.31E+00	2.9E-05	3.0E-02
#REF!	#REF!	#REF!	#REF!	8.33E+01	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
n-Butylbenzene	15	2.11E+05	0.10	8.33E+01	3.29E-03	4.00E+02	#NUM!	2.30E-05	4.66E+00	NA	1.4E-01
sec-Butylbenzene	15	6.62E+03	0.10	8.33E+01	3.30E-03	4.00E+02	#NUM!	4.39E-05	2.90E-01	NA	1.4E-01
Ethylbenzene	15	5.79E+05	0.10	8.33E+01	4.33E-03	4.00E+02	#NUM!	3.63E-05	1.75E+01	2.5E-06	1.0E+00
Cumene	15	2.72E+07	0.10	8.33E+01	3.75E-03	4.00E+02	#NUM!	2.48E-05	6.75E+02	NA	4.0E-01
2-Methylnaphthalene	15	2.22E+02	0.10	8.33E+01	3.02E-03	4.00E+02	#NUM!	4.29E-05	9.52E-03	NA	1.4E-02
MTBE	15	2.64E+02	0.10	8.33E+01	5.92E-03	4.00E+02	1.81E+229	6.09E-05	1.73E-02	2.6E-07	3.0E+00
Naphthalene	15	7.47E+03	0.10	8.33E+01	3.42E-03	4.00E+02	#NUM!	4.49E-05	3.36E-01	3.4E-05	3.0E-03
n-Propylbenzene	15	3.31E+05	0.10	8.33E+01	3.47E-03	4.00E+02	#NUM!	2.44E-05	8.06E+00	NA	1.4E-01
1,2,4-Trimethylbenzene	15	5.83E+05	0.10	8.33E+01	3.50E-03	4.00E+02	#NUM!	2.56E-05	1.49E+01	NA	7.0E-03
1,3,5-Trimethylbenzene	15	1.80E+05	0.10	8.33E+01	3.48E-03	4.00E+02	#NUM!	2.53E-05	4.65E+00	NA	6.0E-03
p-Xylene	15	7.62E+05	0.10	8.33E+01	4.44E-03	4.00E+02	4.93E+305	3.12E-05	2.38E+01	NA	1.0E-01
o-Xylene	15	1.81E+05	0.10	8.33E+01	5.02E-03	4.00E+02	1.52E+270	3.64E-05	6.60E+00	NA	1.0E-01

END

RESULTS SHEET

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS: INCREMENTAL RISK CALCULATIONS:

	Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Benzene	NA	NA	NA	1.79E+06	NA	3.1E-05	9.8E-02
n-Butylbenzene	NA	NA	NA	2.00E+03	NA	NA	2.4E-02
sec-Butylbenzene	NA	NA	NA	3.94E+03	NA	NA	1.4E-03
Ethylbenzene	NA	NA	NA	1.69E+05	NA	1.1E-05	1.2E-02
Cumene	NA	NA	NA	6.13E+04	NA	NA	1.2E+00
2-Methylnaphthalene	NA	NA	NA	2.46E+04	NA	NA	4.7E-04
MTBE	NA	NA	NA	5.10E+07	NA	1.1E-09	3.9E-06
Naphthalene	NA	NA	NA	3.10E+04	NA	2.8E-06	7.7E-02
n-Propylbenzene	NA	NA	NA	6.00E+04	NA	NA	3.9E-02
1,2,4-Trimethylbenzene	NA	NA	NA	5.70E+04	NA	NA	1.5E+00
1,3,5-Trimethylbenzene	NA	NA	NA	2.00E+03	NA	NA	5.3E-01
p-Xylene	NA	NA	NA	1.85E+05	NA	NA	1.6E-01
o-Xylene	NA	NA	NA	1.78E+05	NA	NA	4.5E-02
					TOTALS	4E-05	4E+00

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

EXHIBIT 8 – PART II

E^xPONENT (2010)

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May 5, 2010

Stephen Testa
Testa Environmental Corporation
19814 Jesus Maria Road
Mokelumne Hill, California 95245

Subject: Updated Soil Vapor Intrusion Evaluation for Southern Boundary,
Former Chemoil Refinery, Signal Hill, California
Project No. 0906735.000

Dear Mr. Testa:

This letter report presents the results of an updated evaluation of potential health risks to offsite residents living south of the former Chemoil Refinery, located in Signal Hill, California (see Figure 1) associated with potential intrusion of volatile chemicals in soil vapor and groundwater into indoor air. Results of an initial soil vapor sampling effort were reported in a letter in December 2009. Additional soil vapor samples have been collected closer to the offsite residents since that report, and the purpose of this letter report is to update the evaluation with these results. As discussed further below, the additional sample results support our original conclusion that potential soil vapor intrusion is not likely to be of concern for current offsite residents living south of the property; however, health risks associated with potential vapor intrusion into indoor air will be re-evaluated following completion of additional soil vapor and groundwater sampling scheduled for the first half of 2010.

Background

Based on information provided in the "Report of Phase II Additional Site Characterization," which was conducted by Testa Environmental Corporation (TEC) on behalf of the current property owner, Signal Hill Holding Company (TEC 2009),[1] the site was used as a dairy farm prior to 1922, and was operated as a refinery from 1922 until early 1994. From 1994 to 1997, there was limited operation of the wastewater treatment facility, after which all aboveground structures were dismantled. The site is currently vacant (TEC 2009). With regard to current offsite land use, commercial/industrial developments are located to the north, east, and west of the site, and a residential development is located south of the site; an elementary school is also

[1] TEC. 2009. Report on phase II additional site characterization, former Chemoil Refinery, SLIC No. 453A, Signal Hill, California. Volume I. Testa Environmental Corporation. September 30.

located north of the site, beyond the commercial/industrial area (see Figure 2). This updated evaluation is confined to receptors in the residential development south of the site, because additional soil vapor samples closer to these offsite residents have been obtained since the initial December 2009 letter report.

Data Included in Evaluation

In March 2010, soil vapor samples were collected at six locations south of the southern boundary (SGP-WD-01 through SGP-WD-06). These six locations are located closer to the offsite residents than the previous locations south of the property. All 2009 and 2010 soil vapor sampling locations are shown in Figure 3. In the most recent sampling event, soil vapor samples were collected from 5 and 10 ft below ground surface (bgs) at each location—except for SGP-WD-1, where a 10-ft sample was not collected. Samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8260B. In addition, duplicate soil vapor samples were collected from two locations (SGP-WD-2 @ 5 ft and SGP-WD-4 @ 10 ft) and analyzed by EPA Method TO-15. These soil vapor data are presented in Table 1. Based on the land use south of the property, data from this most recent sampling event were used to evaluate potential vapor intrusion under a residential scenario. Data from 5 ft bgs and 10 ft bgs were evaluated separately.

It should be noted that soil vapor samples were also analyzed for total petroleum hydrocarbons (TPH) quantified as gasoline (defined as C4–C12 hydrocarbons) by the California Leaking Underground Fuel Tank (LUFT) manual method (gas chromatography/mass spectrometry). Such measurements represent mixtures of chemicals that, because of their highly variable composition, do not have descriptive health criteria. Therefore, the toxicity of these mixtures is best described by the aggregate toxicity of key individual chemicals in the mixture, as quantified by EPA Method 8260B. However, it is worthwhile to note that relatively high concentrations of C4–C12 hydrocarbons were detected in samples collected from SGP-WD-3 @ 5 ft and 10 ft bgs and from SGP-WD-4 @ 10 ft bgs. The presence of high concentrations of C4–C12 hydrocarbons in these samples may indicate an offsite source, especially because these samples were taken at locations that are separated from the site by an unlined drainage culvert, which would prevent lateral migration of soil vapor. Further, these high concentrations mean that the samples had to be diluted prior to analysis, resulting in elevated detection limits (by an order of magnitude) for these samples.

At present, groundwater samples are collected from a total of 13 groundwater monitoring wells (MW-1, MW-1A, MW-3, and MW-8 through MW-16) (see Figure 4) and are analyzed for VOCs by EPA Method 8260B, and semivolatile organic compounds (SVOCs) by EPA Method 8270C. Of these groundwater monitoring wells, MW-1 and MW-13 through MW-16 are closest

to the southern property boundary. For the purposes of this evaluation, data from these monitoring wells from the previous four quarters (second through fourth quarters 2009 and first quarter 2010) were included. These data are presented in Table 2.

Chemicals of Potential Concern

All chemicals detected in soil vapor were selected as chemicals of potential concern (COPCs). In addition, if a chemical was not detected in soil vapor, but was detected in groundwater along the southern boundary, then that chemical was also identified as a COPC in soil vapor. For example, n-butylbenzene was not detected in any soil vapor sample, but was detected in groundwater collected from monitoring well MW-16. Therefore, n-butylbenzene was included in the soil vapor evaluation. For detected chemicals, the maximum detected concentration was used as the exposure-point concentration (EPC). For chemicals that were not detected in soil vapor, one-half the limit of detection was used. To account for the uncertainty associated with elevated detection limits in a few samples, the minimum and maximum limits of detection were used in separate analyses. The soil vapor EPCs are presented in Table 3.

For groundwater, all of the volatile chemicals detected in samples collected from monitoring wells closest to the southern site boundary were selected as COPCs, except for 4-isopropyltoluene and tert-butanol. Only limited toxicity information is available for these chemicals. The oral LD_{50} (lethal dose for 50% of the test animals) for 4-isopropyltoluene in rats is greater than 4,000 mg/kg,[2] indicating that the chemical is relatively non-toxic according to acute toxicity classifications developed for pesticides.[3] Similarly, the oral LD_{50} for tert-butanol in rats is greater than 5,000 mg/kg,[4] indicating that it is also relatively non-toxic. Similar to soil vapor, the maximum detected concentration was used as the EPC. The groundwater EPCs are also presented in Table 3.

Risk Calculations

Evaluating potential exposure to COPCs in soil vapor or groundwater via inhalation of vapors in indoor air requires estimating vapor emissions and resulting indoor air concentrations. The

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[2] NLS. 2009. Hazardous Substances Data Bank. National Library of Medicine. 4-Isopropyltoluene. Accessed November 20, 2009. http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.

[3] WHO. 2006. The WHO recommended classification of pesticides by hazard and guidelines to classification 2004. World Health Organization. June.

[4] NLS. 2009. Hazardous Substances Data Bank. National Library of Medicine. Tert-Butanol. Accessed November 20, 2009. http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.

Johnson and Ettinger model[5] was used as prescribed by the California Environmental Protection Agency (Cal-EPA) guidance for evaluating vapor intrusion.[6] This model has been parameterized by the U.S. Environmental Protection Agency (EPA)[7] and was modified to reflect Cal-EPA-specific toxicity criteria, as appropriate.[8] The toxicity criteria for the COPCs are presented in Table 4. Default model input assumptions were used for the majority of the model parameters; however, site-specific information was used for some parameters (e.g., soil vapor and groundwater sampling depth and soil type). Model output sheets and additional information regarding site-specific parameter assumptions are included in Attachment A.

Results

Potential noncancer risks are expressed in terms of a hazard index, and potential cancer risks are expressed in terms of a theoretical lifetime excess cancer risk. A hazard index less than 1 is generally considered acceptable by regulatory agencies. Theoretical lifetime excess cancer risks are generally compared to an acceptable risk range of 1×10^{-6} to 1×10^{-4}; cancer risk estimates of less than 1×10^{-6} are considered to be so low as to warrant no further investigation or analysis. As stated previously, several chemicals that were not detected in the soil vapor samples were identified as COPCs in soil vapor because they were detected in groundwater. For these chemicals, a value of one-half the limit of detection was used as the EPC. However, because of the uncertainty associated with elevated detection limits in three of the soil vapor samples, potential health risks were estimated using either one-half the minimum detection limit or one-half the maximum detection limit in soil vapor

The estimated noncancer hazard indexes associated with exposure to COPCs in indoor air due to chemicals in soil vapor and groundwater in the vicinity of the southern property boundary, assuming a residential exposure scenario, are summarized in Table 5. The total hazard indexes due to vapors in indoor air, using maximum detected concentrations or one-half the minimum detection limits measured in soil vapor at 5 and 10 ft bgs, are both 1×10^{-2}. The total hazard indexes due to vapors in indoor air, using maximum detected concentrations or one-half the

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[5] Johnson, P.C., and R.A. Ettinger. 1991. Heuristic model for predicting the intrusion rate of contaminant vapors in buildings. Environ. Sci. Technol. 25:1445–1452.

[6] Cal-EPA. 2005. Guidance for the evaluation and mitigation of subsurface vapor intrusion to indoor air. Interim final. California Environmental Protection Agency, Department of Toxic Substances Control, Sacramento, CA. February 7.

[7] U.S. EPA. 2003. User's guide for evaluating subsurface vapor intrusion into buildings. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Toxics Integration Branch, Washington, DC.

[8] Cal-EPA. 2009. Screening model spreadsheets. California Environmental Protection Agency, Department of Toxic Substances Control. http://www.dtsc.ca.gov/AssessingRisk/JE_Models.cfm.

maximum detection limits measured in soil vapor at 5 and 10 ft, are 9×10^{-2} and 6×10^{-2}, respectively. Finally, the total hazard index due to exposure to vapors in indoor air, using the maximum detected concentrations measured in groundwater, is 8×10^{-1}. These values are below 1, indicating that potential exposure to COPCs in indoor air by residents adjacent to the southern property boundary pose a negligible noncarcer health risk under the conditions evaluated.

The estimated excess cancer risks associated with exposure to COPCs in indoor air due to chemicals in soil vapor and groundwater in the vicinity of the southern boundary, assuming a residential exposure scenario, are also summarized in Table 5. The total excess cancer risks due to vapors in indoor air, using maximum detected concentrations or one-half the minimum detection limits measured in soil vapor at 5 and 10 ft, are 1×10^{-6} and 5×10^{-7}, respectively. The total excess cancer risks due to vapors in indoor air, using maximum detected concentrations or one-half the maximum detection limits measured in soil vapor at 5 and 10 ft, are 4×10^{-6} and 2×10^{-6}, respectively. Finally, the total estimated excess cancer risk due to exposure to vapors in indoor air, using the maximum detected concentrations measured in groundwater, is 5×10^{-6}. The estimated excess cancer risks are at or below the generally acceptable risk range based on maximum concentrations for COPCs detected in soil vapor and one-half the minimum detection limits for the remaining COPCs in soil vapor, but they fall in the lower end of the risk range based on one-half the maximum detection limits for COPCs not detected in soil vapor or based on maximum detected concentrations for COPCs in groundwater.

With regard to the results based on one-half the maximum detection limits in soil vapor, the largest contributor to the total estimated cancer risk is methylene chloride, which was not detected in any soil vapor sample. As stated previously, the detection limits were elevated (by an order of magnitude) in three samples (i.e., SGP-WD-3 @ 5 and 10 ft bgs, and SGP-WD-4 @ 5 ft bgs), which had the highest concentrations of C4–C12 hydrocarbons. Methylene chloride was included as a COPC in soil vapor, because it was detected in one groundwater sample (MW-1) at a concentration of 330 μg/L during the March 2010 sampling event. Importantly, methylene chloride has not been detected previously in any groundwater samples collected at the site; therefore, the detection of methylene chloride in this one groundwater sample may be anomalous. Inclusion of methylene chloride as a COPC in soil vapor, especially based on one-half the maximum detection limit, likely overestimates potential risks associated with soil vapor intrusion into indoor air. Further, the only chemical detected in soil vapor that contributed to the estimated cancer risk is benzene, which was detected at maximum concentrations of 71 and 53 $\mu g/m^3$, at 5 and 10 ft bgs, respectively. These concentrations are roughly 30 to 40 times lower than the maximum detected concentration (2100 $\mu g/m^3$) reported in the previous evaluation using 2009 soil vapor data along the southern boundary, and the estimated excess cancer risks are well below the generally acceptable risk range (6×10^{-7} and 3×10^{-7}, at 5 and 10 ft bgs, respectively).

With regard to chemicals in groundwater, the largest contributor to the total estimated cancer risk is naphthalene (maximum detected concentration of 220 μg/L), which was not detected in any of the soil vapor samples. In addition, the maximum concentration was detected during the July 2009 groundwater sampling event, whereas during the most recent two quarters, naphthalene was detected at concentrations of 100 and 130 μg/L, indicating that naphthalene concentrations may be decreasing over time. The difference between the estimated cancer risk based on soil vapor and that based on groundwater data is likely due to a number of factors, including (1) the COPCs are primarily aromatic hydrocarbons that may be biodegrading in the vadose zone, and (2) there is greater uncertainty in the groundwater model relative to the soil vapor model, because the soil vapor concentration must be estimated from groundwater concentrations in the groundwater model, whereas measured soil vapor concentrations are used in the soil vapor model. As such, the estimated excess cancer risks based on the maximum COPC concentrations in groundwater likely overstate the potential health risks to residents adjacent to the southern property boundary.

Summary and Conclusions

This letter report presents the results of an updated evaluation of potential health risks to offsite residents living south of the former Chemoil Refinery site. The March 2010 soil vapor sampling locations that are included in this evaluation are farther south of the southern boundary and closer to the offsite residents than the sampling locations that were evaluated previously along the southern boundary. It is important to note that this evaluation was based on maximum detected concentrations, which were assumed to be representative of concentrations to which offsite residents would be exposed for 30 years. This latter assumption is particularly conservative, because aromatic hydrocarbons are known to biodegrade over time.

Estimated noncancer hazard indexes, assuming a residential scenario, were below levels generally considered acceptable by regulatory agencies. The estimated excess cancer risks are at or below the generally acceptable risk range based on maximum COPC concentrations and one-half the minimum detection limits in soil vapor, but they fall in the lower end of the risk range based on maximum COPC concentrations and one-half the maximum detection limits in soil vapor , or based on maximum COPC concentrations in groundwater. Methylene chloride was not detected in soil vapor but was the largest contributor to the estimated cancer risk based on soil vapor data. The only chemical detected in soil vapor that contributed to the estimated cancer risk is benzene, which was detected at concentrations that are roughly 30 to 40 times lower than the maximum detected concentration reported in the previous evaluation using 2009 soil vapor data along the southern boundary. The estimated excess cancer risks based on the maximum detected benzene concentrations are well below the generally acceptable risk range (6×10^{-7} and 3×10^{-7}, at 5 and 10 ft bgs, respectively). Finally, estimated risks based on

groundwater data are driven by naphthalene, which was not detected in the soil vapor samples. Estimated health risks based on groundwater data are likely more uncertain than those based on soil vapor data because of additional assumptions required in the model and potential biodegradation of the COPCs in the vadose zone.

In summary, potential soil vapor intrusion is not likely to be of concern for current offsite residents south of the property boundary; however, health risks associated with potential vapor intrusion into indoor air will be re-evaluated following completion of additional soil vapor and groundwater sampling scheduled for the first half of 2010.

Please contact Greg Brorby at (510) 268-5006 or Ryan Weidling at (510) 268-5018 if you have any questions regarding this evaluation.

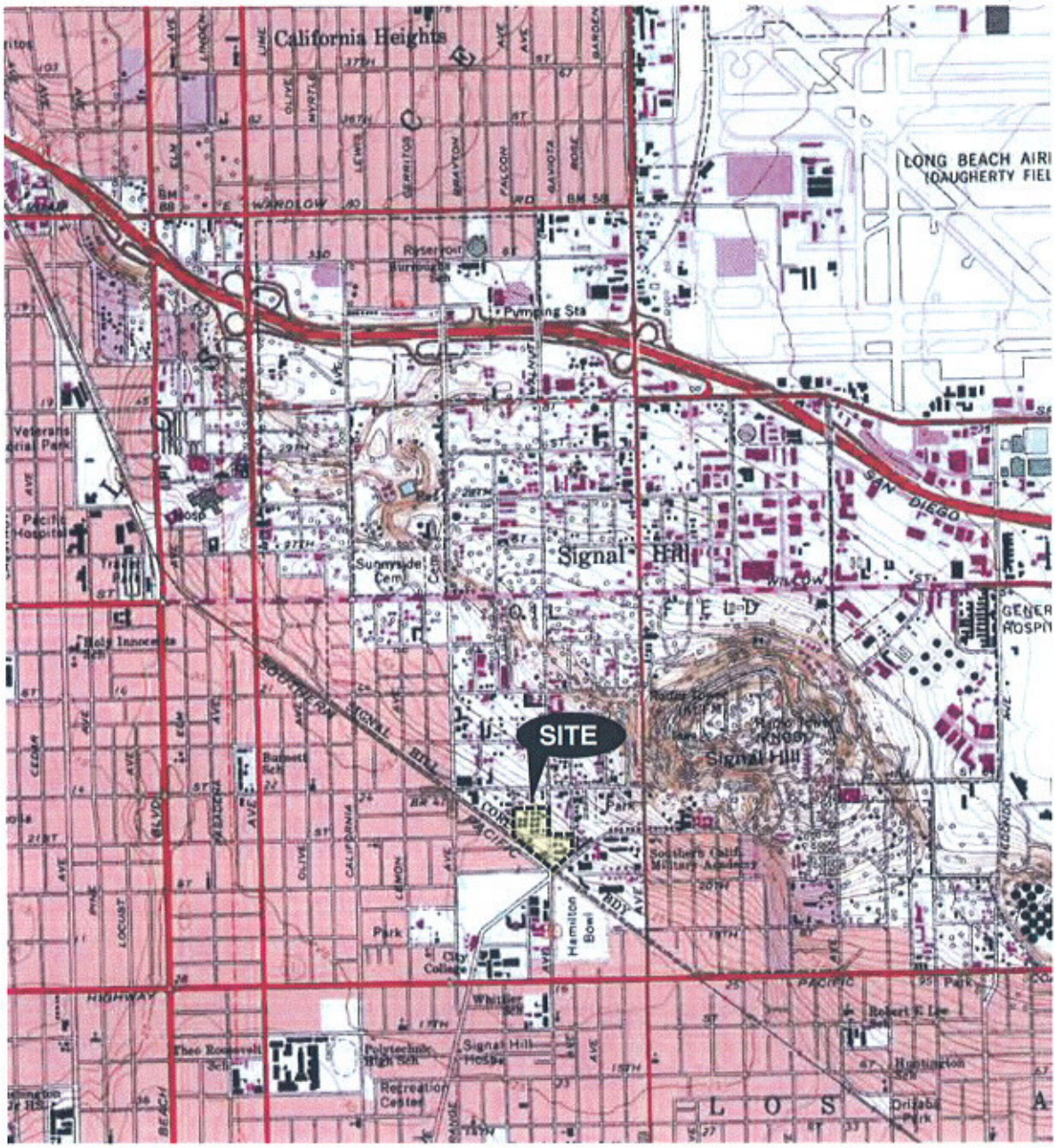
Sincerely,

Gregory P. Brorby, DABT
Senior Managing Scientist

Ryan Weidling, MPH
Scientist

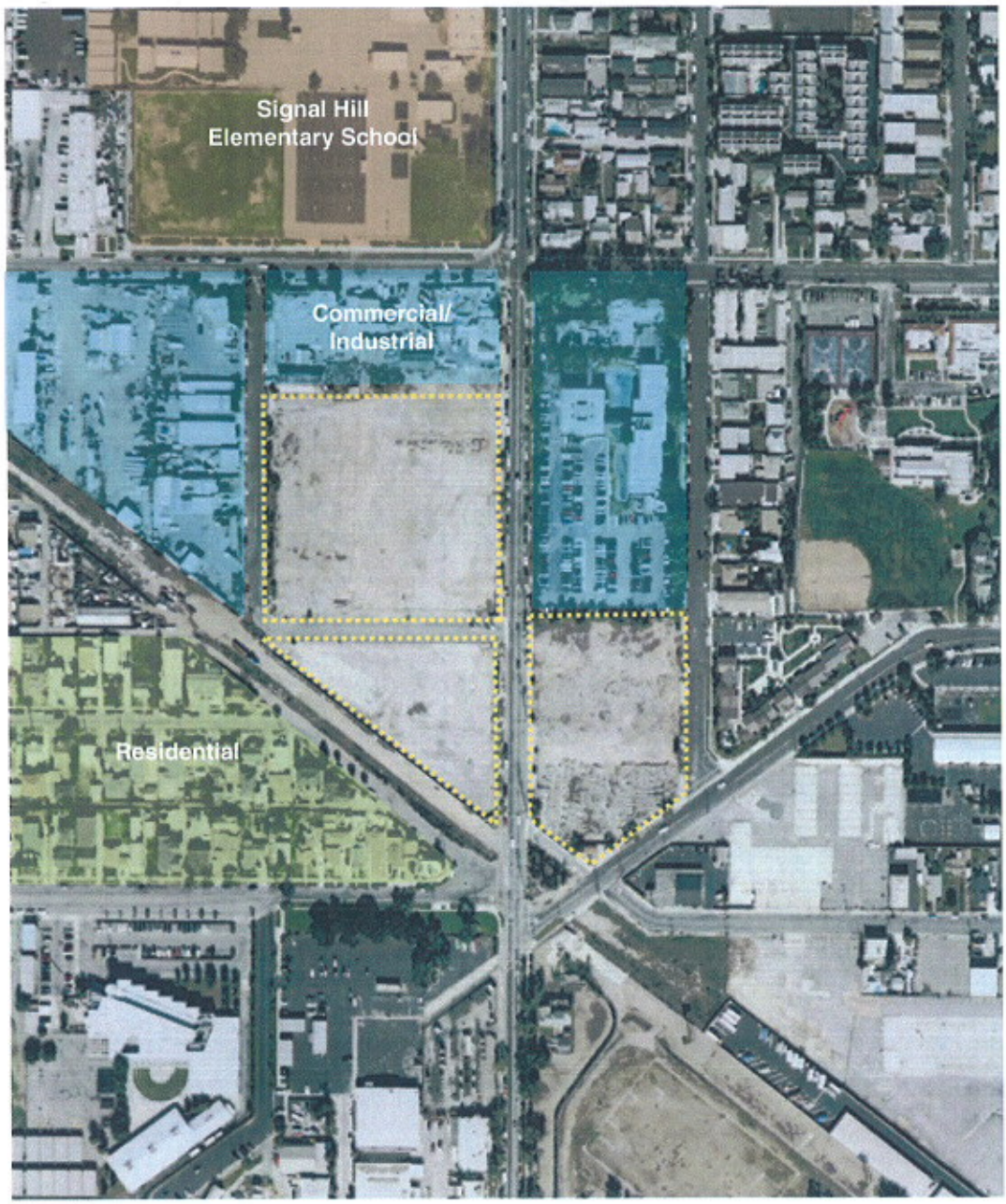
Attachments

Figures



Source: USGS Long Beach, CA (1981)

Figure 1. Site location map, former Chemoil refinery, Signal Hill, California

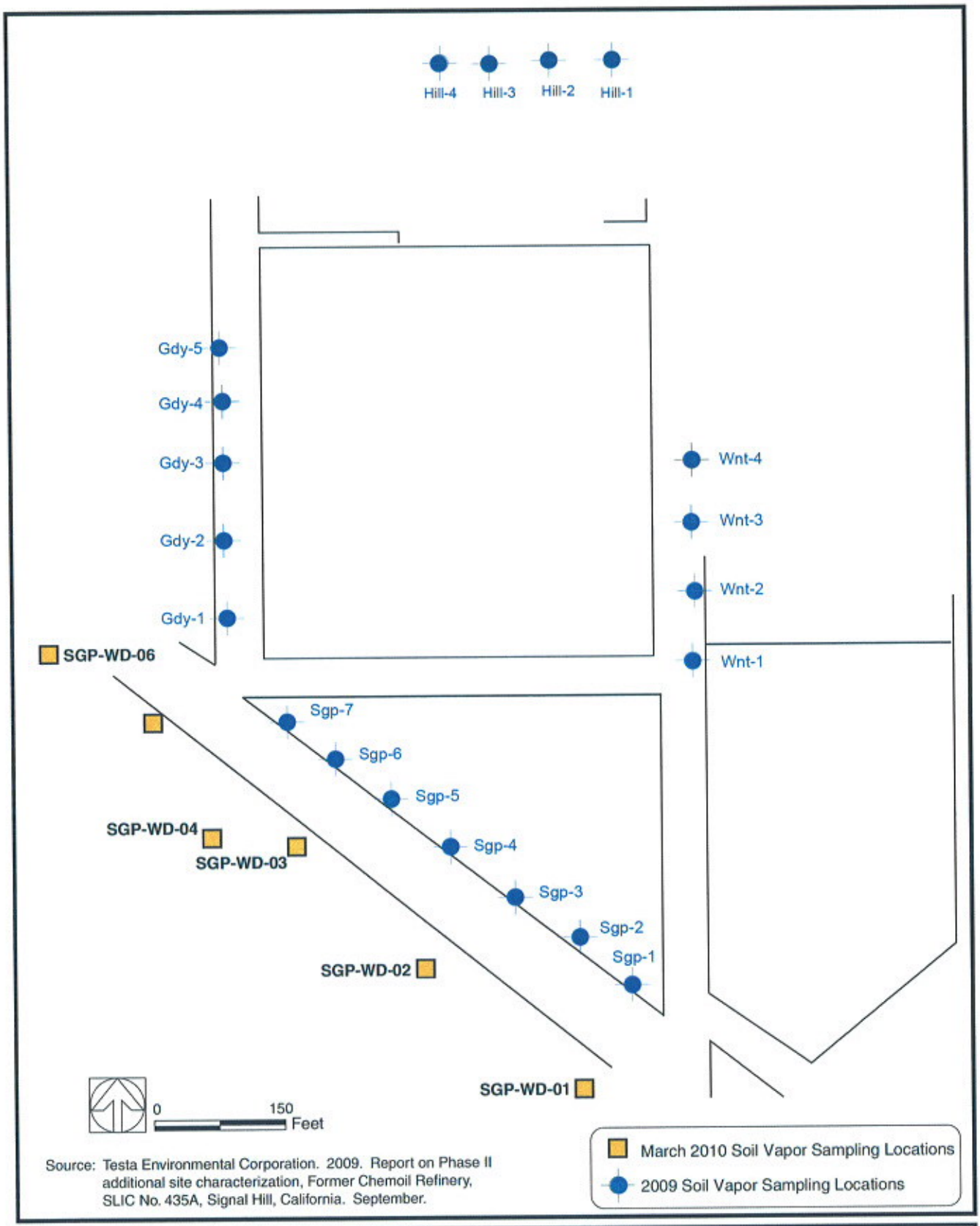


Note: The Signal Hill Elementary School is located on land zoned as "open space" and the area labeled "commercial/industrial" includes land zoned "commercial office" or "light industrial" by the City of Signal Hill (http://www.cityofsignalhill.org/community_ development/lower_leftc4.jpg; last accessed November 30, 2009).

Source: Testa Environmental Corporation. 2009. Report on Phase II additional site characterization, Former Chemoil Refinery, SLIC No. 435A, Signal Hill, California. September.

Figure 2. Off-Site Development, Former Chemoil Refinery, Signal Hill, California

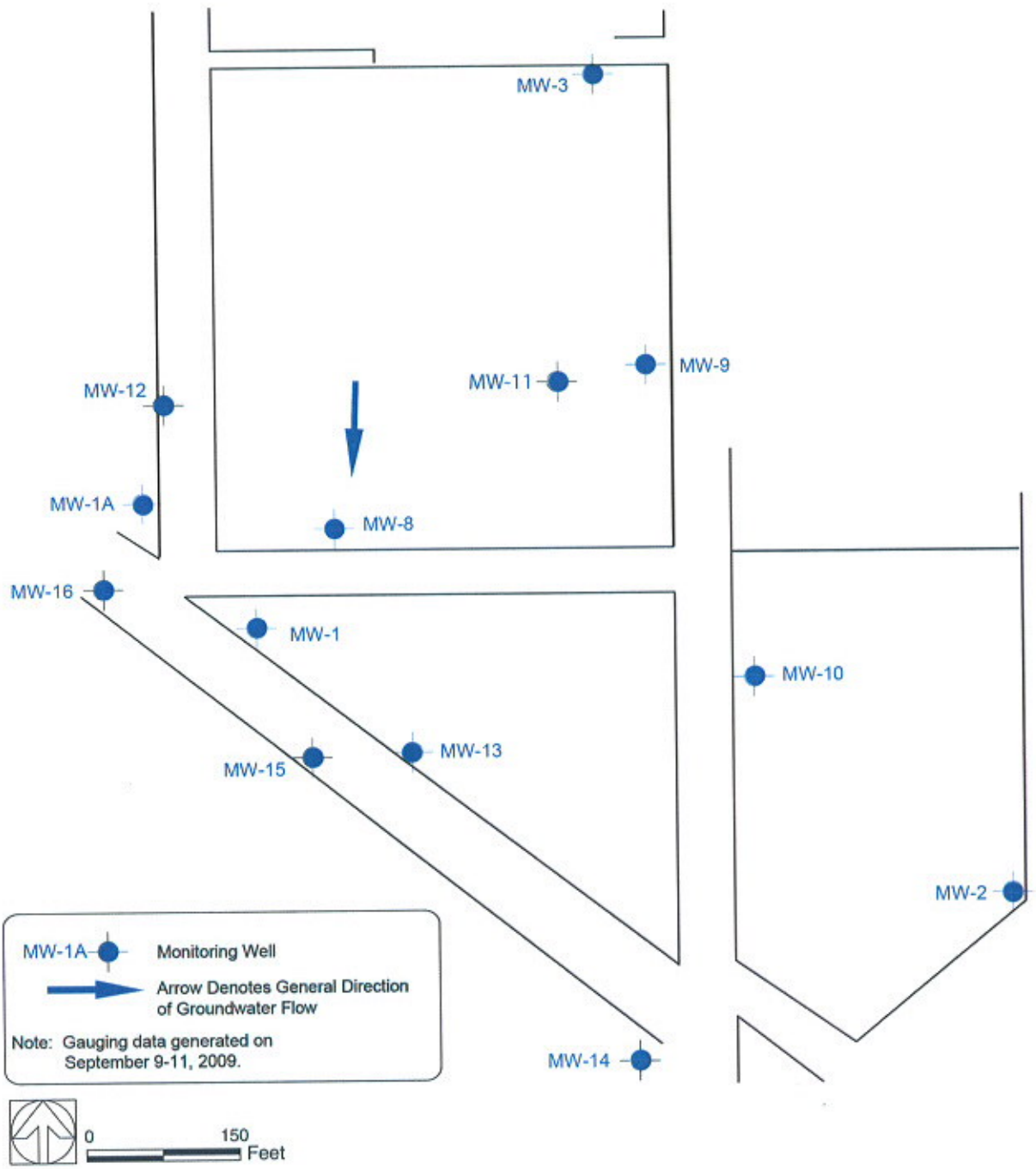
0906735.000 0101 11/19/09 WA



Source: Testa Environmental Corporation. 2009. Report on Phase II additional site characterization, Former Chemoil Refinery, SLIC No. 435A, Signal Hill, California. September.

Figure 3. Soil Vapor Sampling Locations

0906735.000 0201 04/27/2010 WA



Source: Testa Environmental Corporation. 2009. Report on Phase II additional site characterization, Former Chemoil Refinery, SLIC No. 435A, Signal Hill, California. September.

Figure 4. Groundwater Sampling Locations

0906735.000 0201 4/27/2010 WA

Tables

Table 1. Analytical data for chemicals detected in soil vapor ($\mu g/m^3$) using EPA Method 8260B (unless otherwise noted)

Chemical	SGP-WD-1-5-1V	SGP-WD-1-5-3V	SGP-WD-1-5-7V	SGP-WD-2-5	SGP-WD-2-5 DUP	SGP-WD-2-5*	SGP-WD-2-10	SGP-WD-3-5
Acetone	<5000	<5000	<5000	<5000	<5000	270	<5000	<50000
Benzene	<36	56	39	47	47	47	<36	<360
t-Butanol (TBA)	<500	<500	<500	<500	<500	NA	<500	<5000
2-Butanone	<500	<500	<500	<500	<500	52	<500	<5000
n-Butylbenzene	<50	<50	<50	<50	<50	NA	<50	<500
sec-Butylbenzene	<50	<50	<50	<50	<50	NA	<50	<500
Chlorobenzene	<50	<50	<50	<50	<50	180	<50	<500
Ethylbenzene	<50	<50	<50	<50	<50	81	<50	<500
Isopropylbenzene	<50	<50	<50	<50	<50	NA	62	<500
4-isopropyltoluene	<50	<50	<50	<50	<50	NA	<50	<500
Methylene Chloride	<1000	<1000	<1000	<1000	<1000	<190	<1000	<10000
4-Methyl-2-Pentanone	<500	<500	<500	<500	<500	77	<500	<5000
MTBE	<50	<50	<50	<50	<50	<81	150	<500
Naphthalene	<32	<32	<32	<32	<32	NA	<32	<320
n-Propylbenzene	<50	<50	<50	<50	<50	NA	<50	<500
Toluene	77	160	140	160	160	170	71	<500
1,1,1-Trichloroethane	<50	100	<50	350	340	250	50	<500
1,2,4-Trimethylbenzene	<50	<50	<50	<50	<50	<83	<50	<500
1,3,5-Trimethylbenzene	<50	<50	<50	<50	<50	<28	<50	<500
m,p-Xylenes	<100	<100	<100	130	120	120	<100	<1000
o-xylene	<50	<50	<50	<50	<50	43	<50	<500

Note: NA - Not Analyzed

* Analyzed Using EPA Method TO-15

Table 1. (cont.)

Chemical	SGP-WD-3-10	SGP-WD-4-5	SGP-WD-4-10	SGP-WD-4-10*	SGP-WD-5-5	SGP-WD-5-10	SGP-WD-6-5	SGP-WD-6-10
Acetone	<50000	<5000	<50000	<700	<5000	<5000	<5000	<5000
Benzene	<360	<36	<360	<230	39	<36	71	53
t-Butanol (TBA)	<5000	<500	<5000	NA	<500	<500	<500	<500
2-Butanone	<5000	<500	<5000	<650	<500	<500	<500	<500
n-Butylbenzene	<500	<50	<500	NA	<50	<50	<50	<50
sec-Butylbenzene	1500	<50	510	NA	<50	<50	<50	<50
Chlorobenzene	<500	<50	<500	2500	<50	<50	<50	<50
Ethylbenzene	<500	<50	<500	<320	<50	<50	<50	<50
Isopropylbenzene	4900	<50	<500	NA	<50	<50	<50	<50
4-isopropyltoluene	<500	<50	<500	NA	<50	<50	<50	<50
Methylene Chloride	<10000	<1000	<10000	<2600	<1000	<1000	<1000	<1000
4-Methyl-2-Pentanone	<5000	<500	<5000	<900	<500	<500	<500	<500
MTBE	<500	<50	<500	<1100	<50	<50	<50	<50
Naphthalene	<320	<32	<320	NA	<32	<32	<32	<32
n-Propylbenzene	<500	<50	<500	NA	<50	<50	<50	<50
Toluene	<500	66	530	<280	130	<50	200	130
1,1,1-Trichloroethane	<500	270	<500	<400	380	<50	420	170
1,2,4-Trimethylbenzene	<500	<50	<500	<1100	<50	<50	<50	<50
1,3,5-Trimethylbenzene	<500	<50	<500	<360	<50	<50	<50	<50
m,p-Xylenes	<1000	<100	<1000	<1300	<100	<100	100	<100
o-xylene	<500	<50	<500	<320	<50	<50	<50	<50

Note: NA - Not Analyzed

* Analyzed Using EPA Method TO-15

Table 2. Analytical data for chemicals detected in groundwater (µg/L) using EPA Method 8260B (unless otherwise noted)

Sample Location	Sample Date	n-Butylbenzene	sec-Butylbenzene	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	Methylene Chloride	2-Methyl-naphathalene*	MTBE	Naphthalene
MW-1	Jul-09	<5	6.1	<5	57	<5	<5	<25	<5	14
MW-1	Sep-09	<5	<5	7.8	19	<5	<5	<10	<5	8.5
MW-1	Dec-09	<5	<5	<5	<5	<5	<5	<10	<5	<5
MW-1	Mar-10	<5	<5	<5	<5	<5	330	<10	<5	<5
MW-13	Jul-09	<5	10	<5	49	<5	<5	<25	15	220
MW-13	Sep-09	<5	8.4	10	39	<5	<5	34	16	180
MW-13	Dec-09	<5	6.3	<5	27	<5	<5	<10	14	100
MW-13	Mar-10	<5	7.6	<5	35	<5	<5	<10	14	130
MW-14	Jul-09	<5	<5	<5	<5	<5	<5	<10	<5	<5
MW-14	Sep-09	<5	<5	<5	<5	<5	<5	<10	<5	<5
MW-14	Dec-09	<5	<5	<5	<5	<5	<5	<10	<5	<5
MW-14	Mar-10	<5	<5	<5	<5	<5	<5	<10	<5	<5
MW-15	Jul-09	<5	18	<5	72	<5	<5	<10	<5	220
MW-15	Sep-09	<25	26	<25	92	<25	<25	86	<25	190
MW-15	Dec-09	<25	42	<25	140	<25	<25	50	<25	160
MW-15	Mar-10	<25	<25	<25	64	<25	<25	<10	<25	160
MW-16	Jul-09	8.7	29	8.8	170	14	<5	<10	8.1	150
MW-16	Sep-09	<25	26	<25	150	<25	<25	59	27	130
MW-16	Dec-09	<25	57	<25	170	<25	<25	<10	<25	35
MW-16	Mar-10	6.3	29	<5	160	8	<5	11	22	87

* Analyzed Using EPA Method 8270C

Table 2. (cont.)

Sample Location	Sample Date	Naphthalene*	n-Propylbenzene	Tert-Butanol	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylenes
MW-1	Jul-09	<25	36	<100	<5	<5	<10
MW-1	Sep-09	<10	7.4	210	6.4	<5	13
MW-1	Dec-09	<10	<5	<100	<5	<5	<10
MW-1	Mar-10	<10	<5	<100	<5	<5	<10
MW-13	Jul-09	<25	41	<100	<5	<5	<10
MW-13	Sep-09	30	33	180	8.1	<5	17
MW-13	Dec-09	<10	23	110	<5	<5	<10
MW-13	Mar-10	<10	30	<100	<5	<5	<10
MW-14	Jul-09	<10	<5	<100	<5	<5	<10
MW-14	Sep-09	<10	<5	<100	<5	<5	<10
MW-14	Dec-09	<10	<5	<100	<5	<5	<10
MW-14	Mar-10	<10	<5	<100	<5	<5	<10
MW-15	Jul-09	<10	40	<100	<5	<5	<10
MW-15	Sep-09	58	46	<500	<25	<25	<50
MW-15	Dec-09	15	72	<500	<25	<25	<50
MW-15	Mar-10	<10	<25	<500	<25	<25	<50
MW-16	Jul-09	<10	98	<100	<5	18	<10
MW-16	Sep-09	64	120	<500	<25	<25	<50
MW-16	Dec-09	<10	160	<500	<25	<25	<50
MW-16	Mar-10	12	97	<100	<5	<5	<10

* Analyzed Using EPA Method 8270C

Table 3. Exposure-point concentrations for chemicals of potential concern

Chemical	Soil Vapor: Maximum Detected Value South of Southern Property Boundary ($\mu g/m^3$) 5 ft	Soil Vapor: Maximum Detected Value South of Southern Property Boundary ($\mu g/m^3$) 10 ft	Groundwater: Maximum Detected Value on Southern Perimeter ($\mu g/L$)
Acetone	270	2500/25000*	N/A
Benzene	71	53	N/A
2-Butanone	52	250/2500*	N/A
n-Butylbenzene	25/250*	25/250*	8.7
sec-Butylbenzene	25/250*	1500	57
Chlorobenzene	180	2500	N/A
Ethylbenzene	81	25/250*	10
Isopropylbenzene	25/250*	4900	170
Methylene Chloride	500/5000*	500/5000*	330
2-Methylnaphthalene	N/A	N/A	86
4-Methyl-2-Pentanone	77	250/2500*	N/A
MTBE	25/250*	150	27
Naphthalene	16/160*	16/160*	220
n-Propylbenzene	25/250*	25/250*	160
Toluene	200	530	N/A
1,1,1-Trichloroethane	420	170	N/A
1,2,4-Trimethylbenzene	25/250*	25/250*	8.1
1,3,5-Trimethylbenzene	25/250*	25/250*	18
m,p-Xylenes	130	50/500*	17
o-Xylene	43	25/250*	N/A

Note: N/A - Not Applicable

*Detected in groundwater or the corresponding soil gas sample at another depth; half the minimum and maximum detection limit used, respectively.

Table 4. Summary of toxicity criteria for chemicals of potential concern

Chemical	Inhalation IUR $(\mu g/m^3)^{-1}$		Inhalation RfC (mg/m^3)	
Acetone	N/A		3.10E+01	d
Benzene	2.90E-05	o	3.00E-02	i
2-Butanone	N/A		5.00E+00	i
n-Butylbenzene	N/A		1.40E-01	d
sec-Butylbenzene	N/A		1.40E-01	d
Chlorobenzene	N/A		1.00E+00	o
Ethylbenzene	2.50E-06	o	1.00E+00	i
Isopropylbenzene	N/A		4.00E-01	i
Methylene Chloride	1.00E-06	o	4.00E-01	o
2-Methylnaphthalene	N/A		1.40E-02	d
4-Methyl-2-Pentanone	N/A		3.00E+00	i
Methyl tertiary butyl ether	2.60E-07	o	3.00E+00	i
Naphthalene	3.40E-05	o	3.00E-03	i
n-Propylbenzene	N/A		1.40E-01	d
Toluene	N/A		3.00E-01	o
1,1,1-Trichloroethane	N/A		5.00E+00	i
1,2,4-Trimethylbenzene	N/A		7.00E-03	d
1,3,5-Trimethylbenzene	N/A		6.00E-03	d
p-Xylene	N/A		1.00E-01	i
o-Xylene	N/A		1.00E-01	i

Note: d - DTSC J&E Spreadsheets (2009)
EPA - U.S. Environmental Protection Agency
i - EPA Integrated Risk Information System (IRIS) database
IUR - inhalation unit risk
N/A - not applicable
o - OEHHA Toxicity Criteria Database
OEHHA - Office of Environmental Health Hazard Assessment
RfC - reference concentration

Table 5. Results for resident using data south of southern property boundary

Chemical	Exposure to Indoor Air Using Maximum Soil Vapor Concentrations at 5 ft (Minimum Detection Limit)		Exposure to Indoor Air Using Maximum Soil Vapor Concentrations at 5 ft (Maximum Detection Limit)		Exposure to Indoor Air Using Maximum Soil Vapor Concentrations at 10 ft (Minimum Detection Limit)		Exposure to Indoor Air Using Maximum Soil Vapor Concentrations at 10 ft (Maximum Detection Limit)		Exposure to Indoor Air Using Maxiumum Groundwater Concentrations	
	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient	Estimated Excess Cancer Risk	Non-Cancer Hazard Quotient
Acetone	N/A	8.0E-06	N/A	8.0E-06	N/A	4.4E-05	N/A	4.4E-04	N/A	N/A
Benzene	6.4E-07	1.7E-03	6.4E-07	1.7E-03	2.7E-07	7.2E-04	2.7E-07	7.2E-04	N/A	N/A
2-Butanone	N/A	7.2E-06	N/A	7.2E-06	N/A	1.9E-05	N/A	1.9E-04	N/A	N/A
n-Butylbenzene	N/A	9.4E-05	N/A	9.4E-04	N/A	5.0E-05	N/A	5.0E-04	N/A	1.0E-03
sec-Butylbenzene	N/A	9.4E-05	N/A	9.4E-04	N/A	3.0E-03	N/A	3.0E-03	N/A	4.8E-04
Chlorobenzene	N/A	1.1E-04	N/A	1.1E-04	N/A	8.8E-04	N/A	8.8E-04	N/A	N/A
Ethylbenzene	5.6E-08	5.3E-05	5.6E-08	5.3E-05	9.6E-09	9.0E-06	9.6E-08	9.0E-05	1.4E-07	1.3E-04
Isopropylbenzene	N/A	3.6E-05	N/A	3.6E-04	N/A	3.9E-03	N/A	3.9E-03	N/A	6.3E-01
Methylene Chloride	1.7E-07	1.0E-03	1.7E-06	1.0E-02	9.8E-08	5.7E-04	9.8E-07	5.7E-03	9.0E-07	5.2E-03
2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.2E-03
4-Methyl-2-Pentanone	N/A	1.7E-05	N/A	1.7E-05	N/A	3.0E-05	N/A	3.0E-04	N/A	N/A
MTBE	2.2E-09	6.7E-06	2.2E-08	6.7E-05	7.8E-09	2.3E-05	7.8E-09	2.3E-05	7.1E-09	2.1E-05
Naphthalene	1.3E-07	2.9E-03	1.3E-06	2.9E-02	6.8E-08	1.6E-03	6.8E-07	1.6E-02	3.6E-06	8.1E-02
n-Propylbenzene	N/A	9.8E-05	N/A	9.8E-04	N/A	5.3E-05	N/A	5.3E-04	N/A	1.6E-02
Toluene	N/A	4.8E-04	N/A	4.8E-04	N/A	7.2E-04	N/A	7.2E-04	N/A	N/A
1,1,1-Trichloroethane	N/A	5.6E-05	N/A	5.6E-05	N/A	1.3E-05	N/A	1.3E-05	N/A	N/A
1,2,4-Trimethylbenzene	N/A	2.0E-03	N/A	2.0E-02	N/A	1.1E-03	N/A	1.1E-02	N/A	9.7E-03
1,3,5-Trimethylbenzene	N/A	2.3E-03	N/A	2.3E-02	N/A	1.2E-03	N/A	1.2E-02	N/A	2.5E-02
m,p-Xylenes	N/A	8.6E-04	N/A	8.6E-04	N/A	1.8E-04	N/A	1.8E-03	N/A	2.3E-03
o-Xylene	N/A	3.1E-04	N/A	3.1E-04	N/A	1.0E-04	N/A	1.0E-03	N/A	N/A
TOTAL	**1E-06**	**1E-02**	**4E-06**	**9E-02**	**5E-07**	**1E-02**	**2E-06**	**6E-02**	**5E-06**	**8E-01**

Note: N/A - Not Applicable

Attachment A

Johnson & Ettinger Modeling Spreadsheets

Johnson & Ettinger Modeling Sheets

This appendix includes the model output sheets from the Johnson and Ettinger model (Johnson and Ettinger 1991), which was used to estimate infiltration of chemicals in soil vapor into indoor air. This model has been has been parameterized by U.S. EPA (2003) and was modified to reflect Cal-EPA-specific toxicity criteria, as appropriate (see Section 4.3 of the main text). Default model input parameters recommended by U.S. EPA were used, except as follows. The soil vapor sampling depth was set to 152 cm (5 ft) or 305 cm (10 ft) depending on the depth indicated in the analytical report. The soil types ("silt loam" and "sandy loam" for strata A and B, respectively) and thickness of soil stratum A (396 cm, or 13 ft) are based on a recommendation from Stephen Testa of Testa Environmental Corporation (Testa 2009). The depth to groundwater of 549 cm (18 ft) is based on the depth indicated in the Phase II report (TEC 2009). Input soil parameters for dry bulk density, total soil porosity, and water-filled soil porosity of soil stratum A were based on default values for loamy sand. The average soil temperature was assumed to be 19°C, based on Figure 8 of U.S. EPA's (2003) guidance. All other parameters were default parameters used by Cal-EPA in their calculation of California Human Health Screening Levels (Cal-EPA 2005).

References

Cal-EPA. 2005. Human-exposure-based screening numbers developed to aid estimation of cleanup costs for contaminated soil. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment. January.

Johnson, P.C., and R.A. Ettinger. 1991. Heuristic model for predicting the intrusion rate of contaminant vapors in buildings. Environ. Sci. Technol. 25:1445–1452.

TEC. 2009. Report on Phase II additional site characterization, September 2009, former Chemoil Refinery, SLIC No. 453A, Signal Hill, California. Volume I. Testa Environmental Corporation. September 30.

Testa, S. 2009. E-mail letter from Stephen Testa of Testa Environmental Corporation to Greg Brorby of Exponent. Re: Additional questions. November 1.

U.S. EPA. 2003. User's guide for evaluating subsurface vapor intrusion into buildings. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Toxics Integration Branch, Washington, DC.

DATA ENTRY SHEET

Resident using 5 ft. soil vapor data south of the southern perimeter and minimum detection limits

SG-ADV
Version 3.1: 02/04

Program modified by ROR of Exponent to accommodate multiple chemicals

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical	
67641	2.70E+02			Acetone	
71432	7.10E+01			Benzene	
78933	5.20E+01			Methylethylketone (2-butanone)	
104518	2.50E+01			n-Butylbenzene	
135988	2.50E+01			sec-Butylbenzene	
108907	1.80E+02			Chlorobenzene	
100414	8.10E+01			Ethylbenzene	
98828	2.50E+01			Cumene	Note: Same as isopropylbenzene
75092	5.00E+02			Methylene chloride	
108101	7.70E+01			Methylisobutylketone (4-methyl-2-pentanone)	
1634044	2.50E+01			MTBE	
91203	1.60E+01			Naphthalene	
103651	2.50E+01			n-Propylbenzene	
108883	2.00E+02			Toluene	
71556	4.20E+02			1,1,1-Trichloroethane	
95636	2.50E+01			1,2,4-Trimethylbenzene	
108678	2.50E+01			1,3,5-Trimethylbenzene	
106423	1.30E+02			p-Xylene	Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical constants
95476	4.30E+01			o-Xylene	

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
15	152	19	152	0	0	SIL		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SIL	1.49	0.439	0.18								

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	0.5	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Resident using 5 ft. soil vapor data south of the southern perimeter and minimum detection limits

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H ($atm\text{-}m^3/mol$)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	1.24E-01	1.14E-05	3.87E-05	25	6,955	329.20	508.10	58.08	0.0E+00	3.1E+01
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
Methylethylketone (2-butanone	8.08E-02	9.80E-06	5.58E-05	25	7,481	352.50	536.78	72.11	0.0E+00	5.0E+00
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	134.22	0.0E+00	1.4E-01
Chlorobenzene	7.30E-02	8.70E-06	3.69E-03	25	8,410	404.87	632.40	112.56	0.0E+00	1.0E+00
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
Methylene chloride	1.01E-01	1.17E-05	2.18E-03	25	6,706	313.00	510.00	84.93	1.0E-06	4.0E-01
Methylisobutylketone (4-methyl	7.50E-02	7.80E-06	1.38E-04	25	8,243	389.50	571.00	100.16	0.0E+00	3.0E+00
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	88.15	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.19	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,1,1-Trichloroethane	7.80E-02	8.80E-06	1.72E-02	25	7,136	347.24	545.00	133.40	0.0E+00	5.0E+00
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

Resident using 5 ft. soil vapor data south of the southern perimeter and minimum detection limits

	Exposure duration, t (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_w (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
Acetone	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.79E+02	3.39E+04
Benzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	7.10E+01	3.39E+04
Methylethylketone (2-butano	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	5.29E+01	3.39E+04
n-Butylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	3.39E+04
sec-Butylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	3.39E+04
Chlorobenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	1.80E+02	3.39E+04
Ethylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	8.10E+01	3.39E+04
Cumene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	3.39E+04
Methylene chloride	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	5.00E+02	3.39E+04
Methylisobutylketone (4-met	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	7.70E+01	3.39E+04
MTBE	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	3.39E+04
Naphthalene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	1.80E+01	3.39E+04
n-Propylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	3.39E+04
Toluene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.00E+02	3.39E+04
1,1,1-Trichloroethane	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	4.20E+02	3.39E+04
1,2,4-Trimethylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	3.39E+04
1,3,5-Trimethylbenzene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	2.50E+01	3.39E+04
p-Xylene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	1.30E+02	3.39E+04
o-Xylene	9.46E+08	137	0.259	ERROR	ERROR	0.307	2.86E-09	0.795	2.28E-09	4,000	4.30E+01	3.39E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Acetone	1.00E+06	4.00E-04	15	7,447	2.99E-05	1.25E-03	1.78E-04	7.31E-03	0.00E+00	0.00E+00	7.31E-03	137
Benzene	1.00E+06	4.00E-04	15	8,030	4.19E-03	1.75E-01	1.78E-04	5.08E-03	0.00E+00	0.00E+00	5.08E-03	137
Methylethylketone (2-butano	1.00E+06	4.00E-04	15	8,307	4.18E-05	1.74E-03	1.78E-04	4.76E-03	0.00E+00	0.00E+00	4.76E-03	137
n-Butylbenzene	1.00E+06	4.00E-04	15	11,734	8.74E-03	3.65E-01	1.78E-04	3.29E-03	0.00E+00	0.00E+00	3.29E-03	137
sec-Butylbenzene	1.00E+06	4.00E-04	15	107,157	3.38E-04	1.41E-02	1.78E-04	3.30E-03	0.00E+00	0.00E+00	3.30E-03	137
Chlorobenzene	1.00E+06	4.00E-04	15	9,712	2.64E-03	1.10E-01	1.78E-04	4.22E-03	0.00E+00	0.00E+00	4.22E-03	137
Ethylbenzene	1.00E+06	4.00E-04	15	10,052	5.55E-03	2.31E-01	1.78E-04	4.33E-03	0.00E+00	0.00E+00	4.33E-03	137
Cumene	1.00E+06	4.00E-04	15	12,518	7.50E-01	3.13E+01	1.78E-04	3.75E-03	0.00E+00	0.00E+00	3.75E-03	137
Methylene chloride	1.00E+06	4.00E-04	15	6,938	1.72E-03	7.19E-02	1.78E-04	5.83E-03	0.00E+00	0.00E+00	5.83E-03	137
Methylisobutylketone (4-met	1.00E+06	4.00E-04	15	9,741	9.82E-05	4.10E-03	1.78E-04	4.36E-03	0.00E+00	0.00E+00	4.36E-03	137
MTBE	1.00E+06	4.00E-04	15	7,179	4.86E-04	2.03E-02	1.78E-04	5.92E-03	0.00E+00	0.00E+00	5.92E-03	137
Naphthalene	1.00E+06	4.00E-04	15	12,820	3.09E-04	1.29E-02	1.78E-04	3.42E-03	0.00E+00	0.00E+00	3.42E-03	137
n-Propylbenzene	1.00E+06	4.00E-04	15	11,251	7.21E-03	3.01E-01	1.78E-04	3.47E-03	0.00E+00	0.00E+00	3.47E-03	137
Toluene	1.00E+06	4.00E-04	15	9,666	4.84E-03	2.02E-01	1.78E-04	5.02E-03	0.00E+00	0.00E+00	5.02E-03	137
1,1,1-Trichloroethane	1.00E+06	4.00E-04	15	7,787	1.31E-02	5.48E-01	1.78E-04	4.50E-03	0.00E+00	0.00E+00	4.50E-03	137
1,2,4-Trimethylbenzene	1.00E+06	4.00E-04	15	11,579	4.11E-03	1.72E-01	1.78E-04	3.50E-03	0.00E+00	0.00E+00	3.50E-03	137
1,3,5-Trimethylbenzene	1.00E+06	4.00E-04	15	11,561	3.93E-03	1.64E-01	1.78E-04	3.48E-03	0.00E+00	0.00E+00	3.48E-03	137
p-Xylene	1.00E+06	4.00E-04	15	10,143	5.38E-03	2.24E-01	1.78E-04	4.44E-03	0.00E+00	0.00E+00	4.44E-03	137
o-Xylene	1.00E+06	4.00E-04	15	10,302	3.62E-03	1.51E-01	1.78E-04	5.02E-03	0.00E+00	0.00E+00	5.02E-03	137

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	15	2.79E+02	0.10	8.33E+01	7.31E-03	4.00E+02	3.43E+185	9.80E-04	2.59E-01	NA	3.1E+01
Benzene	15	7.10E+01	0.10	8.33E+01	5.08E-03	4.00E+02	1.33E+267	7.57E-04	5.38E-02	2.9E-05	3.0E-02
Methylethylketone (2-butano	15	5.29E+01	0.10	8.33E+01	4.76E-03	4.00E+02	1.20E+285	7.24E-04	3.77E-02	NA	5.0E+00
n-Butylbenzene	15	2.50E+01	0.10	8.33E+01	3.29E-03	4.00E+02	#NUM!	5.50E-04	1.38E-02	NA	1.4E-01
sec-Butylbenzene	15	2.50E+01	0.10	8.33E+01	3.30E-03	4.00E+02	#NUM!	5.51E-04	1.38E-02	NA	1.4E-01
Chlorobenzene	15	1.80E+02	0.10	8.33E+01	4.22E-03	4.00E+02	#NUM!	6.63E-04	1.19E-01	NA	1.0E+00
Ethylbenzene	15	8.10E+01	0.10	8.33E+01	4.33E-03	4.00E+02	#NUM!	6.76E-04	5.48E-02	2.5E-06	1.0E+00
Cumene	15	2.50E+01	0.10	8.33E+01	3.75E-03	4.00E+02	#NUM!	6.08E-04	1.52E-02	NA	4.0E-01
Methylene chloride	15	5.00E+02	0.10	8.33E+01	5.83E-03	4.00E+02	4.70E+232	8.32E-04	4.16E-01	1.0E-06	4.0E-01
Methylisobutylketone (4-met	15	7.70E+01	0.10	8.33E+01	4.36E-03	4.00E+02	#NUM!	6.80E-04	5.23E-02	NA	3.0E+00
MTBE	15	2.50E+01	0.10	8.33E+01	5.92E-03	4.00E+02	1.61E+229	8.40E-04	2.10E-02	2.6E-07	3.0E+00
Naphthalene	15	1.80E+01	0.10	8.33E+01	3.42E-03	4.00E+02	#NUM!	5.99E-04	9.09E-03	3.4E-05	3.0E-03
n-Propylbenzene	15	2.50E+01	0.10	8.33E+01	3.47E-03	4.00E+02	#NUM!	5.73E-04	1.43E-02	NA	1.4E-01
Toluene	15	2.00E+02	0.10	8.33E+01	5.02E-03	4.00E+02	1.60E+270	7.51E-04	1.50E-01	NA	3.0E-01
1,1,1-Trichloroethane	15	4.20E+02	0.10	8.33E+01	4.50E-03	4.00E+02	2.55E+301	6.96E-04	2.92E-01	NA	5.0E+00
1,2,4-Trimethylbenzene	15	2.50E+01	0.10	8.33E+01	3.50E-03	4.00E+02	#NUM!	5.77E-04	1.44E-02	NA	7.0E-03
1,3,5-Trimethylbenzene	15	2.50E+01	0.10	8.33E+01	3.48E-03	4.00E+02	#NUM!	5.74E-04	1.43E-02	NA	6.0E-03
p-Xylene	15	1.30E+02	0.10	8.33E+01	4.44E-03	4.00E+02	4.93E+305	6.89E-04	8.95E-02	NA	1.0E-01
o-Xylene	15	4.30E+01	0.10	8.33E+01	5.02E-03	4.00E+02	1.52E+270	7.51E-04	3.23E-02	NA	1.0E-01

END

RESULTS SHEET

Resident using 5 ft. soil vapor data south of the southern perimeter and minimum detection limits

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Acetone	NA	8.0E-06
Benzene	6.4E-07	1.7E-03
Methylethylketone (2-butanone)	NA	7.2E-06
n-Butylbenzene	NA	9.4E-05
sec-Butylbenzene	NA	9.4E-05
Chlorobenzene	NA	1.1E-04
Ethylbenzene	5.6E-08	5.3E-05
Cumene	NA	3.6E-05
Methylene chloride	1.7E-07	1.0E-03
Methylisobutylketone (4-methyl-2-pentanone)	NA	1.7E-05
MTBE	2.2E-09	6.7E-06
Naphthalene	1.3E-07	2.9E-03
n-Propylbenzene	NA	9.8E-05
Toluene	NA	4.8E-04
1,1,1-Trichloroethane	NA	5.6E-05
1,2,4-Trimethylbenzene	NA	2.0E-03
1,3,5-Trimethylbenzene	NA	2.3E-03
p-Xylene	NA	8.6E-04
o-Xylene	NA	3.1E-04
	1E-06	1E-02

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

Resident using 5 ft. soil vapor data south of the southern perimeter and maximum detection limits

SG-ADV
Version 3.1; 02/04

Program modified by ROR of Exponent to accommodate multiple chemicals

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical	
67641	2.70E+02			Acetone	
71432	7.10E+01			Benzene	
78933	5.20E+01			Methylethylketone (2-butanone)	
104518	2.50E+02			n-Butylbenzene	
135988	2.50E+02			sec-Butylbenzene	
108907	1.80E+02			Chlorobenzene	
100414	8.10E+01			Ethylbenzene	
98828	2.50E+02			Cumene	Note: Same as isopropylbenzene
75092	5.00E+03			Methylene chloride	
108101	7.70E+01			Methylisobutylketone (4-methyl-2-pentanone)	
1634044	2.50E+02			MTBE	
91203	1.60E+02			Naphthalene	
103651	2.50E+02			n-Propylbenzene	
108883	2.00E+02			Toluene	
71556	4.20E+02			1,1,1-Trichloroethane	
95636	2.50E+02			1,2,4-Trimethylbenzene	
108678	2.50E+02			1,3,5-Trimethylbenzene	
106423	1.30E+02			p-Xylene	Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical constants
95476	4.30E+01			o-Xylene	

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
15	152	19	152	0	0	SIL		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SIL	1.49	0.439	0.18								

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	0.5	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Resident using 5 ft. soil vapor data south of the southern perimeter and maximum detection limits

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	1.24E-01	1.14E-05	3.87E-05	25	6,955	329.20	508.10	58.08	0.0E+00	3.1E+01
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
Methylethylketone (2-butanone)	8.08E-02	9.80E-06	5.58E-05	25	7,481	352.50	536.78	72.11	0.0E+00	5.0E+00
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	134.22	0.0E+00	1.4E-01
Chlorobenzene	7.30E-02	8.70E-06	3.69E-03	25	8,410	404.87	632.40	112.56	0.0E+00	1.0E+00
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
Methylene chloride	1.01E-01	1.17E-05	2.18E-03	25	6,706	313.00	510.00	84.93	1.0E-06	4.0E-01
Methylisobutylketone (4-methyl-	7.50E-02	7.80E-06	1.38E-04	25	8,243	389.50	571.00	100.16	0.0E+00	3.0E+00
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	88.15	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.19	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,1,1-Trichloroethane	7.80E-02	8.80E-06	1.72E-02	25	7,136	347.24	545.00	133.40	0.0E+00	5.0E+00
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

Residential (using 5 ft. soil sample) data south of the southern perimeter and maximum detection limits

Exposure duration, t (sec)	Source building separation, L_B (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_e (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{ra} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc., $C_{soil-gas}$ ($\mu g/m^3$)	Bldg ventilation rate, $Q_{building}$ (cm^3/s)
Acetone	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	2.70E+02	3.39E+04
Benzene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	7.10E+01	3.39E+04
Methylene chloride (Dichloromethane)	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	3.20E+01	3.39E+04
n-Butylbenzene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	2.50E+02	3.39E+04
sec-Butylbenzene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	2.50E+02	3.39E+04
Isopropylbenzene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	1.80E+02	3.39E+04
4-Ethyltoluene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	9.10E+01	3.39E+04
Styrene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	7.30E+02	3.39E+04
Methylene chloride	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	9.50E+02	3.39E+04
Naphthalene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	2.50E+02	3.39E+04
n-Propylbenzene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	1.80E+02	3.39E+04
Toluene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	9.60E+01	3.39E+04
1,1,1-Trichloroethane	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	4.20E+02	3.39E+04
1,2,4-Trimethylbenzene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	7.50E+02	3.39E+04
1,3,5-Trimethylbenzene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	2.50E+02	3.39E+04
p-Xylene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	3.30E+02	3.39E+04
o-Xylene	9.46E+08	137	0.263	0.0000	0.0000	0.307	2.86E-09	0.788	2.25E-09	4.50E+00	3.30E+02	3.39E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, H_{vap} (cal/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
Acetone	1.50E+05	4.95E-04	15	7,447	2.90E-05	1.79E-03	1.79E-04	7.31E-03	0.00E+00	0.00E+00	7.31E-03	137
Benzene	1.50E+05	4.95E-04	15	8,092	8.15E-03	1.79E-01	1.79E-04	5.00E-03	0.00E+00	0.00E+00	5.00E-03	137
Methylethylketone (2-Butanone)	1.50E+05	4.95E-04	15	8,307	5.18E-05	1.14E-03	1.79E-04	4.75E-03	0.00E+00	0.00E+00	4.75E-03	137
n-Butylbenzene	1.50E+05	4.95E-04	15	10,754	0.16E-01	3.60E-01	1.79E-04	3.20E-03	0.00E+00	0.00E+00	3.20E-03	137
sec-Butylbenzene	1.50E+05	4.95E-04	15	107,157	3.39E-04	1.47E-02	1.79E-04	3.90E-03	0.00E+00	0.00E+00	3.90E-03	137
Chlorobenzene	1.50E+05	4.95E-04	15	8,712	2.64E-03	1.10E-01	1.79E-04	4.27E-03	0.00E+00	0.00E+00	4.27E-03	137
Ethylbenzene	1.50E+05	4.95E-04	15	10,052	5.88E-03	2.23E-01	1.79E-04	4.53E-03	0.00E+00	0.00E+00	4.53E-03	137
Cumene	1.50E+05	4.95E-04	15	12,619	7.90E-01	3.10E+01	1.79E-04	3.72E-03	0.00E+00	0.00E+00	3.72E-03	137
Methylene chloride	1.50E+05	4.95E-04	15	6,535	1.72E-03	7.16E-02	1.79E-04	5.83E-03	0.00E+00	0.00E+00	5.83E-03	137
Methylethylketone (MEK)	1.50E+05	4.95E-04	15	8,241	9.80E-05	8.13E-03	1.79E-04	4.30E-03	0.00E+00	0.00E+00	4.30E-03	137
MTBE	1.50E+05	4.95E-04	15	7,078	4.96E-04	3.01E-02	1.79E-04	5.81E-03	0.00E+00	0.00E+00	5.81E-03	137
Naphthalene	1.50E+05	4.95E-04	15	12,620	3.09E-04	1.29E-02	1.79E-04	3.42E-03	0.00E+00	0.00E+00	3.42E-03	137
n-Propylbenzene	1.50E+05	4.95E-04	15	10,291	7.21E-03	2.91E-01	1.79E-04	3.47E-03	0.00E+00	0.00E+00	3.47E-03	137
Toluene	1.50E+05	4.95E-04	15	9,656	4.84E-03	2.02E-01	1.79E-04	5.37E-03	0.00E+00	0.00E+00	5.37E-03	137
1,1,1-Trichloroethane	1.50E+05	4.95E-04	15	7,747	1.31E-02	5.46E-01	1.79E-04	4.50E-03	0.00E+00	0.00E+00	4.50E-03	137
1,2,4-Trimethylbenzene	1.50E+05	4.95E-04	15	11,575	4.11E-03	1.72E-01	1.79E-04	3.50E-03	0.00E+00	0.00E+00	3.50E-03	137
1,3,5-Trimethylbenzene	1.50E+05	4.95E-04	15	11,541	3.70E-03	1.55E-01	1.79E-04	3.45E-03	0.00E+00	0.00E+00	3.45E-03	137
p-Xylene	1.50E+05	4.95E-04	15	10,143	5.28E-03	2.21E-01	1.79E-04	4.44E-03	0.00E+00	0.00E+00	4.44E-03	137
o-Xylene	1.50E+05	4.95E-04	15	10,302	3.45E-03	1.51E-01	1.79E-04	5.55E-03	0.00E+00	0.00E+00	5.55E-03	137

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe) (unitless)	Average source vapor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3$)$^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	15	2.70E+02	0.10	8.50E+01	7.31E-03	4.50E+02	3.43E+03	9.80E-04	2.20E-01	NA	3.1E+01
Benzene	15	7.10E+01	0.10	8.50E+01	5.00E-03	4.50E+02	1.23E+267	7.57E-04	9.30E-02	9.8E-03	1.0E-03
Methylethylketone (2-Butanone)	15	5.20E+01	0.10	8.50E+01	4.75E-03	4.50E+02	1.23E+235	7.24E-04	2.20E-01	NA	4.0E+00
n-Butylbenzene	15	2.50E+02	0.10	8.50E+01	3.20E-03	4.50E+02	#NUM!	3.50E-04	1.30E-01	NA	1.4E-01
sec-Butylbenzene	15	2.50E+02	0.10	8.50E+01	3.90E-03	4.50E+02	#NUM!	3.51E-04	1.30E-01	NA	1.4E-01
Chlorobenzene	15	1.80E+02	0.10	8.50E+01	4.27E-03	4.50E+02	#NUM!	6.43E-04	1.10E-01	NA	1.0E-02
Ethylbenzene	15	9.10E+01	0.10	8.50E+01	4.53E-03	4.50E+02	#NUM!	9.76E-04	2.50E-02	2.5E-02	1.0E+00
Cumene	15	7.30E+02	0.10	8.50E+01	3.72E-03	4.50E+02	#NUM!	9.09E-04	1.43E-01	NA	4.0E-01
Methylene chloride	15	9.50E+02	0.10	8.50E+01	5.83E-03	4.50E+02	#NUM!	3.77E-04	4.70E-07	1.0E-03	4.0E-01
Methylethylketone (MEK)	15	7.70E+01	0.10	8.50E+01	4.30E-03	4.50E+02	#NUM!	3.60E-04	3.57E-01	NA	5.0E+00
MTBE	15	2.50E+02	0.10	8.50E+01	5.81E-03	4.50E+02	1.81E+222	8.40E-04	2.10E-01	2.6E-01	1.0E+00
Naphthalene	15	2.50E+02	0.10	8.50E+01	3.42E-03	4.50E+02	#NUM!	1.66E-04	2.20E-02	3.4E-03	3.0E-03
n-Propylbenzene	15	1.80E+02	0.10	8.50E+01	3.47E-03	4.50E+02	#NUM!	5.73E-04	1.43E-01	NA	1.4E-01
Toluene	15	9.60E+01	0.10	8.50E+01	5.37E-03	4.50E+02	1.69E+270	7.51E-04	1.50E-01	NA	5.0E-01
1,1,1-Trichloroethane	15	4.20E+02	0.10	8.50E+01	4.50E-03	4.50E+02	3.33E+307	4.96E-04	2.60E-01	NA	5.0E+00
1,2,4-Trimethylbenzene	15	7.50E+02	0.10	8.50E+01	3.50E-03	4.50E+02	#NUM!	3.77E-04	1.44E-01	NA	7.0E-03
1,3,5-Trimethylbenzene	15	2.50E+02	0.10	8.50E+01	3.45E-03	4.50E+02	#NUM!	5.74E-04	1.43E-01	NA	4.0E-03
p-Xylene	15	1.30E+02	0.10	8.50E+01	4.44E-03	4.50E+02	4.93E+205	8.89E-04	3.93E-02	NA	1.0E-01
o-Xylene	15	4.30E+01	0.10	8.50E+01	5.55E-03	4.50E+02	1.63E+270	3.51E-04	3.23E-02	NA	1.0E-01

END

RESULTS SHEET

Resident using 5 ft. soil vapor data south of the southern perimeter and maximum detection limits

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Acetone	NA	8.0E-06
Benzene	6.4E-07	1.7E-03
Methylethylketone (2-butanone)	NA	7.2E-06
n-Butylbenzene	NA	9.4E-04
sec-Butylbenzene	NA	9.4E-04
Chlorobenzene	NA	1.1E-04
Ethylbenzene	5.6E-08	5.3E-05
Cumene	NA	3.6E-04
Methylene chloride	1.7E-06	1.0E-02
Methylisobutylketone (4-methyl-2-pentanone)	NA	1.7E-05
MTBE	2.2E-08	6.7E-05
Naphthalene	1.3E-06	2.9E-02
n-Propylbenzene	NA	9.8E-04
Toluene	NA	4.8E-04
1,1,1-Trichloroethane	NA	5.6E-05
1,2,4-Trimethylbenzene	NA	2.0E-02
1,3,5-Trimethylbenzene	NA	2.3E-02
p-Xylene	NA	8.6E-04
o-Xylene	NA	3.1E-04
	4E-06	9E-02

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Resident using 10 ft. soil vapor data south of the southern perimeter and minimum detection limits

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Program modified by ROR of Exponent to accommodate multiple chemicals

Soil Gas Concentration Data

ENTER	ENTER		ENTER	
Chemical CAS No. (numbers only, no dashes)	Soil gas conc., C_g ($\mu g/m^3$)	OR	Soil gas conc., C_{ng} (ppmv)	Chemical
67641	2.50E+03			Acetone
71432	5.30E+01			Benzene
78933	2.50E+02			Methylethylketone (2-butanone)
104518	2.50E+01			n-Butylbenzene
135988	1.50E+03			sec-Butylbenzene
108907	2.50E+03			Chlorobenzene
100414	2.50E+01			Ethylbenzene
98828	4.90E+03			Cumene
75092	5.00E+02			Methylene chloride
108101	2.50E+02			Methylisobutylketone (4-methyl-2-pentanone)
1634044	1.50E+02			MTBE
91203	1.60E+01			Naphthalene
103651	2.50E+01			n-Propylbenzene
108883	5.30E+02			Toluene
71556	1.70E+02			1,1,1-Trichloroethane
95636	2.50E+01			1,2,4-Trimethylbenzene
108678	2.50E+01			1,3,5-Trimethylbenzene
106423	5.00E+01			p-Xylene
95476	2.50E+01			o-Xylene

Note: Same as isopropylbenzene

Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical constants

MORE ↓

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER		ENTER
			Totals must add up to value of Ls (cell F24)					
Depth below grade to bottom of enclosed space floor, L_F (cm)	Soil gas sampling depth below grade, L_s (cm)	Average soil temperature, T_S (°C)	Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	User-defined stratum A soil vapor permeability, k_v (cm^2)
15	305	19	305	0	0	SIL		

MORE ↓

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Stratum A SCS soil type (Lookup Soil Parameters)	Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	Stratum A soil total porosity, n^A (unitless)	Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	Stratum B SCS soil type (Lookup Soil Parameters)	Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	Stratum B soil total porosity, n^B (unitless)	Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	Stratum C SCS soil type (Lookup Soil Parameters)	Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	Stratum C soil total porosity, n^C (unitless)	Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SIL	1.49	0.439	0.18								

MORE ↓

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Enclosed space floor thickness, L_{crack} (cm)	Soil-bldg. pressure differential, ΔP ($g/cm-s^2$)	Enclosed space floor length, L_B (cm)	Enclosed space floor width, W_B (cm)	Enclosed space height, H_B (cm)	Floor-wall seam crack width, w (cm)	Indoor air exchange rate, ER (1/h)	Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	0.5	5

ENTER	ENTER	ENTER	ENTER
Averaging time for carcinogens, AT_C (yrs)	Averaging time for noncarcinogens, AT_{NC} (yrs)	Exposure duration, ED (yrs)	Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Resident using 10 ft. soil vapor data south of the southern perimeter and minimum detection limits

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Molecular weight, MW (g/mol)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	1.24E-01	1.14E-05	3.87E-05	25	6,955	329.20	508.10	58.08	0.0E+00	3.1E+01
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
Methylethylketone (2-butanone	8.08E-02	9.80E-06	5.58E-05	25	7,481	352.50	536.78	72.11	0.0E+00	5.0E+00
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	134.22	0.0E+00	1.4E-01
Chlorobenzene	7.30E-02	8.70E-06	3.69E-03	25	8,410	404.87	632.40	112.56	0.0E+00	1.0E+00
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
Methylene chloride	1.01E-01	1.17E-05	2.18E-03	25	6,706	313.00	510.00	84.93	1.0E-06	4.0E-01
Methylisobutylketone (4-methyl-	7.50E-02	7.80E-06	1.38E-04	25	8,243	389.50	571.00	100.16	0.0E+00	3.0E+00
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	88.15	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.19	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,1,1-Trichloroethane	7.80E-02	8.80E-06	1.72E-02	25	7,136	347.24	545.00	133.40	0.0E+00	5.0E+00
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

INTERMEDIATE CALCULATIONS SHEET

Residues using 10 ft. soil vapor data south of the southern perimeter and maximum detection limits

	Exposure duration, t (sec)	Source-building separation, L_s (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_e (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{ra} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Foundation/wall perimeter, X_{crack} (cm)	Soil gas conc, C_{source} ($\mu g/L$)	Bldg ventilation rate, $Q_{building}$ (cm^3/s)
Acetone	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	3.34E+00	3.30E+04
Benzene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	4.36E+01	3.30E+04
Methyl ethyl ketone (2-butanone)	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+02	3.30E+04
n-Butylbenzene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+01	3.30E+04
sec-Butylbenzene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	1.29E+02	3.30E+04
Chlorobenzene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+01	3.30E+04
Ethylbenzene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+01	3.30E+04
Isopropylbenzene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+01	3.30E+04
Toluene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	4.90E+02	3.30E+04
Methylene chloride	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	5.00E+02	3.30E+04
Methyl isobutyl ketone (4-methyl-2-pentanone)	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+02	3.30E+04
MTBE	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	1.29E+02	3.30E+04
Naphthalene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	1.29E+01	3.30E+04
n-Propylbenzene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+01	3.30E+04
Styrene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	5.20E+01	3.30E+04
1,1,1-Trichloroethane	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	1.29E+02	3.30E+04
1,2,4-Trimethylbenzene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+01	3.30E+04
1,3,5-Trimethylbenzene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+01	3.30E+04
o-Xylene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	5.20E+01	3.30E+04
p-Xylene	9.46E+08	200	0.054	ERROR	ERROR	0.307	2.96E-09	6.79E-09	2.29E-09	4,000	2.58E+01	3.30E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D_a^A (cm^2/s)	Stratum B effective diffusion coefficient, D_a^B (cm^2/s)	Stratum C effective diffusion coefficient, D_a^C (cm^2/s)	Total overall effective diffusion coefficient, D_{eff}^T (cm^2/s)	Diffusion path length, L_d (cm)
Acetone	1.00E+08	4.00E-04	15	7,442	3.99E-05	1.63E-03	1.78E-04	7.31E-02	0.00E+00	0.00E+00	7.31E-02	290
Benzene	1.00E+08	4.00E-04	15	8,092	4.15E-03	1.70E-01	1.78E-04	5.08E-02	0.00E+00	0.00E+00	5.08E-02	290
Methyl ethyl ketone (2-butanone)	1.00E+08	4.00E-04	15	8,383	4.16E-05	1.70E-03	1.78E-04	4.76E-02	0.00E+00	0.00E+00	4.76E-02	290
n-Butylbenzene	1.00E+08	4.00E-04	15	11,104	4.74E-03	1.93E-01	1.78E-04	3.29E-02	0.00E+00	0.00E+00	3.29E-02	290
sec-Butylbenzene	1.00E+08	4.00E-04	15	10,917	3.56E-03	1.45E-01	1.78E-04	3.97E-02	0.00E+00	0.00E+00	3.97E-02	290
Chlorobenzene	1.00E+08	4.00E-04	15	9,712	2.66E-03	1.09E-01	1.78E-04	4.22E-02	0.00E+00	0.00E+00	4.22E-02	290
Ethylbenzene	1.00E+08	4.00E-04	15	10,053	3.23E-03	2.71E-01	1.78E-04	4.35E-02	0.00E+00	0.00E+00	4.35E-02	290
Cumene	1.00E+08	4.00E-04	15	10,514	7.90E-03	3.23E-01	1.78E-04	3.74E-02	0.00E+00	0.00E+00	3.74E-02	290
Methylene chloride	1.00E+08	4.00E-04	15	6,919	1.73E-03	7.08E-02	1.78E-04	5.00E-02	0.00E+00	0.00E+00	5.00E-02	290
Methyl isobutyl ketone (4-methyl-2-pentanone)	1.00E+08	4.00E-04	15	9,241	8.63E-05	4.10E-03	1.78E-04	4.29E-02	0.00E+00	0.00E+00	4.30E-02	290
MTBE	1.00E+08	4.00E-04	15	7,978	4.99E-04	2.04E-02	1.78E-04	5.60E-02	0.00E+00	0.00E+00	5.60E-02	290
Naphthalene	1.00E+08	4.00E-04	15	12,620	3.09E-04	1.26E-02	1.78E-04	3.42E-02	0.00E+00	0.00E+00	3.42E-02	290
n-Propylbenzene	1.00E+08	4.00E-04	15	11,207	7.71E-03	3.01E-01	1.78E-04	3.47E-02	0.00E+00	0.00E+00	3.47E-02	290
Toluene	1.00E+08	4.00E-04	15	9,566	4.84E-03	1.97E-01	1.78E-04	5.00E-02	0.00E+00	0.00E+00	5.00E-02	290
1,1,1-Trichloroethane	1.00E+08	4.00E-04	15	7,767	1.31E-02	5.48E-01	1.78E-04	4.50E-02	0.00E+00	0.00E+00	4.50E-02	290
1,2,4-Trimethylbenzene	1.00E+08	4.00E-04	15	11,579	6.15E-03	1.72E-01	1.78E-04	3.66E-02	0.00E+00	0.00E+00	3.66E-02	290
1,3,5-Trimethylbenzene	1.00E+08	4.00E-04	15	11,561	3.99E-03	1.64E-01	1.78E-04	3.69E-02	0.00E+00	0.00E+00	3.69E-02	290
o-Xylene	1.00E+08	4.00E-04	15	10,740	5.39E-03	2.24E-01	1.78E-04	4.44E-02	0.00E+00	0.00E+00	4.44E-02	290
p-Xylene	1.00E+08	4.00E-04	15	10,740	5.39E-03	1.31E-01	1.78E-04	4.03E-02	0.00E+00	0.00E+00	4.03E-02	290

	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/L$)	Crack indoor-air dilution factor, α (unitless)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D_{eff}^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Indoor source bldg. concentration, C_{bldg} ($\mu g/m^3$)	Bldg. source bldg. conc., C_{bldg} ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc, RfC (mg/m^3)
Acetone	15	3.34E+03	0.10	3.33E+01	7.31E-02	4.00E+02	1.43E+05	1.71E-04	1.43E+02	NA	3.17E+01
Benzene	15	4.36E+04	0.10	4.33E+01	5.08E-02	4.00E+02	1.24E+05	4.27E-04	2.29E-05	2.9E-05	3.0E-02
Methyl ethyl ketone (2-butanone)	15	2.58E+05	0.10	4.33E+01	4.76E-02	4.00E+02	1.24E+05	4.05E-04	1.01E-04	NA	5.0E-01
n-Butylbenzene	15	2.58E+04	0.10	4.33E+01	3.29E-02	4.00E+02	exp_out	2.76E-04	7.32E-05	NA	1.4E-01
sec-Butylbenzene	15	1.55E+05	0.10	4.33E+01	3.97E-02	4.00E+02	exp_out	2.76E-04	4.39E-05	NA	1.4E-01
Chlorobenzene	15	2.58E+05	0.10	4.33E+01	4.22E-02	4.00E+02	exp_out	2.76E-04	9.13E-05	NA	1.5E+00
Ethylbenzene	15	2.58E+05	0.10	4.33E+01	4.35E-02	4.00E+02	exp_out	2.76E-04	2.74E-04	2.5E-06	1.0E+00
Isopropylbenzene	15	2.58E+05	0.10	4.33E+01	3.74E-02	4.00E+02	exp_out	2.76E-04	2.74E-04	NA	4.0E-01
Methylene chloride	15	5.00E+03	0.10	4.33E+01	5.00E-02	4.00E+02	exp_out	2.76E-04	1.38E-06	NA	4.0E-01
Methyl isobutyl ketone (4-methyl-2-pentanone)	15	2.58E+05	0.10	4.33E+01	4.30E-02	4.00E+02	exp_out	2.76E-04	5.40E-05	NA	3.0E+00
MTBE	15	5.60E+04	0.10	4.33E+01	5.60E-02	4.00E+02	1.61E+05	4.84E-04	7.26E-07	2.6E-07	3.0E+00
Naphthalene	15	1.29E+04	0.10	4.33E+01	3.42E-02	4.00E+02	exp_out	2.76E-04	4.97E-06	3.4E-05	3.0E-03
n-Propylbenzene	15	2.58E+04	0.10	4.33E+01	3.47E-02	4.00E+02	exp_out	2.76E-04	7.19E-05	NA	1.4E-01
Toluene	15	5.20E+05	0.10	4.33E+01	5.00E-02	4.00E+02	1.55E+05	4.23E-04	2.84E-01	NA	5.0E+00
1,1,1-Trichloroethane	15	1.29E+05	0.10	4.33E+01	4.50E-02	4.00E+02	2.56E+05	3.96E-04	6.57E-02	NA	2.2E+00
1,2,4-Trimethylbenzene	15	2.58E+04	0.10	4.33E+01	3.66E-02	4.00E+02	exp_out	2.11E-04	7.17E-05	NA	7.0E-03
1,3,5-Trimethylbenzene	15	2.58E+04	0.10	4.33E+01	3.69E-02	4.00E+02	exp_out	2.11E-04	7.17E-05	NA	8.0E-03
p-Xylene	15	5.20E+04	0.10	4.33E+01	4.44E-02	4.00E+02	4.93E+05	3.82E-04	1.31E-05	NA	1.0E-01
o-Xylene	15	2.58E+04	0.10	4.33E+01	4.03E-02	4.00E+02	1.63E+05	4.23E-04	1.08E-05	NA	1.0E-01

END

RESULTS SHEET

Resident using 10 ft. soil vapor data south of the southern perimeter and minimum detection limits

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Acetone	NA	4.4E-05
Benzene	2.7E-07	7.2E-04
Methylethylketone (2-butanone)	NA	1.9E-05
n-Butylbenzene	NA	5.0E-05
sec-Butylbenzene	NA	3.0E-03
Chlorobenzene	NA	8.8E-04
Ethylbenzene	9.6E-09	9.0E-06
Cumene	NA	3.9E-03
Methylene chloride	9.8E-08	5.7E-04
Methylisobutylketone (4-methyl-2-pentanone)	NA	3.0E-05
MTBE	7.8E-09	2.3E-05
Naphthalene	6.8E-08	1.6E-03
n-Propylbenzene	NA	5.3E-05
Toluene	NA	7.2E-04
1,1,1-Trichloroethane	NA	1.3E-05
1,2,4-Trimethylbenzene	NA	1.1E-03
1,3,5-Trimethylbenzene	NA	1.2E-03
p-Xylene	NA	1.8E-04
o-Xylene	NA	1.0E-04
	5E-07	1E-02

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Resident using 10 ft. soil vapor data south of the southern perimeter and maximum detection limits

SG-ADV
Version 3.1: 02/04

Reset to Defaults

Program modified by ROR of Exponent to accommodate multiple chemicals

Soil Gas Concentration Data

ENTER	ENTER		ENTER	
Chemical CAS No. (numbers only, no dashes)	Soil gas conc., C_g ($\mu g/m^3$)	OR	Soil gas conc., C_g (ppmv)	Chemical
67641	2.50E+04			Acetone
71432	5.30E+01			Benzene
78933	2.50E+03			Methylethylketone (2-butanone)
104518	2.50E+02			n-Butylbenzene
135988	1.50E+03			sec-Butylbenzene
108907	2.50E+03			Chlorobenzene
100414	2.50E+02			Ethylbenzene
98828	4.90E+03			Cumene
75092	5.00E+03			Methylene chloride
108101	2.50E+03			Methylisobutylketone (4-methyl-2-pentanone)
1634044	1.50E+02			MTBE
91203	1.60E+02			Naphthalene
103651	2.50E+02			n-Propylbenzene
108883	5.30E+02			Toluene
71556	1.70E+02			1,1,1-Trichloroethane
95636	2.50E+02			1,2,4-Trimethylbenzene
108678	2.50E+02			1,3,5-Trimethylbenzene
106423	5.00E+02			p-Xylene
95476	2.50E+02			o-Xylene

Note: Same as isopropylbenzene

Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical constants

MORE ↓

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER		ENTER
			Totals must add up to value of Ls (cell F24)					
Depth below grade to bottom of enclosed space floor, L_F (cm)	Soil gas sampling depth below grade, L_s (cm)	Average soil temperature, T_s (°C)	Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	User-defined stratum A soil vapor permeability, k_v (cm^2)
15	305	19	305	0	0	SIL		

MORE ↓

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Stratum A SCS soil type (Lookup Soil Parameters)	Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	Stratum A soil total porosity, n^A (unitless)	Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	Stratum B SCS soil type (Lookup Soil Parameters)	Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	Stratum B soil total porosity, n^B (unitless)	Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	Stratum C SCS soil type (Lookup Soil Parameters)	Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	Stratum C soil total porosity, n^C (unitless)	Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SIL	1.49	0.439	0.18								

MORE ↓

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Enclosed space floor thickness, L_{crack} (cm)	Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	Enclosed space floor length, L_B (cm)	Enclosed space floor width, W_B (cm)	Enclosed space height, H_B (cm)	Floor-wall seam crack width, w (cm)	Indoor air exchange rate, ER (1/h)	Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	0.5	5

ENTER	ENTER	ENTER	ENTER
Averaging time for carcinogens, AT_C (yrs)	Averaging time for noncarcinogens, AT_{NC} (yrs)	Exposure duration, ED (yrs)	Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Resident using 10 ft. soil vapor data south of the southern perimeter and maximum detection limits

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H ($atm\text{-}m^3/mol$)	Henry's law constant reference temperature, T_R (^oC)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Molecular weight, MW (g/mol)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	1.24E-01	1.14E-05	3.87E-05	25	6,955	329.20	508.10	58.08	0.0E+00	3.1E+01
Benzene	8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	78.11	2.9E-05	3.0E-02
Methylethylketone (2-butanone)	8.08E-02	9.80E-06	5.58E-05	25	7,481	352.50	536.78	72.11	0.0E+00	5.0E+00
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	134.22	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	134.22	0.0E+00	1.4E-01
Chlorobenzene	7.30E-02	8.70E-06	3.69E-03	25	8,410	404.87	632.40	112.56	0.0E+00	1.0E+00
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	106.17	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	120.19	0.0E+00	4.0E-01
Methylene chloride	1.01E-01	1.17E-05	2.18E-03	25	6,706	313.00	510.00	84.93	1.0E-06	4.0E-01
Methylisobutylketone (4-methyl-	7.50E-02	7.80E-06	1.38E-04	25	8,243	389.50	571.00	100.16	0.0E+00	3.0E+00
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	88.15	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	128.18	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	120.19	0.0E+00	1.4E-01
Toluene	8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	92.14	0.0E+00	3.0E-01
1,1,1-Trichloroethane	7.80E-02	8.80E-06	1.72E-02	25	7,136	347.24	545.00	133.40	0.0E+00	5.0E+00
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	120.20	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	120.20	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	106.17	0.0E+00	1.0E-01
o-Xylene	8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	106.17	0.0E+00	1.0E-01

Residents using 10 ft. soil vapor data south of the southern perimeter and maximum detection limits

	Exposure duration, t (sec)	Source building separation, L_s (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective soil-gas flow rate, Q_{soil} (cm^3/sec)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{ra} (unitless)	Stratum A soil effective vapor permeability, k_v (cm^2)	Foundation-wall seam perimeter, X_{crack} (cm)	Soil gas conc. C_{source} (ug/m^3)	Bldg. ventilation rate $Q_{building}$ (cm^3/s)
Acetone	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	3.33E+04	3.39E+04
Benzene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	4.38E+01	3.39E+04
Methylcyclohexane (2-Butanone)	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	2.49E+03	3.39E+04
n-Butylbenzene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	3.39E+03	3.39E+04
sec-Butylbenzene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	1.58E+03	3.39E+04
Carbondisulfide	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	2.51E+03	3.39E+04
Ethylbenzene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	2.49E+03	3.39E+04
Cumene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	4.40E+03	3.39E+04
Methylene chloride	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	5.00E+03	3.39E+04
Methyl ethyl ketone (MEK)	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	2.54E+03	3.39E+04
MTBE	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	1.39E+03	3.39E+04
Naphthalene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	1.40E+03	3.39E+04
n-Propylbenzene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	2.50E+03	3.39E+04
Styrene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	5.30E+03	3.39E+04
1,1,1-Trichloroethane	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	1.39E+03	3.39E+04
1,2,4-Trimethylbenzene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	2.50E+03	3.39E+04
1,3,5-Trimethylbenzene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	2.50E+03	3.39E+04
p-Xylene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	5.00E+03	3.39E+04
o-Xylene	9.46E+08	200	0.259	ERROR	ERROR	0.307	3.86E-09	0.795	3.07E-09	4500	2.50E+03	3.39E+04

	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D_a^{eff} (cm^2/s)	Stratum B effective diffusion coefficient, D_b^{eff} (cm^2/s)	Stratum C effective diffusion coefficient, D_c^{eff} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff} (cm^2/s)	Diffusion path length, L_d (cm)
Acetone	1.00E+08	4.00E-04	15	7,447	2.30E-05	9.39E-04	1.78E-04	3.91E-03	0.00E+00	0.00E+00	7.31E-03	350
Benzene	1.00E+08	4.00E-04	15	8,030	4.19E-03	1.72E-01	1.78E-04	3.00E-03	0.00E+00	0.00E+00	4.68E-03	350
Methylcyclohexane (2-Butanone)	1.00E+08	4.00E-04	15	8,927	4.19E-05	1.72E-03	1.78E-04	4.74E-03	0.00E+00	0.00E+00	4.78E-03	350
n-Butylbenzene	1.00E+08	4.00E-04	15	11,734	8.74E-03	3.59E-01	1.78E-04	3.79E-03	0.00E+00	0.00E+00	3.79E-03	350
sec-Butylbenzene	1.00E+08	4.00E-04	15	10,113	3.99E-04	1.64E-02	1.78E-04	3.97E-03	0.00E+00	0.00E+00	3.98E-03	350
Carbondisulfide	1.00E+08	4.00E-04	15	6,737	2.86E-02	1.18E-00	1.78E-04	4.22E-03	0.00E+00	0.00E+00	4.23E-03	350
Ethylbenzene	1.00E+08	4.00E-04	15	9,059	6.66E-03	2.73E-01	1.78E-04	4.32E-03	0.00E+00	0.00E+00	4.33E-03	350
Cumene	1.00E+08	4.00E-04	15	12,918	7.90E-01	3.24E+01	1.78E-04	3.74E-03	0.00E+00	0.00E+00	3.75E-03	350
Methylene chloride	1.00E+08	4.00E-04	15	6,938	1.72E-03	7.06E-02	1.78E-04	4.45E-03	0.00E+00	0.00E+00	4.46E-03	350
Methyl ethyl ketone (MEK)	1.00E+08	4.00E-04	15	8,741	9.63E-06	4.10E-04	1.78E-04	4.39E-03	0.00E+00	0.00E+00	4.39E-03	350
MTBE	1.00E+08	4.00E-04	15	7,179	5.87E-04	2.40E-02	1.78E-04	5.82E-03	0.00E+00	0.00E+00	5.83E-03	350
Naphthalene	1.00E+08	4.00E-04	15	12,000	3.80E-04	1.56E-02	1.78E-04	3.42E-03	0.00E+00	0.00E+00	3.42E-03	350
n-Propylbenzene	1.00E+08	4.00E-04	15	11,251	7.71E-03	3.16E-01	1.78E-04	3.47E-03	0.00E+00	0.00E+00	3.47E-03	350
Toluene	1.00E+08	4.00E-04	15	9,564	6.64E-03	2.72E-01	1.78E-04	4.82E-03	0.00E+00	0.00E+00	4.83E-03	350
1,1,1-Trichloroethane	1.00E+08	4.00E-04	15	7,743	1.31E-02	5.40E-01	1.78E-04	4.50E-03	0.00E+00	0.00E+00	4.50E-03	350
1,2,4-Trimethylbenzene	1.00E+08	4.00E-04	15	11,579	8.11E-03	3.32E-01	1.78E-04	3.50E-03	0.00E+00	0.00E+00	3.50E-03	350
1,3,5-Trimethylbenzene	1.00E+08	4.00E-04	15	11,580	3.75E-03	1.54E-01	1.78E-04	3.48E-03	0.00E+00	0.00E+00	3.48E-03	350
p-Xylene	1.00E+08	4.00E-04	15	10,143	7.39E-03	3.04E-01	1.78E-04	4.44E-03	0.00E+00	0.00E+00	4.44E-03	350
o-Xylene	1.00E+08	4.00E-04	15	10,302	5.50E-03	2.31E-01	1.78E-04	4.63E-03	0.00E+00	0.00E+00	4.63E-03	350

	Convection path length, L_p (cm)	Source vapor conc., C_{source} (ug/m^3)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equation for Peclet number, $exp(Pe)$ (unitless)	Intrinsic soil-gas indoor attenuation coefficient, α (unitless)	Indoor source conc. $C_{building}$ (ug/m^3)	Unit risk factor, URF (ug/m^3)$^{-1}$	Reference conc. RfC (mg/m^3)
Acetone	15	2.50E+04	0.10	3.23E+01	7.31E-01	4.50E+02	3.43E+05	3.71E-04	1.43E-01	NA	3.17E+01
Benzene	15	8.20E+01	0.10	6.23E+01	5.28E-01	4.50E+02	1.13E+267	4.27E-04	2.23E-05	7.8E-06	1.0E-03
Methylcyclohexane (2-Butanone)	15	2.50E+03	0.10	6.23E+01	4.75E-01	4.50E+02	1.23E+255	4.05E-04	1.01E-02	NA	5.2E-01
n-Butylbenzene	15	1.50E+03	0.10	6.23E+01	3.29E-01	4.50E+02	#NUM!	3.95E-04	7.37E-03	NA	1.4E-01
sec-Butylbenzene	15	1.50E+03	0.10	6.23E+01	3.30E-01	4.50E+02	#NUM!	3.95E-04	4.43E-03	NA	1.4E-01
Carbondisulfide	15	2.50E+03	0.10	6.23E+01	4.22E-01	4.50E+02	#NUM!	3.89E-04	9.13E-01	NA	1.9E+00
Ethylbenzene	15	2.50E+03	0.10	6.23E+01	4.49E-01	4.50E+02	#NUM!	3.76E-04	2.56E-02	2.5E-06	1.0E+00
Cumene	15	4.90E+03	0.10	6.23E+01	2.75E-01	4.50E+02	#NUM!	3.80E-04	1.60E-02	NA	4.0E-01
Methylene chloride	15	5.00E+03	0.10	6.23E+01	5.50E-01	4.50E+02	4.75E+232	4.75E-04	3.30E+01	1.0E-06	4.0E-01
Methyl ethyl ketone (MEK)	15	2.50E+03	0.10	6.23E+01	4.39E-01	4.50E+02	#NUM!	3.76E-04	9.40E-01	NA	1.3E+00
MTBE	15	1.40E+03	0.10	6.23E+01	5.82E-01	4.50E+02	1.61E+270	4.24E-04	7.79E-02	2.6E-07	3.0E+00
Naphthalene	15	1.40E+03	0.10	6.23E+01	3.42E-01	4.50E+02	#NUM!	3.77E-04	8.67E-02	3.4E-05	3.0E-03
n-Propylbenzene	15	2.50E+03	0.10	6.23E+01	3.47E-01	4.50E+02	#NUM!	3.89E-04	7.72E-03	NA	1.4E-01
Toluene	15	5.30E+03	0.10	6.23E+01	4.82E-01	4.50E+02	1.60E+272	4.23E-04	3.74E-01	NA	5.0E-01
1,1,1-Trichloroethane	15	1.39E+03	0.10	6.23E+01	4.50E-01	4.50E+02	2.04E+301	4.36E-04	6.57E-02	NA	5.2E+00
1,2,4-Trimethylbenzene	15	2.50E+03	0.10	6.23E+01	3.50E-01	4.50E+02	#NUM!	3.91E-04	7.77E-03	NA	7.2E-03
1,3,5-Trimethylbenzene	15	2.50E+03	0.10	6.23E+01	3.48E-01	4.50E+02	#NUM!	3.90E-04	7.73E-03	NA	7.0E-03
p-Xylene	15	5.00E+03	0.10	6.23E+01	4.44E-01	4.50E+02	4.93E+308	3.82E-04	1.91E-01	NA	1.0E-01
o-Xylene	15	2.50E+03	0.10	6.23E+01	4.63E-01	4.50E+02	1.42E+279	4.23E-04	1.03E-02	NA	1.7E-01

ERO

RESULTS SHEET

Resident using 10 ft. soil vapor data south of the southern perimeter and maximum detection limits

INCREMENTAL RISK CALCULATIONS:

	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
Acetone	NA	4.4E-04
Benzene	2.7E-07	7.2E-04
Methylethylketone (2-butanone)	NA	1.9E-04
n-Butylbenzene	NA	5.0E-04
sec-Butylbenzene	NA	3.0E-03
Chlorobenzene	NA	8.8E-04
Ethylbenzene	9.6E-08	9.0E-05
Cumene	NA	3.9E-03
Methylene chloride	9.8E-07	5.7E-03
Methylisobutylketone (4-methyl-2-pentanone)	NA	3.0E-04
MTBE	7.8E-09	2.3E-05
Naphthalene	6.8E-07	1.6E-02
n-Propylbenzene	NA	5.3E-04
Toluene	NA	7.2E-04
1,1,1-Trichloroethane	NA	1.3E-05
1,2,4-Trimethylbenzene	NA	1.1E-02
1,3,5-Trimethylbenzene	NA	1.2E-02
p-Xylene	NA	1.8E-03
o-Xylene	NA	1.0E-03
	2E-06	6E-02

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

DATA ENTRY SHEET

Resident using groundwater data along southern perimeter

GW-ADV Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES X

Program modified by ROR of Exponent to accommodate multiple chemicals

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	#REF!	Chemical	
104518	8.70E+00		n-Butylbenzene	
135988	5.70E+01		sec-Butylbenzene	
100414	1.00E+01		Ethylbenzene	
98828	1.70E+02		Cumene	Note: same as isopropylbenzene
75092	3.30E+02		Methylene chloride	
91576	8.60E+01		2-Methylnaphthalene	
1634044	2.70E+01		MTBE	
91203	2.20E+02		Naphthalene	
103651	1.60E+02		n-Propylbenzene	
95636	8.10E+00		1,2,4-Trimethylbenzene	
108678	1.80E+01		1,3,5-Trimethylbenzene	
106423	1.70E+01		p-Xylene	Note: results reported as "m,p-xylenes"; p-xylene has the most conservative physical constants

MORE ↓

ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Totals must add up to value of L_{WT} (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
19	15	549	396	153	0	B	SL	SIL		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SIL	1.49	0.439	0.18	SL	1.62	0.387	0.103				

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
15	40	1000	1000	244	0.1	0.5	5

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	30	350	1.0E-06	1

Used to calculate risk-based groundwater concentration.

END

CHEMICAL PROPERTIES SHEET

Resident using groundwater data along southern perimeter

	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of porization he norma oiling poir ΔH_{vb} (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Organic carbon partition coefficient, K_{oc} (cm^3/g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
n-Butylbenzene	5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	1.11E+03	2.00E+00	0.0E+00	1.4E-01
sec-Butylbenzene	5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	9.66E+02	3.94E+00	0.0E+00	1.4E-01
Ethylbenzene	7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	3.63E+02	1.69E+02	2.5E-06	1.0E+00
Cumene	6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01
Methylene chloride	1.01E-01	1.17E-05	2.18E-03	25	6,706	313.00	510.00	1.17E+01	1.30E+04	1.0E-06	4.0E-01
2-Methylnaphthalene	5.22E-02	7.75E-06	5.17E-04	25	12,600	514.26	761.00	2.81E+03	2.46E+01	0.0E+00	1.4E-02
MTBE	1.02E-01	1.05E-05	6.23E-04	25	6,678	328.30	497.10	7.26E+00	5.10E+04	2.6E-07	3.0E+00
Naphthalene	5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	2.00E+03	3.10E+01	3.4E-05	3.0E-03
n-Propylbenzene	6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	5.62E+02	6.00E+01	0.0E+00	1.4E-01
1,2,4-Trimethylbenzene	6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	1.35E+03	5.70E+01	0.0E+00	7.0E-03
1,3,5-Trimethylbenzene	6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	1.35E+03	2.00E+00	0.0E+00	6.0E-03
p-Xylene	7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	3.89E+02	1.85E+02	0.0E+00	1.0E-01

END

INTERMEDIATE CALCULATIONS SHEET

Resident using groundwater data along southern perimeter

Exposure duration, t (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_e (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Thickness of capillary zone, L_{cz} (cm)	Total porosity in capillary zone, η_{cz} (cm^3/cm^3)	Air-filled porosity in capillary zone, θ_{acz} (cm^3/cm^3)	Water-filled porosity in capillary zone, θ_{wcz} (cm^3/cm^3)	Floor-wall seam perimeter, X_{crack} (cm)
9.46E+08	534	0.259	0.284	ERROR	0.307	2.86E-08	0.796	2.28E-08	25.00	0.387	0.067	0.320	4,000

	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,s}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H_{TS} ($atm-m^3/mol$)	Henry's law constant at ave. groundwater temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
n-Butylbenzene	3.38E+04	1.00E+06	4.00E-04	15	11,734	8.74E-03	3.58E-01	1.78E-04	3.29E-03	5.75E-03	0.00E+00	5.09E-05	8.45E-04	534
sec-Butylbenzene	3.38E+04	1.00E+06	4.00E-04	15	107,357	3.38E-04	1.41E-02	1.78E-04	3.30E-03	5.76E-03	0.00E+00	1.34E-04	1.65E-03	534
Ethylbenzene	3.38E+04	1.00E+06	4.00E-04	15	10,052	5.55E-03	2.31E-01	1.78E-04	4.33E-03	7.57E-03	0.00E+00	6.72E-05	1.12E-03	534
Cumene	3.38E+04	1.00E+06	4.00E-04	15	12,518	7.50E-01	3.13E+01	1.78E-04	3.75E-03	6.56E-03	0.00E+00	5.42E-05	9.18E-04	534
Methylene chloride	3.38E+04	1.00E+06	4.00E-04	15	6,938	1.72E-03	7.16E-02	1.78E-04	5.83E-03	1.02E-02	0.00E+00	1.00E-04	1.73E-03	534
2-Methylnaphthalene	3.38E+04	1.00E+06	4.00E-04	15	16,123	2.95E-04	1.23E-02	1.78E-04	3.02E-03	5.27E-03	0.00E+00	1.38E-04	1.61E-03	534
MTBE	3.38E+04	1.00E+06	4.00E-04	15	7,179	4.86E-04	2.03E-02	1.78E-04	5.92E-03	1.03E-02	0.00E+00	1.63E-04	2.32E-03	534
Naphthalene	3.38E+04	1.00E+06	4.00E-04	15	12,920	3.09E-04	1.29E-02	1.78E-04	3.42E-03	5.96E-03	0.00E+00	1.38E-04	1.69E-03	534
n-Propylbenzene	3.38E+04	1.00E+06	4.00E-04	15	11,251	7.21E-03	3.01E-01	1.78E-04	3.47E-03	6.07E-03	0.00E+00	5.40E-05	9.00E-04	534
1,2,4-Trimethylbenzene	3.38E+04	1.00E+06	4.00E-04	15	11,579	4.21E-03	1.76E-01	1.78E-04	3.50E-03	6.12E-03	0.00E+00	9.75E-05	9.45E-04	534
1,3,5-Trimethylbenzene	3.38E+04	1.00E+06	4.00E-04	15	11,551	3.93E-03	1.64E-01	1.78E-04	3.48E-03	6.09E-03	0.00E+00	5.81E-05	9.52E-04	534
o-Xylene	3.38E+04	1.00E+06	4.00E-04	15	10,140	5.38E-03	2.24E-01	1.78E-04	4.44E-03	7.75E-03	0.00E+00	6.98E-05	1.08E-03	534

	Convection path length, L_p (cm)	Source vapor conc., C_{source} (ug/m^3)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe') (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ (ug/m^3)	Unit risk factor, URF ($ug/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
n-Butylbenzene	15	3.17E+03	0.10	8.33E+01	3.25E-03	4.00E+02	#NUM!	4.80E-05	1.46E-01	NA	1.4E-01
sec-Butylbenzene	15	8.03E+02	0.10	8.33E+01	3.30E-03	4.00E+02	#NUM!	8.77E-05	7.04E-02	NA	1.4E-01
Ethylbenzene	15	2.31E+03	0.10	8.33E+01	4.33E-03	4.00E+02	#NUM!	6.06E-05	1.40E-01	2.5E-06	1.0E+00
Cumene	15	5.32E+06	0.10	8.33E+01	3.75E-03	4.00E+02	#NUM!	4.97E-05	2.64E+02	NA	4.0E-01
Methylene chloride	15	2.36E+04	0.10	8.33E+01	5.83E-03	4.00E+02	4.70E+222	9.23E-05	2.18E+00	1.0E-06	4.0E-01
2-Methylnaphthalene	15	1.08E+03	0.10	8.33E+01	3.02E-03	4.00E+02	#NUM!	8.58E-05	9.15E-02	NA	1.4E-02
MTBE	15	5.47E+02	0.10	8.33E+01	5.92E-03	4.00E+02	1.81E+229	1.22E-04	9.67E-02	2.6E-07	3.0E+00
Naphthalene	15	2.83E+03	0.10	8.33E+01	3.42E-03	4.00E+02	#NUM!	8.99E-05	2.55E-01	3.4E-05	3.0E-03
n-Propylbenzene	15	4.52E+04	0.10	8.33E+01	3.47E-03	4.00E+02	#NUM!	4.67E-05	2.35E+00	NA	1.4E-01
1,2,4-Trimethylbenzene	15	1.39E+03	0.10	8.33E+01	3.50E-03	4.00E+02	#NUM!	5.12E-05	7.11E-02	NA	7.0E-03
1,3,5-Trimethylbenzene	15	2.95E+03	0.10	8.33E+01	3.48E-03	4.00E+02	#NUM!	5.15E-05	1.52E-01	NA	6.0E-03
o-Xylene	15	3.31E+03	0.10	8.33E+01	4.44E-03	4.00E+02	4.93E+205	6.24E-05	2.38E-01	NA	1.0E-01

END

RESULTS SHEET

Resident using groundwater data along southern perimeter

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS: INCREMENTAL RISK CALCULATIONS:

	Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
n-Butylbenzene	NA	NA	NA	2.00E+03	NA	NA	1.0E-03
sec-Butylbenzene	NA	NA	NA	3.94E+03	NA	NA	4.8E-04
Ethylbenzene	NA	NA	NA	1.69E+05	NA	1.4E-07	1.3E-04
Cumene	NA	NA	NA	6.13E+04	NA	NA	6.3E-01
Methylene chloride	NA	NA	NA	1.30E+07	NA	9.0E-07	5.2E-03
2-Methylnaphthalene	NA	NA	NA	2.46E+04	NA	NA	6.2E-03
MTBE	NA	NA	NA	5.10E+07	NA	7.1E-09	2.1E-05
Naphthalene	NA	NA	NA	3.10E+04	NA	3.6E-06	8.1E-02
n-Propylbenzene	NA	NA	NA	6.00E+04	NA	NA	1.6E-02
1,2,4-Trimethylbenzene	NA	NA	NA	5.70E+04	NA	NA	9.7E-03
1,3,5-Trimethylbenzene	NA	NA	NA	2.00E+03	NA	NA	2.5E-02
p-Xylene	NA	NA	NA	1.85E+05	NA	NA	2.3E-03
					TOTALS	5E-06	8E-01

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

SCROLL DOWN TO "END"

END

EXHIBIT 9

UPDATED SITE CONCEPTUAL MODEL (SCM)

Table 1
Updated Site Conceptual Model
Signal Hill Holding Company Former Chemoil Refinery Site

	Description	Date: June, 2011
1	**Introduction**	
1.1	Owner Contact Information	Signal Hill Holding Company (SHHC)
		c/o Harrison Chang
		4354 Silva Court
		Palo Alto, CA 94306
1.2	Site Address	2020 Walnut Avenue
		Signal Hill, CA
1.3	SLIC No.	SLIC No. 453A
1.4	Primary Consultant:	Testa Environmental Corporation
		c/o Stephen M. Testa
		19814 Jesus Maria Road
		Mokelumne Hill, CA 95245
1.5	Current Site Use/Status	The site is divided into three parcels: Eastern Parcel, northern Western Parcel, and southern triangular-shaped Western Parcel. The site is vacant and unpaved. There are no structures on site outside of monitoring wells and former LNAPL recovery wells.
2	**Contaminant Release and Investigatory History**	
2.1	Historic Use	The site was formerly a refinery with the oldest operations being situated in the northeast portion of the southern triangular area which comprises the southern portion of the Western Parcel.
2.2	Contaminant Release, Source and Volume	The refinery site's history dates back to the 1920s, when it was previously occupied by a dairy farm. From 1922 to 1988, the facility was solely owned and operated by the MacMillan Ring-Free Oil Company. In 1988, Chemoil Refining Corporation purchased the property. Refinery operations ceased in early 1994. In 1997, the waste water system was dismantled, along with all below and above ground structures.
2.3	Steps Taken to Stop Release or Spill	There are no current release sources since all structures were dismantled and removed by 1997. Residual hydrocarbons exist in soil and to a lesser degree in groundwater.
2.4	Nearby Uses	Residential property is situated to the south, with industrial and commercial zoned properties to the east, west and north.

2.5	Topography / Hydrogeology	The topography of the site is generally flat, albeit lower in elevation to the south. Properties adjacent to the subject property are of relatively similar elevation with a steady increase in elevation to the north toward Signal Hill. As of 2005 the direction of the groundwater flow in the area is regionally toward the south-southeast. The site is located at an elevation of about 20 to 38 feet above mean sea level (MSL), in an area that is generally sloping to the south. The Newport-Inglewood Structural Zone is situated to the north-northeast, and serves as a partial barrier to groundwater flow; high chlorides due to saltwater intrusion exist; the USGS has reported groundwater in this area as of poor quality. Uppermost groundwater is encountered at depths of about 12 to 32 feet below ground surface.
		No subsurface fractures or faults were identified in the underlying subsoil. No man-made conduits, which may increase the vertical and horizontal migration of contamination, were found as a result of the borings and superficial inspection of the site. There are no surface water features at the site, although a concrete-lined storm water diversion channel parallels the site to the south and may cause episodic mounding of the water table in this area. There are no drinking water wells at the site.
2.6	Geology	The site is situated along the southwest flank of Signal Hill. According to previous soil borings, the subject site is mainly underlain by fill that extends to 5 feet in depth, which overlies Holocene non-marine and marine terrace deposits of the Upper Pleistocene Formation. Deposits beneath the Western Parcel are relatively fine-grained sandy silt and clayey silt to about 12 feet, overlying relatively more permeable very fine to medium grained sand and silty sand. Beneath the Eastern Parcel, very fine sandy silt extends to depths of about 12 feet, with relatively impermeable clayey silt and silty clay beneath the southeast portion at depths of about 18 to 30 feet.
2.7	Stratigraphy and Hydrogeology	The surface is unpaved. Soils encountered during previous subsurface investigations at the site have generally been very low permeability sediments (ML, CL, SM) consisting of silty clay and clayey silt to 12 feet bgs. Underlying these relatively fine grained soils is fine-to-medium grained sand and silty sand (SP and SM) to about 30 to 50 feet bgs (semi-perched). Fine grained silt and clayey silt soil (MH and ML) is encountered at depths of about 35 to 50 feet bgs (Bellflower Aquiclude). It is inferred that heavy hydrocarbons migrated vertically from open-bottom above-ground tanks, and episodic spills/releases to the ground surface, then spread out at the water interface (or marginally when significant permeability constraints were encountered), migrating through the more permeable silty sand and sand-rich soils toward the south-southwest. High concentrations of TPH and associated hydrocarbon constituents appear in close proximity to former LNAPL pools.
2.8	Groundwater Flow Direction, Depth and Gradient Trends	As of March 2011, overall groundwater occurred at elevations of 5.31 and 6.52 feet relative to mean sea level, respectively (depths ranging from 12.60, to 15.70 and 41.50 bgs, respectively), as measured in wells MW-8, and MW-1 and MW-3, respectively. Depth to groundwater ranged from 10.80 to 41.50 feet bgs, as measured in wells MW-19 and MW-3, respectively. Beneath the Eastern Parcel, groundwater was encountered at elevations of 5.39 and 5.50 feet (i.e., depths of 24.60 to 26.10 feet) as measured in wells MW-2 and MW-10, respectively. Groundwater flow beneath the site was generally toward the south-southeast, slight mounding beneath the southwest portion of the Western Parcel. Hydraulic gradient is on the order of 0.003 to 0.006 ft/ft.
2.9	Light non-aqueous phase hydrocarbons (LNAPL)	A LNAPL recovery program with periodic groundwater monitoring commenced in March 1987 and continued until February 1994, with periodic hand bailing from R-4 from June to December 2002. Since July 1988, approximately 253,902 barrels of LNAPL have been recovered from three distinct LNAPL pools.

3	**Extent and Stability of Subsurface Hydrocarbons**	
3.1	Soil Characterization	Hydrocarbon impacted soil exists locally in the northwestern portion of the Eastern Parcel, and the southern half of the northern portion of the Western Parcel, and extensively beneath the southern portion of the Western Parcel. Impacted soil extends from a few feet below ground surface to the water table beneath portions of the Western Parcel.
3.2	Light Non-aqueous Phase Liquid (LNAPL) Hydrocarbons	All recoverable LNAPL has been recovered. Such efforts terminated in December 2002.
3.3	Groundwater Quality	As of March 2011 groundwater sampling event, dissolved GRO was reported in 10 out of 16 wells, and ranged from non-detect to 0.35 to 19 mg/L in wells MW-17 and MW-19, respectively. Dissolved DRO was reported in 12 out of 16 wells, and ranged from 1.1 to 11 mg/L, in wells MW-17 and MW-11, respectively. Dissolved DROr using a silica gel rinse were reported in 10 out of 16 wells with concentrations of 0.3 to 1.7 mg/L, as measured in wells MW-10 and MW-11, respectively. The reduction in measured dissolved DROr using silica gel indicates appreciable ongoing biodegradation of petroleum hydrocarbons in groundwater. Dissolved Benzene, Toluene, Ethylbenzene or Total Xylenes were reported in five out of 16 wells; MW-8, MW-9, MW-11, MW-12, and MW-19. Dissolved Benzene, however, was reported in only three on-site wells at concentrations of 46, 90 and 5100 ug/L in wells MW-8, MW-9 and MW-11, respectively. MTBE was reported in five wells at concentrations of 11, 32, 19, 26 and 130 ug/L in wells MW-1A, MW-8, MW-13, MW-16 and MW-17, respectively. Tert-Butanol was reported in two wells; wells MW-8 and MW-12 at concentrations of 360 and 320 ug/L, respectively. Eight other petroleum-related dissolved VOCs were reported.
3.4	Soil Gas Presence	A soil gas survey was performed along the perimeter of the site, and notably off site south of the site. Soil gas exceeding established California Human Health Screening Levels for soil gas (CHHSLs) of 122 ug/m3 for commercial and industrial land use were reported along the southern perimeter of the Western Parcel, and locally along the eastern portion of the Western Parcel. Benzene concentrations exceeding established CHHSLs of 122 ug/m3 for commercial/industrial land use were reported at several locations along the southern perimeter of the site, and locally along the eastern portion of the site. Benzene levels ranged up to 2,103, 5,600, 89 and 85 ug/m3 along the southern, eastern, western and northern perimeter, respectively. Elevated levels of other constituents, which do not have established CHHSLs, were also reported. In 2010, south of the site, Benzene was the only carcinogen reported at concentrations in soil gas to be above the CHHSL of 36.2 ug/m3 at certain locations off-site south of the site. Only Benzene marginally exceeded the CHHSL of 36.2 ug/m3 for residential land use. Benzene was reported at concentrations of 56, 47, 39 and 71 ug/m3 at a depth of 5 feet in SGP-WD-1, SGP-WD-2, SGP-WD-5 and SPG-WD-6. Benzene was also reported at a level of 53 ug/m3 at a depth of 10 feet bgs in SGP-WD-6. Benzene in soil gas essentially occurs along most of the southern perimeter and southwest corner of the site, and exists off-site immediately southwest of the site.
3.5	Plume Stability and Concentration Trends	Monitoring data generated since 1998 demonstrate that the dissolved hydrocarbon plume is stable. Dissolved hydrocarbon concentrations show low variability in concentrations from quarter to quarter, with highest concentrations in close proximity to former LNAPL pools. Concentrations over time have consistently exhibited asymptotic conditions.

3.6	Groundwater Definition Status	Generally, the lateral and vertical extent of hydrocarbons detected in groundwater has been determined during periodic monitoring since 1985. Dissolved hydrocarbons exist beneath the former refinery site, and have migrated hydraulically offsite toward the west, south and southwest, and marginally toward the east of the Western Parcel. Dissolved hydrocarbons exist beneath the former refinery site, and have migrated hydraulically offsite toward the west, south and southwest, and marginally toward the east of the Western Parcel beneath Walnut Avenue. GRO and DRO, including relatively low levels of DROr using a silica gel rinse, were reported in most perimeter wells and thus have migrated hydraulically off-site toward the south and southwest, marginally toward the west, and east of well MW-9. Dissolved Benzene component was reported in on-site wells MW-8, MW-9 and MW-11, and has marginally migrated toward the east of the Western Parcel, east of well MW-9. Certain dissolved VOCs have migrated off-site toward the south and southwest, west, and marginally toward the east of the Western Parcel beneath Walnut Avenue.
4	**Preferential Pathways Analysis**	
4.1	Artificial Pathways	Preferred pathways within the soil column may exist along Walnut Avenue , and possibly Gundry Avenue, due to the presence of underground utilities and pipeline corridors.
4.2	Hydrogeologic Pathways	No preferred significant hydrogeologic pathways exist. Migration of hydrocarbons in the subsurface is essentially vertical until groundwater is reached, upon which migration is in the general direction of groundwater flow.
4.3	Other Pertinent Issues	Ambient air monitoring has been episodically performed, with no vapors detected above background levels. There are no indoor structures or existing structure footprints. However, man-made utility corridors may exist along Walnut Avenue.
4.4	Designated Beneficial Water Use	The beneficial use of the groundwater is limited and not a drinking water source or of drinking water quality. Groundwater risk is deemed as a "low-risk."
4.5	Shallow Groundwater Use	Groundwater in the immediate area is not used as a source of municipal water supply, and impacted groundwater appears to be limited to the shallow water-bearing zone. Beneficial uses in the region are non-existent.
4.6	Deep Groundwater Use	No deep wells were identified within the 1/2-mile radius.
4.7	Well / Surface Water Survey Results	The nearest identified wells are residential irrigation wells located west of the site. Current status of the wells is unknown.
4.8	Likelihood of Impact to Properties and Wells	No groundwater wells are located hydraulically downgradient (south) of the site (typical flow direction is toward the south, and thus, contaminant movement in groundwater is toward the south. Based on the concentrations of dissolved TPH-g and BTEX concentrations in groundwater, impact to off-site properties is minimal and of no significant environmental concern. Impact to offsite wells is non-existent.
4.9	Likelihood of Impact to Surface Water	Surface water is not likely to be impacted by contamination from the subject site.
5	**Remediation Effectiveness To Data**	
5.1	LNAPL	All recoverable LNAPL has been recovered.
6	**Risk Assessment**	
6.1	Site Conceptual Exposure Model (current and future uses)	The site is currently unpaved and vacant, and zoned industrial. Future use is undetermined at this time, albeit a commercial/industrial end use is assumed at this time.

6.2	Exposure Pathways	Potential exposure pathways are possible for inhalation of vapors from impacted soil. Due to the depth of the impacted soil, dermal exposure, particle inhalation, and ingestion of impacted shallow soil by onsite construction workers are an exposure pathway during construction and foundation preparation.
6.3	Human Health Risk Assessment Status	A human health risk assessment was performed in 2009 (Exponent, November 23, 2009), and updated by Exponent in 2010 (Exponent, May 5, 2010) reflecting additional off-site soil gas survey data being generated south of the subject site.
6.4	Ecological Risk Assessment Status	No ecological risk assessment has been performed, although no risk is anticipated.
6.5	Extent of Risk-Based Concentrations (Human Health)	A soil gas survey was performed in 2009 along the perimeter of the site, and updated in 2010 to extend our understanding of soil gas presence and risk off-site and south of the site. Previous soil gas data generated in 2009 detected Benzene at 2,100 ug/m3 (soil gas probe Sgp-6-5), which was used in the 2009 risk assessment. Based on additional soil gas survey data for Benzene off-site and south of the site, the highest concentration was reported to be 71 ug/m3, a factor of about 30 times lower in comparison to what was reported on-site. Thus, the estimated risk is much lower than previously reported in the 2009 Phase II report. Hazard risk values generated were all below 1, indicating that potential exposure to chemicals of potential concern in indoor air by residents adjacent to the southern property boundary pose a negligible noncancer health risk under the conditions evaluated. The estimated excess cancer risks were at or below the generally acceptable risk range based on maximum Chemicals of Potential Concern (COPC) concentrations and one-half the minimum detection limits in soil vapor, but they fall in the lower end of the risk range based on maximum COPC concentrations and one-half the maximum detection limits in soil vapor, or based on maximum COPC concentrations in groundwater. Methylene chloride was not detected in soil vapor but was the largest contributor to the estimated cancer risk based on soil vapor data. The only chemical detected in soil vapor that contributed to the estimated cancer risk was Benzene, which was detected at concentrations that are roughly 30 to 40 times lower than the maximum detected concentration reported in the previous evaluation using 2009 soil vapor data along the southern boundary.
6.6	Extent of Risk-Based Concentrations (Human Health)	The estimated excess cancer risks based on the maximum detected benzene concentrations were well below the generally acceptable risk range (6×10–7 and 3×10–7, at 5 and 10 ft bgs, respectively). Finally, estimated risks based on groundwater data were driven by naphthalene, which was not detected in the soil vapor samples. Estimated health risks based on groundwater data are likely more uncertain than those based on soil vapor data because of additional assumptions required in the model and potential biodegradation of the COPCs in the vadose zone. In summary, potential soil vapor intrusion is not likely to be of concern for current off-site residents south of the property boundary.
7	Data Gaps	
7.1	Further delineation of dissolved contaminant plume(s)	The dissolved hydrocarbon plume for benzene has been fully delineated and is contained on-site. The dissolved plume associated with other low concentrations of dissolved hydrocarbons has not been fully generated, albeit, an off-site source for certain dissolved constituents is inferred. No further delineation related activities are deemed warranted.
7.2	Further delineation of soil gas plume(s)	Based on soil gas data generated to date, and the result of the Human Health Risk Assessment performed in 2009, and updated in 2010, no further soil gas assessment is deemed warranted.
7.3	Consider forensic analysis of dissolved hydrocarbons and source of dissolved MTBE plume	Based on additional off site subsurface assessment activities, the source of dissolved MTBE in groundwater is inferred to be derived from an area west of the subject site, and no additional forensic analysis related activities are deemed warranted.

7.4	Perform plume stability analysis	Based on area, average concentration, contaminant mass and center of mass, and well-established asymptotic conditions based on review of years of groundwater monitoring data, the dissolved plume is deemed reasonably stable.
7.5	Continue periodic groundwater gauging and groundwater quality monitoring program	Quarterlygauging and groundwatersampling for subsequent chemical testing continues on a quarterly basis.
8	**Future Activities**	
8.1	Perform groundwater gauging and sampling	To be performed in June, September and December 2011; reporting to CRWQCB-LAR in July and October 2011 and January 2012, respectively.
8.2	Schedule meeting with CRWQCB-LAR	Upon review of the report presented herein by the CRWQCB-LAR, a meeting with the CRWQCB-LAR is recommended to discuss results and salient elements for development of a site closure strategy with consideration of subsequent site use and timing
8.3	Development of site closure strategy.	A site closure strategy should be developed in consideration of comments received from the CRWQCB-LAR following their review of the Phase III report, updated Human Health Risk Assessment, and updated Site Conceptual Model. To be scheduled approximately 30 days following meeting discussed under 8.2.