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### **Author**

Zawislanski, P.T.

### **Publication Date**

1998-09-24



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## Monitoring and Data Analysis for the Vadose Zone Monitoring System (VZMS), McClellan AFB

### Quarterly Status Report (5/20/98-8/20/98)

P.T. Zawislanski, H.S. Mountford,  
R. Dahlquist, and A.L. James

**Earth Sciences Division**

September 1998



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**Monitoring and Data Analysis for the  
Vadose Zone Monitoring System (VZMS), McClellan AFB**

**Quarterly Status Report  
(5/20/98-8/20/98)**

**P.T. Zawislanski**

**Contributors:**

**H.S. Mountford, R. Dahlquist, and A.L. James**

**Earth Sciences Division  
Ernest Orlando Lawrence Berkeley National Laboratory  
Berkeley, CA 94720**

**September 24th, 1998**

This work was supported by the U.S. Department of Defense under Military Interdepartmental Purchase Request  
FD2040-96-74020EM to the Ernest Orlando Lawrence Berkeley National Laboratory, managed for the U.S.  
Department of Energy under contract DE-AC03-76SF00098.

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## 1.0 INTRODUCTION

This report contains information on field and laboratory work performed between May 20th, 1998 and August 20th, 1998, at site S-7 in IC 34, at McClellan AFB. At this location, a Vadose Zone Monitoring System (VZMS) (LBNL, 1996) is currently being used to collect subsurface data including hydraulic potential, soil gas pressure, moisture content, water chemistry, gas chemistry, and temperature. Samples will continue to be collected on a bimonthly schedule until the first rain of the season, at which point monthly sample collection will commence.

This report describes:

- moisture content changes, based on neutron logging
- gas-phase VOC concentrations
- aqueous-phase VOC concentrations
- temperature profiles
- results from new instrument cluster

## 2.0 RESULTS

### 2.1 Moisture Content--Neutron Probe Readings

Neutron logging provides a one-dimensional distribution of moisture content in the formation. Due to the presence of casing and backfill material, as well as the spatial variability of geologic properties of the medium, this information is largely qualitative, although relative percentage change in moisture content at any one point can be quantified. Therefore, this tool is best used to measure changes in the moisture distribution, whether due to evaporation or rainfall infiltration. In conjunction with moisture content data from cores, a calibration of neutron counts to moisture content is possible.

Neutron logging was performed at the site on 6/19/98 using a CPN 503DR Hydroprobe consisting of a 50 mCi Am-Be neutron source and a He detector of thermal neutrons. An obstruction in Well NP-A at 25 ft continues to prevent the logging of this hole below that depth.

Well NP-B was logged to a depth of 98 ft. Results are shown in Fig. 1. The neutron count data are presented as volumetric moisture content, based on a regression derived in LBNL (1998a). As seen from these results, the overall volumetric moisture content in the formation did not change significantly during this period, though some redistribution of moisture continued to occur at around 12-13 ft, and especially between 20 and 30 ft. The total moisture content of the formation did not change.

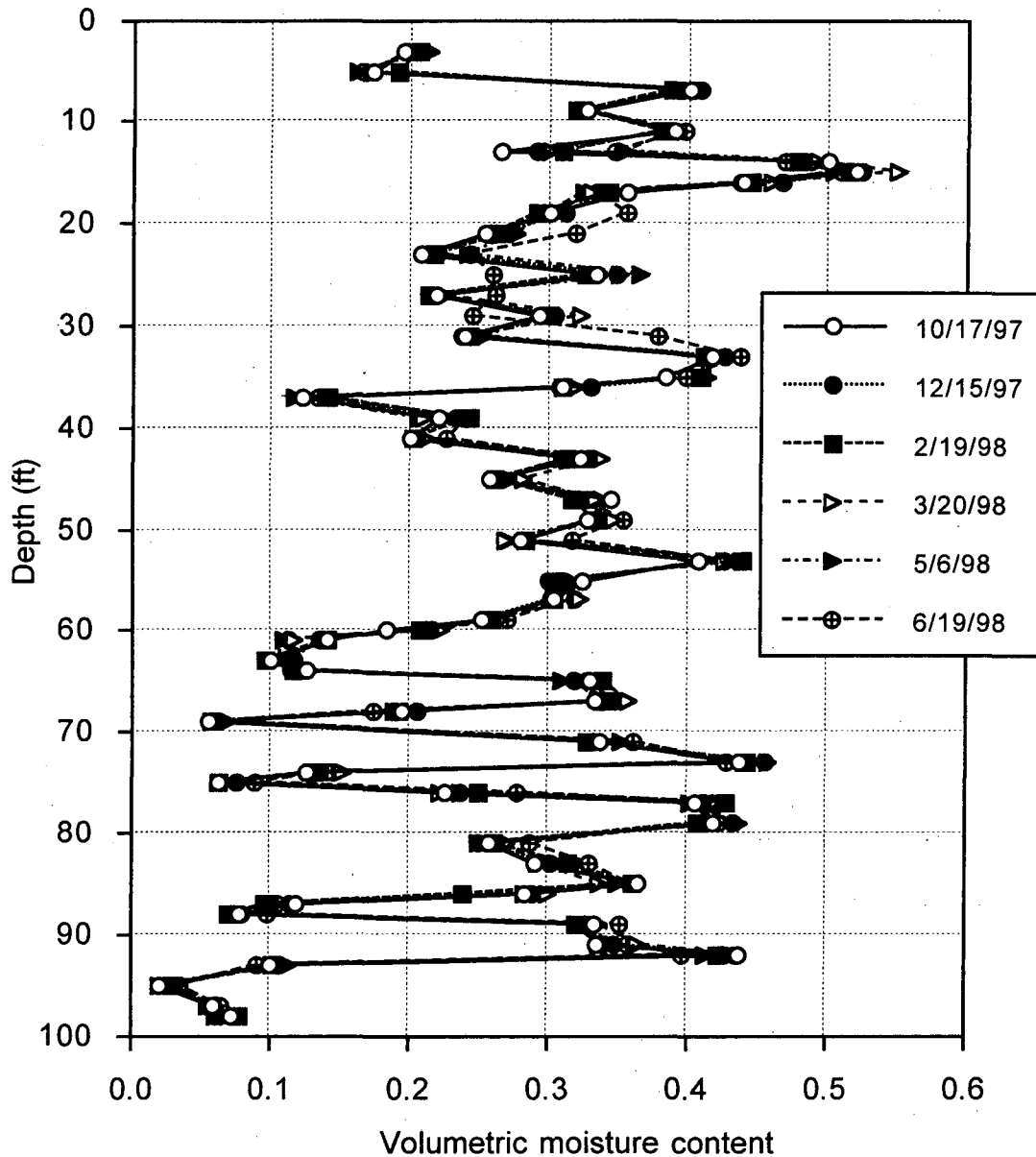


Figure 1. Volumetric moisture content based on neutron counts measured in Well NP-B over the period 10/97 to 6/98.

## 2.2 Gas-Phase VOC Concentrations

The gas phase is being sampled via in-situ gas samplers consisting of a 7.62-cm long, 100  $\mu\text{m}$  porous metal cylinder with welded top and bottom flanges. A 1/4 in diameter stainless steel tube extends out from the top flange and is connected using Swagelok™ compression fittings to a 1/4 in Teflon tube that goes up to the ground surface. In order to purge the gas collected in the gas probe, a photo-ionization detector (PID-580) is used. The sampler is purged until the PID reading of VOC concentrations is stable. The PID is then disconnected and a gas sample is collected by applying a vacuum through an absorbent tube. A calibrated volumetric pump is used for this purpose and the



exact sampling time and volume of collected gas are recorded. The absorbent tube is sealed with brass Swagelok™ compression fittings lined with Teflon gaskets. This sampling method does not require refrigeration and the sample holding time is 45 days. EPA TO14 analyses are performed by the Environmental Measurements Laboratory of LBNL.

To date, twelve complete sets of gas samples have been collected at the site on the following dates: 4/4/97, 5/8/97, 7/22/97, 8/26/97, 10/23/97, 12/15/97, 1/21/98, 2/19/98, 3/20/98, 5/1/98, 6/19/98, and 8/13/98. The analysis of the 4/4/97 samples from Well A was out of control due to problems with sample dilution. The analysis of the 5/8/97 samples has been questioned because of a contaminated blank. Results from 7/22/97 are being scrutinized, because, unlike all other data sets, they do not agree quantitatively with concentrations in pore-water samples, as compared using Henry's Law (LBNL, 1998a). However, only results from 4/4/97 have been excluded from further consideration.

TCE, cis-1,2-DCE, and Freon 123a have been identified as the major contaminants in the system (LBNL, 1997b). Freon 123a has only recently been positively identified because of its more exotic nature. Because the error arising from the reprocessing of previous data to arrive at Freon 123a concentrations is substantial, only data collected on, or after 12/15/97, are presented. As in the previous progress report (LBNL, 1998c), we focus our attention on the parts of the vadose zone where consistent trends and large changes in concentrations have been observed, i.e., the top 30 ft of the profile for TCE and cis-1,2-DCE, and the 25 ft above the water table for Freon 123a. By doing so, we can present temporal changes more distinctly.

Time-trends in TCE concentrations in the gas phase are shown in Figs. 2 and 3 for Wells A and B, respectively. In agreement with previously collected data, large fluctuations in TCE concentrations were observed in the top 11 ft. Following a decline in concentrations in May 1998, TCE levels at the 6-ft depth had increased in June and again in August 1998, reaching their highest values on record. Conversely, August 1998 TCE concentrations at 11 ft and deeper were not significantly higher than those previously recorded.

Time-trends in cis-1,2-DCE concentrations are shown in Figs. 4 and 5 for Wells A and B, respectively. Similar to TCE trends, cis-1,2-DCE levels at a depth of 6 ft increased during the last quarter. However, the increases were relatively much smaller and, in the case of Well A, the August 1998 concentration at 6 ft did not exceed concentrations observed at that depth in the past. Also in contrast to TCE trends, the pattern of cis-1,2-DCE concentrations at 11 ft matches the pattern at 6 ft, suggesting that the 11-ft depth is affected by whatever processes are the cause for such fluctuations.

Time-trends in Freon 123a concentrations are shown in Figs. 6 and 7, for Wells A and B, respectively. Since Freon 123a has not been detected at depths shallower than 83 ft, only data from that and greater depths are presented. There have been gradual increases in Freon 123a levels immediately above the water table, with the highest concentrations measured on 6/19/98. The reason for this trend is not clear. It is not known whether more contaminated groundwater has moved into the area, or whether fluctuations in groundwater level might be a factor. It should be noted that TCE and cis-1,2-DCE concentrations at these depths are stable. Freon 123a data from August 1998 are not shown as they are currently under review.

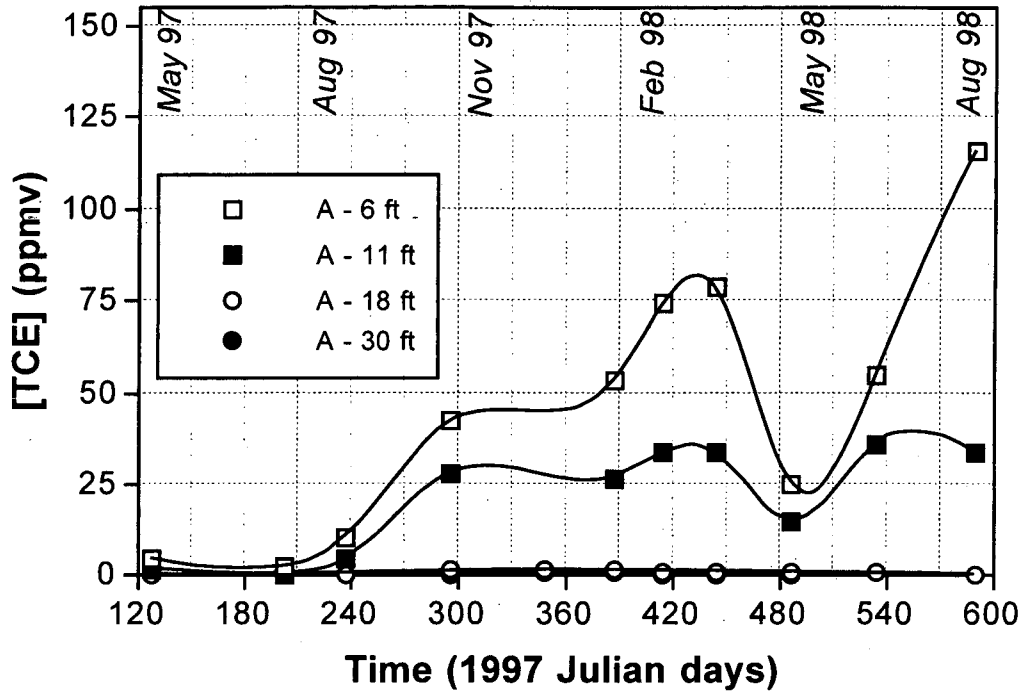


Figure 2. TCE concentrations in the gas-phase, as measured in Well A at 6, 11, 18, and 30 ft, from May 1997 to August 1998.

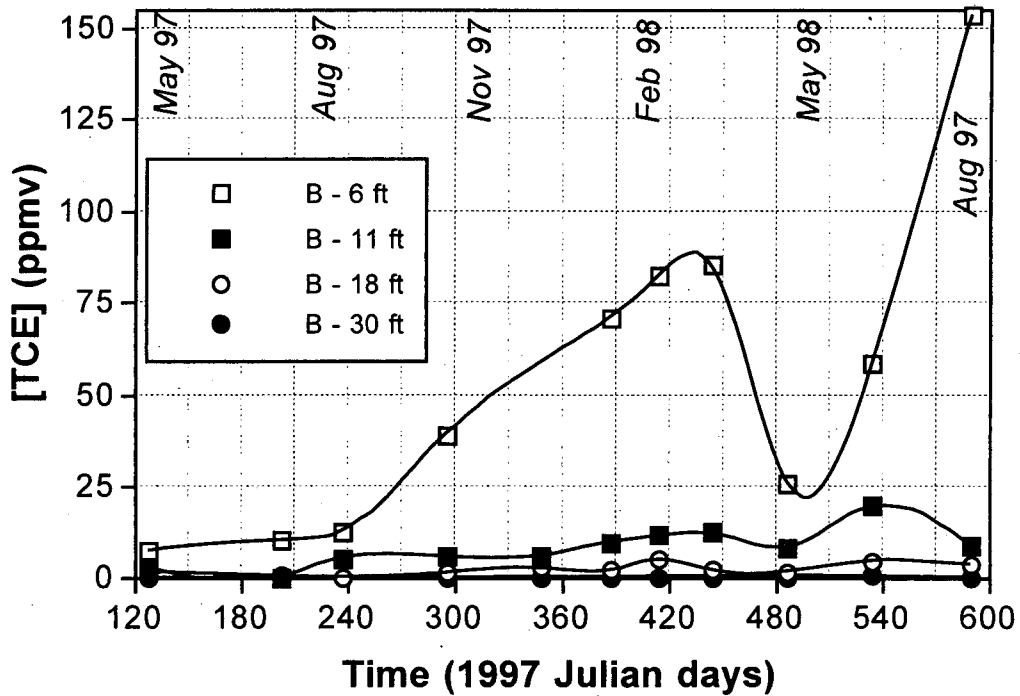


Figure 3. TCE concentrations in the gas-phase, as measured in Well B at 6, 11, 18, and 30 ft, from May 1997 to August 1998.

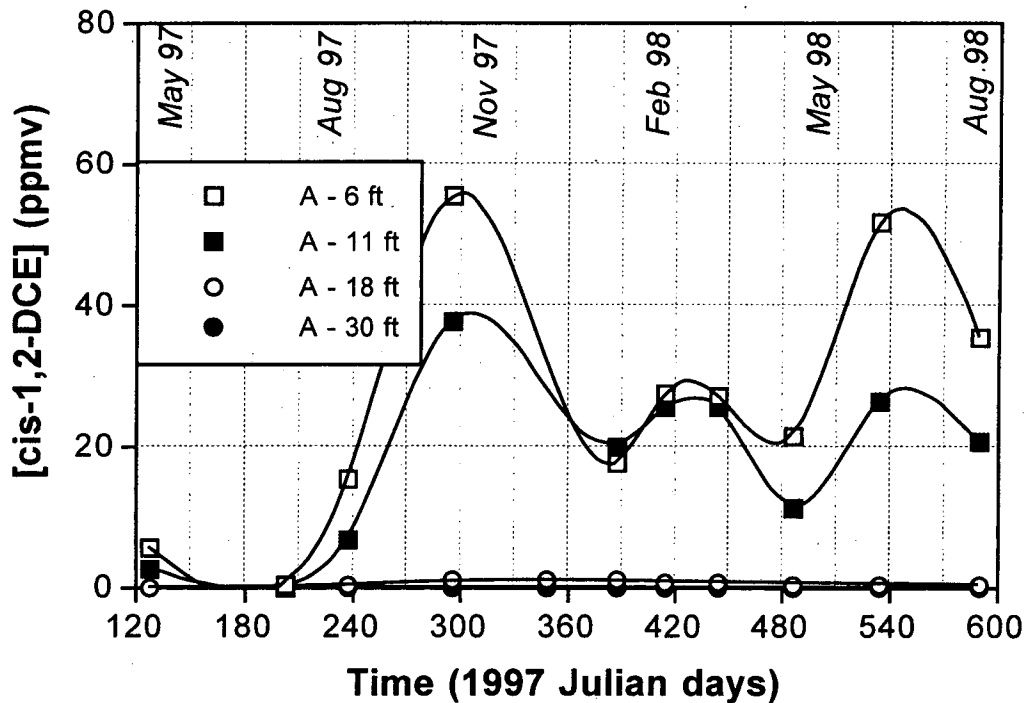


Figure 4. Cis-1,2-DCE concentrations in the gas-phase, as measured in Well A at 6, 11, 18, and 30 ft, from May 1997 to August 1998.

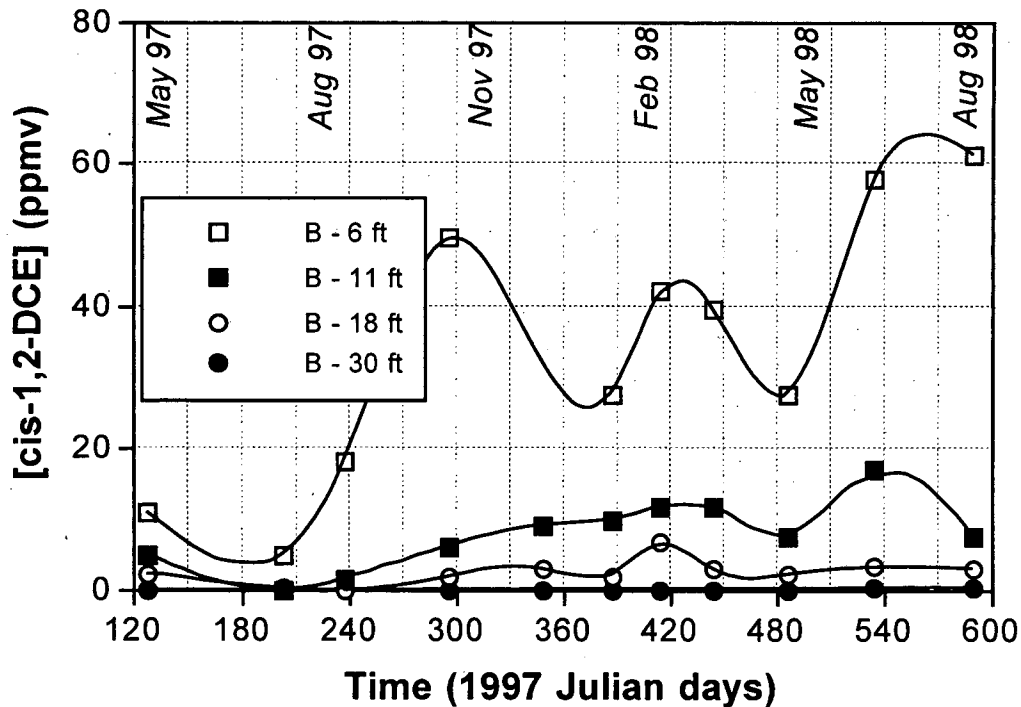


Figure 5. Cis-1,2-DCE concentrations in the gas-phase, as measured in Well B at 6, 11, 18, and 30 ft, from May 1997 to August 1998.

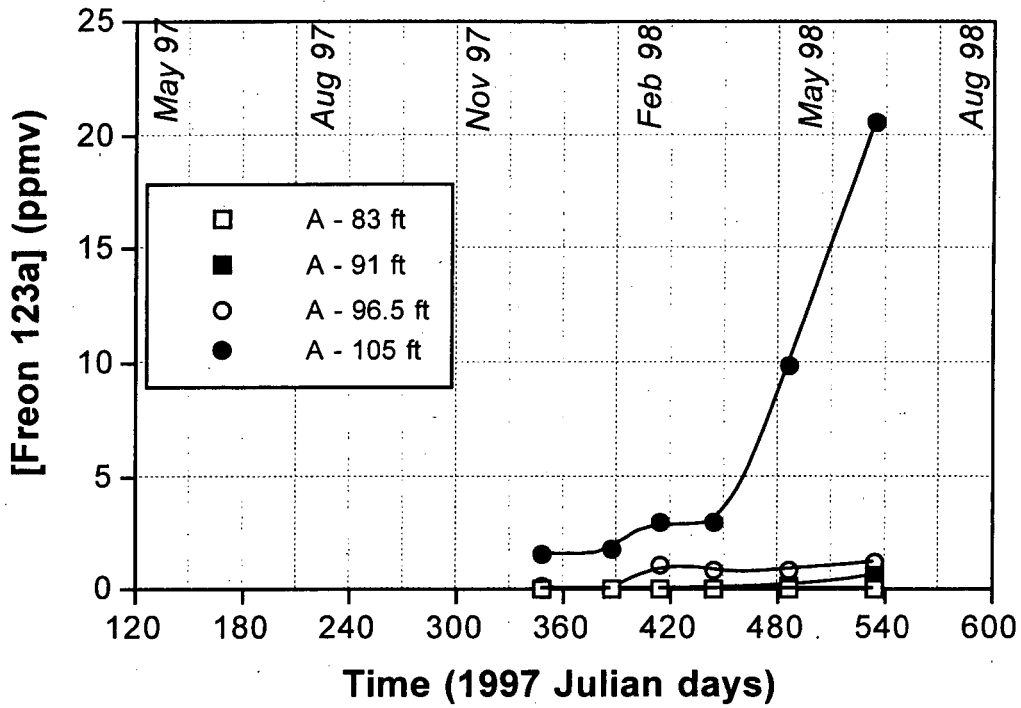


Figure 6. Freon 123a concentrations in the gas-phase, as measured in Well A at 83, 91, 96.5, and 105 ft, from May 1997 to June 1998.

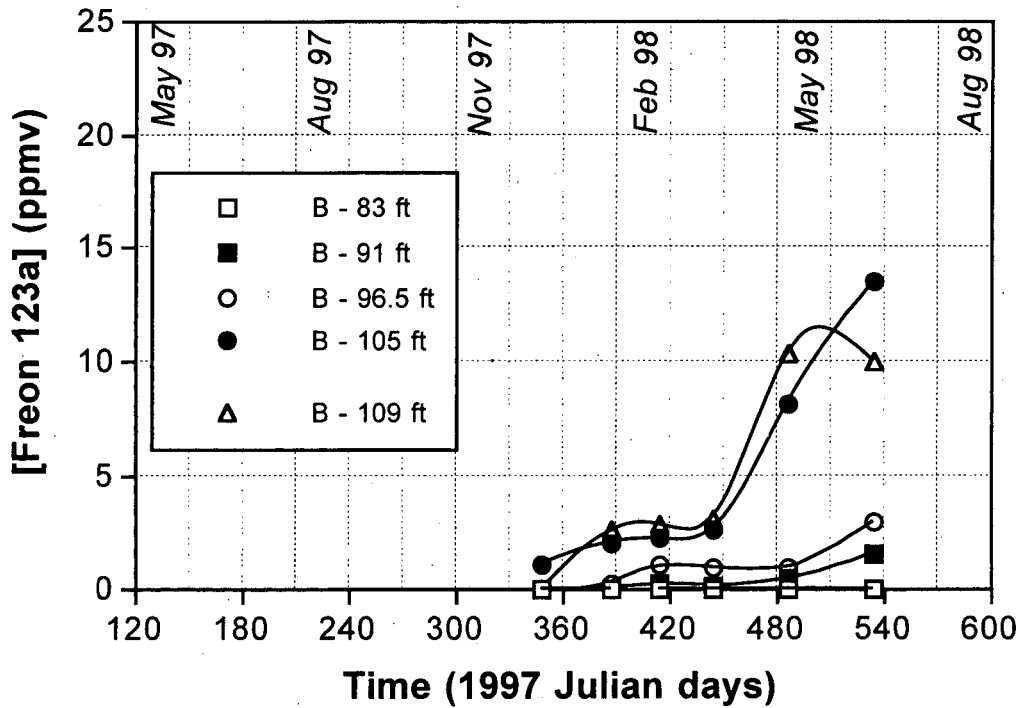


Figure 7. Freon 123a concentrations in the gas-phase, as measured in Well B at 83, 91, 96.5, 105, and 109 ft, from May 1997 to June 1998.

## 2.3 Liquid-Phase VOC Concentrations

The liquid-phase is sampled using two types of suction lysimeters. In Wells A and B, pore water is sampled using two-chamber suction lysimeters designed for use at depths greater than 7-8 m. One 1/4-in and one 1/8-in tube connect the lysimeter to the surface. A miniature check valve separates the lower chamber from the upper chamber. A 0.5  $\mu\text{m}$  porous stainless steel cylinder permits the collection of the sample which is drawn by vacuum through the check valve into the upper chamber. To withdraw a water sample from the soils into the suction lysimeter, a vacuum is applied to the tube connected to the top of the upper chamber. In order to bring the water sample to the surface, dry, purified gas, either  $\text{N}_2$  or Ar, is used to pressurize the upper chamber, forcing the water sample up through the second tube that connects the bottom of the upper chamber to ground surface. The check valve closes, preventing liquid from being forced back into the lower chamber.

In Well C, pressure-vacuum lysimeters consist of a 1.9-in OD, 12-in long PVC body with a 1 bar air-entry pressure, high-conductivity porous ceramic cup at the bottom, and two polyethylene tubes leading to the surface. One of the tubes reaches the bottom of the porous cup, while the other just barely enters the PVC body. The former is used to apply vacuum and the latter to apply pressure during sampling. The lysimeter works via the application of a vacuum which then draws formation water in via the ceramic cup. Pressure-vacuum lysimeters can be installed at any depth, but are limited to the same range of matric potential as the tensiometers.

During the last quarter, lysimeter samples were extracted on 6/19/98 and 8/13/98. Due to the relative dryness of the formation, extracting water from levels deeper than 30 ft continues to be difficult. From Wells A and B, samples generally smaller than 20 mL, are collected over a period of a week. In many cases, samples are no greater than 5 mL. Therefore, 4- and 6-mL vials have been used to collect the smaller samples. Samples which do not completely fill the vial are topped off with distilled and deionized water, the volume of which is noted. This results in a dilution of the sample but eliminates headspace. All samples are acidified using HCl.

The deepest lysimeter in Well C is at 23 ft. The use of lower air-entry pressure ceramic cups, and the fact that Well-C samplers are installed in a wetter part of the formation, makes it possible to collect 25- to 300-mL samples on a regular basis. This provides detailed information on the dissolved VOC gradient in the depth intervals which contain the bulk of the VOC mass. Generally, the deeper the sampler, the smaller the volume of water extracted, which suggests a decrease in moisture content with depth.

Although several compounds have been found to occur in the aqueous phase (LBNL, 1997a), TCE, cis-1,2-DCE, and Freon 123a are by far the dominant contaminants and only their distributions are presented in this report. Similar to the presentation of soil-gas data, we focus on liquid-phase contaminants in the top 30 ft of the sediment profile. Temporal changes in TCE concentrations in Wells A and B are shown in Fig. 8, while cis-1,2-DCE values are shown in Fig. 9. Lysimeters at 6 ft and 18 ft in Well A and at 18 ft and 30 ft in Well B have yielded no sample to date. TCE and cis-1,2-DCE levels in Well C are shown in Figs. 10 and 11, respectively.

Data from the last quarter, as shown in Figs. 8 and 9, confirm the trends observed during the previous months, specifically, a continued general decline in TCE and cis-1,2-DCE concentrations subsequent to the peak observed in February 1998. Concentrations of both compounds decreased to zero or close to zero at 6 ft in Well B and at 30 ft in Well A. Concentrations at 11 ft in Well B dropped to below 100 ppb. At the depth of 11 ft in Well B, a small increase in both compounds was observed. Overall, TCE and cis-1,2-DCE levels in August 1998 were similar to those observed during the same period in 1997.

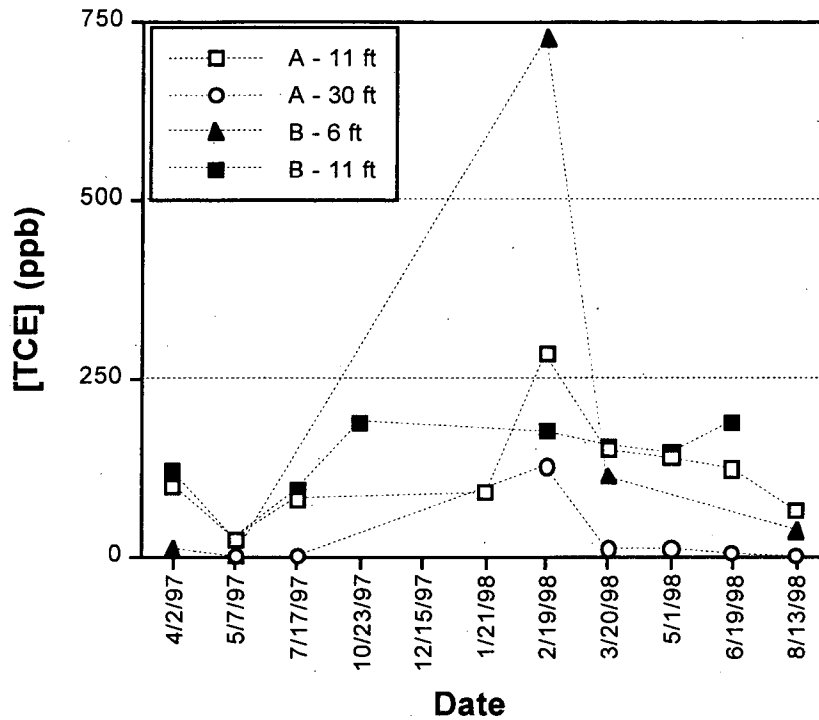


Figure 8. TCE concentrations in the liquid-phase, as measured in Well A at 11 and 30 ft, and Well B, at 6 and 11 ft, from April 1997 to August 1998.

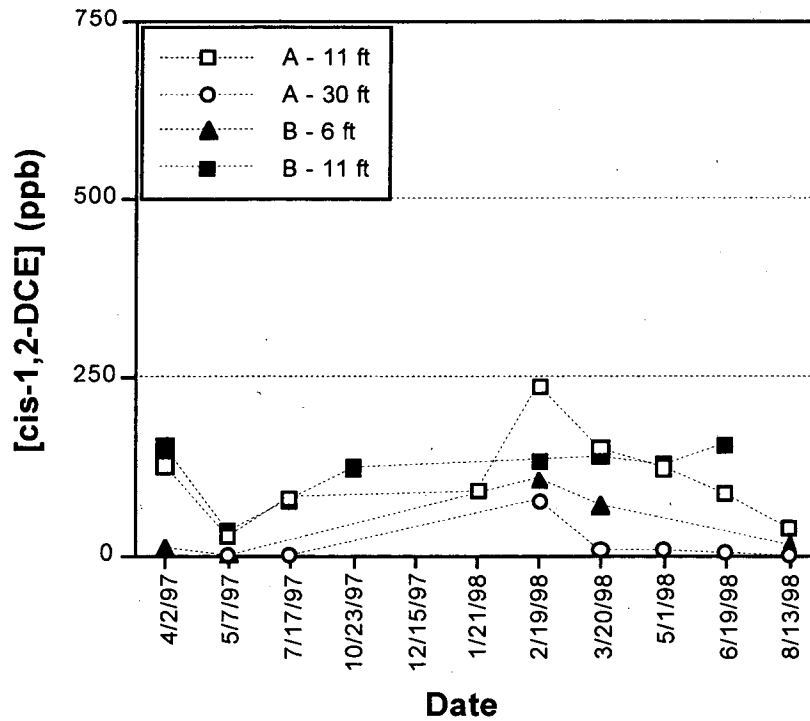


Figure 9. Cis-1,2-DCE concentrations in the liquid-phase, as measured in Well A at 11 and 30 ft, and Well B, at 6 and 11 ft, from April 1997 to August 1998.

The profiles of TCE and cis-1,2-DCE concentrations in Well C are shown in Figs. 10 and 11, respectively. The more detailed characterization of contamination in the top 23 ft of the formation, confirms observations from Wells A and B. Concentrations of both compounds are especially high between 5 and 10 ft. It should be noted that between 0 and 4 ft depth, the formation has been replaced by two separate concrete slabs and gravel roadbase. Therefore, the sample taken at 5 ft represents pore water from the formation, while the sample from a depth of 3 ft is representative of the gravel roadbase immediately above the formation. The observed lower concentrations in the gravel roadbase are to be expected given the much higher permeability and lower specific surface of gravel relative to the native silts and silty sands. Presumably, the deeper concrete slab (at 2.0-2.5 ft) was present during the operation of waste storage tanks and was contaminated at the same time as the underlying formation. It appears that the TCE and cis-1,2-DCE distributions are somewhat different, with the TCE peak occurring somewhat shallower than that of cis-1,2-DCE. It is not clear whether this is related to the history of the site or the relative mobility of the compounds.

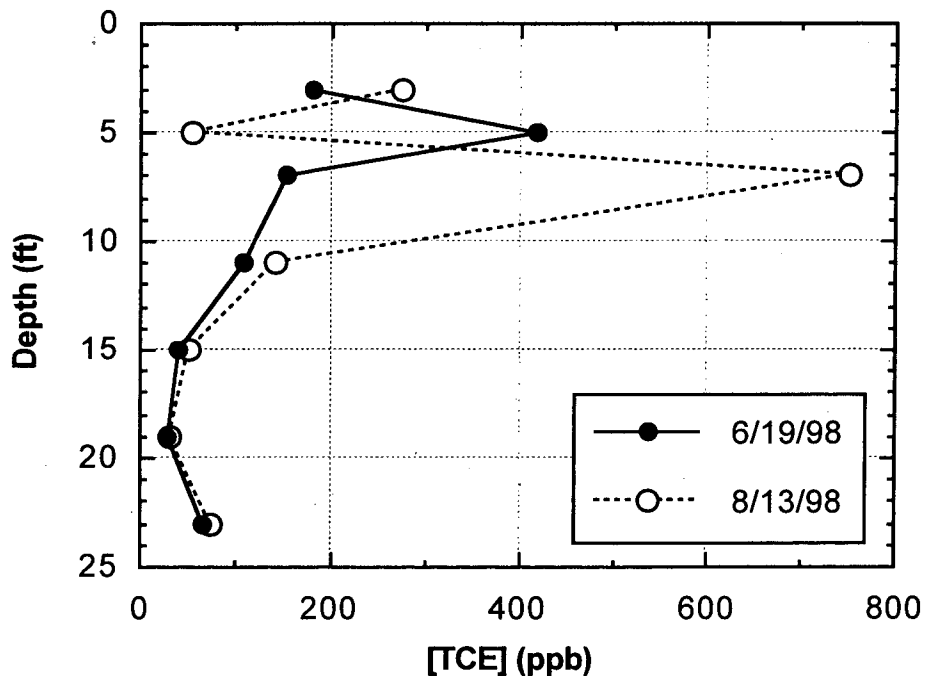


Figure 10. TCE concentrations in the liquid-phase, as measured in Well C on 6/19/98 and 8/13/98.

Freon 123a concentrations are shown in Table 1. Freon 123a has only been detected in pore water at depths of 112 ft and 109 ft in Wells A and B, respectively. Sample was not always available from the next shallowest depth, 105 ft in each well, but it never contained Freon 123a above the quantification limit of 5 ppb. Freon 123a concentrations appear to be fairly stable in both wells, with a range of 50 to 100 ppb.

Water which enters the instrument vaults from the gravel fill underneath the pavement, and is automatically pumped out using sump pumps has been sampled and analyzed in the past. During the last quarter, no sump water was observed or sampled.

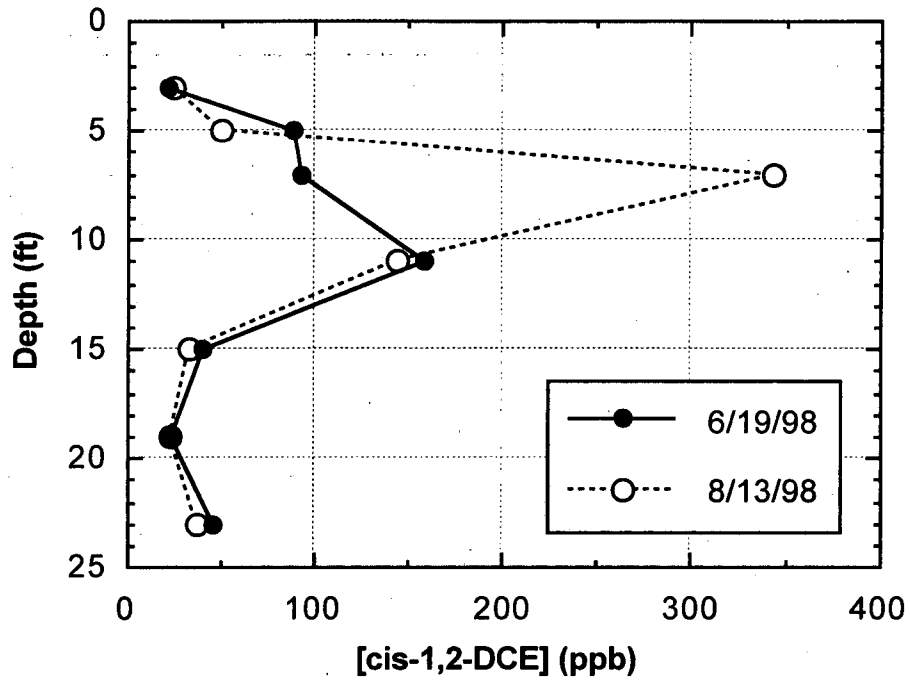


Figure 11. Cis-1,2-DCE concentrations in the liquid-phase, as measured in Well C on 6/19/98 and 8/13/98.

Table 1. Freon 123a concentrations in pore water samples collected from specified depths.

Date	Freon 123a at 112 ft, Well A (ppb)	Freon 123a at 109 ft, Well B (ppb)
5/7/97	51	80
7/22/97	76	51
10/23/97	101	65
1/21/98	75	58
2/19/98	91	65
3/20/98	27	60
5/1/98	66	63
6/19/98	52	48
8/13/98	45	41



## 2.4 Temperature Distribution

Formation temperature is being measured using in-situ thermistors. The data are collected electronically in real time and the measured resistance is converted to temperature in °C using calibrations generated in the laboratory prior to installation. Most of the observed fluctuations in formation temperature occur in the top 30 ft. The continuous record of mean daily temperature measured at 6-, 11-, 18-, and 30-ft depths in Wells A and B is shown in Fig. 12. Temperature patterns from Wells A and B are very similar, small differences being attributable to slight differences in depth.

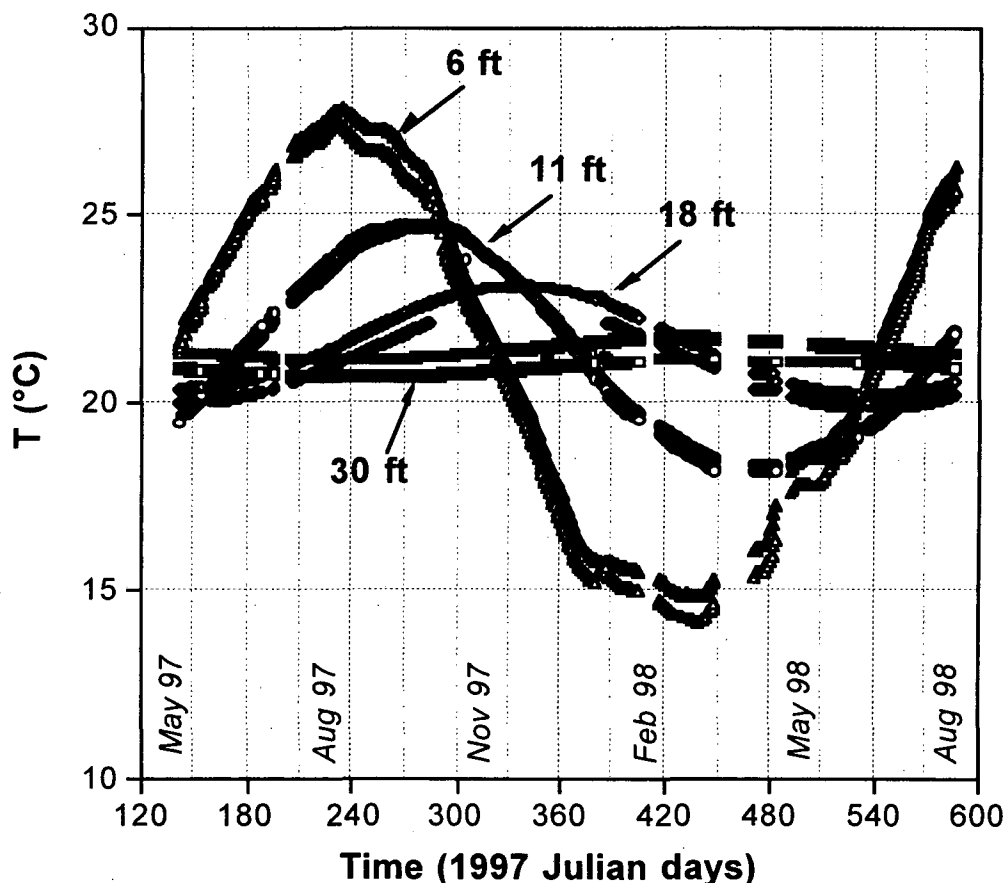


Figure 12. Temperature measured over a period of 62 weeks, from 5/97 to 8/98, at the four shallowest depths. Open symbols represent Well A, closed symbols represent Well B.

As noted in previous reports, the effect of seasonal temperature fluctuations is dampened with depth. Diurnal temperature fluctuations are not perceptible. The somewhat irregular shape of the 6-ft curve, especially notable during the hottest and coldest months, indicates that air temperature fluctuations on a weekly scale affect formation temperatures down to a depth of at least 6 ft, but no deeper than 11 ft.

## 2.5 Matric Potential Measurements: Well C

As described in the previous Quarterly Report (LBNL, 1998c), a 25-ft deep borehole was drilled on 4/20/98 between Wells A and B and instrumented with tensiometers, psychrometers, and pressure-vacuum lysimeters. The results of pore-water sampling using the lysimeters are described in Section 2.3.

Each tensiometer consists of a 7/8-in OD acrylic body with a 1-bar air-entry pressure porous ceramic cup at the bottom and a rubber septum on the above-ground end of the tube. The tensiometer is installed in such a way that the porous cup is at the desired monitoring depth. Once filled with water, the pressure inside the tensiometer will equilibrate with the pressure in the formation via the exchange of water through the porous cup. A pressure transducer connected to a needle is used to measure the pressure inside the tensiometer via the septum stopper. Tensiometers can be used in the range of 0 to -800 mbar matric potential.

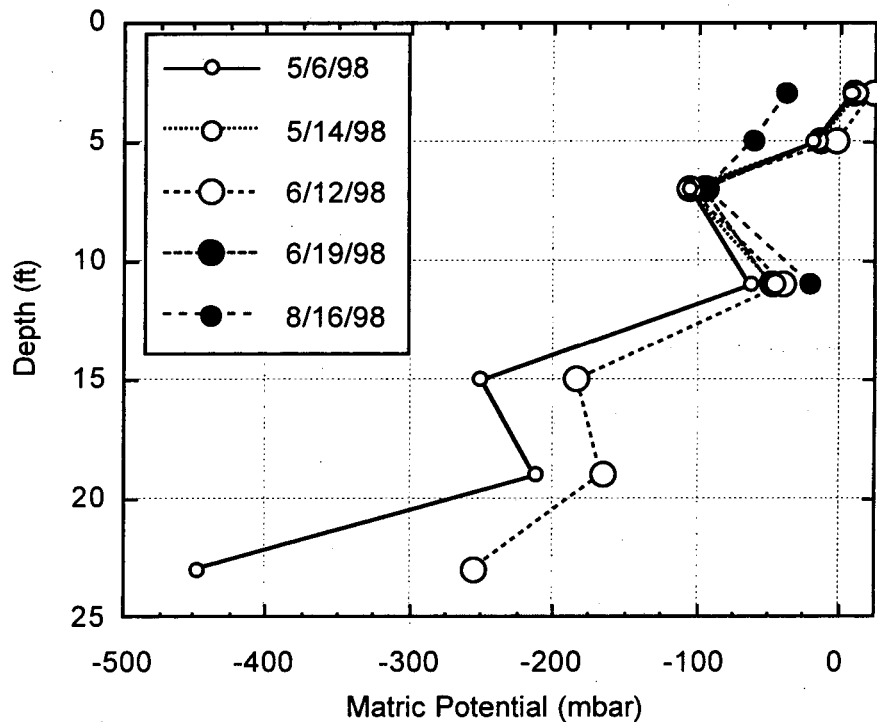


Figure 13. Matric potential of the formation as measured using tensiometers in Well C, 5/98-8/98.

Psychrometric data collected in May and June 1998 qualitatively indicate that the matric potentials in the formation are higher than -2 bar, i.e., outside of the practical range of psychrometric measurement. This is confirmed by tensiometer readings. Tensiometers below the depth of 11 ft cannot equilibrate with the formation due to continuous, but slow water loss, suggesting that the matric potential of the formation is very close to the air-entry pressure of the cup, namely 1 bar. Although the data from tensiometers at 15, 19, and 23 ft are only qualitative, it is shown in Figure 13, along with the shallower readings, which are within tensiometric range. The apparent increase in matric potential at 15, 19, and 23 ft between 5/6/98 and 6/12/98 is actually an indication of air-entry into the tensiometer. The readings taken at 11 ft and above are reliable, as

the water volume in the tensiometer remains stable. Any positive matric potentials indicate a saturated state. Therefore, the formation at the 3-ft depth was saturated in May and June, but became unsaturated by August. There was also a decrease in moisture at 5 ft during the same period of time. One needs to keep in mind that the decrease in moisture content at or near saturation can be very small (e.g., <1%) and still result in a measurable change in matric potential. During the same time interval, the matric potential at 11 ft increased, suggesting a vertical downward displacement of water. These observations agree with conditions which were observed during the installation of these instruments, namely the existence of localized free-flowing water at a depth of 3 ft, corresponding with the gravel fill below the buried concrete slab (LBNL, 1998c).

Tensiometer readings are expressed in terms of total hydraulic head in Figure 14. For reasons described above, the data below 15 ft are only an approximation. The data indicate a downward potential gradient, suggesting that net water flow is from the surface down. The combination of a fairly steep hydraulic gradient and its relative stability over time are indicative of very low unsaturated permeability in this part of the formation.

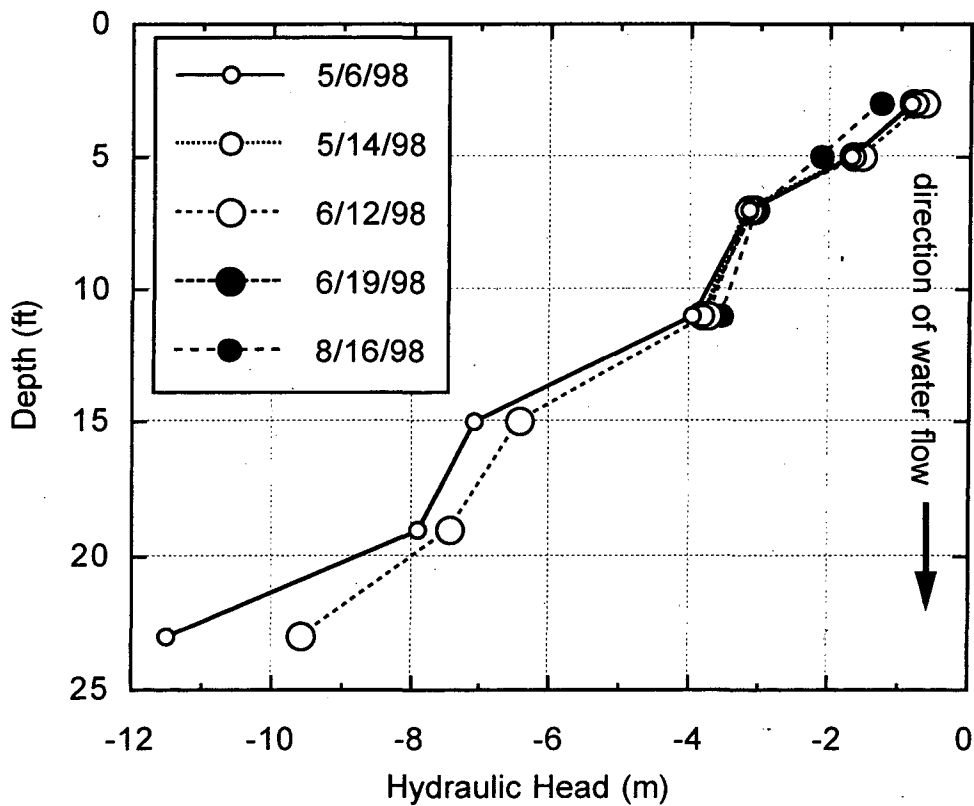


Figure 14. Hydraulic head as measured using tensiometers in Well C, 5/98-8/98.

### 3.0 SUMMARY

Data collected over the last quarter support previous findings of contaminant movement in both the gas and liquid phase within the top 11 ft of the formation. Very few consistent changes are observed below this depth. These findings are further supported by data collected from recently installed tensiometers and soil water samplers of Well C. The increases in TCE and cis-1,2-DCE concentrations in the gas phase at 6 and 11 ft in June and August 1998 may be the result of delayed effect of rainfall infiltration during the spring. The apparent absence of increasing trends in the liquid phase at 6 and 11 ft in Well A and at 6 ft in Well B are difficult to explain. A sample from 11 ft in Well B was not available. However, data from Well C do document increases in both TCE and cis-1,2-DCE between the depths of 5 and 10 ft.

Measurements obtained with tensiometers in Well C, as well as the qualitative data from the psychrometers, indicate that the matric potential of the formation, between the depths of 15 and 25 ft, is approximately -0.5 to -1.0 bar. Also, based on the vertical trends, this condition may persist throughout most of the profile. This would explain the inability of the stainless steel tensiometers in Wells A and B to collect meaningful data, as the porous stainless steel cups of those tools have an air-entry pressure around -0.5 bar. Well C tensiometer data show a downward gradient of hydraulic head, indicating that the net direction of pore water flow, though probably minor in magnitude, is from the surface down, further confirming the importance of infiltration.

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- LBNL, 1998c. Monitoring and Data Analysis for the Vadose Zone Monitoring System (VZMS), McClellan AFB. Prepared by Zawislanski, P.T., H.S. Mountford, R. Dahlquist, and S.J. Rodriguez, Quarterly Status Report to the Department of the Air Force, McClellan AFB, LBNL Report 41959, June 18, 1998.

**APPENDIX - ANALYTICAL REPORTS**

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A1	Laboratory ID:	OW986110
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/23/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.1
2	Bromobenzene	108-86-1	LT	1.1
3	Bromochloromethane	74-97-5	LT	2.1
4	Bromodichloromethane	75-27-4	LT	1.1
5	Bromoform	75-25-2	LT	2.1
6	Bromomethane	74-83-9	LT	4.2
7	n-Butylbenzene	104-51-8	LT	1.1
8	sec-Butylbenzene	135-98-8	LT	1.1
9	ter-Butylbenzene	98-06-6	LT	1.1
10	Carbon Tetrachloride	56-23-5	LT	1.1
11	Chlorobenzene	108-90-7	LT	1.1
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	31.6
13	Chloroethane	75-00-3	LT	31.6
14	Chloroform	67-66-3	LT	1.1
15	Chloromethane	74-87-3	LT	1.1
16	2-Chlorotoluene	95-49-8	LT	2.1
17	4-Chlorotoluene	106-43-4	LT	2.1
18	Dibromochloromethane	124-48-1	LT	2.1
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.1
20	1,2-Dibromoethane	106-93-4	LT	2.1
21	Dibromomethane	74-95-3	LT	1.1
22	1,2-Dichlorobenzene	95-50-1	LT	1.1
23	1,3-Dichlorobenzene	541-73-1	LT	1.1
24	1,4-Dichlorobenzene	106-46-7	LT	1.1
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.2
26	1,1-Dichloroethane	75-34-3	LT	1.1
27	1,2-Dichloroethane	107-06-2	LT	2.1
28	1,1-Dichloroethene	75-35-4	LT	1.1
29	cis-1,2-Dichloroethene	156-69-9	LT	1.1
30	trans-1,2-Dichloroethene	156-60-5	LT	1.1
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.2
32	1,2-Dichloropropane	78-87-5	LT	1.1
33	1,3-Dichloropropane	142-28-9	LT	1.1
34	2,2-Dichloropropane	594-20-7	LT	1.1

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.1
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.1
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.1
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.2
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.1
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	52.4	1.1
41	Ethylbenzene	100-41-4	LT	1.1
42	Hexachlorobutadien	87-68-3	LT	3.2
43	Isopropylbenzene	98-82-8	LT	2.1
44	p-Isopropyltoluene	99-87-6	LT	1.1
45	Methylene Chloride	75-09-2	LT	1.1
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.3
46	Naphthalene	91-20-3	LT	2.1
47	n-Propylbenzene	103-65-1	LT	1.1
48	Styrene	100-42-5	LT	1.1
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.1
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.1
51	Tetrachloroethene	127-18-4	LT	1.1
52	Toluene	108-88-3	LT	1.1
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.1
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.1
55	1,1,1-Trichloroethane	71-55-6	LT	1.1
56	1,1,2-Trichloroethane	79-00-5	LT	1.1
57	Trichloroethene	79-01-6	27.9	1.1
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.1
59	1,2,3-Trichloropropane	96-18-4	LT	1.1
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.1
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.1
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.1
63	Vinyl Chloride	75-01-4	LT	1.1
64	Total-Xylene	1330-20-7	LT	2.1

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	107.0	86-115
1,2-Dichloroethane-d4	107.4	86-118
Toluene-d8	98.6	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Paul Dahlquist*  
*[Signature]*

Date: 7/20/98

Date: 7/21/98



# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A6	Laboratory ID:	OW9806111
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/23/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.7
2	Bromobenzene	108-86-1	LT	1.7
3	Bromochloromethane	74-97-5	LT	3.3
4	Bromodichloromethane	75-27-4	LT	1.7
5	Bromoform	75-25-2	LT	3.3
6	Bromomethane	74-83-9	LT	6.7
7	n-Butylbenzene	104-51-8	LT	1.7
8	sec-Butylbenzene	135-98-8	LT	1.7
9	ter-Butylbenzene	98-06-6	LT	1.7
10	Carbon Tetrachloride	56-23-5	LT	1.7
11	Chlorobenzene	108-90-7	LT	1.7
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	50.0
13	Chloroethane	75-00-3	LT	50.0
14	Chloroform	67-66-3	LT	1.7
15	Chloromethane	74-87-3	LT	1.7
16	2-Chlorotoluene	95-49-8	LT	3.3
17	4-Chlorotoluene	106-43-4	LT	3.3
18	Dibromochloromethane	124-48-1	LT	3.3
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	3.3
20	1,2-Dibromoethane	106-93-4	LT	3.3
21	Dibromomethane	74-95-3	LT	1.7
22	1,2-Dichlorobenzene	95-50-1	LT	1.7
23	1,3-Dichlorobenzene	541-73-1	LT	1.7
24	1,4-Dichlorobenzene	106-46-7	LT	1.7
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	5.0
26	1,1-Dichloroethane	75-34-3	LT	1.7
27	1,2-Dichloroethane	107-06-2	LT	3.3
28	1,1-Dichloroethene	75-35-4	LT	1.7
29	cis-1,2-Dichloroethene	156-69-9	LT	1.7
30	trans-1,2-Dichloroethene	156-60-5	LT	1.7
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	5.0
32	1,2-Dichloropropane	78-87-5	LT	1.7
33	1,3-Dichloropropane	142-28-9	LT	1.7
34	2,2-Dichloropropane	594-20-7	LT	1.7

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.7
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.7
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.7
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	5.0
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.7
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.7
41	Ethylbenzene	100-41-4	LT	1.7
42	Hexachlorobutadien	87-68-3	LT	5.0
43	Isopropylbenzene	98-82-8	LT	3.3
44	p-Isopropyltoluene	99-87-6	LT	1.7
45	Methylene Chloride	75-09-2	LT	1.7
45	Methyl tert-Butyl Ether	1634-04-4	LT	8.3
46	Naphthalene	91-20-3	LT	3.3
47	n-Propylbenzene	103-65-1	LT	1.7
48	Styrene	100-42-5	LT	1.7
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.7
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	3.3
51	Tetrachloroethene	127-18-4	LT	1.7
52	Toluene	108-88-3	LT	1.7
53	1,2,3-Trichlorobenzene	87-61-6	LT	3.3
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.7
55	1,1,1-Trichloroethane	71-55-6	LT	1.7
56	1,1,2-Trichloroethane	79-00-5	LT	1.7
57	Trichloroethene	79-01-6	LT	1.7
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	3.3
59	1,2,3-Trichloropropane	96-18-4	LT	1.7
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.7
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.7
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.7
63	Vinyl Chloride	75-01-4	LT	1.7
64	Total-Xylene	1330-20-7	LT	3.3

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	104.6	86-115
1,2-Dichloroethane-d4	107.1	86-118
Toluene-d8	97.5	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst :

Reviewer:

*Rich Dalquist*  
*H. J. ...*

Date:

Date:

7/21/98

7/21/98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A10	Laboratory ID:	OW9806112
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/26/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.3
2	Bromobenzene	108-86-1	LT	1.3
3	Bromochloromethane	74-97-5	LT	2.5
4	Bromodichloromethane	75-27-4	LT	1.3
5	Bromoform	75-25-2	LT	2.5
6	Bromomethane	74-83-9	LT	5.0
7	n-Butylbenzene	104-51-8	LT	1.3
8	sec-Butylbenzene	135-98-8	LT	1.3
9	ter-Butylbenzene	98-06-6	LT	1.3
10	Carbon Tetrachloride	56-23-5	LT	1.3
11	Chlorobenzene	108-90-7	LT	1.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	37.5
13	Chloroethane	75-00-3	LT	37.5
14	Chloroform	67-66-3	LT	1.3
15	Chloromethane	74-87-3	LT	1.3
16	2-Chlorotoluene	95-49-8	LT	2.5
17	4-Chlorotoluene	106-43-4	LT	2.5
18	Dibromochloromethane	124-48-1	LT	2.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.5
20	1,2-Dibromoethane	106-93-4	LT	2.5
21	Dibromomethane	74-95-3	LT	1.3
22	1,2-Dichlorobenzene	95-50-1	LT	1.3
23	1,3-Dichlorobenzene	541-73-1	LT	1.3
24	1,4-Dichlorobenzene	106-46-7	LT	1.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.8
26	1,1-Dichloroethane	75-34-3	LT	1.3
27	1,2-Dichloroethane	107-06-2	LT	2.5
28	1,1-Dichloroethene	75-35-4	LT	1.3
29	cis-1,2-Dichloroethene	156-69-9	2.1	1.3
30	trans-1,2-Dichloroethene	156-60-5	LT	1.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.8
32	1,2-Dichloropropane	78-87-5	LT	1.3
33	1,3-Dichloropropane	142-28-9	LT	1.3
34	2,2-Dichloropropane	594-20-7	LT	1.3

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.8
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.3
41	Ethylbenzene	100-41-4	LT	1.3
42	Hexachlorobutadien	87-68-3	LT	3.8
43	Isopropylbenzene	98-82-8	LT	2.5
44	p-Isopropyltoluene	99-87-6	LT	1.3
45	Methylene Chloride	75-09-2	LT	1.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	6.3
46	Naphthalene	91-20-3	LT	2.5
47	n-Propylbenzene	103-65-1	LT	1.3
48	Styrene	100-42-5	LT	1.3
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.5
51	Tetrachloroethene	127-18-4	LT	1.3
52	Toluene	108-88-3	LT	1.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.3
55	1,1,1-Trichloroethane	71-55-6	LT	1.3
56	1,1,2-Trichloroethane	79-00-5	LT	1.3
57	Trichloroethene	79-01-6	2.8	1.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.5
59	1,2,3-Trichloropropane	96-18-4	LT	1.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.3
63	Vinyl Chloride	75-01-4	LT	1.3
64	Total-Xylene	1330-20-7	LT	2.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101.8	86-115
1,2-Dichloroethane-d4	100.2	86-118
Toluene-d8	101.2	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst :

Reviewer:

*Rich Dahlquist*  
*H. J. Powell*

Date:

Date:

7/21/98

7/21/98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A12	Laboratory ID:	OW9806113
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/26/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.3
2	Bromobenzene	108-86-1	LT	1.3
3	Bromochloromethane	74-97-5	LT	2.5
4	Bromodichloromethane	75-27-4	LT	1.3
5	Bromoform	75-25-2	LT	2.5
6	Bromomethane	74-83-9	LT	5.0
7	n-Butylbenzene	104-51-8	LT	1.3
8	sec-Butylbenzene	135-98-8	LT	1.3
9	ter-Butylbenzene	98-06-6	LT	1.3
10	Carbon Tetrachloride	56-23-5	LT	1.3
11	Chlorobenzene	108-90-7	LT	1.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	37.5
13	Chloroethane	75-00-3	LT	37.5
14	Chloroform	67-66-3	LT	1.3
15	Chloromethane	74-87-3	LT	1.3
16	2-Chlorotoluene	95-49-8	LT	2.5
17	4-Chlorotoluene	106-43-4	LT	2.5
18	Dibromochloromethane	124-48-1	LT	2.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.5
20	1,2-Dibromoethane	106-93-4	LT	2.5
21	Dibromomethane	74-95-3	LT	1.3
22	1,2-Dichlorobenzene	95-50-1	LT	1.3
23	1,3-Dichlorobenzene	541-73-1	LT	1.3
24	1,4-Dichlorobenzene	106-46-7	LT	1.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.8
26	1,1-Dichloroethane	75-34-3	LT	1.3
27	1,2-Dichloroethane	107-06-2	2.0	2.5
28	1,1-Dichloroethene	75-35-4	LT	1.3
29	cis-1,2-Dichloroethene	156-69-9	83.4	1.3
30	trans-1,2-Dichloroethene	156-60-5	LT	1.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.8
32	1,2-Dichloropropane	78-87-5	LT	1.3
33	1,3-Dichloropropane	142-28-9	LT	1.3
34	2,2-Dichloropropane	594-20-7	LT	1.3

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.8
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.3
41	Ethylbenzene	100-41-4	LT	1.3
42	Hexachlorobutadien	87-68-3	LT	3.8
43	Isopropylbenzene	98-82-8	LT	2.5
44	p-Isopropyltoluene	99-87-6	LT	1.3
45	Methylene Chloride	75-09-2	LT	1.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	6.3
46	Naphthalene	91-20-3	LT	2.5
47	n-Propylbenzene	103-65-1	LT	1.3
48	Styrene	100-42-5	LT	1.3
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.5
51	Tetrachloroethene	127-18-4	LT	1.3
52	Toluene	108-88-3	LT	1.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.3
55	1,1,1-Trichloroethane	71-55-6	LT	1.3
56	1,1,2-Trichloroethane	79-00-5	LT	1.3
57	Trichloroethene	79-01-6	120	1.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.5
59	1,2,3-Trichloropropane	96-18-4	LT	1.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.3
63	Vinyl Chloride	75-01-4	LT	1.3
64	Total-Xylene	1330-20-7	LT	2.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101.4	86-115
1,2-Dichloroethane-d4	100.0	86-118
Toluene-d8	98.8	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*[Signature]*  
*[Signature]*

Date: 7/21/98

Date: 7/21/98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	B1	Laboratory ID:	OW9806114
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/26/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.6
13	Chloroethane	75-00-3	LT	30.6
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	2.1	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	48.3	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	54.7	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	102.6	86-115
1,2-Dichloroethane-d4	99.4	86-118
Toluene-d8	99.2	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*John Dalquist*  
*H. J. ...*

Date:

Date:

7/21/98

7/21/98



# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	B3	Laboratory ID:	OW9806115
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/26/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.0
2	Bromobenzene	108-86-1	LT	5.0
3	Bromochloromethane	74-97-5	LT	10.0
4	Bromodichloromethane	75-27-4	LT	5.0
5	Bromoform	75-25-2	LT	10.0
6	Bromomethane	74-83-9	LT	20.0
7	n-Butylbenzene	104-51-8	LT	5.0
8	sec-Butylbenzene	135-98-8	LT	5.0
9	ter-Butylbenzene	98-06-6	LT	5.0
10	Carbon Tetrachloride	56-23-5	LT	5.0
11	Chlorobenzene	108-90-7	LT	5.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	150.0
13	Chloroethane	75-00-3	LT	150.0
14	Chloroform	67-66-3	LT	5.0
15	Chloromethane	74-87-3	LT	5.0
16	2-Chlorotoluene	95-49-8	LT	10.0
17	4-Chlorotoluene	106-43-4	LT	10.0
18	Dibromochloromethane	124-48-1	LT	10.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.0
20	1,2-Dibromoethane	106-93-4	LT	10.0
21	Dibromomethane	74-95-3	LT	5.0
22	1,2-Dichlorobenzene	95-50-1	LT	5.0
23	1,3-Dichlorobenzene	541-73-1	LT	5.0
24	1,4-Dichlorobenzene	106-46-7	LT	5.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	15.0
26	1,1-Dichloroethane	75-34-3	LT	5.0
27	1,2-Dichloroethane	107-06-2	LT	10.0
28	1,1-Dichloroethene	75-35-4	LT	5.0
29	cis-1,2-Dichloroethene	156-69-9	LT	5.0
30	trans-1,2-Dichloroethene	156-60-5	LT	5.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	15.0
32	1,2-Dichloropropane	78-87-5	LT	5.0
33	1,3-Dichloropropane	142-28-9	LT	5.0
34	2,2-Dichloropropane	594-20-7	LT	5.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	15.0
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.0
41	Ethylbenzene	100-41-4	LT	5.0
42	Hexachlorobutadien	87-68-3	LT	15.0
43	Isopropylbenzene	98-82-8	LT	10.0
44	p-Isopropyltoluene	99-87-6	LT	5.0
45	Methylene Chloride	75-09-2	LT	5.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	25.0
46	Naphthalene	91-20-3	LT	10.0
47	n-Propylbenzene	103-65-1	LT	5.0
48	Styrene	100-42-5	LT	5.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	5.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.0
51	Tetrachloroethene	127-18-4	LT	5.0
52	Toluene	108-88-3	LT	5.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.0
55	1,1,1-Trichloroethane	71-55-6	LT	5.0
56	1,1,2-Trichloroethane	79-00-5	LT	5.0
57	Trichloroethene	79-01-6	LT	5.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.0
59	1,2,3-Trichloropropane	96-18-4	LT	5.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.0
63	Vinyl Chloride	75-01-4	LT	5.0
64	Total-Xylene	1330-20-7	LT	10.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101.0	86-115
1,2-Dichloroethane-d4	108.2	86-118
Toluene-d8	98.6	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst :

Reviewer:

*Rich Dalquist*  
*[Signature]*

Date:

Date:

7/21/98

7/21/98

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:       B8            Laboratory ID:       OW9806116        
 Matrix:       Water            Sample Wt./Vol.:       5.0 ml        
 Date Sampled:       6/19/98            Date Received:       6/23/98        
 Date Analyzed:       6/26/98            Method:       EPA 8260(Purge & Trap)      

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.0
2	Bromobenzene	108-86-1	LT	5.0
3	Bromochloromethane	74-97-5	LT	10.0
4	Bromodichloromethane	75-27-4	LT	5.0
5	Bromoform	75-25-2	LT	10.0
6	Bromomethane	74-83-9	LT	20.0
7	n-Butylbenzene	104-51-8	LT	5.0
8	sec-Butylbenzene	135-98-8	LT	5.0
9	ter-Butylbenzene	98-06-6	LT	5.0
10	Carbon Tetrachloride	56-23-5	LT	5.0
11	Chlorobenzene	108-90-7	LT	5.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	150.0
13	Chloroethane	75-00-3	LT	150.0
14	Chloroform	67-66-3	LT	5.0
15	Chloromethane	74-87-3	LT	5.0
16	2-Chlorotoluene	95-49-8	LT	10.0
17	4-Chlorotoluene	106-43-4	LT	10.0
18	Dibromochloromethane	124-48-1	LT	10.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.0
20	1,2-Dibromoethane	106-93-4	LT	10.0
21	Dibromomethane	74-95-3	LT	5.0
22	1,2-Dichlorobenzene	95-50-1	LT	5.0
23	1,3-Dichlorobenzene	541-73-1	LT	5.0
24	1,4-Dichlorobenzene	106-46-7	LT	5.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	15.0
26	1,1-Dichloroethane	75-34-3	LT	5.0
27	1,2-Dichloroethane	107-06-2	LT	10.0
28	1,1-Dichloroethene	75-35-4	LT	5.0
29	cis-1,2-Dichloroethene	156-69-9	LT	5.0
30	trans-1,2-Dichloroethene	156-60-5	LT	5.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	15.0
32	1,2-Dichloropropane	78-87-5	LT	5.0
33	1,3-Dichloropropane	142-28-9	LT	5.0
34	2,2-Dichloropropane	594-20-7	LT	5.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	15.0
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.0
41	Ethylbenzene	100-41-4	LT	5.0
42	Hexachlorobutadien	87-68-3	LT	15.0
43	Isopropylbenzene	98-82-8	LT	10.0
44	p-Isopropyltoluene	99-87-6	LT	5.0
45	Methylene Chloride	75-09-2	LT	5.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	25.0
46	Naphthalene	91-20-3	LT	10.0
47	n-Propylbenzene	103-65-1	LT	5.0
48	Styrene	100-42-5	LT	5.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	5.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.0
51	Tetrachloroethene	127-18-4	LT	5.0
52	Toluene	108-88-3	LT	5.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.0
55	1,1,1-Trichloroethane	71-55-6	LT	5.0
56	1,1,2-Trichloroethane	79-00-5	LT	5.0
57	Trichloroethene	79-01-6	LT	5.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.0
59	1,2,3-Trichloropropane	96-18-4	LT	5.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.0
63	Vinyl Chloride	75-01-4	LT	5.0
64	Total-Xylene	1330-20-7	LT	10.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103.9	86-115
1,2-Dichloroethane-d4	107.6	86-118
Toluene-d8	100.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Rich Dahlquist*  
*H. J. P. ...*

Date: 7/21/98

Date: 7/21/98

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:           B12                Laboratory ID:           OW9806117            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           6/19/98                Date Received:           6/23/98            
 Date Analyzed:           6/26/98                Method:           EPA 8260(Purge & Trap)          

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.2
2	Bromobenzene	108-86-1	LT	1.2
3	Bromochloromethane	74-97-5	LT	2.3
4	Bromodichloromethane	75-27-4	LT	1.2
5	Bromoform	75-25-2	LT	2.3
6	Bromomethane	74-83-9	LT	4.7
7	n-Butylbenzene	104-51-8	LT	1.2
8	sec-Butylbenzene	135-98-8	LT	1.2
9	ter-Butylbenzene	98-06-6	LT	1.2
10	Carbon Tetrachloride	56-23-5	LT	1.2
11	Chlorobenzene	108-90-7	LT	1.2
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	34.9
13	Chloroethane	75-00-3	LT	34.9
14	Chloroform	67-66-3	LT	1.2
15	Chloromethane	74-87-3	LT	1.2
16	2-Chlorotoluene	95-49-8	LT	2.3
17	4-Chlorotoluene	106-43-4	LT	2.3
18	Dibromochloromethane	124-48-1	LT	2.3
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.3
20	1,2-Dibromoethane	106-93-4	LT	2.3
21	Dibromomethane	74-95-3	LT	1.2
22	1,2-Dichlorobenzene	95-50-1	LT	1.2
23	1,3-Dichlorobenzene	541-73-1	LT	1.2
24	1,4-Dichlorobenzene	106-46-7	LT	1.2
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.5
26	1,1-Dichloroethane	75-34-3	LT	1.2
27	1,2-Dichloroethane	107-06-2	7.8	2.3
28	1,1-Dichloroethene	75-35-4	LT	1.2
29	cis-1,2-Dichloroethene	156-69-9	152	1.2
30	trans-1,2-Dichloroethene	156-60-5	LT	1.2
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.5
32	1,2-Dichloropropane	78-87-5	LT	1.2
33	1,3-Dichloropropane	142-28-9	LT	1.2
34	2,2-Dichloropropane	594-20-7	LT	1.2

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.2
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.2
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.2
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.5
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.2
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.2
41	Ethylbenzene	100-41-4	LT	1.2
42	Hexachlorobutadiene	87-68-3	LT	3.5
43	Isopropylbenzene	98-82-8	LT	2.3
44	p-Isopropyltoluene	99-87-6	LT	1.2
45	Methylene Chloride	75-09-2	LT	1.2
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.8
46	Naphthalene	91-20-3	LT	2.3
47	n-Propylbenzene	103-65-1	LT	1.2
48	Styrene	100-42-5	LT	1.2
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.2
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.3
51	Tetrachloroethene	127-18-4	LT	1.2
52	Toluene	108-88-3	LT	1.2
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.3
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.2
55	1,1,1-Trichloroethane	71-55-6	LT	1.2
56	1,1,2-Trichloroethane	79-00-5	LT	1.2
57	Trichloroethene	79-01-6	185	1.2
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.3
59	1,2,3-Trichloropropane	96-18-4	LT	1.2
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.2
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.2
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.2
63	Vinyl Chloride	75-01-4	LT	1.2
64	Total-Xylene	1330-20-7	LT	2.3

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	105.8	86-115
1,2-Dichloroethane-d4	101.9	86-118
Toluene-d8	96.8	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Ash Daly*  
*H. J. Paul*

Date: 7/21/98

Date: 7/21/98

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:           C1                Laboratory ID:           OW9806118            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           6/19/98                Date Received:           6/23/98            
 Date Analyzed:           6/26/98                Method:           EPA 8260(Purge & Trap)          

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.4
2	Bromobenzene	108-86-1	LT	5.4
3	Bromochloromethane	74-97-5	LT	10.9
4	Bromodichloromethane	75-27-4	LT	5.4
5	Bromoform	75-25-2	LT	10.9
6	Bromomethane	74-83-9	LT	21.7
7	n-Butylbenzene	104-51-8	LT	5.4
8	sec-Butylbenzene	135-98-8	LT	5.4
9	ter-Butylbenzene	98-06-6	LT	5.4
10	Carbon Tetrachloride	56-23-5	LT	5.4
11	Chlorobenzene	108-90-7	LT	5.4
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	163.0
13	Chloroethane	75-00-3	LT	163.0
14	Chloroform	67-66-3	LT	5.4
15	Chloromethane	74-87-3	LT	5.4
16	2-Chlorotoluene	95-49-8	LT	10.9
17	4-Chlorotoluene	106-43-4	LT	10.9
18	Dibromochloromethane	124-48-1	LT	10.9
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.9
20	1,2-Dibromoethane	106-93-4	LT	10.9
21	Dibromomethane	74-95-3	LT	5.4
22	1,2-Dichlorobenzene	95-50-1	LT	5.4
23	1,3-Dichlorobenzene	541-73-1	LT	5.4
24	1,4-Dichlorobenzene	106-46-7	LT	5.4
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	16.3
26	1,1-Dichloroethane	75-34-3	LT	5.4
27	1,2-Dichloroethane	107-06-2	LT	10.9
28	1,1-Dichloroethene	75-35-4	LT	5.4
29	cis-1,2-Dichloroethene	156-69-9	46.2	5.4
30	trans-1,2-Dichloroethene	156-60-5	LT	5.4
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	16.3
32	1,2-Dichloropropane	78-87-5	LT	5.4
33	1,3-Dichloropropane	142-28-9	LT	5.4
34	2,2-Dichloropropane	594-20-7	LT	5.4

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.4
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.4
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.4
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	16.3
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.4
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.4
41	Ethylbenzene	100-41-4	LT	5.4
42	Hexachlorobutadien	87-68-3	LT	16.3
43	Isopropylbenzene	98-82-8	LT	10.9
44	p-Isopropyltoluene	99-87-6	LT	5.4
45	Methylene Chloride	75-09-2	LT	5.4
45	Methyl tert-Butyl Ether	1634-04-4	LT	27.2
46	Naphthalene	91-20-3	LT	10.9
47	n-Propylbenzene	103-65-1	LT	5.4
48	Styrene	100-42-5	LT	5.4
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	5.4
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.9
51	Tetrachloroethene	127-18-4	LT	5.4
52	Toluene	108-88-3	LT	5.4
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.9
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.4
55	1,1,1-Trichloroethane	71-55-6	LT	5.4
56	1,1,2-Trichloroethane	79-00-5	LT	5.4
57	Trichloroethene	79-01-6	64.6	5.4
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.9
59	1,2,3-Trichloropropane	96-18-4	LT	5.4
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.4
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.4
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.4
63	Vinyl Chloride	75-01-4	LT	5.4
64	Total-Xylene	1330-20-7	LT	10.9

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	104.4	86-115
1,2-Dichloroethane-d4	98.2	86-118
Toluene-d8	101.9	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Rich Dahlquist*  
*H. J. P. ...*

Date: 7/21/98

Date: 7/21/98



## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C2	Laboratory ID:	OW9806119
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/26/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.3
2	Bromobenzene	108-86-1	LT	5.3
3	Bromochloromethane	74-97-5	LT	10.5
4	Bromodichloromethane	75-27-4	LT	5.3
5	Bromoform	75-25-2	LT	10.5
6	Bromomethane	74-83-9	LT	21.1
7	n-Butylbenzene	104-51-8	LT	5.3
8	sec-Butylbenzene	135-98-8	LT	5.3
9	ter-Butylbenzene	98-06-6	LT	5.3
10	Carbon Tetrachloride	56-23-5	LT	5.3
11	Chlorobenzene	108-90-7	LT	5.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	157.9
13	Chloroethane	75-00-3	LT	157.9
14	Chloroform	67-66-3	LT	5.3
15	Chloromethane	74-87-3	LT	5.3
16	2-Chlorotoluene	95-49-8	LT	10.5
17	4-Chlorotoluene	106-43-4	LT	10.5
18	Dibromochloromethane	124-48-1	LT	10.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.5
20	1,2-Dibromoethane	106-93-4	LT	10.5
21	Dibromomethane	74-95-3	LT	5.3
22	1,2-Dichlorobenzene	95-50-1	LT	5.3
23	1,3-Dichlorobenzene	541-73-1	LT	5.3
24	1,4-Dichlorobenzene	106-46-7	LT	5.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	15.8
26	1,1-Dichloroethane	75-34-3	LT	5.3
27	1,2-Dichloroethane	107-06-2	7.9	10.5
28	1,1-Dichloroethene	75-35-4	LT	5.3
29	cis-1,2-Dichloroethene	156-69-9	23.4	5.3
30	trans-1,2-Dichloroethene	156-60-5	LT	5.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	15.8
32	1,2-Dichloropropane	78-87-5	LT	5.3
33	1,3-Dichloropropane	142-28-9	LT	5.3
34	2,2-Dichloropropane	594-20-7	LT	5.3

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	15.8
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.3
41	Ethylbenzene	100-41-4	LT	5.3
42	Hexachlorobutadien	87-68-3	LT	15.8
43	Isopropylbenzene	98-82-8	LT	10.5
44	p-Isopropyltoluene	99-87-6	LT	5.3
45	Methylene Chloride	75-09-2	LT	5.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	26.3
46	Naphthalene	91-20-3	LT	10.5
47	n-Propylbenzene	103-65-1	LT	5.3
48	Styrene	100-42-5	LT	5.3
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	5.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.5
51	Tetrachloroethene	127-18-4	LT	5.3
52	Toluene	108-88-3	LT	5.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.3
55	1,1,1-Trichloroethane	71-55-6	LT	5.3
56	1,1,2-Trichloroethane	79-00-5	LT	5.3
57	Trichloroethene	79-01-6	27.6	5.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.5
59	1,2,3-Trichloropropane	96-18-4	LT	5.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.3
63	Vinyl Chloride	75-01-4	LT	5.3
64	Total-Xylene	1330-20-7	LT	10.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106.0	86-115
1,2-Dichloroethane-d4	103.8	86-118
Toluene-d8	98.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: Paul Dahlquist  
 Reviewer: [Signature]

Date: 7/21/98  
 Date: 7/21/98

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:           C3                Laboratory ID:           OW9806120            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           6/19/98                Date Received:           6/23/98            
 Date Analyzed:           6/26/98                Method:           EPA 8260(Purge & Trap)          

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.3
2	Bromobenzene	108-86-1	LT	5.3
3	Bromochloromethane	74-97-5	LT	10.5
4	Bromodichloromethane	75-27-4	LT	5.3
5	Bromoform	75-25-2	LT	10.5
6	Bromomethane	74-83-9	LT	21.1
7	n-Butylbenzene	104-51-8	LT	5.3
8	sec-Butylbenzene	135-98-8	LT	5.3
9	ter-Butylbenzene	98-06-6	LT	5.3
10	Carbon Tetrachloride	56-23-5	LT	5.3
11	Chlorobenzene	108-90-7	LT	5.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	157.9
13	Chloroethane	75-00-3	LT	157.9
14	Chloroform	67-66-3	LT	5.3
15	Chloromethane	74-87-3	LT	5.3
16	2-Chlorotoluene	95-49-8	LT	10.5
17	4-Chlorotoluene	106-43-4	LT	10.5
18	Dibromochloromethane	124-48-1	LT	10.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.5
20	1,2-Dibromoethane	106-93-4	LT	10.5
21	Dibromomethane	74-95-3	LT	5.3
22	1,2-Dichlorobenzene	95-50-1	LT	5.3
23	1,3-Dichlorobenzene	541-73-1	LT	5.3
24	1,4-Dichlorobenzene	106-46-7	LT	5.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	15.8
26	1,1-Dichloroethane	75-34-3	LT	5.3
27	1,2-Dichloroethane	107-06-2	9.1	10.5
28	1,1-Dichloroethene	75-35-4	LT	5.3
29	cis-1,2-Dichloroethene	156-69-9	40.6	5.3
30	trans-1,2-Dichloroethene	156-60-5	LT	5.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	15.8
32	1,2-Dichloropropane	78-87-5	LT	5.3
33	1,3-Dichloropropane	142-28-9	LT	5.3
34	2,2-Dichloropropane	594-20-7	LT	5.3

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	15.8
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.3
41	Ethylbenzene	100-41-4	LT	5.3
42	Hexachlorobutadien	87-68-3	LT	15.8
43	Isopropylbenzene	98-82-8	LT	10.5
44	p-Isopropyltoluene	99-87-6	LT	5.3
45	Methylene Chloride	75-09-2	LT	5.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	26.3
46	Naphthalene	91-20-3	LT	10.5
47	n-Propylbenzene	103-65-1	LT	5.3
48	Styrene	100-42-5	LT	5.3
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	5.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.5
51	Tetrachloroethene	127-18-4	LT	5.3
52	Toluene	108-88-3	LT	5.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.3
55	1,1,1-Trichloroethane	71-55-6	LT	5.3
56	1,1,2-Trichloroethane	79-00-5	LT	5.3
57	Trichloroethene	79-01-6	39.3	5.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.5
59	1,2,3-Trichloropropane	96-18-4	LT	5.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.3
63	Vinyl Chloride	75-01-4	LT	5.3
64	Total-Xylene	1330-20-7	LT	10.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106.6	86-115
1,2-Dichloroethane-d4	106.4	86-118
Toluene-d8	97.2	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Rah Dabheri*  
*H. J. Powell*

Date:

Date:

7/21/98

7/21/98

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C4	Laboratory ID:	OW9806121
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/26/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.3
2	Bromobenzene	108-86-1	LT	5.3
3	Bromochloromethane	74-97-5	LT	10.5
4	Bromodichloromethane	75-27-4	LT	5.3
5	Bromoform	75-25-2	LT	10.5
6	Bromomethane	74-83-9	LT	21.1
7	n-Butylbenzene	104-51-8	LT	5.3
8	sec-Butylbenzene	135-98-8	LT	5.3
9	ter-Butylbenzene	98-06-6	LT	5.3
10	Carbon Tetrachloride	56-23-5	LT	5.3
11	Chlorobenzene	108-90-7	LT	5.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	157.9
13	Chloroethane	75-00-3	LT	157.9
14	Chloroform	67-66-3	LT	5.3
15	Chloromethane	74-87-3	LT	5.3
16	2-Chlorotoluene	95-49-8	LT	10.5
17	4-Chlorotoluene	106-43-4	LT	10.5
18	Dibromochloromethane	124-48-1	LT	10.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.5
20	1,2-Dibromoethane	106-93-4	LT	10.5
21	Dibromomethane	74-95-3	LT	5.3
22	1,2-Dichlorobenzene	95-50-1	LT	5.3
23	1,3-Dichlorobenzene	541-73-1	LT	5.3
24	1,4-Dichlorobenzene	106-46-7	LT	5.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	15.8
26	1,1-Dichloroethane	75-34-3	LT	5.3
27	1,2-Dichloroethane	107-06-2	7.3	10.5
28	1,1-Dichloroethene	75-35-4	LT	5.3
29	cis-1,2-Dichloroethene	156-69-9	159	5.3
30	trans-1,2-Dichloroethene	156-60-5	LT	5.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	15.8
32	1,2-Dichloropropane	78-87-5	LT	5.3
33	1,3-Dichloropropane	142-28-9	LT	5.3
34	2,2-Dichloropropane	594-20-7	LT	5.3

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	15.8
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.3
41	Ethylbenzene	100-41-4	LT	5.3
42	Hexachlorobutadien	87-68-3	LT	15.8
43	Isopropylbenzene	98-82-8	LT	10.5
44	p-Isopropyltoluene	99-87-6	LT	5.3
45	Methylene Chloride	75-09-2	LT	5.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	26.3
46	Naphthalene	91-20-3	LT	10.5
47	n-Propylbenzene	103-65-1	LT	5.3
48	Styrene	100-42-5	LT	5.3
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	5.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.5
51	Tetrachloroethene	127-18-4	LT	5.3
52	Toluene	108-88-3	LT	5.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.3
55	1,1,1-Trichloroethane	71-55-6	LT	5.3
56	1,1,2-Trichloroethane	79-00-5	LT	5.3
57	Trichloroethene	79-01-6	107	5.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.5
59	1,2,3-Trichloropropane	96-18-4	LT	5.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.3
63	Vinyl Chloride	75-01-4	LT	5.3
64	Total-Xylene	1330-20-7	LT	10.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103.4	86-115
1,2-Dichloroethane-d4	108.4	86-118
Toluene-d8	97.2	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*John Dahlquist*  
*H. J. Paulson*

Date:

Date:

7/21/98

7/21/98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:           C5                Laboratory ID:           OW9806122            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           6/19/98                Date Received:           6/23/98            
 Date Analyzed:           6/26/98                Method:           EPA 8260(Purge & Trap)          

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.4
2	Bromobenzene	108-86-1	LT	5.4
3	Bromochloromethane	74-97-5	LT	10.9
4	Bromodichloromethane	75-27-4	LT	5.4
5	Bromoform	75-25-2	LT	10.9
6	Bromomethane	74-83-9	LT	21.7
7	n-Butylbenzene	104-51-8	LT	5.4
8	sec-Butylbenzene	135-98-8	LT	5.4
9	ter-Butylbenzene	98-06-6	LT	5.4
10	Carbon Tetrachloride	56-23-5	LT	5.4
11	Chlorobenzene	108-90-7	LT	5.4
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	163.0
13	Chloroethane	75-00-3	LT	163.0
14	Chloroform	67-66-3	LT	5.4
15	Chloromethane	74-87-3	LT	5.4
16	2-Chlorotoluene	95-49-8	LT	10.9
17	4-Chlorotoluene	106-43-4	LT	10.9
18	Dibromochloromethane	124-48-1	LT	10.9
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.9
20	1,2-Dibromoethane	106-93-4	LT	10.9
21	Dibromomethane	74-95-3	LT	5.4
22	1,2-Dichlorobenzene	95-50-1	LT	5.4
23	1,3-Dichlorobenzene	541-73-1	LT	5.4
24	1,4-Dichlorobenzene	106-46-7	LT	5.4
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	16.3
26	1,1-Dichloroethane	75-34-3	LT	5.4
27	1,2-Dichloroethane	107-06-2	LT	10.9
28	1,1-Dichloroethene	75-35-4	LT	5.4
29	cis-1,2-Dichloroethene	156-69-9	93.6	5.4
30	trans-1,2-Dichloroethene	156-60-5	LT	5.4
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	16.3
32	1,2-Dichloropropane	78-87-5	LT	5.4
33	1,3-Dichloropropane	142-28-9	LT	5.4
34	2,2-Dichloropropane	594-20-7	LT	5.4

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.4
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.4
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.4
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	16.3
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.4
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.4
41	Ethylbenzene	100-41-4	LT	5.4
42	Hexachlorobutadien	87-68-3	LT	16.3
43	Isopropylbenzene	98-82-8	LT	10.9
44	p-Isopropyltoluene	99-87-6	LT	5.4
45	Methylene Chloride	75-09-2	LT	5.4
45	Methyl tert-Butyl Ether	1634-04-4	LT	27.2
46	Naphthalene	91-20-3	LT	10.9
47	n-Propylbenzene	103-65-1	LT	5.4
48	Styrene	100-42-5	LT	5.4
49	1,1,1,2-Tetrachloroethane	79-34-5	LT	5.4
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.9
51	Tetrachloroethene	127-18-4	LT	5.4
52	Toluene	108-88-3	LT	5.4
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.9
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.4
55	1,1,1-Trichloroethane	71-55-6	LT	5.4
56	1,1,2-Trichloroethane	79-00-5	LT	5.4
57	Trichloroethene	79-01-6	152	5.4
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.9
59	1,2,3-Trichloropropane	96-18-4	LT	5.4
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.4
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.4
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.4
63	Vinyl Chloride	75-01-4	LT	5.4
64	Total-Xylene	1330-20-7	LT	10.9

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	105.4	86-115
1,2-Dichloroethane-d4	107.0	86-118
Toluene-d8	98.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*John Dally*  
*John Dally*

Date:

Date:

7/21/98

7/21/98



# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:         C6              Laboratory ID:         OW9806123          
 Matrix:         Water              Sample Wt./Vol.:         5.0 ml          
 Date Sampled:         6/19/98              Date Received:         6/23/98          
 Date Analyzed:         6/29/98              Method:         EPA 8260(Purge & Trap)        

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.3
2	Bromobenzene	108-86-1	LT	5.3
3	Bromochloromethane	74-97-5	LT	10.5
4	Bromodichloromethane	75-27-4	LT	5.3
5	Bromoform	75-25-2	LT	10.5
6	Bromomethane	74-83-9	LT	21.1
7	n-Butylbenzene	104-51-8	LT	5.3
8	sec-Butylbenzene	135-98-8	LT	5.3
9	ter-Butylbenzene	98-06-6	LT	5.3
10	Carbon Tetrachloride	56-23-5	LT	5.3
11	Chlorobenzene	108-90-7	LT	5.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	157.9
13	Chloroethane	75-00-3	LT	157.9
14	Chloroform	67-66-3	LT	5.3
15	Chloromethane	74-87-3	LT	5.3
16	2-Chlorotoluene	95-49-8	LT	10.5
17	4-Chlorotoluene	106-43-4	LT	10.5
18	Dibromochloromethane	124-48-1	LT	10.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.5
20	1,2-Dibromoethane	106-93-4	LT	10.5
21	Dibromomethane	74-95-3	LT	5.3
22	1,2-Dichlorobenzene	95-50-1	LT	5.3
23	1,3-Dichlorobenzene	541-73-1	LT	5.3
24	1,4-Dichlorobenzene	106-46-7	LT	5.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	15.8
26	1,1-Dichloroethane	75-34-3	LT	5.3
27	1,2-Dichloroethane	107-06-2	LT	10.5
28	1,1-Dichloroethene	75-35-4	LT	5.3
29	cis-1,2-Dichloroethene	156-69-9	89.1	5.3
30	trans-1,2-Dichloroethene	156-60-5	LT	5.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	15.8
32	1,2-Dichloropropane	78-87-5	LT	5.3
33	1,3-Dichloropropane	142-28-9	LT	5.3
34	2,2-Dichloropropane	594-20-7	LT	5.3

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	15.8
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.3
41	Ethylbenzene	100-41-4	LT	5.3
42	Hexachlorobutadien	87-68-3	LT	15.8
43	Isopropylbenzene	98-82-8	LT	10.5
44	p-Isopropyltoluene	99-87-6	LT	5.3
45	Methylene Chloride	75-09-2	LT	5.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	26.3
46	Naphthalene	91-20-3	LT	10.5
47	n-Propylbenzene	103-65-1	LT	5.3
48	Styrene	100-42-5	LT	5.3
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	5.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.5
51	Tetrachloroethene	127-18-4	LT	5.3
52	Toluene	108-88-3	LT	5.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.3
55	1,1,1-Trichloroethane	71-55-6	LT	5.3
56	1,1,2-Trichloroethane	79-00-5	LT	5.3
57	Trichloroethene	79-01-6	419	5.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.5
59	1,2,3-Trichloropropane	96-18-4	LT	5.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.3
63	Vinyl Chloride	75-01-4	LT	5.3
64	Total-Xylene	1330-20-7	LT	10.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	104.3	86-115
1,2-Dichloroethane-d4	100.9	86-118
Toluene-d8	99.6	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Paul Dahlquist*  
*H. J. ...*

Date:

Date:

7/21/98

7/21/98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	C7	Laboratory ID:	OW9806124
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/29/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.3
2	Bromobenzene	108-86-1	LT	5.3
3	Bromochloromethane	74-97-5	LT	10.5
4	Bromodichloromethane	75-27-4	LT	5.3
5	Bromoform	75-25-2	LT	10.5
6	Bromomethane	74-83-9	LT	21.1
7	n-Butylbenzene	104-51-8	LT	5.3
8	sec-Butylbenzene	135-98-8	LT	5.3
9	ter-Butylbenzene	98-06-6	LT	5.3
10	Carbon Tetrachloride	56-23-5	LT	5.3
11	Chlorobenzene	108-90-7	LT	5.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	157.9
13	Chloroethane	75-00-3	LT	157.9
14	Chloroform	67-66-3	LT	5.3
15	Chloromethane	74-87-3	LT	5.3
16	2-Chlorotoluene	95-49-8	LT	10.5
17	4-Chlorotoluene	106-43-4	LT	10.5
18	Dibromochloromethane	124-48-1	LT	10.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.5
20	1,2-Dibromoethane	106-93-4	LT	10.5
21	Dibromomethane	74-95-3	LT	5.3
22	1,2-Dichlorobenzene	95-50-1	LT	5.3
23	1,3-Dichlorobenzene	541-73-1	LT	5.3
24	1,4-Dichlorobenzene	106-46-7	LT	5.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	15.8
26	1,1-Dichloroethane	75-34-3	LT	5.3
27	1,2-Dichloroethane	107-06-2	LT	10.5
28	1,1-Dichloroethene	75-35-4	LT	5.3
29	cis-1,2-Dichloroethene	156-69-9	22.6	5.3
30	trans-1,2-Dichloroethene	156-60-5	LT	5.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	15.8
32	1,2-Dichloropropane	78-87-5	LT	5.3
33	1,3-Dichloropropane	142-28-9	LT	5.3
34	2,2-Dichloropropane	594-20-7	LT	5.3

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	15.8
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.3
41	Ethylbenzene	100-41-4	LT	5.3
42	Hexachlorobutadien	87-68-3	LT	15.8
43	Isopropylbenzene	98-82-8	LT	10.5
44	p-Isopropyltoluene	99-87-6	LT	5.3
45	Methylene Chloride	75-09-2	LT	5.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	26.3
46	Naphthalene	91-20-3	LT	10.5
47	n-Propylbenzene	103-65-1	LT	5.3
48	Styrene	100-42-5	LT	5.3
49	1,1,1,2-Tetrachloroethane	79-34-5	LT	5.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.5
51	Tetrachloroethene	127-18-4	LT	5.3
52	Toluene	108-88-3	LT	5.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.3
55	1,1,1-Trichloroethane	71-55-6	LT	5.3
56	1,1,2-Trichloroethane	79-00-5	LT	5.3
57	Trichloroethene	79-01-6	180	5.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.5
59	1,2,3-Trichloropropane	96-18-4	LT	5.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.3
63	Vinyl Chloride	75-01-4	LT	5.3
64	Total-Xylene	1330-20-7	LT	10.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103.3	86-115
1,2-Dichloroethane-d4	102.0	86-118
Toluene-d8	97.8	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

 Analyst: *Rich Dahlquist*  
 Reviewer: *HB Fountal*

 Date: 7/21/98  
 Date: 7/21/98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID: DUP1      Laboratory ID: OW9806125  
 Matrix: Water      Sample Wt./Vol.: 5.0 ml  
 Date Sampled: 6/19/98      Date Received: 6/23/98  
 Date Analyzed: 6/29/98      Method: EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.1
2	Bromobenzene	108-86-1	LT	1.1
3	Bromochloromethane	74-97-5	LT	2.1
4	Bromodichloromethane	75-27-4	LT	1.1
5	Bromoform	75-25-2	LT	2.1
6	Bromomethane	74-83-9	LT	4.2
7	n-Butylbenzene	104-51-8	LT	1.1
8	sec-Butylbenzene	135-98-8	LT	1.1
9	ter-Butylbenzene	98-06-6	LT	1.1
10	Carbon Tetrachloride	56-23-5	LT	1.1
11	Chlorobenzene	108-90-7	LT	1.1
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	31.6
13	Chloroethane	75-00-3	LT	31.6
14	Chloroform	67-66-3	LT	1.1
15	Chloromethane	74-87-3	LT	1.1
16	2-Chlorotoluene	95-49-8	LT	2.1
17	4-Chlorotoluene	106-43-4	LT	2.1
18	Dibromochloromethane	124-48-1	LT	2.1
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.1
20	1,2-Dibromoethane	106-93-4	LT	2.1
21	Dibromomethane	74-95-3	LT	1.1
22	1,2-Dichlorobenzene	95-50-1	LT	1.1
23	1,3-Dichlorobenzene	541-73-1	LT	1.1
24	1,4-Dichlorobenzene	106-46-7	LT	1.1
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.2
26	1,1-Dichloroethane	75-34-3	LT	1.1
27	1,2-Dichloroethane	107-06-2	LT	2.1
28	1,1-Dichloroethene	75-35-4	LT	1.1
29	cis-1,2-Dichloroethene	156-69-9	1.2	1.1
30	trans-1,2-Dichloroethene	156-60-5	LT	1.1
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.2
32	1,2-Dichloropropane	78-87-5	LT	1.1
33	1,3-Dichloropropane	142-28-9	LT	1.1
34	2,2-Dichloropropane	594-20-7	LT	1.1

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.1
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.1
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.1
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.2
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.1
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	49.9	1.1
41	Ethylbenzene	100-41-4	LT	1.1
42	Hexachlorobutadien	87-68-3	LT	3.2
43	Isopropylbenzene	98-82-8	LT	2.1
44	p-Isopropyltoluene	99-87-6	LT	1.1
45	Methylene Chloride	75-09-2	LT	1.1
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.3
46	Naphthalene	91-20-3	LT	2.1
47	n-Propylbenzene	103-65-1	LT	1.1
48	Styrene	100-42-5	LT	1.1
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.1
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.1
51	Tetrachloroethene	127-18-4	LT	1.1
52	Toluene	108-88-3	LT	1.1
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.1
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.1
55	1,1,1-Trichloroethane	71-55-6	LT	1.1
56	1,1,2-Trichloroethane	79-00-5	LT	1.1
57	Trichloroethene	79-01-6	31.8	1.1
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.1
59	1,2,3-Trichloropropane	96-18-4	LT	1.1
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.1
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.1
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.1
63	Vinyl Chloride	75-01-4	LT	1.1
64	Total-Xylene	1330-20-7	LT	2.1

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103.2	86-115
1,2-Dichloroethane-d4	100.7	86-118
Toluene-d8	99.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: Rich Dahlquist  
 Reviewer: H. J. Paulson

Date: 7/21/98  
 Date: 7/21/98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID: DUP2      Laboratory ID: OW986126  
 Matrix: Water      Sample Wt./Vol.: 5.0 ml  
 Date Sampled: 6/19/98      Date Received: 6/23/98  
 Date Analyzed: 6/23/98      Method: EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.6
13	Chloroethane	75-00-3	LT	30.6
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	2.4	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	51.6	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,1,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	55.8	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103.0	86-115
1,2-Dichloroethane-d4	102.2	86-118
Toluene-d8	100.3	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Rich Delaney*  
*H. J. ...*

Date: 7/21/98

Date: 7/21/98



# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	FB	Laboratory ID:	OW9806127
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	6/19/98	Date Received:	6/23/98
Date Analyzed:	6/29/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.1
2	Bromobenzene	108-86-1	LT	1.1
3	Bromochloromethane	74-97-5	LT	2.1
4	Bromodichloromethane	75-27-4	LT	1.1
5	Bromoform	75-25-2	LT	2.1
6	Bromomethane	74-83-9	LT	4.2
7	n-Butylbenzene	104-51-8	LT	1.1
8	sec-Butylbenzene	135-98-8	LT	1.1
9	ter-Butylbenzene	98-06-6	LT	1.1
10	Carbon Tetrachloride	56-23-5	LT	1.1
11	Chlorobenzene	108-90-7	LT	1.1
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	31.6
13	Chloroethane	75-00-3	LT	31.6
14	Chloroform	67-66-3	LT	1.1
15	Chloromethane	74-87-3	LT	1.1
16	2-Chlorotoluene	95-49-8	LT	2.1
17	4-Chlorotoluene	106-43-4	LT	2.1
18	Dibromochloromethane	124-48-1	LT	2.1
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.1
20	1,2-Dibromoethane	106-93-4	LT	2.1
21	Dibromomethane	74-95-3	LT	1.1
22	1,2-Dichlorobenzene	95-50-1	LT	1.1
23	1,3-Dichlorobenzene	541-73-1	LT	1.1
24	1,4-Dichlorobenzene	106-46-7	LT	1.1
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.2
26	1,1-Dichloroethane	75-34-3	LT	1.1
27	1,2-Dichloroethane	107-06-2	LT	2.1
28	1,1-Dichloroethene	75-35-4	LT	1.1
29	cis-1,2-Dichloroethene	156-69-9	LT	1.1
30	trans-1,2-Dichloroethene	156-60-5	LT	1.1
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.2
32	1,2-Dichloropropane	78-87-5	LT	1.1
33	1,3-Dichloropropane	142-28-9	LT	1.1
34	2,2-Dichloropropane	594-20-7	LT	1.1

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.1
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.1
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.1
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.2
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.1
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.1
41	Ethylbenzene	100-41-4	LT	1.1
42	Hexachlorobutadien	87-68-3	LT	3.2
43	Isopropylbenzene	98-82-8	LT	2.1
44	p-Isopropyltoluene	99-87-6	LT	1.1
45	Methylene Chloride	75-09-2	LT	1.1
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.3
46	Naphthalene	91-20-3	LT	2.1
47	n-Propylbenzene	103-65-1	LT	1.1
48	Styrene	100-42-5	LT	1.1
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.1
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.1
51	Tetrachloroethene	127-18-4	LT	1.1
52	Toluene	108-88-3	LT	1.1
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.1
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.1
55	1,1,1-Trichloroethane	71-55-6	LT	1.1
56	1,1,2-Trichloroethane	79-00-5	LT	1.1
57	Trichloroethene	79-01-6	LT	1.1
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.1
59	1,2,3-Trichloropropane	96-18-4	LT	1.1
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.1
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.1
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.1
63	Vinyl Chloride	75-01-4	LT	1.1
64	Total-Xylene	1330-20-7	LT	2.1

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	105.8	86-115
1,2-Dichloroethane-d4	109.5	86-118
Toluene-d8	99.7	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst : John DeLuca  
Reviewer: W. J. [Signature]

Date: 7/21/98

Date: 7/21/98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A1	Laboratory ID:	OW9808110
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/18/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	2.3	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	45.4	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	48.6	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	100.4	86-115
1,2-Dichloroethane-d4	99.4	86-118
Toluene-d8	98.8	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: Rich Dehner  
 Reviewer: KG Brunt d.

Date: 9/8/98  
 Date: 9-8-98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A6	Laboratory ID:	OW9808111
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/18/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	3.3
2	Bromobenzene	108-86-1	LT	3.3
3	Bromochloromethane	74-97-5	LT	6.6
4	Bromodichloromethane	75-27-4	LT	3.3
5	Bromoform	75-25-2	LT	6.6
6	Bromomethane	74-83-9	LT	13.2
7	n-Butylbenzene	104-51-8	LT	3.3
8	sec-Butylbenzene	135-98-8	LT	3.3
9	ter-Butylbenzene	98-06-6	LT	3.3
10	Carbon Tetrachloride	56-23-5	LT	3.3
11	Chlorobenzene	108-90-7	LT	3.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	99.0
13	Chloroethane	75-00-3	LT	99.0
14	Chloroform	67-66-3	LT	3.3
15	Chloromethane	74-87-3	LT	3.3
16	2-Chlorotoluene	95-49-8	LT	6.6
17	4-Chlorotoluene	106-43-4	LT	6.6
18	Dibromochloromethane	124-48-1	LT	6.6
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	6.6
20	1,2-Dibromoethane	106-93-4	LT	6.6
21	Dibromomethane	74-95-3	LT	3.3
22	1,2-Dichlorobenzene	95-50-1	LT	3.3
23	1,3-Dichlorobenzene	541-73-1	LT	3.3
24	1,4-Dichlorobenzene	106-46-7	LT	3.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	9.9
26	1,1-Dichloroethane	75-34-3	LT	3.3
27	1,2-Dichloroethane	107-06-2	LT	6.6
28	1,1-Dichloroethene	75-35-4	LT	3.3
29	cis-1,2-Dichloroethene	156-69-9	LT	3.3
30	trans-1,2-Dichloroethene	156-60-5	LT	3.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	9.9
32	1,2-Dichloropropane	78-87-5	LT	3.3
33	1,3-Dichloropropane	142-28-9	LT	3.3
34	2,2-Dichloropropane	594-20-7	LT	3.3

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	3.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	3.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	3.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	9.9
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	3.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	3.3
41	Ethylbenzene	100-41-4	LT	3.3
42	Hexachlorobutadien	87-68-3	LT	9.9
43	Isopropylbenzene	98-82-8	LT	6.6
44	p-Isopropyltoluene	99-87-6	LT	3.3
45	Methylene Chloride	75-09-2	LT	3.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	16.5
46	Naphthalene	91-20-3	LT	6.6
47	n-Propylbenzene	103-65-1	LT	3.3
48	Styrene	100-42-5	LT	3.3
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	3.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	6.6
51	Tetrachloroethene	127-18-4	LT	3.3
52	Toluene	108-88-3	LT	3.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	6.6
54	1,2,4-Trichlorobenzene	120-82-1	LT	3.3
55	1,1,1-Trichloroethane	71-55-6	LT	3.3
56	1,1,2-Trichloroethane	79-00-5	LT	3.3
57	Trichloroethene	79-01-6	LT	3.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	6.6
59	1,2,3-Trichloropropane	96-18-4	LT	3.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	3.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	3.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	3.3
63	Vinyl Chloride	75-01-4	LT	3.3
64	Total-Xylene	1330-20-7	LT	6.6

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	97.8	86-115
1,2-Dichloroethane-d4	97.8	86-118
Toluene-d8	100.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: Rich Dahlquist  
 Reviewer: Heather

Date: 9/8/98  
 Date: 9-8-98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A10	Laboratory ID:	OW9808112
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/18/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	3.5
2	Bromobenzene	108-86-1	LT	3.5
3	Bromochloromethane	74-97-5	LT	7.0
4	Bromodichloromethane	75-27-4	LT	3.5
5	Bromoform	75-25-2	LT	7.0
6	Bromomethane	74-83-9	LT	13.9
7	n-Butylbenzene	104-51-8	LT	3.5
8	sec-Butylbenzene	135-98-8	LT	3.5
9	ter-Butylbenzene	98-06-6	LT	3.5
10	Carbon Tetrachloride	56-23-5	LT	3.5
11	Chlorobenzene	108-90-7	LT	3.5
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	104.5
13	Chloroethane	75-00-3	LT	104.5
14	Chloroform	67-66-3	LT	3.5
15	Chloromethane	74-87-3	LT	3.5
16	2-Chlorotoluene	95-49-8	LT	7.0
17	4-Chlorotoluene	106-43-4	LT	7.0
18	Dibromochloromethane	124-48-1	LT	7.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	7.0
20	1,2-Dibromoethane	106-93-4	LT	7.0
21	Dibromomethane	74-95-3	LT	3.5
22	1,2-Dichlorobenzene	95-50-1	LT	3.5
23	1,3-Dichlorobenzene	541-73-1	LT	3.5
24	1,4-Dichlorobenzene	106-46-7	LT	3.5
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	10.5
26	1,1-Dichloroethane	75-34-3	LT	3.5
27	1,2-Dichloroethane	107-06-2	LT	7.0
28	1,1-Dichloroethene	75-35-4	LT	3.5
29	cis-1,2-Dichloroethene	156-69-9	LT	3.5
30	trans-1,2-Dichloroethene	156-60-5	LT	3.5
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	10.5
32	1,2-Dichloropropane	78-87-5	LT	3.5
33	1,3-Dichloropropane	142-28-9	LT	3.5
34	2,2-Dichloropropane	594-20-7	LT	3.5

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	3.5
36	cis-1,3-Dichloropropene	10061-01-5	LT	3.5
37	trans-1,3-Dichloropropene	10061-02-6	LT	3.5
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	10.5
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	3.5
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	3.5
41	Ethylbenzene	100-41-4	LT	3.5
42	Hexachlorobutadien	87-68-3	LT	10.5
43	Isopropylbenzene	98-82-8	LT	7.0
44	p-Isopropyltoluene	99-87-6	LT	3.5
45	Methylene Chloride	75-09-2	LT	3.5
45	Methyl tert-Butyl Ether	1634-04-4	LT	17.4
46	Naphthalene	91-20-3	LT	7.0
47	n-Propylbenzene	103-65-1	LT	3.5
48	Styrene	100-42-5	LT	3.5
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	3.5
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	7.0
51	Tetrachloroethene	127-18-4	LT	3.5
52	Toluene	108-88-3	LT	3.5
53	1,2,3-Trichlorobenzene	87-61-6	LT	7.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	3.5
55	1,1,1-Trichloroethane	71-55-6	LT	3.5
56	1,1,2-Trichloroethane	79-00-5	LT	3.5
57	Trichloroethene	79-01-6	LT	3.5
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	7.0
59	1,2,3-Trichloropropane	96-18-4	LT	3.5
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	3.5
61	1,2,4-Trimethylbenzene	95-63-6	LT	3.5
62	1,3,5-Trimethylbenzene	108-67-8	LT	3.5
63	Vinyl Chloride	75-01-4	LT	3.5
64	Total-Xylene	1330-20-7	LT	7.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98.2	86-115
1,2-Dichloroethane-d4	97.2	86-118
Toluene-d8	97.8	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich DeGroot*  
 Reviewers: *HR [signature]*

Date: 9/8/98  
 Date: 9-8-98



# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A12	Laboratory ID:	OW9808113
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/18/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.5
2	Bromobenzene	108-86-1	LT	1.5
3	Bromochloromethane	74-97-5	LT	3.0
4	Bromodichloromethane	75-27-4	LT	1.5
5	Bromoform	75-25-2	LT	3.0
6	Bromomethane	74-83-9	LT	6.0
7	n-Butylbenzene	104-51-8	LT	1.5
8	sec-Butylbenzene	135-98-8	LT	1.5
9	ter-Butylbenzene	98-06-6	LT	1.5
10	Carbon Tetrachloride	56-23-5	LT	1.5
11	Chlorobenzene	108-90-7	LT	1.5
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	45.2
13	Chloroethane	75-00-3	LT	45.2
14	Chloroform	67-66-3	LT	1.5
15	Chloromethane	74-87-3	LT	1.5
16	2-Chlorotoluene	95-49-8	LT	3.0
17	4-Chlorotoluene	106-43-4	LT	3.0
18	Dibromochloromethane	124-48-1	LT	3.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	3.0
20	1,2-Dibromoethane	106-93-4	LT	3.0
21	Dibromomethane	74-95-3	LT	1.5
22	1,2-Dichlorobenzene	95-50-1	LT	1.5
23	1,3-Dichlorobenzene	541-73-1	LT	1.5
24	1,4-Dichlorobenzene	106-46-7	LT	1.5
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	4.5
26	1,1-Dichloroethane	75-34-3	LT	1.5
27	1,2-Dichloroethane	107-06-2	LT	3.0
28	1,1-Dichloroethene	75-35-4	LT	1.5
29	cis-1,2-Dichloroethene	156-69-9	35.8	1.5
30	trans-1,2-Dichloroethene	156-60-5	LT	1.5
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	4.5
32	1,2-Dichloropropane	78-87-5	LT	1.5
33	1,3-Dichloropropane	142-28-9	LT	1.5
34	2,2-Dichloropropane	594-20-7	LT	1.5

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.5
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.5
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.5
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	4.5
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.5
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.5
41	Ethylbenzene	100-41-4	LT	1.5
42	Hexachlorobutadien	87-68-3	LT	4.5
43	Isopropylbenzene	98-82-8	LT	3.0
44	p-Isopropyltoluene	99-87-6	LT	1.5
45	Methylene Chloride	75-09-2	LT	1.5
45	Methyl tert-Butyl Ether	1634-04-4	LT	7.5
46	Naphthalene	91-20-3	LT	3.0
47	n-Propylbenzene	103-65-1	LT	1.5
48	Styrene	100-42-5	LT	1.5
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.5
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	3.0
51	Tetrachloroethene	127-18-4	LT	1.5
52	Toluene	108-88-3	LT	1.5
53	1,2,3-Trichlorobenzene	87-61-6	LT	3.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.5
55	1,1,1-Trichloroethane	71-55-6	LT	1.5
56	1,1,2-Trichloroethane	79-00-5	LT	1.5
57	Trichloroethene	79-01-6	62.0	1.5
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	3.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.5
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.5
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.5
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.5
63	Vinyl Chloride	75-01-4	LT	1.5
64	Total-Xylene	1330-20-7	LT	3.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	96.6	86-115
1,2-Dichloroethane-d4	98.6	86-118
Toluene-d8	98.8	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *[Signature]*  
 Reviewer: *[Signature]*

Date: 9/8/98  
 Date: 9-8-98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:           B1                Laboratory ID:           OW9808114            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           8/13/98                Date Received:           8/14/98            
 Date Analyzed:           8/18/98                Method:           EPA 8260(Purge & Trap)          

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	2.3	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	40.9	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	47.8	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	100.1	86-115
1,2-Dichloroethane-d4	99.0	86-118
Toluene-d8	96.6	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Lich Dahlquist*  
*H. J. Powell*

Date:

Date:

*9/8/98*  
*9-8-98*

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	B8	Laboratory ID:	OW9808115
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/18/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	6.0
2	Bromobenzene	108-86-1	LT	6.0
3	Bromochloromethane	74-97-5	LT	11.9
4	Bromodichloromethane	75-27-4	LT	6.0
5	Bromoform	75-25-2	LT	11.9
6	Bromomethane	74-83-9	LT	23.8
7	n-Butylbenzene	104-51-8	LT	6.0
8	sec-Butylbenzene	135-98-8	LT	6.0
9	ter-Butylbenzene	98-06-6	LT	6.0
10	Carbon Tetrachloride	56-23-5	LT	6.0
11	Chlorobenzene	108-90-7	LT	6.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	178.6
13	Chloroethane	75-00-3	LT	178.6
14	Chloroform	67-66-3	LT	6.0
15	Chloromethane	74-87-3	LT	6.0
16	2-Chlorotoluene	95-49-8	LT	11.9
17	4-Chlorotoluene	106-43-4	LT	11.9
18	Dibromochloromethane	124-48-1	LT	11.9
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	11.9
20	1,2-Dibromoethane	106-93-4	LT	11.9
21	Dibromomethane	74-95-3	LT	6.0
22	1,2-Dichlorobenzene	95-50-1	LT	6.0
23	1,3-Dichlorobenzene	541-73-1	LT	6.0
24	1,4-Dichlorobenzene	106-46-7	LT	6.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	17.9
26	1,1-Dichloroethane	75-34-3	LT	6.0
27	1,2-Dichloroethane	107-06-2	LT	11.9
28	1,1-Dichloroethene	75-35-4	LT	6.0
29	cis-1,2-Dichloroethene	156-69-9	LT	6.0
30	trans-1,2-Dichloroethene	156-60-5	LT	6.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	17.9
32	1,2-Dichloropropane	78-87-5	LT	6.0
33	1,3-Dichloropropane	142-28-9	LT	6.0
34	2,2-Dichloropropane	594-20-7	LT	6.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	6.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	6.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	6.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	17.9
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	6.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	6.0
41	Ethylbenzene	100-41-4	LT	6.0
42	Hexachlorobutadien	87-68-3	LT	17.9
43	Isopropylbenzene	98-82-8	LT	11.9
44	p-Isopropyltoluene	99-87-6	LT	6.0
45	Methylene Chloride	75-09-2	LT	6.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	29.8
46	Naphthalene	91-20-3	LT	11.9
47	n-Propylbenzene	103-65-1	LT	6.0
48	Styrene	100-42-5	LT	6.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	6.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	11.9
51	Tetrachloroethene	127-18-4	LT	6.0
52	Toluene	108-88-3	LT	6.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	11.9
54	1,2,4-Trichlorobenzene	120-82-1	LT	6.0
55	1,1,1-Trichloroethane	71-55-6	LT	6.0
56	1,1,2-Trichloroethane	79-00-5	LT	6.0
57	Trichloroethene	79-01-6	LT	6.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	11.9
59	1,2,3-Trichloropropane	96-18-4	LT	6.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	6.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	6.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	6.0
63	Vinyl Chloride	75-01-4	LT	6.0
64	Total-Xylene	1330-20-7	LT	11.9

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101.0	86-115
1,2-Dichloroethane-d4	97.0	86-118
Toluene-d8	96.6	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Rich Dahlquist*  
*H. J. Powell*

Date:

Date:

9/8/98

9-8-98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	B13	Laboratory ID:	OW9808116
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/18/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	3.4
2	Bromobenzene	108-86-1	LT	3.4
3	Bromochloromethane	74-97-5	LT	6.8
4	Bromodichloromethane	75-27-4	LT	3.4
5	Bromoform	75-25-2	LT	6.8
6	Bromomethane	74-83-9	LT	13.6
7	n-Butylbenzene	104-51-8	LT	3.4
8	sec-Butylbenzene	135-98-8	LT	3.4
9	ter-Butylbenzene	98-06-6	LT	3.4
10	Carbon Tetrachloride	56-23-5	LT	3.4
11	Chlorobenzene	108-90-7	LT	3.4
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	102.0
13	Chloroethane	75-00-3	LT	102.0
14	Chloroform	67-66-3	LT	3.4
15	Chloromethane	74-87-3	LT	3.4
16	2-Chlorotoluene	95-49-8	LT	6.8
17	4-Chlorotoluene	106-43-4	LT	6.8
18	Dibromochloromethane	124-48-1	LT	6.8
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	6.8
20	1,2-Dibromoethane	106-93-4	LT	6.8
21	Dibromomethane	74-95-3	LT	3.4
22	1,2-Dichlorobenzene	95-50-1	LT	3.4
23	1,3-Dichlorobenzene	541-73-1	LT	3.4
24	1,4-Dichlorobenzene	106-46-7	LT	3.4
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	10.2
26	1,1-Dichloroethane	75-34-3	LT	3.4
27	1,2-Dichloroethane	107-06-2	LT	6.8
28	1,1-Dichloroethene	75-35-4	LT	3.4
29	cis-1,2-Dichloroethene	156-69-9	13.0	3.4
30	trans-1,2-Dichloroethene	156-60-5	LT	3.4
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	10.2
32	1,2-Dichloropropane	78-87-5	LT	3.4
33	1,3-Dichloropropane	142-28-9	LT	3.4
34	2,2-Dichloropropane	594-20-7	LT	3.4

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	3.4
36	cis-1,3-Dichloropropene	10061-01-5	LT	3.4
37	trans-1,3-Dichloropropene	10061-02-6	LT	3.4
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	10.2
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	3.4
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	3.4
41	Ethylbenzene	100-41-4	LT	3.4
42	Hexachlorobutadien	87-68-3	LT	10.2
43	Isopropylbenzene	98-82-8	LT	6.8
44	p-Isopropyltoluene	99-87-6	LT	3.4
45	Methylene Chloride	75-09-2	LT	3.4
45	Methyl tert-Butyl Ether	1634-04-4	LT	17.0
46	Naphthalene	91-20-3	LT	6.8
47	n-Propylbenzene	103-65-1	LT	3.4
48	Styrene	100-42-5	LT	3.4
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	3.4
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	6.8
51	Tetrachloroethene	127-18-4	LT	3.4
52	Toluene	108-88-3	LT	3.4
53	1,2,3-Trichlorobenzene	87-61-6	LT	6.8
54	1,2,4-Trichlorobenzene	120-82-1	LT	3.4
55	1,1,1-Trichloroethane	71-55-6	LT	3.4
56	1,1,2-Trichloroethane	79-00-5	LT	3.4
57	Trichloroethene	79-01-6	36.1	3.4
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	6.8
59	1,2,3-Trichloropropane	96-18-4	LT	3.4
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	3.4
61	1,2,4-Trimethylbenzene	95-63-6	LT	3.4
62	1,3,5-Trimethylbenzene	108-67-8	LT	3.4
63	Vinyl Chloride	75-01-4	LT	3.4
64	Total-Xylene	1330-20-7	LT	6.8

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99.4	86-115
1,2-Dichloroethane-d4	98.0	86-118
Toluene-d8	99.3	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *John Dahlquist*  
 Reviewer: *[Signature]*

Date: 9/8/98  
 Date: 9-8-98



# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	C1	Laboratory ID:	OW9808119
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/19/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.5
13	Chloroethane	75-00-3	LT	30.5
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.0
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	2.7	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	37.7	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.0
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.0
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.0
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	73.8	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98.5	86-115
1,2-Dichloroethane-d4	97.1	86-118
Toluene-d8	98.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Rich Dahlquist*  
*H. J. Powell*

Date: 9/8/98

Date: 9-8-98

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C2	Laboratory ID:	OW9808120
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/19/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	6.8	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	22.9	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	30.6	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	96.9	86-115
1,2-Dichloroethane-d4	96.1	86-118
Toluene-d8	97.8	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: Stacy Dahlquist  
 Reviewer: H. J. [Signature]

Date: 9/8/98  
 Date: 9-8-98

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C3	Laboratory ID:	OW9808121
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/19/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	6.6	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	33.4	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	49.4	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	94.4	86-115
1,2-Dichloroethane-d4	99.4	86-118
Toluene-d8	96.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: Rich Dahlquist  
 Reviewer: H. J. [Signature]

Date: 9/8/98

Date: 9-8-98

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C4	Laboratory ID:	OW9808122
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/19/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	5.5	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	145	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	141	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	96.6	86-115
1,2-Dichloroethane-d4	96.4	86-118
Toluene-d8	97.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Rich Dahlquist*  
*H. J. Powell*

Date:

Date:

9/8/98

9-8-98



## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C5	Laboratory ID:	OW9808123
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/19/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	1.2	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	2.8	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	343	10.2
30	trans-1,2-Dichloroethene	156-60-5	1.7	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	750	10.2
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	97.3	86-115
1,2-Dichloroethane-d4	99.4	86-118
Toluene-d8	95.4	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Rich Dahlquist*  
*H. J. Paul*

Date:

Date:

9/8/98

9-8-98

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C6	Laboratory ID:	OW9808124
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/19/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	50.7	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	53.5	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	97.8	86-115
1,2-Dichloroethane-d4	96.4	86-118
Toluene-d8	97.4	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Rich Dahlquist*  
*H. J. Pounds*

Date:

Date:

*9/8/98*  
*9-8-98*

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:           C7                Laboratory ID:           OW9808125            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           8/13/98                Date Received:           8/14/98            
 Date Analyzed:           8/19/98                Method:           EPA 8260(Purge & Trap)          

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	24.1	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	274	5.1
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	96.1	86-115
1,2-Dichloroethane-d4	94.8	86-118
Toluene-d8	96.6	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: John Dahlquist  
 Reviewer: H. J. P. [Signature]

Date: 9/8/98  
 Date: 9-8-98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID: DUP 1      Laboratory ID: OW9808117  
 Matrix: Water      Sample Wt./Vol.: 5.0 ml  
 Date Sampled: 8/13/98      Date Received: 8/14/98  
 Date Analyzed: 8/18/98      Method: EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	1.5	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	46.1	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	45.4	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103.0	86-115
1,2-Dichloroethane-d4	98.4	86-118
Toluene-d8	96.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Bob Dahlquist*  
*H. J. P. [Signature]*

Date:

Date:

*9/8/98*  
*9-8-98*



# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	DUP 2	Laboratory ID:	OW9808118
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/18/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	1.5	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	41.1	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	45.6	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99.2	86-115
1,2-Dichloroethane-d4	95.0	86-118
Toluene-d8	96.8	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:

Reviewer:

*Sich Dahlquist*  
*H. J. Paul d.*

Date:

Date:

9/8/98

9-8-98

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	FB	Laboratory ID:	OW9808126
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	8/13/98	Date Received:	8/14/98
Date Analyzed:	8/19/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	1.5	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	LT	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	LT	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	97.4	86-115
1,2-Dichloroethane-d4	99.0	86-118
Toluene-d8	97.0	88-110

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits (based on 5 ml water sample volume)

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H.G. Robert*

Date: 9/8/98  
 Date: 9-8-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-1	Laboratory ID:	OA980701
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/20/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	LT	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	71-55-6	LT	18.20
19	Trichloroethene	79-01-6	58.5	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		58	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	85%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *W. J. Fowles*

Date: 7/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-2.1	Laboratory ID:	OA980702
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/23/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	239	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	3370	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	20600	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		24209	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	93%	75-130

\*\* Detector is saturated

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dalkwitz*  
 Reviewer: *H. G. ...*

Date: 9/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-3	Laboratory ID:	OA980703
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/23/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	187	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	1600	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	1150	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		2937	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	90%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dalheim*  
Reviewer: *H. J. Powell*

Date: 7/24/98  
Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-4	Laboratory ID:	OA980704
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/20/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	569	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	1010	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	591	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		2170	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	78%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlgren*  
Reviewer: *H. S. ...*

Date: 7/23/98  
Date: 9-23-98



# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-5	Laboratory ID:	OA980705
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/20/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	62.66
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	521	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	999	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		1520	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	77%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *John Dahlquist*  
 Reviewer: *H. J. ...*

Date: 9/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-6	Laboratory ID:	OA980706
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/20/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	271	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	805	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		1075	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	77%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
Reviewer: *H. J. Lovat d.*

Date: 7/23/98  
Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-7	Laboratory ID:	OA980707
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/20/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	177	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	746	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		923	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	80%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *John Dahlquist*  
 Reviewer: *H. J. P. ...*

Date: 9/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-8	Laboratory ID:	OA980708
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/20/98	Method:	TO-14

#	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	158	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
14	Tetrachloroethene	127-18-4	LT	14.66
15	Toluene	108-88-3	LT	26.37
16	1,1,1-Trichloroethane	71-55-6	LT	18.20
16	1,1,2-Trichloroethane	79-00-5	LT	18.20
17	Trichloroethene	79-01-6	722	18.50
18	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
17	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
18	Vinyl Chloride	75-01-4	LT	38.85
19	Total-Xylene	1330-20-7	LT	22.90
19	Total VOC		880	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	81%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:	<u><i>Rich Dehfont</i></u>	Date:	<u>9/24/98</u>
Reviewer:	<u><i>H.G. [Signature]</i></u>	Date:	<u>9.23.98</u>

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-9	Laboratory ID:	OA980709
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/21/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	51.6	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	237	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		288	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	117%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Lich Dahlquist*  
Reviewer: *H.G. Pount...*

Date: 9/24/98  
Date: 9.23.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID: <u>AG-10</u>	Laboratory ID: <u>OA980710</u>
Matrix: <u>Gas Cartridge</u>	Sample Vol.(L): <u>0.099</u>
Date Sampled: <u>6/19/98</u>	Date Received: <u>7/9/98</u>
Date Analyzed: <u>7/21/98</u>	Method: <u>TO-14</u>

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	150	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	807	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		957	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	86%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

\* Compounds could not be determined because of interferent on detector.

California D.O.H.S. Cert. # 1704

Analyst: *John Dahlquist*  
 Reviewer: *H. S. Fournier*

Date: 9/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-11	Laboratory ID:	OA980711
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/23/98	Method:	TO-14

#	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	417
2	Benzene	71-43-2	LT	311
3	Carbon Tetrachloride	56-23-5	LT	158
4	Chloroform	67-66-3	LT	204
5	1,2-Dichlorobenzene	95-50-1	LT	165
6	1,3-Dichlorobenzene	541-73-1	LT	165
7	1,4-Dichlorobenzene	106-46-7	LT	165
8	1,1-Dichloroethane	75-34-3	LT	245
9	1,2-Dichloroethane	107-06-2	LT	251
10	1,1-Dichloroethene	75-35-4	LT	251
11	cis-1,2-Dichloroethene	156-69-9	662	251
12	trans-1,2-Dichloroethene	156-60-5	LT	251
13	Ethylbenzene	100-41-4	LT	229
14	Methylene Chloride	75-09-2	LT	286
15	Tetrachloroethene	127-18-4	LT	147
16	Toluene	108-88-3	LT	264
17	1,1,1-Trichloroethane	71-55-6	LT	182
18	1,1,2-Trichloroethane	79-00-5	LT	182
19	Trichloroethene	79-01-6	618	185
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	161
21	1,2,4-Trimethylbenzene	95-63-6	LT	264
22	Vinyl Chloride	75-01-4	LT	389
23	Total-Xylene	1330-20-7	LT	229
24	Total VOC		1280	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	89%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. J. Paulson*

Date: 9/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-12	Laboratory ID:	OA980712
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/24/98	Method:	TO-14

#	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4174
2	Benzene	71-43-2	LT	3108
3	Carbon Tetrachloride	56-23-5	LT	1581
4	Chloroform	67-66-3	LT	2036
5	1,2-Dichlorobenzene	95-50-1	LT	1653
6	1,3-Dichlorobenzene	541-73-1	LT	1653
7	1,4-Dichlorobenzene	106-46-7	LT	1653
8	1,1-Dichloroethane	75-34-3	LT	2452
9	1,2-Dichloroethane	107-06-2	LT	2506
10	1,1-Dichloroethene	75-35-4	LT	2506
11	cis-1,2-Dichloroethene	156-69-9	26500	2506
12	trans-1,2-Dichloroethene	156-60-5	LT	2506
13	Ethylbenzene	100-41-4	LT	2290
14	Methylene Chloride	75-09-2	LT	2861
15	Tetrachloroethene	127-18-4	LT	1466
16	Toluene	108-88-3	LT	2637
17	1,1,1-Trichloroethane	71-55-6	LT	1820
18	1,1,2-Trichloroethane	79-00-5	LT	1820
19	Trichloroethene	79-01-6	36000	1850
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1611
21	1,2,4-Trimethylbenzene	95-63-6	LT	2637
22	Vinyl Chloride	75-01-4	LT	3885
23	Total-Xylene	1330-20-7	LT	2290
24	Total VOC		62500	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99%	75-130

\*\* Detector is saturated

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. J. Powell*

Date: 9/24/98  
 Date: 9-23-98



# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-13	Laboratory ID:	OA980713
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/24/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4174
2	Benzene	71-43-2	LT	3108
3	Carbon Tetrachloride	56-23-5	LT	1581
4	Chloroform	67-66-3	LT	2036
5	1,2-Dichlorobenzene	95-50-1	LT	1653
6	1,3-Dichlorobenzene	541-73-1	LT	1653
7	1,4-Dichlorobenzene	106-46-7	LT	1653
8	1,1-Dichloroethane	75-34-3	LT	2452
9	1,2-Dichloroethane	107-06-2	LT	2506
10	1,1-Dichloroethene	75-35-4	LT	2506
11	cis-1,2-Dichloroethene	156-69-9	51600	2506
12	trans-1,2-Dichloroethene	156-60-5	LT	2506
13	Ethylbenzene	100-41-4	LT	2290
14	Methylene Chloride	75-09-2	LT	2861
15	Tetrachloroethene	127-18-4	LT	1466
16	Toluene	108-88-3	LT	2637
17	1,1,1-Trichloroethane	71-55-6	LT	1820
18	1,1,2-Trichloroethane	79-00-5	LT	1820
19	Trichloroethene	79-01-6	54900	1850
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1611
21	1,2,4-Trimethylbenzene	95-63-6	LT	2637
22	Vinyl Chloride	75-01-4	LT	3885
23	Total-Xylene	1330-20-7	LT	2290
24	Total VOC		106500	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	97%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. J. ...*

Date: 9/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	Field Blank-1	Laboratory ID:	OA970714
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/20/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	25.06
11	cis-1,2-Dichloroethene	156-69-9	LT	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	LT	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		0	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	80%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. J. Ford*

Date: 9/24/98  
 Date: 9.23.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	DUP	Laboratory ID:	OA970715
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/18/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	25.06
11	cis-1,2-Dichloroethene	156-69-9	90.7	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	501	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		592	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *HST (signed)*

Date: *9/24/98*  
 Date: *9.23.98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG 1	Laboratory ID:	OA980716
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/23/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	LT	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	LT	80.04
11	cis-1,2-Dichloroethene	156-69-9	58.4	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	71-55-6	LT	19.37
19	Trichloroethene	79-01-6	2910	19.69
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	10000	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		12968	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	92%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rob Doherty*  
 Reviewer: *H. J. Powell*

Date: 9/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-2	Laboratory ID:	OA980717
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/23/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	LT	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	LT	80.04
11	cis-1,2-Dichloroethene	156-69-9	152	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	79-00-5	LT	19.37
19	Trichloroethene	79-01-6	4130	19.69
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	13500	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		17782	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	91%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. P. ...*

Date: 9/24/98  
 Date: 9.23.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID: BG-3                      Laboratory ID: OA980718  
 Matrix: Gas Cartridge                  Sample Vol.(L): 0.093  
 Date Sampled: 6/19/98                  Date Received: 7/9/98  
 Date Analyzed: 7/17/98                  Method: TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	LT	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	LT	80.04
11	cis-1,2-Dichloroethene	156-69-9	156	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	79-00-5	LT	19.37
19	Trichloroethene	79-01-6	1360	19.69
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	2920	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		4436	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. J. Powell*

Date: 9/24/98  
 Date: 9.23.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-4	Laboratory ID:	OA980719
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/17/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	31.6	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	LT	80.04
11	cis-1,2-Dichloroethene	156-69-9	414	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	79-00-5	LT	19.37
19	Trichloroethene	79-01-6	1950	19.69
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	1530	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		3925	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	88%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Lich Dahlquist*  
 Reviewer: *H. J. P. Smith*

Date: 9/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-5	Laboratory ID:	OA980720
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/17/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	31.8	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	LT	80.04
11	cis-1,2-Dichloroethene	156-69-9	568	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	79-00-5	LT	19.37
19	Trichloroethene	79-01-6	1670	19.69
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		2270	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
Reviewer: *188 Paus*

Date: 9/24/98  
Date: 9.23.98



# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-6	Laboratory ID:	OA980721
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/18/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	LT	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	91.0	80.04
11	cis-1,2-Dichloroethene	156-69-9	499	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	63.4	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	79-00-5	LT	19.37
19	Trichloroethene	79-01-6	969	19.69
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		1622	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. J. Powell*

Date: *9/24/98*  
 Date: *9-23-98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-7	Laboratory ID:	OA980722
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/18/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	LT	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	LT	80.04
11	cis-1,2-Dichloroethene	156-69-9	81.4	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	79-00-5	LT	19.37
19	Trichloroethene	79-01-6	429	19.69
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		511	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	97%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *John Dahlquist*  
Reviewer: *H. J. ...*

Date: 9/24/98  
Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-8	Laboratory ID:	OA980723
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/18/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	LT	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	LT	80.04
11	cis-1,2-Dichloroethene	156-69-9	LT	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
14	Tetrachloroethene	127-18-4	LT	15.61
15	Toluene	108-88-3	LT	28.07
16	1,1,1-Trichloroethane	71-55-6	LT	19.37
16	1,1,2-Trichloroethane	79-00-5	LT	19.37
17	Trichloroethene	79-01-6	22.8	19.69
18	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	17.15
17	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
18	Vinyl Chloride	75-01-4	LT	41.36
19	Total-Xylene	1330-20-7	LT	24.38
19	Total VOC		23	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	100%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlgren*  
Reviewer: *H. J. Pount*

Date: 9/24/98  
Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-9	Laboratory ID:	OA980724
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/18/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	LT	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	LT	80.04
11	cis-1,2-Dichloroethene	156-69-9	43.5	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	79-00-5	LT	19.37
19	Trichloroethene	79-01-6	262	19.69
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		305	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Alex Dahlquist*  
Reviewer: *H. G. Powell*

Date: 9/24/98  
Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-10	Laboratory ID:	OA980725
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/18/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	LT	26.10
9	1,2-Dichloroethane	107-06-2	65.1	26.68
10	1,1-Dichloroethene	75-35-4	81.9	80.04
11	cis-1,2-Dichloroethene	156-69-9	363	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	79-00-5	LT	19.37
19	Trichloroethene	79-01-6	760	19.69
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		1270	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	94%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

\* Compounds could not be determined because of interferent on detector.

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dalquist*

Reviewer: *H. J. ...*

Date: 9/24/98

Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-11	Laboratory ID:	OA980726
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/23/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4443
2	Benzene	71-43-2	LT	3309
3	Carbon Tetrachloride	56-23-5	LT	1683
4	Chloroform	67-66-3	LT	2168
5	1,2-Dichlorobenzene	95-50-1	LT	1760
6	1,3-Dichlorobenzene	541-73-1	LT	1760
7	1,4-Dichlorobenzene	106-46-7	LT	1760
8	1,1-Dichloroethane	75-34-3	LT	2610
9	1,2-Dichloroethane	107-06-2	LT	2668
10	1,1-Dichloroethene	75-35-4	LT	2668
11	cis-1,2-Dichloroethene	156-69-9	3470	2668
12	trans-1,2-Dichloroethene	156-60-5	LT	2668
13	Ethylbenzene	100-41-4	LT	2438
14	Methylene Chloride	75-09-2	LT	3046
15	Tetrachloroethene	127-18-4	LT	1561
16	Toluene	108-88-3	LT	2807
17	1,1,1-Trichloroethane	71-55-6	LT	1937
18	1,1,2-Trichloroethane	79-00-5	LT	1937
19	Trichloroethene	79-01-6	4790	1969
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1715
21	1,2,4-Trimethylbenzene	95-63-6	LT	2807
22	Vinyl Chloride	75-01-4	LT	4136
23	Total-Xylene	1330-20-7	LT	2438
24	Total VOC		8260	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	89%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. J. Paulsen*

Date: 7/24/98  
 Date: 9.23.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-12	Laboratory ID:	OA980727
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/24/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4443
2	Benzene	71-43-2	LT	3309
3	Carbon Tetrachloride	56-23-5	LT	1683
4	Chloroform	67-66-3	LT	2168
5	1,2-Dichlorobenzene	95-50-1	LT	1760
6	1,3-Dichlorobenzene	541-73-1	LT	1760
7	1,4-Dichlorobenzene	106-46-7	LT	1760
8	1,1-Dichloroethane	75-34-3	LT	2610
9	1,2-Dichloroethane	107-06-2	LT	2668
10	1,1-Dichloroethene	75-35-4	LT	2668
11	cis-1,2-Dichloroethene	156-69-9	16900	2668
12	trans-1,2-Dichloroethene	156-60-5	LT	2668
13	Ethylbenzene	100-41-4	LT	2438
14	Methylene Chloride	75-09-2	LT	3046
15	Tetrachloroethene	127-18-4	LT	1561
16	Toluene	108-88-3	LT	2807
17	1,1,1-Trichloroethane	71-55-6	LT	1937
18	1,1,2-Trichloroethane	79-00-5	LT	1937
19	Trichloroethene	79-01-6	19700	1969
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1715
21	1,2,4-Trimethylbenzene	95-63-6	LT	2807
22	Vinyl Chloride	75-01-4	LT	4136
23	Total-Xylene	1330-20-7	LT	2438
24	Total VOC		36600	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dalquist*  
 Reviewer: *HGT*

Date: 9/24/98  
 Date: 9/23/98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-13	Laboratory ID:	OA980728
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/24/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4443
2	Benzene	71-43-2	LT	3309
3	Carbon Tetrachloride	56-23-5	LT	1683
4	Chloroform	67-66-3	LT	2168
5	1,2-Dichlorobenzene	95-50-1	LT	1760
6	1,3-Dichlorobenzene	541-73-1	LT	1760
7	1,4-Dichlorobenzene	106-46-7	LT	1760
8	1,1-Dichloroethane	75-34-3	LT	2610
9	1,2-Dichloroethane	107-06-2	LT	2668
10	1,1-Dichloroethene	75-35-4	LT	2668
11	cis-1,2-Dichloroethene	156-69-9	57900	2668
12	trans-1,2-Dichloroethene	156-60-5	LT	2668
13	Ethylbenzene	100-41-4	LT	2438
14	Methylene Chloride	75-09-2	LT	3046
15	Tetrachloroethene	127-18-4	LT	1561
16	Toluene	108-88-3	LT	2807
17	1,1,1-Trichloroethane	71-55-6	LT	1937
18	1,1,2-Trichloroethane	79-00-5	LT	1937
19	Trichloroethene	79-01-6	58200	1969
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1715
21	1,2,4-Trimethylbenzene	95-63-6	LT	2807
22	Vinyl Chloride	75-01-4	LT	4136
23	Total-Xylene	1330-20-7	LT	2438
24	Total VOC		116100	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

\*\* Detector is saturated

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *HG Pomeroy*

Date: 9/24/98  
 Date: 9.23.98



# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	FB 2	Laboratory ID:	OA980729
Matrix:	Gas Cartridge	Sample Vol.(L):	0.093
Date Sampled:	6/19/98	Date Received:	7/9/98
Date Analyzed:	7/18/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	44.43
2	Benzene	71-43-2	LT	33.09
3	Carbon Tetrachloride	56-23-5	LT	16.83
4	Chloroform	67-66-3	LT	21.68
5	1,2-Dichlorobenzene	95-50-1	LT	17.60
6	1,3-Dichlorobenzene	541-73-1	LT	17.60
7	1,4-Dichlorobenzene	106-46-7	LT	17.60
8	1,1-Dichloroethane	75-34-3	LT	26.10
9	1,2-Dichloroethane	107-06-2	LT	26.68
10	1,1-Dichloroethene	75-35-4	LT	80.04
11	cis-1,2-Dichloroethene	156-69-9	LT	26.68
12	trans-1,2-Dichloroethene	156-60-5	LT	26.68
13	Ethylbenzene	100-41-4	LT	24.38
14	Methylene Chloride	75-09-2	LT	30.46
15	Tetrachloroethene	127-18-4	LT	15.61
16	Toluene	108-88-3	LT	28.07
17	1,1,1-Trichloroethane	71-55-6	LT	19.37
18	1,1,2-Trichloroethane	79-00-5	LT	19.37
19	Trichloroethene	79-01-6	LT	19.69
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	17.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	28.07
22	Vinyl Chloride	75-01-4	LT	41.36
23	Total-Xylene	1330-20-7	LT	24.38
24	Total VOC		0	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rob Dahlquist*  
 Reviewer: *H. J. Powell*

Date: 9/24/98  
 Date: 9-23-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-1	Laboratory ID:	OA980801
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	LT	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	71-55-6	LT	18.20
19	Trichloroethene	79-01-6	LT	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		0	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:	<u><i>John Dahlquist</i></u>	Date: <u>9/24/98</u>
Reviewer:	<u><i>11/2/98</i></u>	Date: <u>9-24-98</u>

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-2	Laboratory ID:	OA980802
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/15/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	LT	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	2388	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	NA	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		2388	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	84%	75-130

\*\* Detector is saturated

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Doherty*  
 Reviewer: *187 [Signature]*

Date: 9/24/98  
 Date: 9-24-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-3	Laboratory ID:	OA980803
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	82.5	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	461	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	NA	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		543	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
Reviewer: *Hyphant*

Date: 9/24/98  
Date: 9-24-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-4	Laboratory ID:	OA980804
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	186	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	666	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	NA	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		852	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: Rich Dahlquist  
 Reviewer: H. J. Powell

Date: 9/24/98  
 Date: 9-24-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-5	Laboratory ID:	OA980805
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	62.66
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	88.2	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	252	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		340	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Pete Dahlmet*  
Reviewer: *H. J. Pountal*

Date: 9/24/98  
Date: 9-24-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-6	Laboratory ID:	OA980806
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	140	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	353	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		493	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst:	<i>Rich Dalbey</i>	Date:	9/29/98
Reviewer:	<i>H. G. Fournier</i>	Date:	9-24-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-7	Laboratory ID:	OA980807
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	45.9	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	157	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		203	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Sich Dahlquist*  
Reviewer: *H. G. Pountel*

Date: 9/24/98  
Date: 9-24-98



# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-8	Laboratory ID:	OA980808
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	44.6	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
14	Tetrachloroethene	127-18-4	LT	14.66
15	Toluene	108-88-3	LT	26.37
16	1,1,1-Trichloroethane	71-55-6	LT	18.20
16	1,1,2-Trichloroethane	79-00-5	LT	18.20
17	Trichloroethene	79-01-6	150	18.50
18	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
17	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
18	Vinyl Chloride	75-01-4	LT	38.85
19	Total-Xylene	1330-20-7	LT	22.90
19	Total VOC		194	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H.P. [Signature]*

Date: 9/24/98  
 Date: 9-24-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-9	Laboratory ID:	OA980809
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	LT	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	74.7	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		75	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dalquist*  
 Reviewer: *H. J. ...*

Date: *9/24/98*  
 Date: *9-24-98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-10	Laboratory ID:	OA980810
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	35.8	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	128	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		164	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

\* Compounds could not be determined because of interferent on detector.

California D.O.H.S. Cert. # 1704

Analyst: *Lish Dahlquist*  
 Reviewer: *H. P. ...*

Date: 9/24/98  
 Date: 9.24.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-11	Laboratory ID:	OA980811
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/15/98	Method:	TO-14

#	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	417
2	Benzene	71-43-2	LT	311
3	Carbon Tetrachloride	56-23-5	LT	158
4	Chloroform	67-66-3	LT	204
5	1,2-Dichlorobenzene	95-50-1	LT	165
6	1,3-Dichlorobenzene	541-73-1	LT	165
7	1,4-Dichlorobenzene	106-46-7	LT	165
8	1,1-Dichloroethane	75-34-3	LT	245
9	1,2-Dichloroethane	107-06-2	LT	251
10	1,1-Dichloroethene	75-35-4	LT	251
11	cis-1,2-Dichloroethene	156-69-9	474	251
12	trans-1,2-Dichloroethene	156-60-5	LT	251
13	Ethylbenzene	100-41-4	LT	229
14	Methylene Chloride	75-09-2	LT	286
15	Tetrachloroethene	127-18-4	LT	147
16	Toluene	108-88-3	LT	264
17	1,1,1-Trichloroethane	71-55-6	LT	182
18	1,1,2-Trichloroethane	79-00-5	LT	182
19	Trichloroethene	79-01-6	492	185
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	161
21	1,2,4-Trimethylbenzene	95-63-6	LT	264
22	Vinyl Chloride	75-01-4	LT	389
23	Total-Xylene	1330-20-7	LT	229
24	Total VOC		966	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	84%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*

Reviewer: *H. J. Powell*

Date: 9/24/98

Date: 9.24.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-12	Laboratory ID:	OA980812
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/16/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4174
2	Benzene	71-43-2	LT	3108
3	Carbon Tetrachloride	56-23-5	LT	1581
4	Chloroform	67-66-3	LT	2036
5	1,2-Dichlorobenzene	95-50-1	LT	1653
6	1,3-Dichlorobenzene	541-73-1	LT	1653
7	1,4-Dichlorobenzene	106-46-7	LT	1653
8	1,1-Dichloroethane	75-34-3	LT	2452
9	1,2-Dichloroethane	107-06-2	LT	2506
10	1,1-Dichloroethene	75-35-4	LT	2506
11	cis-1,2-Dichloroethene	156-69-9	20800	2506
12	trans-1,2-Dichloroethene	156-60-5	LT	2506
13	Ethylbenzene	100-41-4	LT	2290
14	Methylene Chloride	75-09-2	LT	2861
15	Tetrachloroethene	127-18-4	LT	1466
16	Toluene	108-88-3	LT	2637
17	1,1,1-Trichloroethane	71-55-6	LT	1820
18	1,1,2-Trichloroethane	79-00-5	LT	1820
19	Trichloroethene	79-01-6	33700	1850
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1611
21	1,2,4-Trimethylbenzene	95-63-6	LT	2637
22	Vinyl Chloride	75-01-4	LT	3885
23	Total-Xylene	1330-20-7	LT	2290
24	Total VOC		54500	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	93%	75-130

\*\* Detector is saturated

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dehfuor*  
 Reviewer: *H. J. ...*

Date: 9/24/98  
 Date: 9-24-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	AG-13	Laboratory ID:	OA980813
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/16/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4174
2	Benzene	71-43-2	LT	3108
3	Carbon Tetrachloride	56-23-5	LT	1581
4	Chloroform	67-66-3	LT	2036
5	1,2-Dichlorobenzene	95-50-1	LT	1653
6	1,3-Dichlorobenzene	541-73-1	LT	1653
7	1,4-Dichlorobenzene	106-46-7	LT	1653
8	1,1-Dichloroethane	75-34-3	LT	2452
9	1,2-Dichloroethane	107-06-2	LT	2506
10	1,1-Dichloroethene	75-35-4	LT	2506
11	cis-1,2-Dichloroethene	156-69-9	35600	2506
12	trans-1,2-Dichloroethene	156-60-5	LT	2506
13	Ethylbenzene	100-41-4	LT	2290
14	Methylene Chloride	75-09-2	LT	2861
15	Tetrachloroethene	127-18-4	LT	1466
16	Toluene	108-88-3	LT	2637
17	1,1,1-Trichloroethane	71-55-6	LT	1820
18	1,1,2-Trichloroethane	79-00-5	LT	1820
19	Trichloroethene	79-01-6	116000	1850
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1611
21	1,2,4-Trimethylbenzene	95-63-6	LT	2637
22	Vinyl Chloride	75-01-4	LT	3885
23	Total-Xylene	1330-20-7	LT	2290
24	Total VOC		151600	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	93%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Lich Dahlquist*  
 Reviewer: *H.T. Pount d*

Date: *9/24/98*  
 Date: *9.24.98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	Field Blank-1	Laboratory ID:	OA970814
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/17/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	25.06
11	cis-1,2-Dichloroethene	156-69-9	LT	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	LT	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		0	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	92%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits.

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *John Dahlquist*  
 Reviewer: *H. J. ...*

Date: 9/28/98  
 Date: 9-24-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	DUP	Laboratory ID:	OA970815
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/21/98	Method:	TO-14

#	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	25.06
11	cis-1,2-Dichloroethene	156-69-9	11600	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	8770	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		20370	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	89%	75-130

\* Saturated Detector and no duplicate sample for reanalysis.

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dalquist*  
 Reviewer: *Thy... ..*

Date: 9/24/98  
 Date: 9.24.98



# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG 1	Laboratory ID:	OA980816
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/16/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	85.2	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	71-55-6	LT	18.20
19	Trichloroethene	79-01-6	3270	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	NA	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		3355	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	87%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Pich Dahlquist*  
Reviewer: *H. J. ...*

Date: *9/24/98*  
Date: *9.24.98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-2	Laboratory ID:	OA980817
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/16/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	81.5	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	2780	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	NA	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		2861	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	87%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich DeWitt*  
Reviewer: *TK Johnson*

Date: *9/24/98*  
Date: *9.24.98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-3	Laboratory ID:	OA980818
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/10/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	37.3	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	199	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	1010	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	NA	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		1247	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Pick Dahlquist*  
 Reviewer: *H. J. ...*

Date: *9/24/98*  
 Date: *9.24.98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-4	Laboratory ID:	OA980819
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/10/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	32.1	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	224	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	26.1	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	901	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	NA	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		1183	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Lick Dahlquist*  
 Reviewer: *H.G. Joubert*

Date: *9/24/98*  
 Date: *9.24.98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-5	Laboratory ID:	OA980820
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/10/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	34.1	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	346	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	711	18.50
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		1091	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
Reviewer: *H.S. Proulx et al*

Date: 9/24/98  
Date: 9.24.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-6	Laboratory ID:	OA980821
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/10/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	419	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	38.6	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	631	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		1088	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	98%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Pete Dahlquist*  
Reviewer: *H. J. ...*

Date: *9/24/98*  
Date: *9.24.98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID: BG-7      Laboratory ID: OA980822  
 Matrix: Gas Cartridge      Sample Vol.(L): 0.099  
 Date Sampled: 8/13/98      Date Received: 8/28/98  
 Date Analyzed: 9/10/98      Method: TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	53.4	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	181	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		235	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	96%	75-130

CAS #: Chemical Abstract Services Registry Number  
 PQL: Practical Quantitation Limits  
 LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H.G. Poudyal*

Date: 9/24/98  
 Date: 9.24.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID: BG-8      Laboratory ID: OA980823  
 Matrix: Gas Cartridge      Sample Vol.(L): 0.099  
 Date Sampled: 8/13/98      Date Received: 8/28/98  
 Date Analyzed: 9/10/98      Method: TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	LT	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
14	Tetrachloroethene	127-18-4	LT	14.66
15	Toluene	108-88-3	LT	26.37
16	1,1,1-Trichloroethane	71-55-6	LT	18.20
16	1,1,2-Trichloroethane	79-00-5	LT	18.20
17	Trichloroethene	79-01-6	52.5	18.50
18	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
17	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
18	Vinyl Chloride	75-01-4	LT	38.85
19	Total-Xylene	1330-20-7	LT	22.90
19	Total VOC		53	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. J. ...*

Date: 9/24/98  
 Date: 9.24.98



# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-9	Laboratory ID:	OA980824
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/10/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	LT	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	47.1	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	154	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		201	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	95%	75-130

CAS #: Chemical Abstract Services Registry Number  
PQL: Practical Quantitation Limits  
LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *John Dalrymple*  
Reviewer: *H. G. ...*

Date: 9/24/98  
Date: 9.24.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-10	Laboratory ID:	OA980825
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/10/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	41.74
2	Benzene	71-43-2	LT	31.08
3	Carbon Tetrachloride	56-23-5	LT	15.81
4	Chloroform	67-66-3	LT	20.36
5	1,2-Dichlorobenzene	95-50-1	LT	16.53
6	1,3-Dichlorobenzene	541-73-1	LT	16.53
7	1,4-Dichlorobenzene	106-46-7	LT	16.53
8	1,1-Dichloroethane	75-34-3	LT	24.52
9	1,2-Dichloroethane	107-06-2	41.6	25.06
10	1,1-Dichloroethene	75-35-4	LT	75.19
11	cis-1,2-Dichloroethene	156-69-9	306	25.06
12	trans-1,2-Dichloroethene	156-60-5	LT	25.06
13	Ethylbenzene	100-41-4	LT	22.90
14	Methylene Chloride	75-09-2	LT	28.61
15	Tetrachloroethene	127-18-4	LT	14.66
16	Toluene	108-88-3	LT	26.37
17	1,1,1-Trichloroethane	71-55-6	LT	18.20
18	1,1,2-Trichloroethane	79-00-5	LT	18.20
19	Trichloroethene	79-01-6	342	18.50
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.11
21	1,2,4-Trimethylbenzene	95-63-6	LT	26.37
22	Vinyl Chloride	75-01-4	LT	38.85
23	Total-Xylene	1330-20-7	LT	22.90
24	Total VOC		690	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	93%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

\* Compounds could not be determined because of interferent on detector.

California D.O.H.S. Cert. # 1704

Analyst: *Rich Delaney*  
 Reviewer: *H. S. ...*

Date: 9/24/98  
 Date: 9-24-98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-11	Laboratory ID:	OA980826
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/16/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4174
2	Benzene	71-43-2	LT	3108
3	Carbon Tetrachloride	56-23-5	LT	1581
4	Chloroform	67-66-3	LT	2036
5	1,2-Dichlorobenzene	95-50-1	LT	1653
6	1,3-Dichlorobenzene	541-73-1	LT	1653
7	1,4-Dichlorobenzene	106-46-7	LT	1653
8	1,1-Dichloroethane	75-34-3	LT	2452
9	1,2-Dichloroethane	107-06-2	LT	2506
10	1,1-Dichloroethene	75-35-4	LT	2506
11	cis-1,2-Dichloroethene	156-69-9	3260	2506
12	trans-1,2-Dichloroethene	156-60-5	LT	2506
13	Ethylbenzene	100-41-4	LT	2290
14	Methylene Chloride	75-09-2	LT	2861
15	Tetrachloroethene	127-18-4	LT	1466
16	Toluene	108-88-3	LT	2637
17	1,1,1-Trichloroethane	71-55-6	LT	1820
18	1,1,2-Trichloroethane	79-00-5	LT	1820
19	Trichloroethene	79-01-6	3470	1850
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1611
21	1,2,4-Trimethylbenzene	95-63-6	LT	2637
22	Vinyl Chloride	75-01-4	LT	3885
23	Total-Xylene	1330-20-7	LT	2290
24	Total VOC		6730	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	88%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Daly*  
 Reviewer: *H. J. Pount*

Date: 9/24/98  
 Date: 9.24.98

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-12	Laboratory ID:	OA980827
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/16/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4174
2	Benzene	71-43-2	LT	3108
3	Carbon Tetrachloride	56-23-5	LT	1581
4	Chloroform	67-66-3	LT	2036
5	1,2-Dichlorobenzene	95-50-1	LT	1653
6	1,3-Dichlorobenzene	541-73-1	LT	1653
7	1,4-Dichlorobenzene	106-46-7	LT	1653
8	1,1-Dichloroethane	75-34-3	LT	2452
9	1,2-Dichloroethane	107-06-2	LT	2506
10	1,1-Dichloroethene	75-35-4	LT	2506
11	cis-1,2-Dichloroethene	156-69-9	7650	2506
12	trans-1,2-Dichloroethene	156-60-5	LT	2506
13	Ethylbenzene	100-41-4	LT	2290
14	Methylene Chloride	75-09-2	LT	2861
15	Tetrachloroethene	127-18-4	LT	1466
16	Toluene	108-88-3	LT	2637
17	1,1,1-Trichloroethane	71-55-6	LT	1820
18	1,1,2-Trichloroethane	79-00-5	LT	1820
19	Trichloroethene	79-01-6	9010	1850
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1611
21	1,2,4-Trimethylbenzene	95-63-6	LT	2637
22	Vinyl Chloride	75-01-4	LT	3885
23	Total-Xylene	1330-20-7	LT	2290
24	Total VOC		16660	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	94%	75-130

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dallyant*

Reviewer: *H. J. Pount*

Date: *9/24/98*

Date: *9-24-98*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-13	Laboratory ID:	OA980828
Matrix:	Gas Cartridge	Sample Vol.(L):	0.099
Date Sampled:	8/13/98	Date Received:	8/28/98
Date Analyzed:	9/16/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4174
2	Benzene	71-43-2	LT	3108
3	Carbon Tetrachloride	56-23-5	LT	1581
4	Chloroform	67-66-3	LT	2036
5	1,2-Dichlorobenzene	95-50-1	LT	1653
6	1,3-Dichlorobenzene	541-73-1	LT	1653
7	1,4-Dichlorobenzene	106-46-7	LT	1653
8	1,1-Dichloroethane	75-34-3	LT	2452
9	1,2-Dichloroethane	107-06-2	LT	2506
10	1,1-Dichloroethene	75-35-4	LT	2506
11	cis-1,2-Dichloroethene	156-69-9	61400	2506
12	trans-1,2-Dichloroethene	156-60-5	LT	2506
13	Ethylbenzene	100-41-4	LT	2290
14	Methylene Chloride	75-09-2	LT	2861
15	Tetrachloroethene	127-18-4	LT	1466
16	Toluene	108-88-3	LT	2637
17	1,1,1-Trichloroethane	71-55-6	LT	1820
18	1,1,2-Trichloroethane	79-00-5	LT	1820
19	Trichloroethene	79-01-6	154000	1850
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1611
21	1,2,4-Trimethylbenzene	95-63-6	LT	2637
22	Vinyl Chloride	75-01-4	LT	3885
23	Total-Xylene	1330-20-7	LT	2290
24	Total VOC		215400	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	96%	75-130

\*\* Detector is saturated

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

California D.O.H.S. Cert. # 1704

Analyst: *Rich Dahlquist*  
 Reviewer: *H. G. Ponder*

Date: *9/24/98*  
 Date: *9.24.98*

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY  
ONE CYCLOTRON ROAD | BERKELEY, CALIFORNIA 94720