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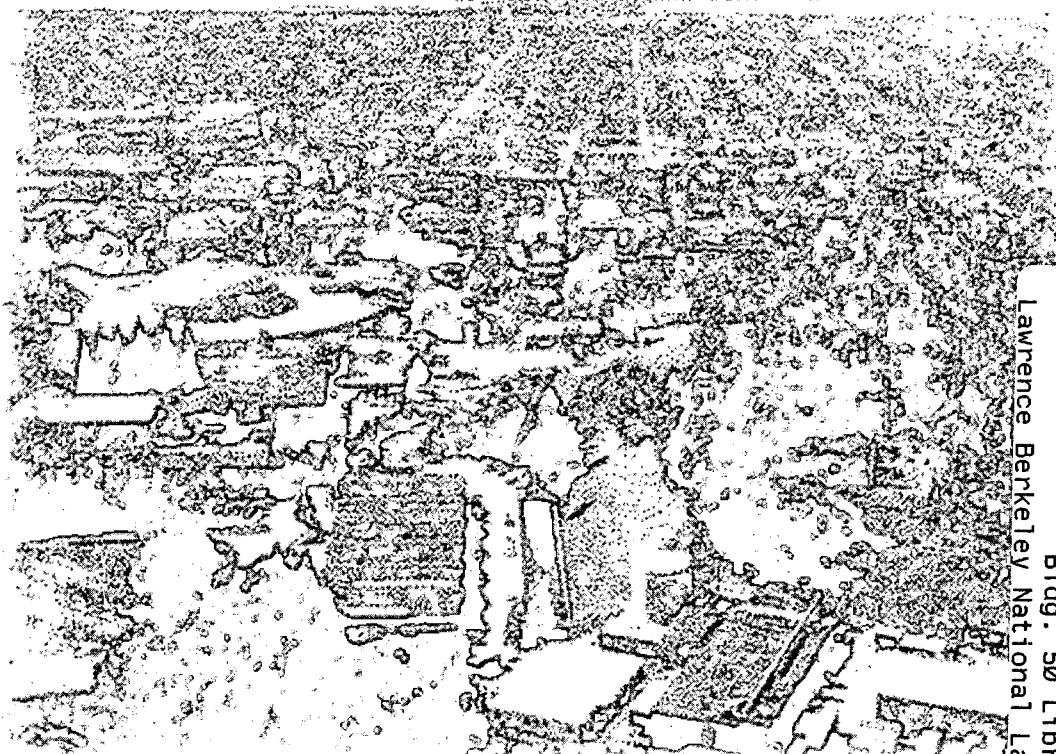
## Monitoring and Data Analysis for the Vadose Zone Monitoring System (VZMS), McClellan AFB

### Quarterly Status Report (11/20/98-2/20/99)

P.T. Zawislanski, H.S. Mountford, and  
R. Dahlquist

**Earth Sciences Division**

April 1999



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

**Quarterly Status Report  
(11/20/98-2/20/99)**

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**April 5th, 1999**

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## 1.0 INTRODUCTION

This report contains information on field and laboratory work performed between November 20th, 1998 and February 20th, 1999, 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 have been collected on a bimonthly schedule during the summer and fall. Monthly sample collection commenced in December.

This report describes:

- moisture content changes, based on neutron logging
- gas-phase VOC concentrations
- aqueous-phase VOC concentrations
- matric potential measurements in instrument cluster VZMS-C
- formation temperature distributions

## 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.

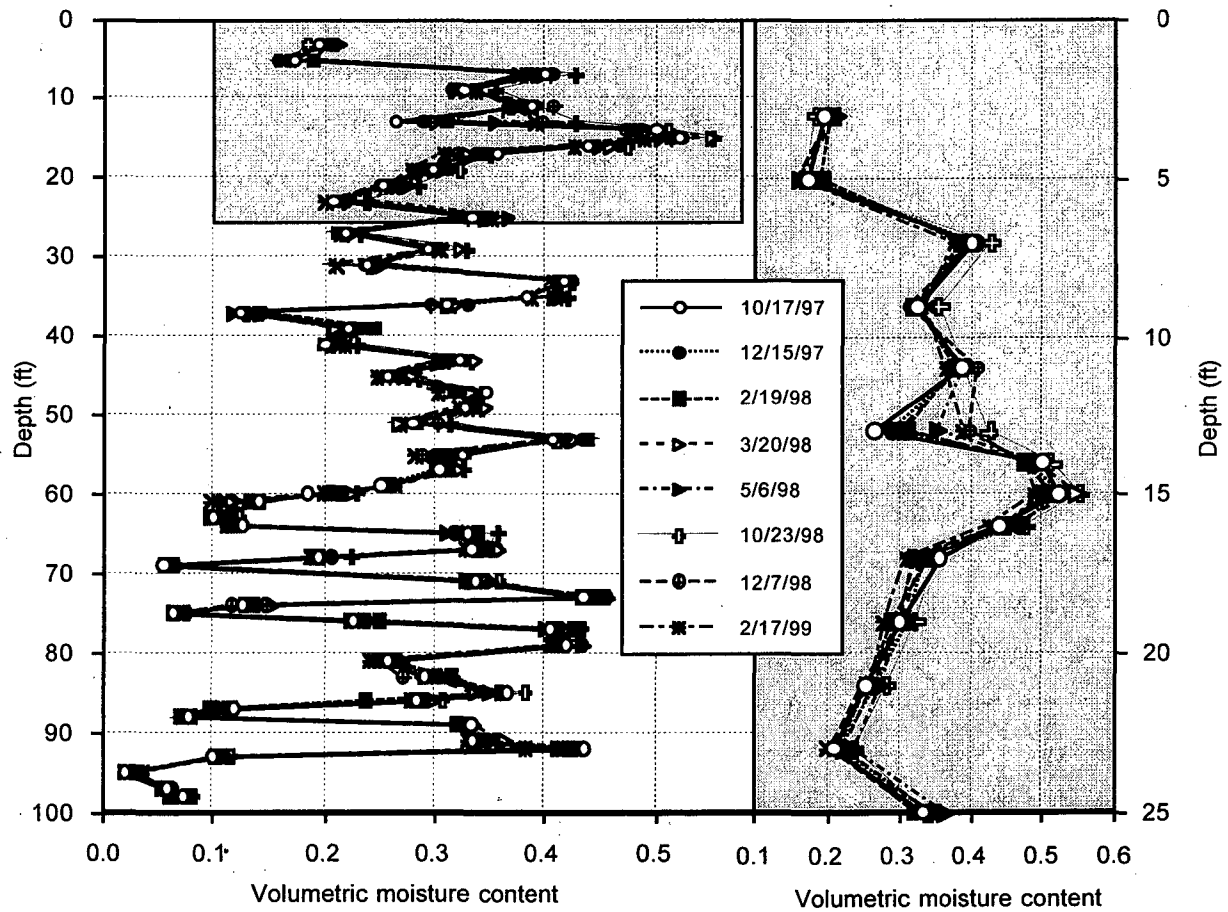


Figure 1. Volumetric moisture content based on neutron counts measured in Well NP-B over the period 10/97 to 2/99.

Neutron logging was performed at the site on 10/23/98 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. Some moisture movement occurred in the top 15 ft of the formation, with slight drying above 5 ft and slight wetting below that depth. The total moisture content of the formation did not change beyond the range observed over previous periods. These trends are suggestive of the redistribution of infiltrated rainwater.

## 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 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 (Tenax). 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, sixteen 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, 8/13/98, 10/30/98, 12/14/98, 1/27/99, and 3/31/99. 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. The data from 1/27/99 are currently being re-evaluated, due to apparent problems with the Tenax tubes. Samples collected on 3/31/99 are currently being analyzed. The 12/14/99 data from Well A did not pass QC, and will not be considered.

TCE, cis-1,2-DCE, and Freon 123a have been identified as the major contaminants in the system (LBNL, 1997b). As in the previous progress reports (LBNL, 1998c,d), 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.

TCE concentrations in the gas phase in Well B are shown in Fig. 2. The figure includes a frame showing the distribution of TCE with depth over the entire profile as well as an enlarged frame of the top 25 ft of the formation, which highlights the areas where significant temporal trends have been observed. In agreement with previously collected data, large fluctuations in TCE concentrations were observed in the top 11 ft. TCE levels at the 6-ft depth showed progressive increases in August 1998 and October 1998, reaching their highest values on record (approximately 185 ppmv), followed by a slight decrease in December 1998. A slight decrease in TCE concentration was also observed at 11 ft in December 1998. However, the TCE concentration at 18 ft continued to slightly increase.

Time-trends in cis-1,2-DCE concentrations in Well B are shown in Fig. 3. Cis-1,2-DCE levels at a depth of 6 ft decreased from around 70 ppmv in October to 41 ppmv in December. During the same period, concentrations at 11 ft also decreased. However, similar to TCE trends, cis-1,2-DCE continued to slowly increase at 18 ft. No significant changes in either TCE or cis-1,2-DCE were observed below the depth of 25 ft.

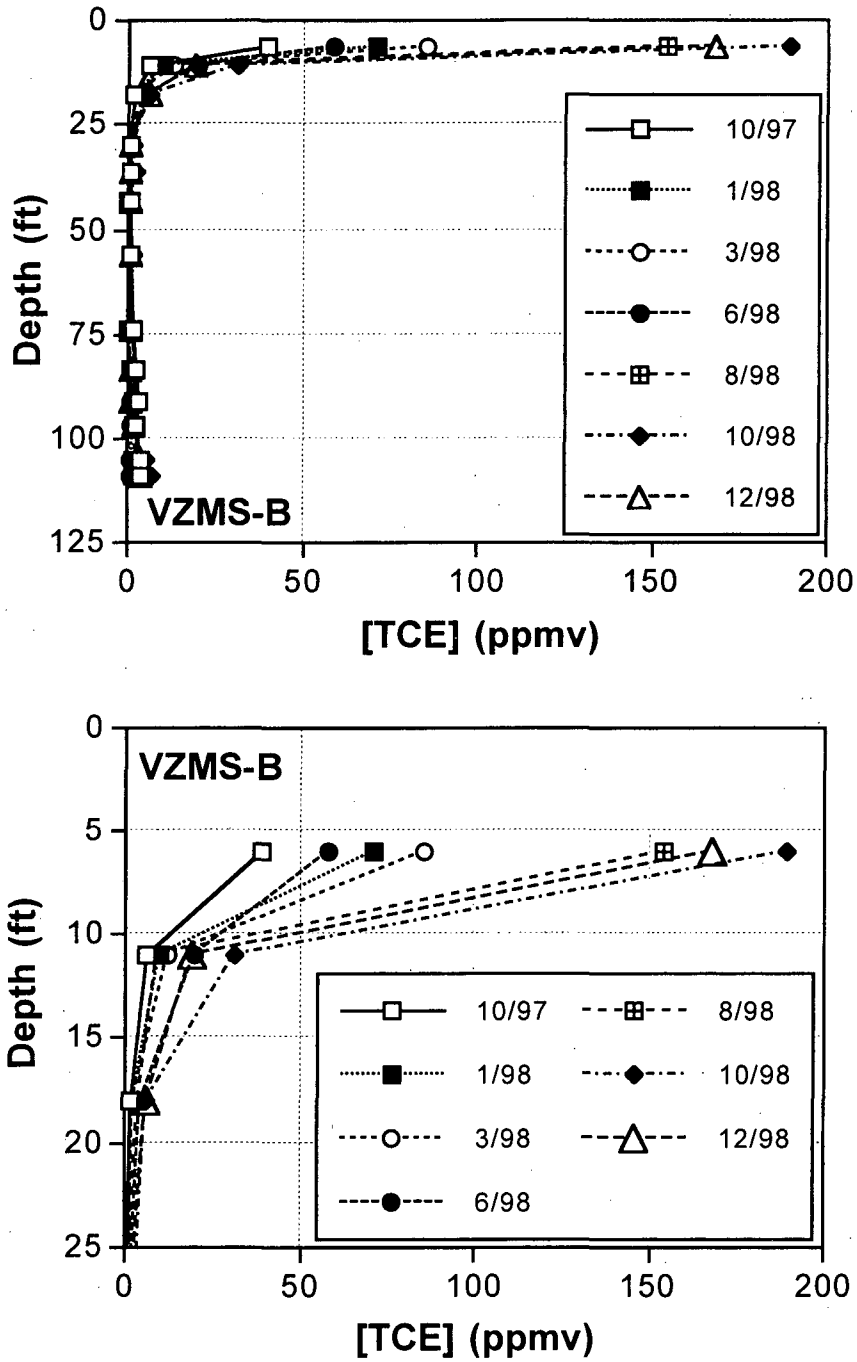


Figure 2. TCE concentrations in the gas-phase, as measured in VZMS-A, from October 1997 to October 1998. The lower frame highlights the shallow depths (0-25 ft), where the largest changes were observed.

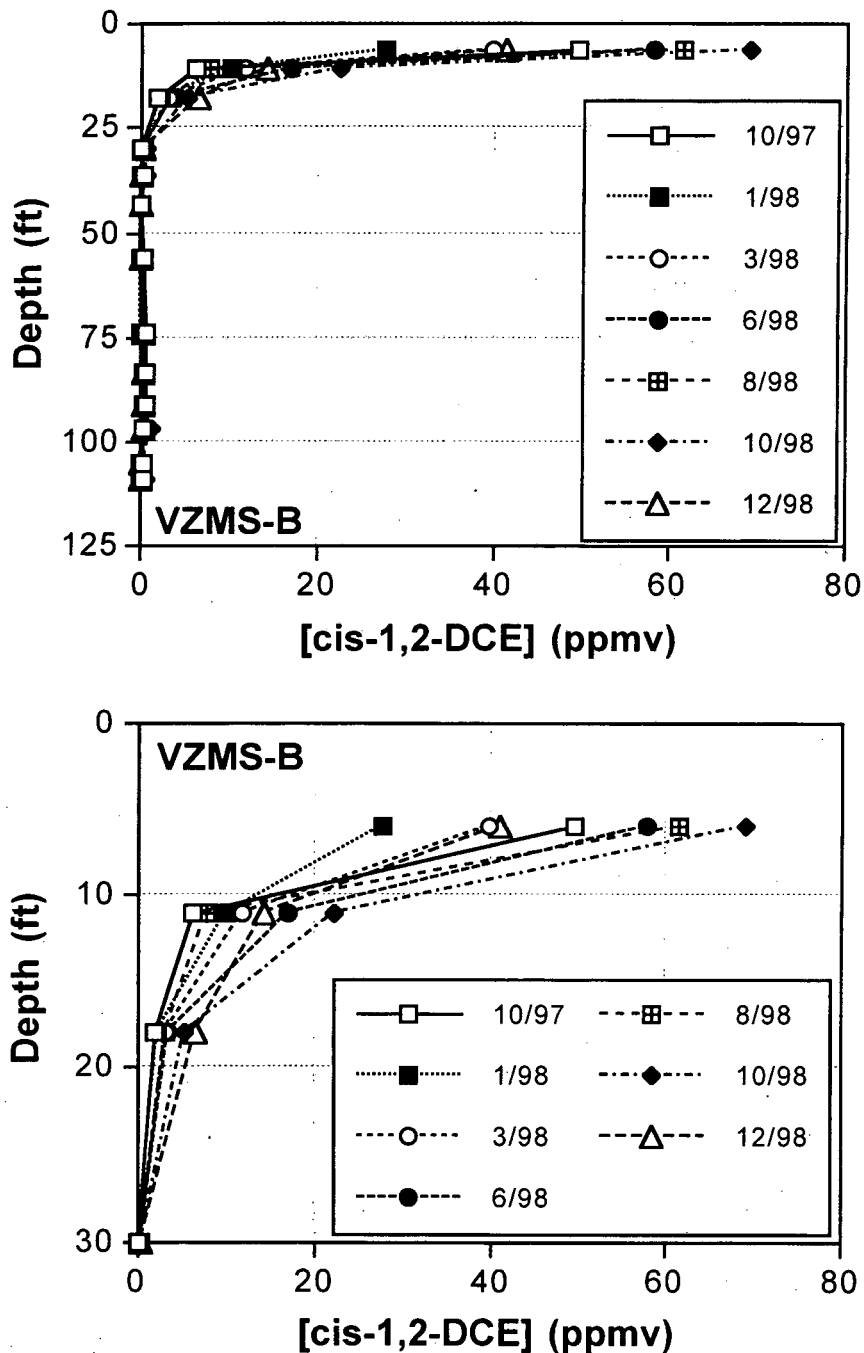


Figure 3. Cis-1,2-DCE concentrations in the gas-phase, as measured in VZMS-B, from October 1997 to October 1998. The lower frame highlights the shallow depths (0-30 ft), where the largest changes were observed.

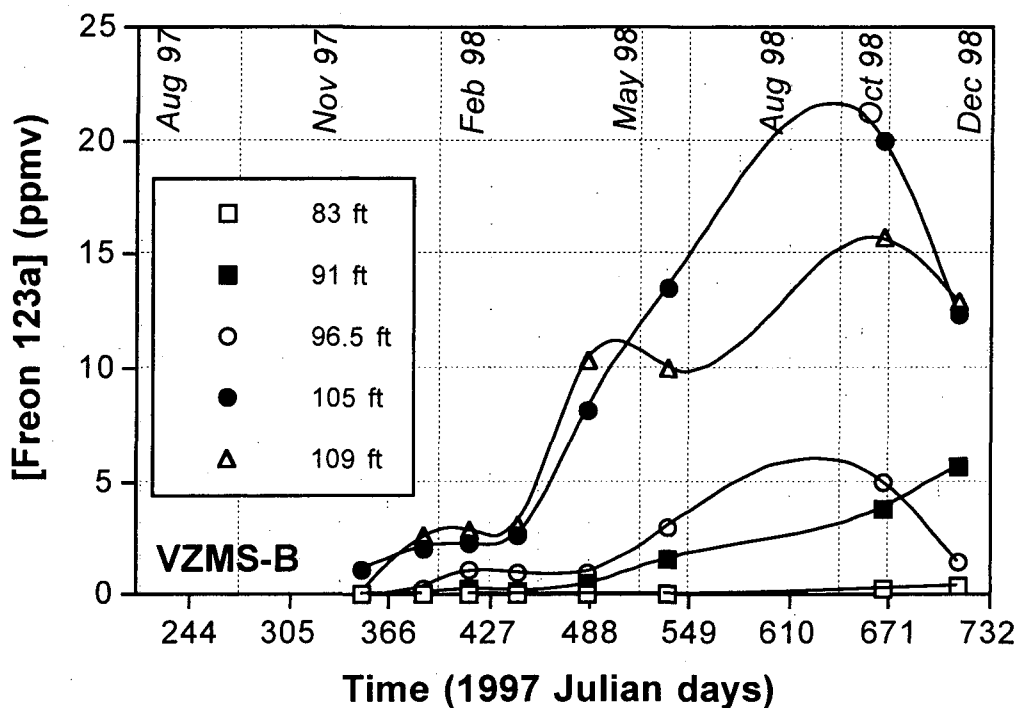


Figure 4. Freon 123a concentrations in the gas-phase, as measured in VZMS-B at 83, 91, 96.5, 105, and 109 ft, from December 1997 to December 1998.

Time-trends in Freon 123a concentrations in Well B are shown in Fig. 4. Data from 8/13/98 is not presented because of unexplained anomalous results. Since Freon 123a has not been detected at depths shallower than 83 ft, only data from that and greater depths are presented. Overall, there have been gradual increases in Freon 123a at all levels below 83 ft, though small decreases occurred between October and December 1998. The reasons for these trends are not clear.

### 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 12/14/98, 1/27/98 (1/20/98 in Well C) and 2/27/99 (2/20/99 in Well C). 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. 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.

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. 5, while cis-1,2-DCE values are shown in Fig. 6. 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 VZMS-A and -B, as shown in Figs. 5 and 6, are sparse. Concentrations of both TCE and cis-1,2-DCE showed either no change or an increase in December 1998, followed by gradual decreases in January and February 1999.

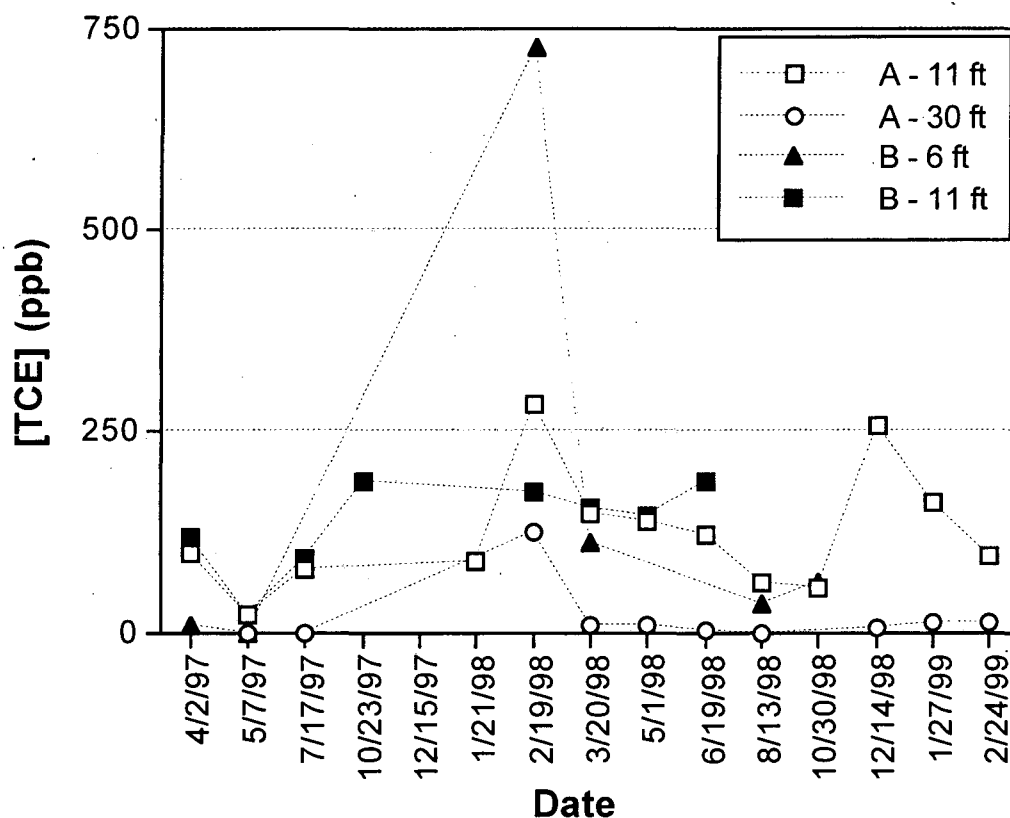


Figure 5. TCE concentrations in the liquid-phase, as measured in Well A at 11 and 30 ft, and Well B, at 6 and 11 ft, from April 1997 to February 1999.

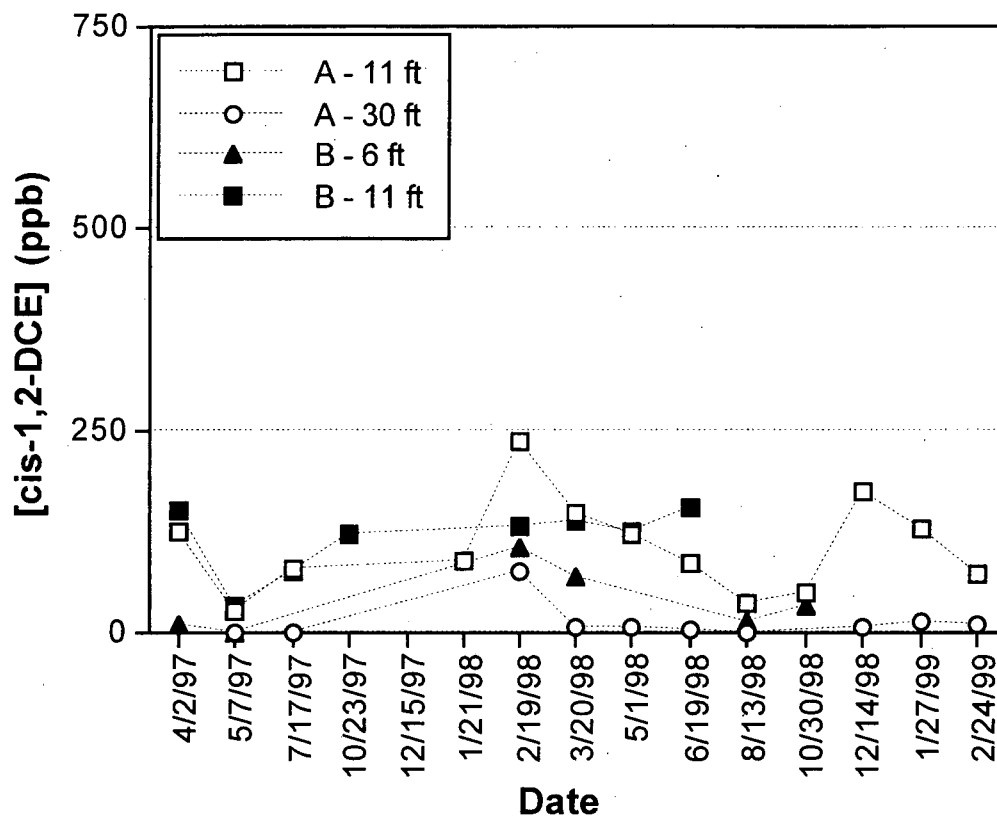


Figure 6. Cis-1,2-DCE concentrations in the liquid-phase, as measured in Well A at 11 and 30 ft, and Well B, at 6 and 11 ft, from April 1997 to February 1999.

The profiles of TCE and cis-1,2-DCE concentrations in Well C are shown in Figs. 7 and 8, 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.

Substantial increases in TCE concentrations were observed between 10/98 and 12/98 at 3 ft, 5 ft, and 7 ft. Smaller increases were observed at deeper depths. Similar trends can be seen in the cis-1,2-DCE distribution (Fig. 8). Concentrations on 1/27/99 were similar to those on 12/14/98, except at 3 ft, where both TCE and cis-1,2-DCE decreased. Overall, the shape of the TCE and cis-1,2-DCE profiles remained unchanged. Relatively large increases at 11 ft suggest that infiltrating water containing dissolved VOC movement is moving downward.

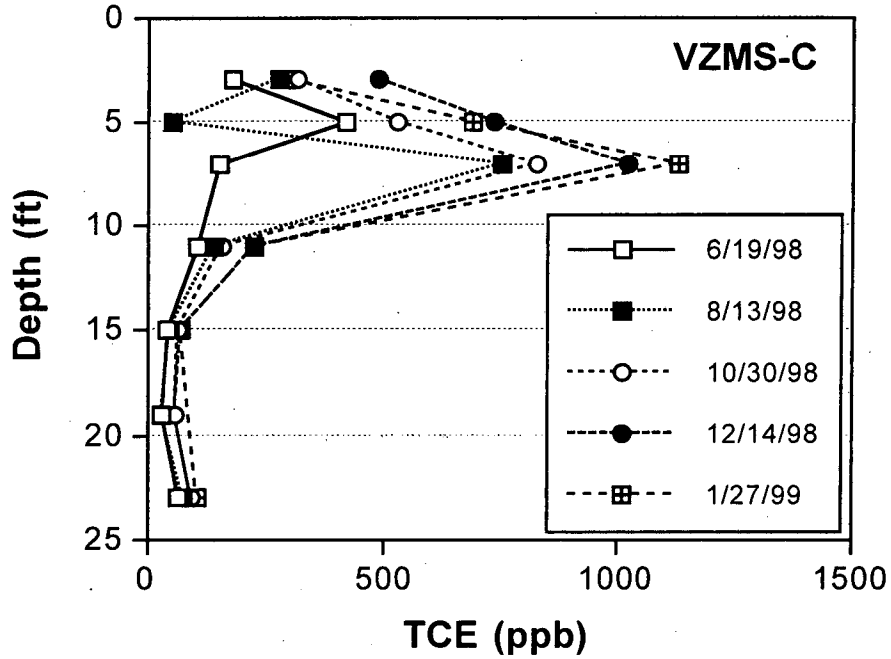


Figure 7. TCE concentrations in the liquid-phase, as measured in Well C from 6/98 to 1/99.

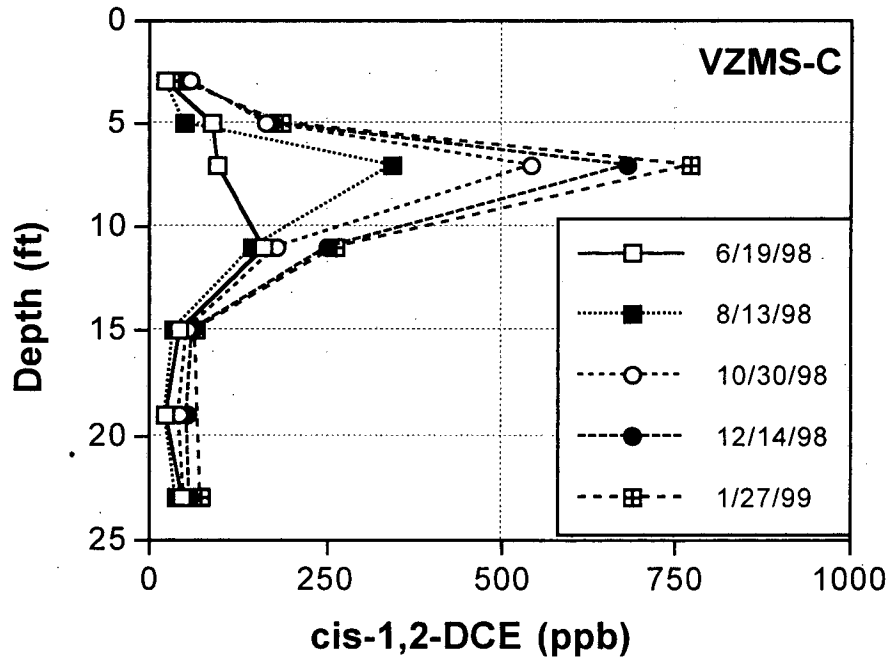


Figure 8. Cis-1,2-DCE concentrations in the liquid-phase, as measured in Well C from 6/98 to 1/99.

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 40 to 100 ppb.

*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
10/30/98	47	38
12/14/98	48	43
1/27/99	40	46

## 2.4 Matric Potential Measurements: Well C

As described in a 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. 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.

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 15 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. Data from tensiometers at 3, 5, 7, 11, and 15 ft are shown in Figure 9. Note that data from the 11-ft tensiometer were not available in Dec. 98 and Jan. 99, due to unexplained tensiometer failure. Any positive matric potentials indicate a saturated state. Therefore, the formation at the 3-ft depth was saturated in May and June 1998, became unsaturated in August and October 1998, and once again became saturated in December 1998 and January 1999. Similar time trends are observed at 5 ft. One needs to keep in mind that the change in moisture content at or near saturation can be very small (e.g., <1%) and still result in a measurable change in matric potential. Although changes in matric potential are seen at 7 and 15 ft, they are not consistent with those at 3



and 5 ft. This suggests that seasonal changes in moisture content affect the matric potential in the top 5 ft of the formation, but do not correlate with data from deeper levels.

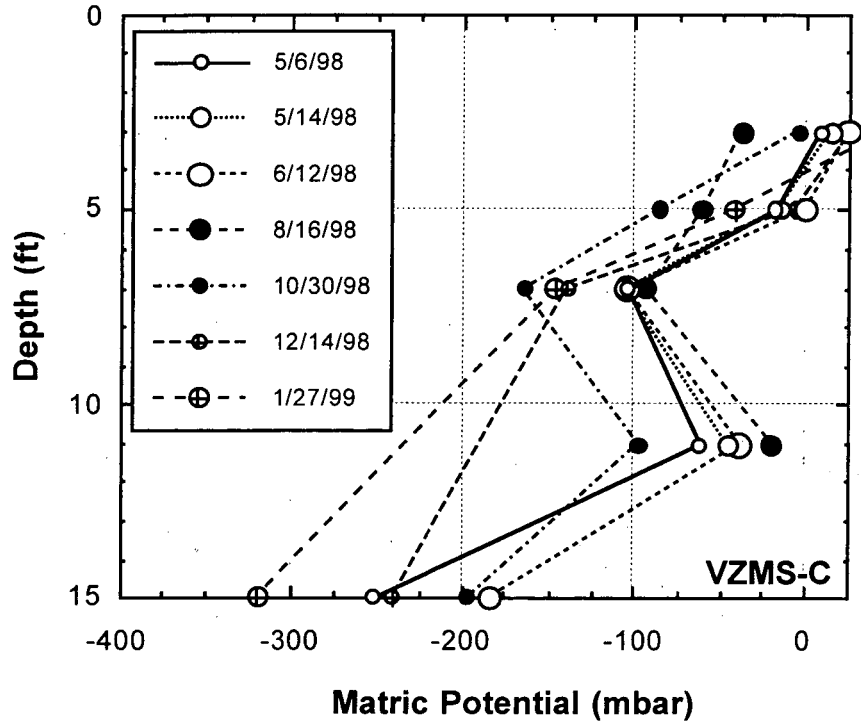


Figure 9. Matric potential measured using tensiometers in Well C, 5/98-1/99.

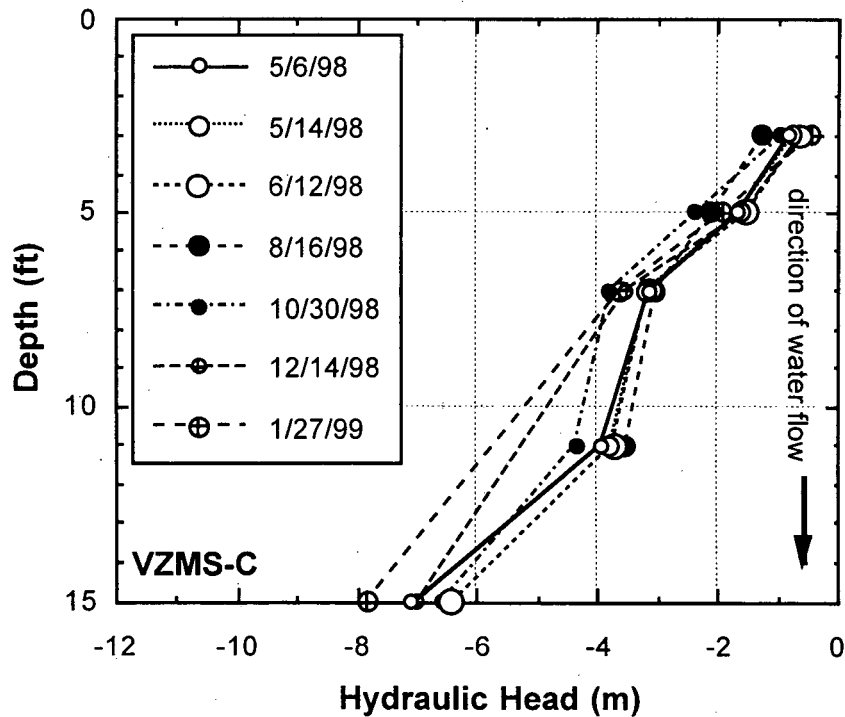


Figure 10. Hydraulic head as measured using tensiometers in Well C, 5/98-1/99.

Tensiometer readings are expressed in terms of total hydraulic head in Figure 10. 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.

## 2.5 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 Well A is shown in Fig. 11, beginning in May 1997 through February 1999. Temperature patterns from Well B (not shown) are nearly identical.

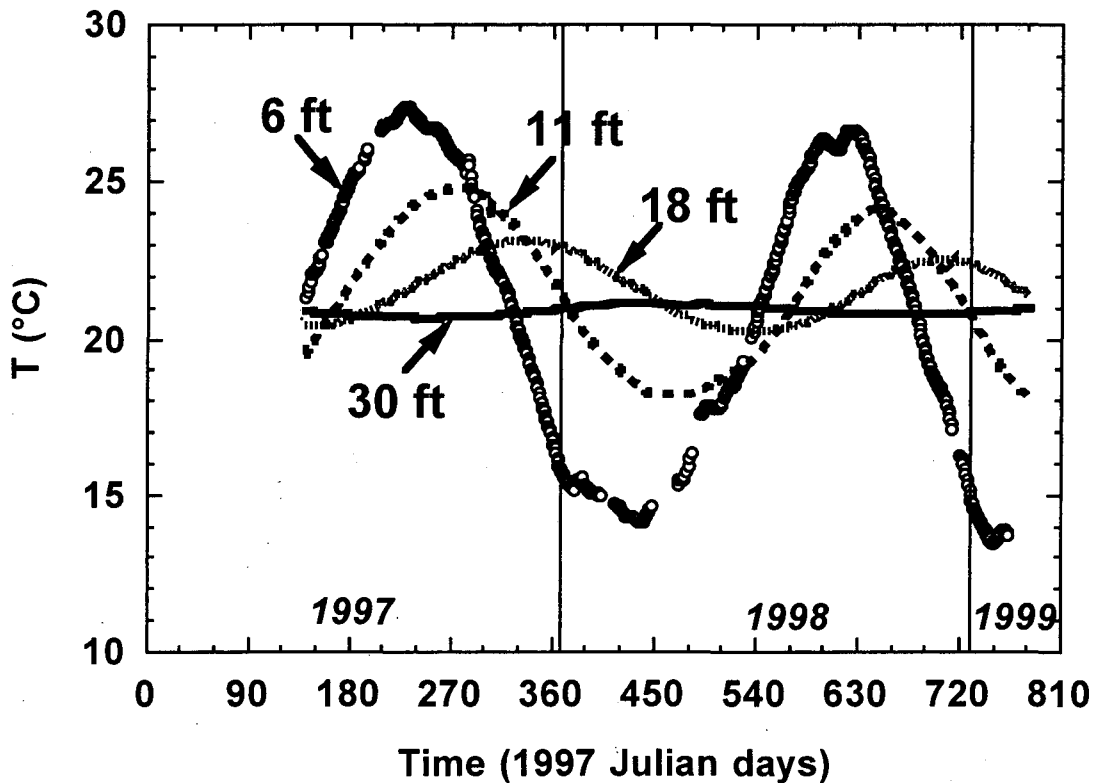


Figure 11. Temperature measured over a period of 21 months, from 5/97 to 2/99, at the four shallowest depths in Well A.

Temperature fluctuations are dampened rapidly with depth; temperature at 6 ft varies from as high as 27°C in August, to as low as 14°C in March, while temperature at 18 ft varies by only  $\pm 1.5^\circ\text{C}$  from a mean of 21.5°C, and at 30 ft net changes are on the order of a fraction of a degree. This graph also illustrates a time lag in the temperature cycle at each depth, with peak temperatures at 6 ft and at 18 ft occurring in August and December, respectively. Such lags, and those at uninstrumented shallower depths, which cannot be documented, result in reversals of the temperature gradient, which could contribute to the movement of VOCs in the top 20 ft of the profile. Diurnal temperature effects were not observed at any depth.

### 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 tensiometers and soil water samplers of Well C.

Measurements obtained with tensiometers in VZMS-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, remains in the range of -0.5 to -1.0 bar. Also, based on the vertical trends, this condition may persist throughout most of the profile. VZMS-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.

Sufficient temperature data has been collected to fully simulate seasonal fluctuations. By the middle of May 1999, a full 2-yr period of temperature will be available.

## PREVIOUS REPORTS

LBNL, 1996. *Vadose Zone Monitoring System Installation Report for McClellan AFB*. Prepared by Zawislanski, P.T., B. Faybishenko, A. James, B. Freifeld, and R. Salve, for Department of the Air Force, McClellan AFB, LBNL Report 39525, October, 1996.

LBNL, 1997a. Monitoring and Data Analysis for the Vadose Zone Monitoring System (VZMS), McClellan AFB. Prepared by Zawislanski, P.T., R. Salve, B. Freifeld, H.S. Mountford, R. Dahlquist, A. James, S. Rodriguez, and B. Faybishenko, Quarterly Status Report to the Department of the Air Force, McClellan AFB, LBNL Report 40377, May 28, 1997.

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LBNL, 1998d. Monitoring and Data Analysis for the Vadose Zone Monitoring System (VZMS), McClellan AFB. Prepared by Zawislanski, P.T., H.S. Mountford, R. Dahlquist, and A.L. James, Quarterly Status Report to the Department of the Air Force, McClellan AFB, LBNL Report 42326, September 24, 1998.

LBNL, 1998e. Monitoring and Data Analysis for the Vadose Zone Monitoring System (VZMS), McClellan AFB. Prepared by Zawislanski, P.T., H.S. Mountford, and R. Dahlquist, Quarterly Status Report to the Department of the Air Force, McClellan AFB, LBNL Report 42326, December 28, 1998.

**APPENDIX - ANALYTICAL REPORTS**

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A1	Laboratory ID:	OW981294
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/17/98	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	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	3.0
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	47.8	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	5.0
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	53.3	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

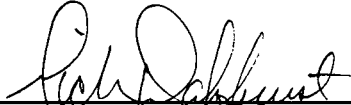
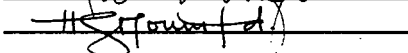
Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99.0	86-115
Dibromofluoromethane	102.8	86-118
Toluene-d8	96.4	88-110

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: 
Date: 1/6/99Date: 1/6/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A6	Laboratory ID:	OW981295
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/17/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.9
2	Bromobenzene	108-86-1	LT	1.9
3	Bromochloromethane	74-97-5	LT	3.9
4	Bromodichloromethane	75-27-4	LT	1.9
5	Bromoform	75-25-2	LT	3.9
6	Bromomethane	74-83-9	LT	7.8
7	n-Butylbenzene	104-51-8	LT	1.9
8	sec-Butylbenzene	135-98-8	LT	1.9
9	ter-Butylbenzene	98-06-6	LT	1.9
10	Carbon Tetrachloride	56-23-5	LT	1.9
11	Chlorobenzene	108-90-7	LT	1.9
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	58.1
13	Chloroethane	75-00-3	LT	58.1
14	Chloroform	67-66-3	LT	1.9
15	Chloromethane	74-87-3	LT	1.9
16	2-Chlorotoluene	95-49-8	LT	3.9
17	4-Chlorotoluene	106-43-4	LT	3.9
18	Dibromochloromethane	124-48-1	LT	3.9
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	3.9
20	1,2-Dibromoethane	106-93-4	LT	3.9
21	Dibromomethane	74-95-3	LT	1.9
22	1,2-Dichlorobenzene	95-50-1	LT	1.9
23	1,3-Dichlorobenzene	541-73-1	LT	1.9
24	1,4-Dichlorobenzene	106-46-7	LT	1.9
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	5.8
26	1,1-Dichloroethane	75-34-3	LT	1.9
27	1,2-Dichloroethane	107-06-2	LT	3.9
28	1,1-Dichloroethene	75-35-4	LT	1.9
29	cis-1,2-Dichloroethene	156-69-9	LT	1.9
30	trans-1,2-Dichloroethene	156-60-5	LT	1.9
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	5.8
32	1,2-Dichloropropane	78-87-5	LT	1.9
33	1,3-Dichloropropane	142-28-9	LT	1.9
34	2,2-Dichloropropane	594-20-7	LT	1.9



	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.9
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.9
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.9
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	5.8
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.9
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.9
41	Ethylbenzene	100-41-4	LT	1.9
42	Hexachlorobutadien	87-68-3	LT	5.8
43	Isopropylbenzene	98-82-8	LT	3.9
44	p-Isopropyltoluene	99-87-6	LT	1.9
45	Methylene Chloride	75-09-2	LT	1.9
45	Methyl tert-Butyl Ether	1634-04-4	LT	9.7
46	Naphthalene	91-20-3	LT	3.9
47	n-Propylbenzene	103-65-1	LT	1.9
48	Styrene	100-42-5	LT	1.9
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.9
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	3.9
51	Tetrachloroethene	127-18-4	LT	1.9
52	Toluene	108-88-3	LT	1.9
53	1,2,3-Trichlorobenzene	87-61-6	LT	3.9
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.9
55	1,1,1-Trichloroethane	71-55-6	LT	1.9
56	1,1,2-Trichloroethane	79-00-5	LT	1.9
57	Trichloroethene	79-01-6	LT	1.9
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	3.9
59	1,2,3-Trichloropropane	96-18-4	LT	1.9
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.9
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.9
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.9
63	Vinyl Chloride	75-01-4	LT	1.9
64	Total-Xylene	1330-20-7	LT	3.9

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99.6	86-115
Dibromofluoromethane	101.9	86-118
Toluene-d8	95.8	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: 1/6/99

Date: 1/6/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A10	Laboratory ID:	OW981296
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/17/98	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	6.9
4	Bromodichloromethane	75-27-4	LT	3.4
5	Bromoform	75-25-2	LT	6.9
6	Bromomethane	74-83-9	LT	13.8
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	103.4
13	Chloroethane	75-00-3	LT	103.4
14	Chloroform	67-66-3	LT	3.4
15	Chloromethane	74-87-3	LT	3.4
16	2-Chlorotoluene	95-49-8	LT	6.9
17	4-Chlorotoluene	106-43-4	LT	6.9
18	Dibromochloromethane	124-48-1	LT	6.9
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	6.9
20	1,2-Dibromoethane	106-93-4	LT	6.9
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	10.3
26	1,1-Dichloroethane	75-34-3	LT	3.4
27	1,2-Dichloroethane	107-06-2	LT	6.9
28	1,1-Dichloroethene	75-35-4	LT	3.4
29	cis-1,2-Dichloroethene	156-69-9	4.9	3.4
30	trans-1,2-Dichloroethene	156-60-5	LT	3.4
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	10.3
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	10.3
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	10.3
43	Isopropylbenzene	98-82-8	LT	6.9
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	17.2
46	Naphthalene	91-20-3	LT	6.9
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	6.9
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	6.9
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	5.8	3.4
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	6.9
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	6.9

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99.0	86-115
Dibromofluoromethane	100.8	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:

*[Signature]*  
*[Signature]*

Date: 1/6/99

Date: 1/6/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A12	Laboratory ID:	OW981297
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/17/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	2.1
2	Bromobenzene	108-86-1	LT	2.1
3	Bromochloromethane	74-97-5	LT	4.3
4	Bromodichloromethane	75-27-4	LT	2.1
5	Bromoform	75-25-2	LT	4.3
6	Bromomethane	74-83-9	LT	8.5
7	n-Butylbenzene	104-51-8	LT	2.1
8	sec-Butylbenzene	135-98-8	LT	2.1
9	ter-Butylbenzene	98-06-6	LT	2.1
10	Carbon Tetrachloride	56-23-5	LT	2.1
11	Chlorobenzene	108-90-7	LT	2.1
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	64.1
13	Chloroethane	75-00-3	LT	64.1
14	Chloroform	67-66-3	LT	2.1
15	Chloromethane	74-87-3	LT	2.1
16	2-Chlorotoluene	95-49-8	LT	4.3
17	4-Chlorotoluene	106-43-4	LT	4.3
18	Dibromochloromethane	124-48-1	LT	4.3
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	4.3
20	1,2-Dibromoethane	106-93-4	LT	4.3
21	Dibromomethane	74-95-3	LT	2.1
22	1,2-Dichlorobenzene	95-50-1	LT	2.1
23	1,3-Dichlorobenzene	541-73-1	LT	2.1
24	1,4-Dichlorobenzene	106-46-7	LT	2.1
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	6.4
26	1,1-Dichloroethane	75-34-3	LT	2.1
27	1,2-Dichloroethane	107-06-2	LT	4.3
28	1,1-Dichloroethene	75-35-4	LT	2.1
29	cis-1,2-Dichloroethene	156-69-9	172	2.1
30	trans-1,2-Dichloroethene	156-60-5	LT	2.1
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	6.4
32	1,2-Dichloropropane	78-87-5	LT	2.1
33	1,3-Dichloropropane	142-28-9	LT	2.1
34	2,2-Dichloropropane	594-20-7	LT	2.1

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	2.1
36	cis-1,3-Dichloropropene	10061-01-5	LT	2.1
37	trans-1,3-Dichloropropene	10061-02-6	LT	2.1
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	6.4
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	2.1
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	2.1
41	Ethylbenzene	100-41-4	LT	2.1
42	Hexachlorobutadien	87-68-3	LT	6.4
43	Isopropylbenzene	98-82-8	LT	4.3
44	p-Isopropyltoluene	99-87-6	LT	2.1
45	Methylene Chloride	75-09-2	LT	2.1
45	Methyl tert-Butyl Ether	1634-04-4	LT	10.7
46	Naphthalene	91-20-3	LT	4.3
47	n-Propylbenzene	103-65-1	LT	2.1
48	Styrene	100-42-5	LT	2.1
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	2.1
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	4.3
51	Tetrachloroethene	127-18-4	LT	2.1
52	Toluene	108-88-3	LT	2.1
53	1,2,3-Trichlorobenzene	87-61-6	LT	4.3
54	1,2,4-Trichlorobenzene	120-82-1	LT	2.1
55	1,1,1-Trichloroethane	71-55-6	LT	2.1
56	1,1,2-Trichloroethane	79-00-5	LT	2.1
57	Trichloroethene	79-01-6	254	2.1
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	4.3
59	1,2,3-Trichloropropane	96-18-4	LT	2.1
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	2.1
61	1,2,4-Trimethylbenzene	95-63-6	LT	2.1
62	1,3,5-Trimethylbenzene	108-67-8	LT	2.1
63	Vinyl Chloride	75-01-4	LT	2.1
64	Total-Xylene	1330-20-7	LT	4.3

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	100.6	86-115
Dibromofluoromethane	102.6	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:

*Rich Dahlquist*  
*H. J. G. J. J. J.*

Date:

Date:

1/16/99

1/16/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	B1	Laboratory ID:	OW981298
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/17/98	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	2.9	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	42.8	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	5.0
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	56.8	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	99.2	86-115
Dibromofluoromethane	101.8	86-118
Toluene-d8	95.2	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: *Rich Dahlquist*  
Reviewer: *H. G. ...*Date: 1/6/99  
Date: 1/6/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	B8	Laboratory ID:	OW981299
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/17/98	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	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	3.0
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	5.0
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	103.8	86-115
Dibromofluoromethane	101.2	86-118
Toluene-d8	95.0	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: *John Dahlquist*  
 Reviewer: *H. J. [Signature]*
Date: 1/6/99Date: 1/6/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:           C1                Laboratory ID:           OW9812100            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           12/14/98                Date Received:           12/15/98            
 Date Analyzed:           12/18/98                Method:           EPA 8260(Purge & Trap)          

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.4
2	Bromobenzene	108-86-1	LT	1.4
3	Bromochloromethane	74-97-5	LT	2.9
4	Bromodichloromethane	75-27-4	LT	1.4
5	Bromoform	75-25-2	LT	2.9
6	Bromomethane	74-83-9	LT	5.7
7	n-Butylbenzene	104-51-8	LT	1.4
8	sec-Butylbenzene	135-98-8	LT	1.4
9	ter-Butylbenzene	98-06-6	LT	1.4
10	Carbon Tetrachloride	56-23-5	LT	1.4
11	Chlorobenzene	108-90-7	LT	1.4
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	43.0
13	Chloroethane	75-00-3	LT	43.0
14	Chloroform	67-66-3	LT	1.4
15	Chloromethane	74-87-3	LT	1.4
16	2-Chlorotoluene	95-49-8	LT	2.9
17	4-Chlorotoluene	106-43-4	LT	2.9
18	Dibromochloromethane	124-48-1	LT	2.9
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.9
20	1,2-Dibromoethane	106-93-4	LT	2.9
21	Dibromomethane	74-95-3	LT	1.4
22	1,2-Dichlorobenzene	95-50-1	LT	1.4
23	1,3-Dichlorobenzene	541-73-1	LT	1.4
24	1,4-Dichlorobenzene	106-46-7	LT	1.4
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	4.3
26	1,1-Dichloroethane	75-34-3	LT	1.4
27	1,2-Dichloroethane	107-06-2	6.1	2.9
28	1,1-Dichloroethene	75-35-4	LT	1.4
29	cis-1,2-Dichloroethene	156-69-9	57.1	1.4
30	trans-1,2-Dichloroethene	156-60-5	LT	1.4
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	4.3
32	1,2-Dichloropropane	78-87-5	LT	1.4
33	1,3-Dichloropropane	142-28-9	LT	1.4
34	2,2-Dichloropropane	594-20-7	LT	1.4

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.4
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.4
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.4
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	4.3
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.4
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.4
41	Ethylbenzene	100-41-4	LT	1.4
42	Hexachlorobutadien	87-68-3	LT	4.3
43	Isopropylbenzene	98-82-8	LT	2.9
44	p-Isopropyltoluene	99-87-6	LT	1.4
45	Methylene Chloride	75-09-2	LT	1.4
45	Methyl tert-Butyl Ether	1634-04-4	LT	7.2
46	Naphthalene	91-20-3	LT	2.9
47	n-Propylbenzene	103-65-1	LT	1.4
48	Styrene	100-42-5	LT	1.4
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.4
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.9
51	Tetrachloroethene	127-18-4	LT	1.4
52	Toluene	108-88-3	LT	1.4
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.9
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.4
55	1,1,1-Trichloroethane	71-55-6	LT	1.4
56	1,1,2-Trichloroethane	79-00-5	LT	1.4
57	Trichloroethene	79-01-6	94.0	1.4
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.9
59	1,2,3-Trichloropropane	96-18-4	LT	1.4
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.4
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.4
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.4
63	Vinyl Chloride	75-01-4	LT	1.4
64	Total-Xylene	1330-20-7	LT	2.9

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	97.2	86-115
Dibromofluoromethane	99.2	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: *Rich Dahlquist*Reviewer: *H. Sporn*Date: 1/6/99Date: 1/6/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	C2	Laboratory ID:	OW9812101
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/18/98	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	8.8	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	53.3	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	5.0
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	61.3	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	97.6	86-115
Dibromofluoromethane	102.6	86-118
Toluene-d8	95.0	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: KGDate: 1/6/99  
Date: 1/6/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	C3	Laboratory ID:	OW9812102
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/18/98	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	9.2	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	61.1	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	5.0
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	68.1	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
Dibromofluoromethane	100.6	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: *John Dahlquist*  
 Reviewer: *[Signature]*

Date: 1/6/99

Date: 1/6/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:           C4                Laboratory ID:           OW9812103            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           12/14/98                Date Received:           12/15/98            
 Date Analyzed:           12/18/98                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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	7.1	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	252	5.0
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	5.0
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	224	5.0
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	101.0	86-115
Dibromofluoromethane	102.8	86-118
Toluene-d8	94.4	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. G. ...*

Date: 1/6/99

Date: 1/6/99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:           C5                Laboratory ID:           OW9812104            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           12/14/98                Date Received:           12/15/98            
 Date Analyzed:           12/18/98                Method:           EPA 8260(Purge & Trap)          

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	10.0
2	Bromobenzene	108-86-1	LT	10.0
3	Bromochloromethane	74-97-5	LT	20.0
4	Bromodichloromethane	75-27-4	LT	10.0
5	Bromoform	75-25-2	LT	20.0
6	Bromomethane	74-83-9	LT	40.0
7	n-Butylbenzene	104-51-8	LT	10.0
8	sec-Butylbenzene	135-98-8	LT	10.0
9	ter-Butylbenzene	98-06-6	LT	10.0
10	Carbon Tetrachloride	56-23-5	LT	10.0
11	Chlorobenzene	108-90-7	LT	10.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	300.0
13	Chloroethane	75-00-3	LT	300.0
14	Chloroform	67-66-3	LT	10.0
15	Chloromethane	74-87-3	LT	10.0
16	2-Chlorotoluene	95-49-8	LT	20.0
17	4-Chlorotoluene	106-43-4	LT	20.0
18	Dibromochloromethane	124-48-1	LT	20.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	20.0
20	1,2-Dibromoethane	106-93-4	LT	20.0
21	Dibromomethane	74-95-3	LT	10.0
22	1,2-Dichlorobenzene	95-50-1	LT	10.0
23	1,3-Dichlorobenzene	541-73-1	LT	10.0
24	1,4-Dichlorobenzene	106-46-7	LT	10.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	30.0
26	1,1-Dichloroethane	75-34-3	LT	10.0
27	1,2-Dichloroethane	107-06-2	LT	20.0
28	1,1-Dichloroethene	75-35-4	LT	10.0
29	cis-1,2-Dichloroethene	156-69-9	680	10.0
30	trans-1,2-Dichloroethene	156-60-5	LT	10.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	30.0
32	1,2-Dichloropropane	78-87-5	LT	10.0
33	1,3-Dichloropropane	142-28-9	LT	10.0
34	2,2-Dichloropropane	594-20-7	LT	10.0

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	10.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	10.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	10.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	30.0
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	10.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	10.0
41	Ethylbenzene	100-41-4	LT	10.0
42	Hexachlorobutadien	87-68-3	LT	30.0
43	Isopropylbenzene	98-82-8	LT	20.0
44	p-Isopropyltoluene	99-87-6	LT	10.0
45	Methylene Chloride	75-09-2	LT	10.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	50.0
46	Naphthalene	91-20-3	LT	20.0
47	n-Propylbenzene	103-65-1	LT	10.0
48	Styrene	100-42-5	LT	10.0
49	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	20.0
51	Tetrachloroethene	127-18-4	LT	10.0
52	Toluene	108-88-3	LT	10.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	20.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	10.0
55	1,1,1-Trichloroethane	71-55-6	LT	10.0
56	1,1,2-Trichloroethane	79-00-5	LT	10.0
57	Trichloroethene	79-01-6	1020	10.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	20.0
59	1,2,3-Trichloropropane	96-18-4	LT	10.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	10.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	10.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	10.0
63	Vinyl Chloride	75-01-4	LT	10.0
64	Total-Xylene	1330-20-7	LT	20.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	102.4	86-115
Dibromofluoromethane	104.2	86-118
Toluene-d8	96.2	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*  
*[Signature]*

Date:

Date:

1/6/99

1/6/99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C6	Laboratory ID:	OW9812105
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/18/98	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	173	10.0
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	5.0
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	1.6	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	737	10.0
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	99.0	86-115
Dibromofluoromethane	101.4	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:

Reviewer:

*John Dahlquist*  
*H. J. P. ...*

Date: 1/6/99

Date: 1/6/99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C7	Laboratory ID:	OW9812106
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/18/98	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	52.4	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	488	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	101.4	86-115
Dibromofluoromethane	104.6	86-118
Toluene-d8	94.6	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. ...*

Date: 1/6/99

Date: 1/6/99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	DUP 1	Laboratory ID:	OW9812107
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/18/98	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	1.9	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	50.4	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	5.0
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	49.7	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	105.0	86-115
Dibromofluoromethane	107.8	86-118
Toluene-d8	99.4	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: *Rich Dahlquist*  
 Reviewer: *W. Spunt*

Date: 1/6/99

Date: 1/6/99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	DUP 2	Laboratory ID:	OW9812108
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	12/14/98	Date Received:	12/15/98
Date Analyzed:	12/18/98	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	2.2	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	45.6	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	5.0
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	60.1	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	102.8	86-115
Dibromofluoromethane	103.4	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. S. [Signature]*

Date: 1/6/99

Date: 1/6/99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A1	Laboratory ID:	OW990205
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	1.0	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	40.1	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadiene	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	5.0
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	31.4	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
Dibromofluoromethane	98.6	86-118
Toluene-d8	92.2	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 D. Delaney*  
*H. J. ...*

Date: 3/26/99

Date: 3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A6	Laboratory ID:	OW990206
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	8.3
2	Bromobenzene	108-86-1	LT	8.3
3	Bromochloromethane	74-97-5	LT	16.7
4	Bromodichloromethane	75-27-4	LT	8.3
5	Bromoform	75-25-2	LT	16.7
6	Bromomethane	74-83-9	LT	33.3
7	n-Butylbenzene	104-51-8	LT	8.3
8	sec-Butylbenzene	135-98-8	LT	8.3
9	ter-Butylbenzene	98-06-6	LT	8.3
10	Carbon Tetrachloride	56-23-5	LT	8.3
11	Chlorobenzene	108-90-7	LT	8.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	250.0
13	Chloroethane	75-00-3	LT	250.0
14	Chloroform	67-66-3	LT	8.3
15	Chloromethane	74-87-3	LT	8.3
16	2-Chlorotoluene	95-49-8	LT	16.7
17	4-Chlorotoluene	106-43-4	LT	16.7
18	Dibromochloromethane	124-48-1	LT	16.7
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	16.7
20	1,2-Dibromoethane	106-93-4	LT	16.7
21	Dibromomethane	74-95-3	LT	8.3
22	1,2-Dichlorobenzene	95-50-1	LT	8.3
23	1,3-Dichlorobenzene	541-73-1	LT	8.3
24	1,4-Dichlorobenzene	106-46-7	LT	8.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	25.0
26	1,1-Dichloroethane	75-34-3	LT	8.3
27	1,2-Dichloroethane	107-06-2	LT	16.7
28	1,1-Dichloroethene	75-35-4	LT	8.3
29	cis-1,2-Dichloroethene	156-69-9	LT	8.3
30	trans-1,2-Dichloroethene	156-60-5	LT	8.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	25.0
32	1,2-Dichloropropane	78-87-5	LT	8.3
33	1,3-Dichloropropane	142-28-9	LT	8.3
34	2,2-Dichloropropane	594-20-7	LT	8.3

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	8.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	8.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	8.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	25.0
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	8.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	8.3
41	Ethylbenzene	100-41-4	LT	8.3
42	Hexachlorobutadien	87-68-3	LT	25.0
43	Isopropylbenzene	98-82-8	LT	16.7
44	p-Isopropyltoluene	99-87-6	LT	8.3
45	Methylene Chloride	75-09-2	LT	8.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	41.7
46	Naphthalene	91-20-3	LT	16.7
47	n-Propylbenzene	103-65-1	LT	8.3
48	Styrene	100-42-5	LT	8.3
49	1,1,1,2-Tetrachloroethane	79-34-5	LT	8.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	16.7
51	Tetrachloroethene	127-18-4	LT	8.3
52	Toluene	108-88-3	LT	8.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	16.7
54	1,2,4-Trichlorobenzene	120-82-1	LT	8.3
55	1,1,1-Trichloroethane	71-55-6	LT	8.3
56	1,1,2-Trichloroethane	79-00-5	LT	8.3
57	Trichloroethene	79-01-6	LT	8.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	16.7
59	1,2,3-Trichloropropane	96-18-4	LT	8.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	8.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	8.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	8.3
63	Vinyl Chloride	75-01-4	LT	8.3
64	Total-Xylene	1330-20-7	LT	16.7

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	97.0	86-115
Dibromofluoromethane	100.8	86-118
Toluene-d8	91.8	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:

*Peter Dahlquist*  
*H. J. [Signature]*

Date: 3/26/99

Date: 3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A10	Laboratory ID:	OW990207
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	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	11.6	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	11.2	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	94.8	86-115
Dibromofluoromethane	101.4	86-118
Toluene-d8	92.4	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: John Doherty  
 Reviewer: [Signature]

Date: 3/26/99  
 Date: 3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	A12	Laboratory ID:	OW990208
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	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	2.6
4	Bromodichloromethane	75-27-4	LT	1.3
5	Bromoform	75-25-2	LT	2.6
6	Bromomethane	74-83-9	LT	5.3
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	39.5
13	Chloroethane	75-00-3	LT	39.5
14	Chloroform	67-66-3	LT	1.3
15	Chloromethane	74-87-3	LT	1.3
16	2-Chlorotoluene	95-49-8	LT	2.6
17	4-Chlorotoluene	106-43-4	LT	2.6
18	Dibromochloromethane	124-48-1	LT	2.6
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.6
20	1,2-Dibromoethane	106-93-4	LT	2.6
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	3.9
26	1,1-Dichloroethane	75-34-3	LT	1.3
27	1,2-Dichloroethane	107-06-2	LT	2.6
28	1,1-Dichloroethene	75-35-4	LT	1.3
29	cis-1,2-Dichloroethene	156-69-9	126	1.3
30	trans-1,2-Dichloroethene	156-60-5	LT	1.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.9
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	3.9
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	3.9
43	Isopropylbenzene	98-82-8	LT	2.6
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	6.6
46	Naphthalene	91-20-3	LT	2.6
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	2.6
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	2.6
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	158	1.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.6
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	2.6

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	95.0	86-115
Dibromofluoromethane	98.6	86-118
Toluene-d8	91.6	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:

*John Dahlquist*  
*H. J. ...*

Date: 3/26/99

Date: 3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:           B1                Laboratory ID:           OW990209            
 Matrix:           Water                Sample Wt./Vol.:           5.0 ml            
 Date Sampled:           1/27/99                Date Received:           2/1/99            
 Date Analyzed:           2/1/99                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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	2.8	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	46.1	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	5.0
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	63.9	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	95.0	86-115
Dibromofluoromethane	101.4	86-118
Toluene-d8	93.2	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*  
*HK Pounta*

Date: 3/26/99

Date: 3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	B3	Laboratory ID:	OW990210
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	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	97.2	86-115
Dibromofluoromethane	100.0	86-118
Toluene-d8	94.8	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: H. G. Smith

Date: 3/26/99  
 Date: 3.26.99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID: <u>B8</u>	Laboratory ID: <u>OW990211</u>
Matrix: <u>Water</u>	Sample Wt./Vol.: <u>5.0 ml</u>
Date Sampled: <u>1/27/99</u>	Date Received: <u>2/1/99</u>
Date Analyzed: <u>2/1/99</u>	Method: <u>EPA 8260(Purge &amp; Trap)</u>

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	3.8
2	Bromobenzene	108-86-1	LT	3.8
3	Bromochloromethane	74-97-5	LT	7.7
4	Bromodichloromethane	75-27-4	LT	3.8
5	Bromoform	75-25-2	LT	7.7
6	Bromomethane	74-83-9	LT	15.4
7	n-Butylbenzene	104-51-8	LT	3.8
8	sec-Butylbenzene	135-98-8	LT	3.8
9	ter-Butylbenzene	98-06-6	LT	3.8
10	Carbon Tetrachloride	56-23-5	LT	3.8
11	Chlorobenzene	108-90-7	LT	3.8
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	115.4
13	Chloroethane	75-00-3	LT	115.4
14	Chloroform	67-66-3	LT	3.8
15	Chloromethane	74-87-3	LT	3.8
16	2-Chlorotoluene	95-49-8	LT	7.7
17	4-Chlorotoluene	106-43-4	LT	7.7
18	Dibromochloromethane	124-48-1	LT	7.7
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	7.7
20	1,2-Dibromoethane	106-93-4	LT	7.7
21	Dibromomethane	74-95-3	LT	3.8
22	1,2-Dichlorobenzene	95-50-1	LT	3.8
23	1,3-Dichlorobenzene	541-73-1	LT	3.8
24	1,4-Dichlorobenzene	106-46-7	LT	3.8
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	11.5
26	1,1-Dichloroethane	75-34-3	LT	3.8
27	1,2-Dichloroethane	107-06-2	LT	7.7
28	1,1-Dichloroethene	75-35-4	LT	3.8
29	cis-1,2-Dichloroethene	156-69-9	LT	3.8
30	trans-1,2-Dichloroethene	156-60-5	LT	3.8
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	11.5
32	1,2-Dichloropropane	78-87-5	LT	3.8
33	1,3-Dichloropropane	142-28-9	LT	3.8
34	2,2-Dichloropropane	594-20-7	LT	3.8



	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	3.8
36	cis-1,3-Dichloropropene	10061-01-5	LT	3.8
37	trans-1,3-Dichloropropene	10061-02-6	LT	3.8
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	11.5
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	3.8
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	3.8
41	Ethylbenzene	100-41-4	LT	3.8
42	Hexachlorobutadien	87-68-3	LT	11.5
43	Isopropylbenzene	98-82-8	LT	7.7
44	p-Isopropyltoluene	99-87-6	LT	3.8
45	Methylene Chloride	75-09-2	LT	3.8
45	Methyl tert-Butyl Ether	1634-04-4	LT	19.2
46	Naphthalene	91-20-3	LT	7.7
47	n-Propylbenzene	103-65-1	LT	3.8
48	Styrene	100-42-5	LT	3.8
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	3.8
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	7.7
51	Tetrachloroethene	127-18-4	LT	3.8
52	Toluene	108-88-3	LT	3.8
53	1,2,3-Trichlorobenzene	87-61-6	LT	7.7
54	1,2,4-Trichlorobenzene	120-82-1	LT	3.8
55	1,1,1-Trichloroethane	71-55-6	LT	3.8
56	1,1,2-Trichloroethane	79-00-5	LT	3.8
57	Trichloroethene	79-01-6	LT	3.8
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	7.7
59	1,2,3-Trichloropropane	96-18-4	LT	3.8
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	3.8
61	1,2,4-Trimethylbenzene	95-63-6	LT	3.8
62	1,3,5-Trimethylbenzene	108-67-8	LT	3.8
63	Vinyl Chloride	75-01-4	LT	3.8
64	Total-Xylene	1330-20-7	LT	7.7

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	96.8	86-115
Dibromofluoromethane	100.2	86-118
Toluene-d8	93.0	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 Doherty*  
*H. J. [Signature]*

Date: 3/26/99

Date: 3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	DUP 1	Laboratory ID:	OW990212
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	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	3.0
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	38.0	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	5.0
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	25.2	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	94.8	86-115
Dibromofluoromethane	98.8	86-118
Toluene-d8	93.0	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: *[Signature]*

Date: 3/26/99  
 Date: 3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID: DUP 2      Laboratory ID: OW990213  
 Matrix: Water      Sample Wt./Vol.: 5.0 ml  
 Date Sampled: 1/27/99      Date Received: 2/1/99  
 Date Analyzed: 2/1/99      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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	1.8	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	45.5	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	5.0
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	60.2	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	98.4	86-115
Dibromofluoromethane	98.8	86-118
Toluene-d8	94.2	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*  
*R. Dahlquist*

Date:

Date:

3/26/99

3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	C1	Laboratory ID:	OW990214
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	6.2	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	71.3	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	5.0
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	104	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	100.0	86-115
Dibromofluoromethane	99.6	86-118
Toluene-d8	91.6	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: *Rich W. Dabbert*  
 Reviewer: *R. J. ...*

Date: 3/26/99  
 Date: 3-26-99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C3	Laboratory ID:	OW990216
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	8.2	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	66.7	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	5.0
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	72.7	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	99.0	86-115
Dibromofluoromethane	97.6	86-118
Toluene-d8	91.4	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*  
*HS Johnson*

Date: 3/26/99

Date: 3-26-99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C4	Laboratory ID:	OW990217
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	6.3	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	263	5.0
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	5.0
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	222	5.0
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	94.0	86-115
Dibromofluoromethane	101.6	86-118
Toluene-d8	94.0	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: Pich Doherty  
 Reviewer: KG Jones

Date: 3/26/99  
 Date: 3-26-99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C5	Laboratory ID:	OW990218
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/1/99	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	3.4	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	772	10.0
30	trans-1,2-Dichloroethene	156-60-5	1.6	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	5.0
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	1130	10.0
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	95.8	86-115
Dibromofluoromethane	97.6	86-118
Toluene-d8	91.4	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:

*Alex Dahlquist*  
*K. J. ...*

Date: 3/26/99

Date: 3-26-99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C6	Laboratory ID:	OW990219
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/2/99	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	188	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	686	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	95.2	86-115
Dibromofluoromethane	100.6	86-118
Toluene-d8	92.6	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*  
*Rich Dalquist*

Date:

Date:

3/26/99

3-26-99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID:	C7	Laboratory ID:	OW990220
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/2/99	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	2.0
2	Bromobenzene	108-86-1	LT	2.0
3	Bromochloromethane	74-97-5	LT	4.0
4	Bromodichloromethane	75-27-4	LT	2.0
5	Bromoform	75-25-2	LT	4.0
6	Bromomethane	74-83-9	LT	8.0
7	n-Butylbenzene	104-51-8	LT	2.0
8	sec-Butylbenzene	135-98-8	LT	2.0
9	ter-Butylbenzene	98-06-6	LT	2.0
10	Carbon Tetrachloride	56-23-5	LT	2.0
11	Chlorobenzene	108-90-7	LT	2.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	60.0
13	Chloroethane	75-00-3	LT	60.0
14	Chloroform	67-66-3	LT	2.0
15	Chloromethane	74-87-3	LT	2.0
16	2-Chlorotoluene	95-49-8	LT	4.0
17	4-Chlorotoluene	106-43-4	LT	4.0
18	Dibromochloromethane	124-48-1	LT	4.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	4.0
20	1,2-Dibromoethane	106-93-4	LT	4.0
21	Dibromomethane	74-95-3	LT	2.0
22	1,2-Dichlorobenzene	95-50-1	LT	2.0
23	1,3-Dichlorobenzene	541-73-1	LT	2.0
24	1,4-Dichlorobenzene	106-46-7	LT	2.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	6.0
26	1,1-Dichloroethane	75-34-3	LT	2.0
27	1,2-Dichloroethane	107-06-2	LT	4.0
28	1,1-Dichloroethene	75-35-4	LT	2.0
29	cis-1,2-Dichloroethene	156-69-9	40.3	2.0
30	trans-1,2-Dichloroethene	156-60-5	LT	2.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	6.0
32	1,2-Dichloropropane	78-87-5	LT	2.0
33	1,3-Dichloropropane	142-28-9	LT	2.0
34	2,2-Dichloropropane	594-20-7	LT	2.0



	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	2.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	2.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	2.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	6.0
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	2.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	2.0
41	Ethylbenzene	100-41-4	LT	2.0
42	Hexachlorobutadien	87-68-3	LT	6.0
43	Isopropylbenzene	98-82-8	LT	4.0
44	p-Isopropyltoluene	99-87-6	LT	2.0
45	Methylene Chloride	75-09-2	LT	2.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	10.0
46	Naphthalene	91-20-3	LT	4.0
47	n-Propylbenzene	103-65-1	LT	2.0
48	Styrene	100-42-5	LT	2.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	2.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	4.0
51	Tetrachloroethene	127-18-4	LT	2.0
52	Toluene	108-88-3	LT	2.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	4.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	2.0
55	1,1,1-Trichloroethane	71-55-6	LT	2.0
56	1,1,2-Trichloroethane	79-00-5	LT	2.0
57	Trichloroethene	79-01-6	294	2.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	4.0
59	1,2,3-Trichloropropane	96-18-4	LT	2.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	2.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	2.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	2.0
63	Vinyl Chloride	75-01-4	LT	2.0
64	Total-Xylene	1330-20-7	LT	4.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	94.6	86-115
Dibromofluoromethane	102.6	86-118
Toluene-d8	91.8	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:

*Rich Dahlquist*  
*KG...*

Date:

Date:

3/20/99

3.26.99

## LBL Environmental Measurements Laboratory Volatile Organics Analysis Data Sheet

Sample ID: Sump A      Laboratory ID: OW990221  
 Matrix: Water      Sample Wt./Vol.: 5.0 ml  
 Date Sampled: 1/27/99      Date Received: 2/1/99  
 Date Analyzed: 2/2/99      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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	7.3	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	5.0
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	61.3	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	95.8	86-115
Dibromofluoromethane	99.0	86-118
Toluene-d8	92.0	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 Dakburt*  
*H. J. [Signature]*

Date:

Date:

3/26/99

3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID: Sump B      Laboratory ID: OW990222  
 Matrix: Water      Sample Wt./Vol.: 5.0 ml  
 Date Sampled: 1/27/99      Date Received: 2/1/99  
 Date Analyzed: 2/2/99      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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	33.7	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	5.0
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	112	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	96.8	86-115
Dibromofluoromethane	97.8	86-118
Toluene-d8	92.2	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: Rich Dalkunt  
 Reviewer: H. J. [Signature]
Date: 3/26/99Date: 3-26-99

# LBL Environmental Measurements Laboratory

## Volatile Organics Analysis Data Sheet

Sample ID:	Ditch	Laboratory ID:	OW990223
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	1/27/99	Date Received:	2/1/99
Date Analyzed:	2/2/99	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	4.0
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	30.0
13	Chloroethane	75-00-3	LT	30.0
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	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	3.0
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	5.0
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	1.3	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	95.4	86-115
Dibromofluoromethane	98.6	86-118
Toluene-d8	93.6	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: Rich Dahlquist  
 Reviewer: H. J. Pount

Date: 3/26/99  
 Date: 3-26-99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG 1	Laboratory ID:	OA990115
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/15/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	LT	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	LT	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	122	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	LT	19.88
15	Tetrachloroethene	127-18-4	LT	10.19
16	Toluene	108-88-3	LT	18.32
17	1,1,1-Trichloroethane	71-55-6	LT	12.64
18	1,1,2-Trichloroethane	71-55-6	LT	12.64
19	Trichloroethene	79-01-6	3710	12.85
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	12900	11.19
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
22	Vinyl Chloride	75-01-4	LT	26.99
23	Total-Xylene	1330-20-7	LT	15.91
24	Total VOC		16732	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	102%	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: *#81001 d.*

Date: 3/23/99  
 Date: 3-22-99



# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-2	Laboratory ID:	OA990116
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/15/99	Method:	TO-14

#	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	LT	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	LT	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	107	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	LT	19.88
15	Tetrachloroethene	127-18-4	LT	10.19
16	Toluene	108-88-3	LT	18.32
17	1,1,1-Trichloroethane	71-55-6	LT	12.64
18	1,1,2-Trichloroethane	79-00-5	LT	12.64
19	Trichloroethene	79-01-6	2790	12.85
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	12400	11.19
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
22	Vinyl Chloride	75-01-4	LT	26.99
23	Total-Xylene	1330-20-7	LT	15.91
24	Total VOC		15298	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103%	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. (signature)*

Date: 3/23/99  
Date: 3-22-99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-3	Laboratory ID:	OA990117
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/15/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	LT	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	LT	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	199	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	LT	19.88
15	Tetrachloroethene	127-18-4	LT	10.19
16	Toluene	108-88-3	LT	18.32
17	1,1,1-Trichloroethane	71-55-6	LT	12.64
18	1,1,2-Trichloroethane	79-00-5	LT	12.64
19	Trichloroethene	79-01-6	1470	12.85
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	1400	11.19
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
22	Vinyl Chloride	75-01-4	LT	26.99
23	Total-Xylene	1330-20-7	LT	15.91
24	Total VOC		3069	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103%	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. ...*

Date: 3/23/99  
Date: 3-22-99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-4	Laboratory ID:	OA990118
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/9/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	16.1	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	19.1	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	178	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	LT	19.88
15	Tetrachloroethene	127-18-4	LT	10.19
16	Toluene	108-88-3	LT	18.32
17	1,1,1-Trichloroethane	71-55-6	LT	12.64
18	1,1,2-Trichloroethane	79-00-5	LT	12.64
19	Trichloroethene	79-01-6	609	12.85
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	5670	11.19
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
22	Vinyl Chloride	75-01-4	LT	26.99
23	Total-Xylene	1330-20-7	LT	15.91
24	Total VOC		6492	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106%	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 D. Johnson*  
Reviewer: *H. Johnson*

Date: 3/23/99  
Date: 3-22-99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-5	Laboratory ID:	OA990119
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/9/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	23.2	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	27.2	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	406	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	LT	19.88
15	Tetrachloroethene	127-18-4	LT	10.19
16	Toluene	108-88-3	LT	18.32
17	1,1,1-Trichloroethane	71-55-6	LT	12.64
18	1,1,2-Trichloroethane	79-00-5	LT	12.64
19	Trichloroethene	79-01-6	640	12.85
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	433	11.19
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
22	Vinyl Chloride	75-01-4	LT	26.99
23	Total-Xylene	1330-20-7	LT	15.91
24	Total VOC		1530	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106%	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: 3/23/99  
 Date: 3-22-99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-6	Laboratory ID:	OA990120
Matrix:	Gas Cartridge	Sample Vol. (L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/9/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	LT	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	LT	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	333	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	29.6	19.88
15	Tetrachloroethene	127-18-4	LT	10.19
16	Toluene	108-88-3	LT	18.32
17	1,1,1-Trichloroethane	71-55-6	LT	12.64
18	1,1,2-Trichloroethane	79-00-5	LT	12.64
19	Trichloroethene	79-01-6	555	12.85
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	11.19
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
22	Vinyl Chloride	75-01-4	LT	26.99
23	Total-Xylene	1330-20-7	LT	15.91
24	Total VOC		918	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106%	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 Doherty*  
Reviewer: *H. Spalding*

Date: 3/22/99  
Date: 3-22-99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-7	Laboratory ID:	OA990121
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/9/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	LT	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	LT	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	98.0	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	LT	19.88
15	Tetrachloroethene	127-18-4	LT	10.19
16	Toluene	108-88-3	LT	18.32
17	1,1,1-Trichloroethane	71-55-6	LT	12.64
18	1,1,2-Trichloroethane	79-00-5	LT	12.64
19	Trichloroethene	79-01-6	409	12.85
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	11.19
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
22	Vinyl Chloride	75-01-4	LT	26.99
23	Total-Xylene	1330-20-7	LT	15.91
24	Total VOC		508	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106%	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 Dabbert*  
Reviewer: *H. S. [Signature]*

Date: 3/22/99  
Date: 3-22-99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

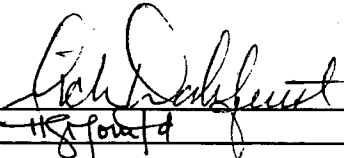
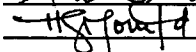
Sample ID:	BG-8	Laboratory ID:	OA990122
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/9/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	LT	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	LT	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	LT	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	LT	19.88
14	Tetrachloroethene	127-18-4	LT	10.19
15	Toluene	108-88-3	LT	18.32
16	1,1,1-Trichloroethane	71-55-6	LT	12.64
16	1,1,2-Trichloroethane	79-00-5	LT	12.64
17	Trichloroethene	79-01-6	137	12.85
18	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	11.19
17	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
18	Vinyl Chloride	75-01-4	LT	26.99
19	Total-Xylene	1330-20-7	LT	15.91
19	Total VOC		137	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106%	75-130

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

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

Analyst:   
Reviewer: 

Date: 3/23/99  
Date: 3.27.99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-9	Laboratory ID:	OA990123
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/9/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	LT	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	LT	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	51.4	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	LT	19.88
15	Tetrachloroethene	127-18-4	LT	10.19
16	Toluene	108-88-3	LT	18.32
17	1,1,1-Trichloroethane	71-55-6	LT	12.64
18	1,1,2-Trichloroethane	79-00-5	LT	12.64
19	Trichloroethene	79-01-6	264	12.85
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	11.19
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
22	Vinyl Chloride	75-01-4	LT	26.99
23	Total-Xylene	1330-20-7	LT	15.91
24	Total VOC		316	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106%	75-130

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

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

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

Date: *3/23/99*  
 Date: *3-22-99*



# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-10	Laboratory ID:	OA990124
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/9/99	Method:	TO-14

#	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	29.00
2	Benzene	71-43-2	LT	21.59
3	Carbon Tetrachloride	56-23-5	LT	10.98
4	Chloroform	67-66-3	LT	14.15
5	1,2-Dichlorobenzene	95-50-1	LT	11.49
6	1,3-Dichlorobenzene	541-73-1	LT	11.49
7	1,4-Dichlorobenzene	106-46-7	LT	11.49
8	1,1-Dichloroethane	75-34-3	LT	17.03
9	1,2-Dichloroethane	107-06-2	LT	17.41
10	1,1-Dichloroethene	75-35-4	LT	52.24
11	cis-1,2-Dichloroethene	156-69-9	48.7	17.41
12	trans-1,2-Dichloroethene	156-60-5	LT	17.41
13	Ethylbenzene	100-41-4	LT	15.91
14	Methylene Chloride	75-09-2	LT	19.88
15	Tetrachloroethene	127-18-4	LT	10.19
16	Toluene	108-88-3	LT	18.32
17	1,1,1-Trichloroethane	71-55-6	LT	12.64
18	1,1,2-Trichloroethane	79-00-5	LT	12.64
19	Trichloroethene	79-01-6	69.4	12.85
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	11.19
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.32
22	Vinyl Chloride	75-01-4	LT	26.99
23	Total-Xylene	1330-20-7	LT	15.91
24	Total VOC		118	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106%	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: *F. J. Walquist*  
 Reviewer: *H. J. Joubert*

Date: 3/23/99  
 Date: 3.22.99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-11	Laboratory ID:	OA990125
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/15/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	2900
2	Benzene	71-43-2	LT	2159
3	Carbon Tetrachloride	56-23-5	LT	1098
4	Chloroform	67-66-3	LT	1415
5	1,2-Dichlorobenzene	95-50-1	LT	1149
6	1,3-Dichlorobenzene	541-73-1	LT	1149
7	1,4-Dichlorobenzene	106-46-7	LT	1149
8	1,1-Dichloroethane	75-34-3	LT	1703
9	1,2-Dichloroethane	107-06-2	LT	1741
10	1,1-Dichloroethene	75-35-4	LT	1741
11	cis-1,2-Dichloroethene	156-69-9	6340	1741
12	trans-1,2-Dichloroethene	156-60-5	LT	1741
13	Ethylbenzene	100-41-4	LT	1591
14	Methylene Chloride	75-09-2	LT	1988
15	Tetrachloroethene	127-18-4	LT	1019
16	Toluene	108-88-3	LT	1832
17	1,1,1-Trichloroethane	71-55-6	LT	1264
18	1,1,2-Trichloroethane	79-00-5	LT	1264
19	Trichloroethene	79-01-6	5820	1285
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1119
21	1,2,4-Trimethylbenzene	95-63-6	LT	1832
22	Vinyl Chloride	75-01-4	LT	2699
23	Total-Xylene	1330-20-7	LT	1591
24	Total VOC		12160	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	102%	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 DeLuca*  
 Reviewer: *H. Stewart*

Date: 3/23/99  
 Date: 3-22-99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-12-1	Laboratory ID:	OA990126
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/13/99	Method:	TO-14

#	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	2900
2	Benzene	71-43-2	LT	2159
3	Carbon Tetrachloride	56-23-5	LT	1098
4	Chloroform	67-66-3	LT	1415
5	1,2-Dichlorobenzene	95-50-1	LT	1149
6	1,3-Dichlorobenzene	541-73-1	LT	1149
7	1,4-Dichlorobenzene	106-46-7	LT	1149
8	1,1-Dichloroethane	75-34-3	LT	1703
9	1,2-Dichloroethane	107-06-2	LT	1741
10	1,1-Dichloroethene	75-35-4	LT	1741
11	cis-1,2-Dichloroethene	156-69-9	14100	1741
12	trans-1,2-Dichloroethene	156-60-5	LT	1741
13	Ethylbenzene	100-41-4	LT	1591
14	Methylene Chloride	75-09-2	LT	1988
15	Tetrachloroethene	127-18-4	LT	1019
16	Toluene	108-88-3	LT	1832
17	1,1,1-Trichloroethane	71-55-6	LT	1264
18	1,1,2-Trichloroethane	79-00-5	LT	1264
19	Trichloroethene	79-01-6	18700	1285
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1119
21	1,2,4-Trimethylbenzene	95-63-6	LT	1832
22	Vinyl Chloride	75-01-4	LT	2699
23	Total-Xylene	1330-20-7	LT	1591
24	Total VOC		32800	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	102%	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: *1/8/99*

Date: *3/23/99*  
 Date: *3-22-99*

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	BG-13-3	Laboratory ID:	OA990127
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/14/99	Method:	TO-14

#	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	2900
2	Benzene	71-43-2	LT	2159
3	Carbon Tetrachloride	56-23-5	LT	1098
4	Chloroform	67-66-3	LT	1415
5	1,2-Dichlorobenzene	95-50-1	LT	1149
6	1,3-Dichlorobenzene	541-73-1	LT	1149
7	1,4-Dichlorobenzene	106-46-7	LT	1149
8	1,1-Dichloroethane	75-34-3	LT	1703
9	1,2-Dichloroethane	107-06-2	LT	1741
10	1,1-Dichloroethene	75-35-4	LT	1741
11	cis-1,2-Dichloroethene	156-69-9	41100	1741
12	trans-1,2-Dichloroethene	156-60-5	LT	1741
13	Ethylbenzene	100-41-4	LT	1591
14	Methylene Chloride	75-09-2	LT	1988
15	Tetrachloroethene	127-18-4	LT	1019
16	Toluene	108-88-3	LT	1832
17	1,1,1-Trichloroethane	71-55-6	LT	1264
18	1,1,2-Trichloroethane	79-00-5	LT	1264
19	Trichloroethene	79-01-6	168000	1285
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1119
21	1,2,4-Trimethylbenzene	95-63-6	LT	1832
22	Vinyl Chloride	75-01-4	LT	2699
23	Total-Xylene	1330-20-7	LT	1591
24	Total VOC		209100	

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: *John Dabbert*  
 Reviewer: *John Dabbert*

Date: 3/23/99  
 Date: 3-22-99

# LBL Environmental Measurements Laboratory

## TO-14 Analysis Data Sheet

Sample ID:	Field Blank-1	Laboratory ID:	OA990113
Matrix:	Gas Cartridge	Sample Vol.(L):	0.143
Date Sampled:	12/14/98	Date Received:	1/4/99
Date Analyzed:	1/9/99	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	28.90
2	Benzene	71-43-2	LT	21.52
3	Carbon Tetrachloride	56-23-5	LT	10.94
4	Chloroform	67-66-3	LT	14.10
5	1,2-Dichlorobenzene	95-50-1	LT	11.45
6	1,3-Dichlorobenzene	541-73-1	LT	11.45
7	1,4-Dichlorobenzene	106-46-7	LT	11.45
8	1,1-Dichloroethane	75-34-3	LT	16.97
9	1,2-Dichloroethane	107-06-2	LT	17.35
10	1,1-Dichloroethene	75-35-4	LT	17.35
11	cis-1,2-Dichloroethene	156-69-9	LT	17.35
12	trans-1,2-Dichloroethene	156-60-5	LT	17.35
13	Ethylbenzene	100-41-4	LT	15.86
14	Methylene Chloride	75-09-2	LT	19.81
15	Tetrachloroethene	127-18-4	LT	10.15
16	Toluene	108-88-3	LT	18.26
17	1,1,1-Trichloroethane	71-55-6	LT	12.60
18	1,1,2-Trichloroethane	79-00-5	LT	12.60
19	Trichloroethene	79-01-6	LT	12.81
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	11.15
21	1,2,4-Trimethylbenzene	95-63-6	LT	18.26
22	Vinyl Chloride	75-01-4	LT	26.90
23	Total-Xylene	1330-20-7	LT	15.86
24	Total VOC		0	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	106%	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 Dakefunt*  
Reviewer: *18/Jan/99*

Date: 3/23/99  
Date: 3-22-99

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