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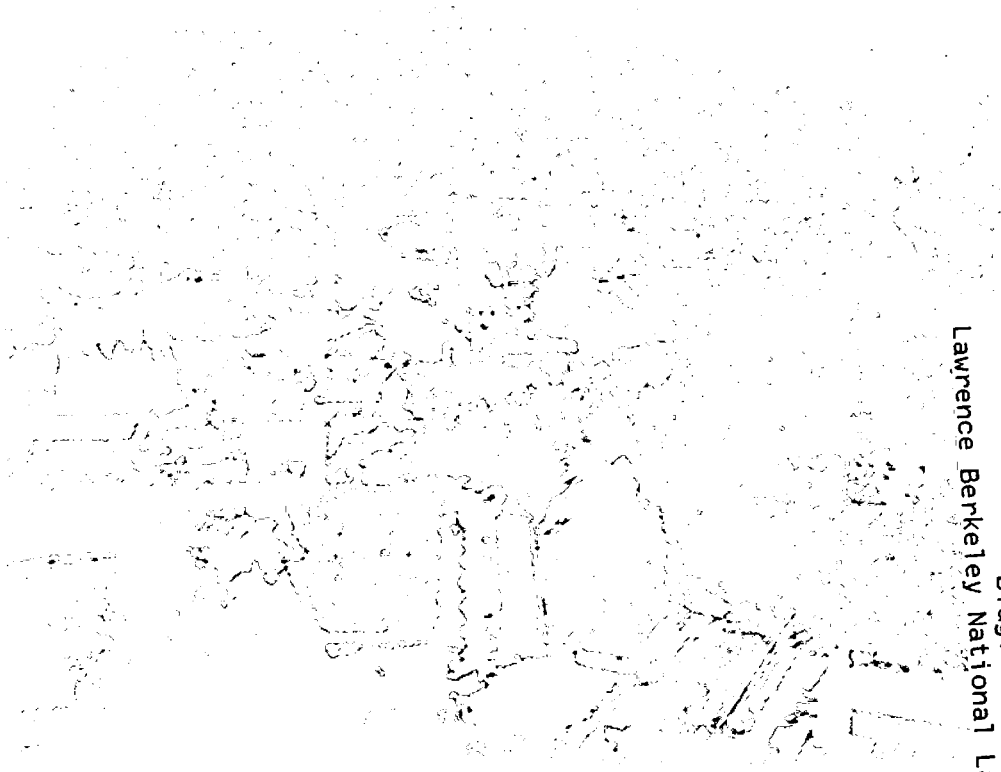
Monitoring and Data Analysis for the Vadose Zone Monitoring System (VZMS), McClellan AFB

Quarterly Status Report (8/20/98–11/20/98)

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

Earth Sciences Division

December 1998



DISCLAIMER

LBNL-42666

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

Quarterly Status Report (8/20/98-11/20/98)

P.T. Zawislanski

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Berkeley, CA 94720

December 28th, 1998

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1.0 INTRODUCTION

This report contains information on field and laboratory work performed between August 20th, 1998 and November 20th, 1998, at site S-7 in IC 34, at McClellan AFB. At this location, a Vadose Zone Monitoring System (VZMS) (LBNL, 1996) is currently being used to collect subsurface data including hydraulic potential, soil gas pressure, moisture content, water chemistry, gas chemistry, and temperature. Samples have been collected on a bimonthly schedule during the summer and fall. Monthly sample collection will commence 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

2.0 RESULTS

2.1 Moisture Content--Neutron Probe Readings

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

Neutron logging was performed at the site on 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 the last year. These trends are suggestive of the redistribution of infiltrated rainwater.

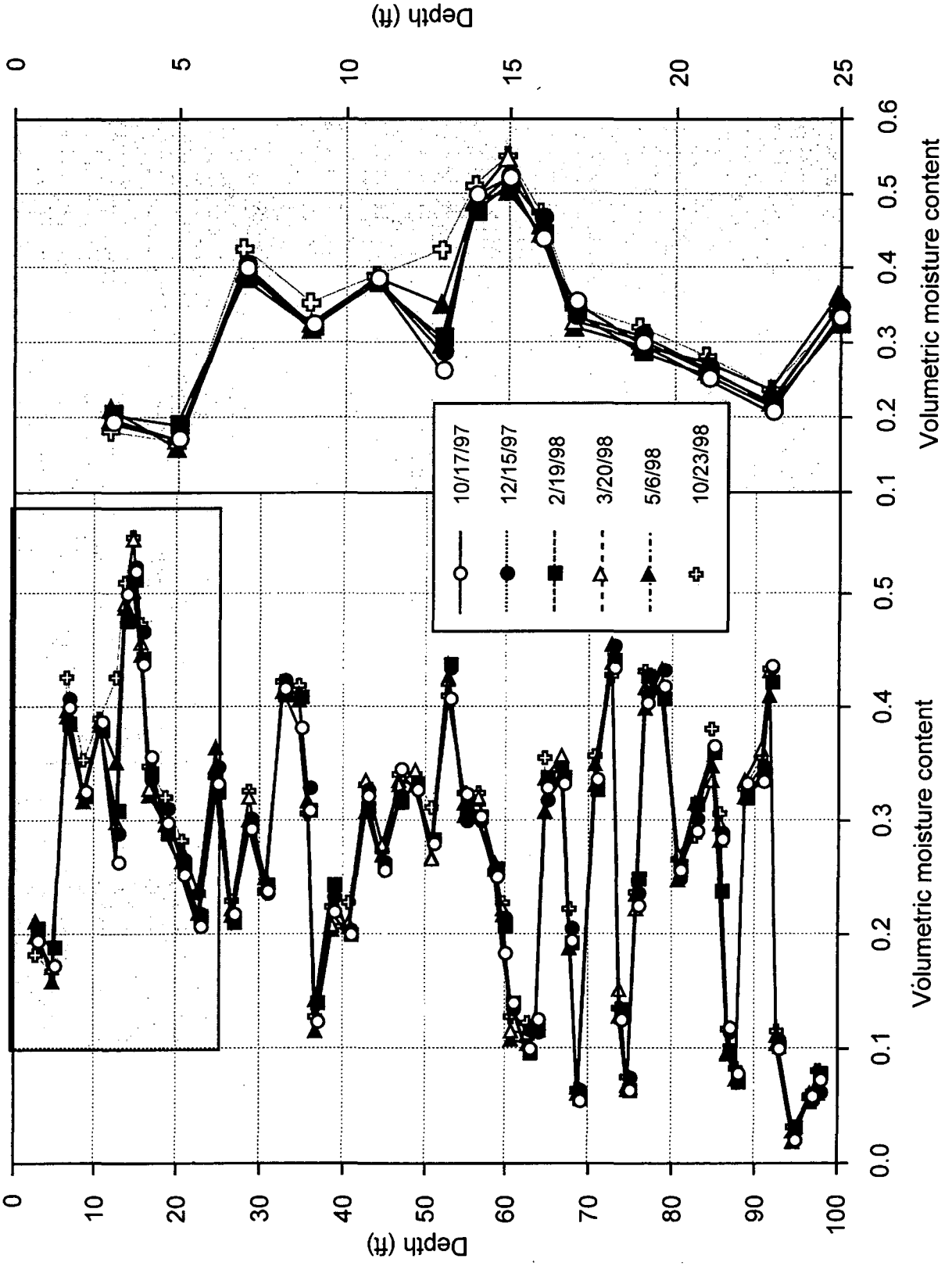

Figure 1. Volumetric moisture content based on neutron counts measured in Well NP-B over the period 10/97 to 10/98.

2.2 Gas-Phase VOC Concentrations

The gas phase is being sampled via in-situ gas samplers consisting of a 7.62-cm long, 100 μm 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. 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, fourteen 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, and 12/14/98. The analysis of the 4/4/97 samples from Well A was out of control due to problems with sample dilution. The analysis of the 5/8/97 samples has been questioned because of a contaminated blank. Results from 7/22/97 are being scrutinized, because, unlike all other data sets, they do not agree quantitatively with concentrations in pore-water samples, as compared using Henry's Law (LBNL, 1998a). However, only results from 4/4/97 have been excluded from further consideration. The data from 12/14/98 are currently being processed.

TCE, cis-1,2-DCE, and Freon 123a have been identified as the major contaminants in the system (LBNL, 1997b). Freon 123a has only recently been positively identified because of its more exotic nature. Because the error arising from the reprocessing of previous data to arrive at Freon 123a concentrations is substantial, only data collected on, or after 12/15/97, are presented. As in the previous progress 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 are shown in Figs. 2 and 3 for Wells A and B, respectively. Each 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). Similarly, the largest increases in TCE concentrations were observed at the 11-ft depth, in both VZMS-A and VZMS-B, with concentrations reaching nearly 50 ppmv in VZMS-A and nearly 30 ppmv in VZMS-B. There were also slight increases observed in both A and B at 18 ft. These trends imply that either downward movement of gas-phase VOCs or increased partitioning into the gas phase had occurred.

Time-trends in cis-1,2-DCE concentrations are shown in Figs. 4 and 5 for Wells A and B, respectively. Similar to TCE trends, cis-1,2-DCE levels at a depth of 6 ft increased during the last quarter. However, in VZMS-A, the increase at 6 ft was relatively very large, from around 30 ppmv in August 1998 to over 125 ppmv in October 1998. On the other hand, cis-1,2-DCE concentrations at 11 ft in VZMS-A did not change beyond the range observed over the last year of monitoring. Similar to TCE results, no significant changes were observed below the depth of 25 ft.

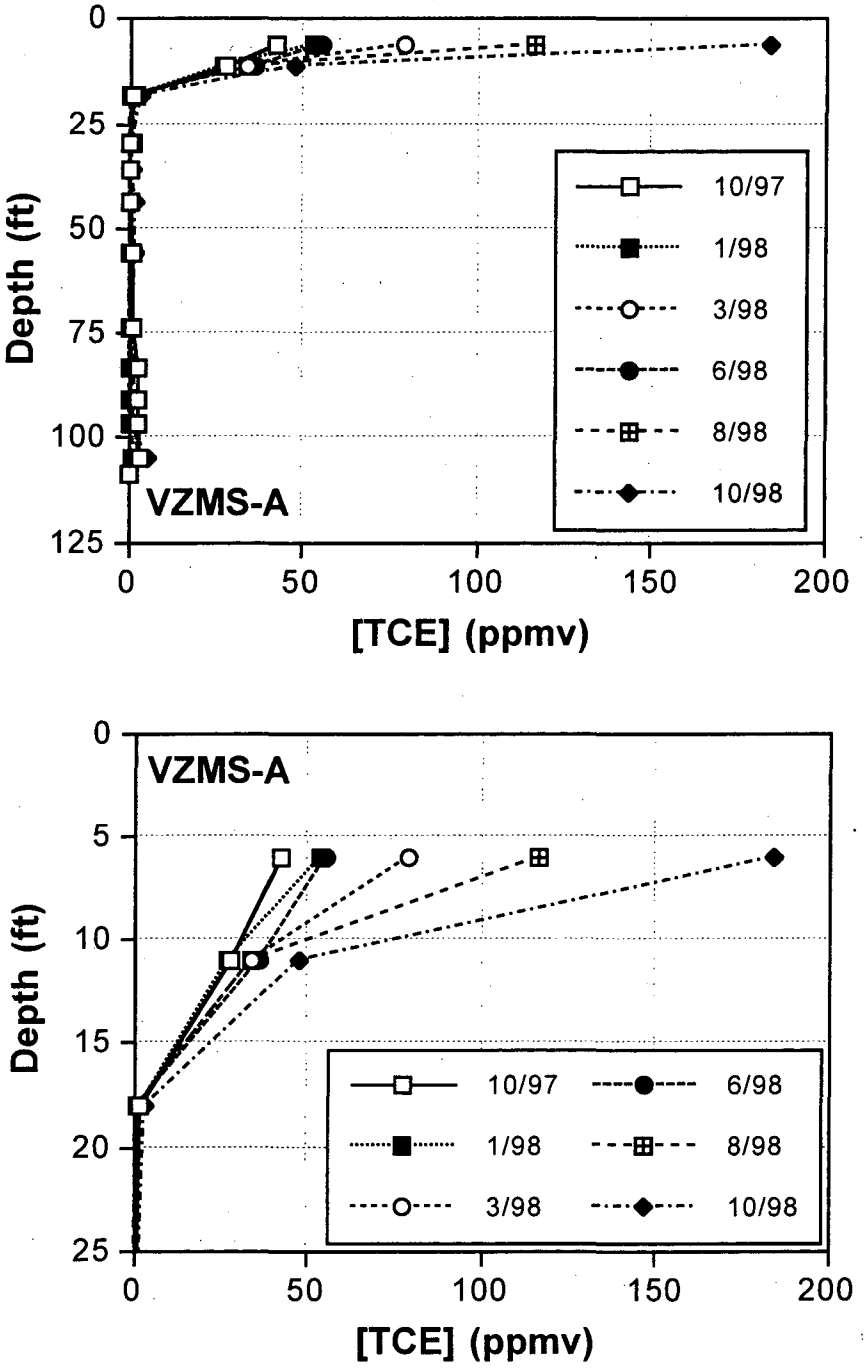

Figure 2. TCE concentrations in the gas-phase, as measured in VZMS-A, from October 1997 to October 1998. The lower frame highlights the shallow depths (0-25 ft), where the largest changes were observed.

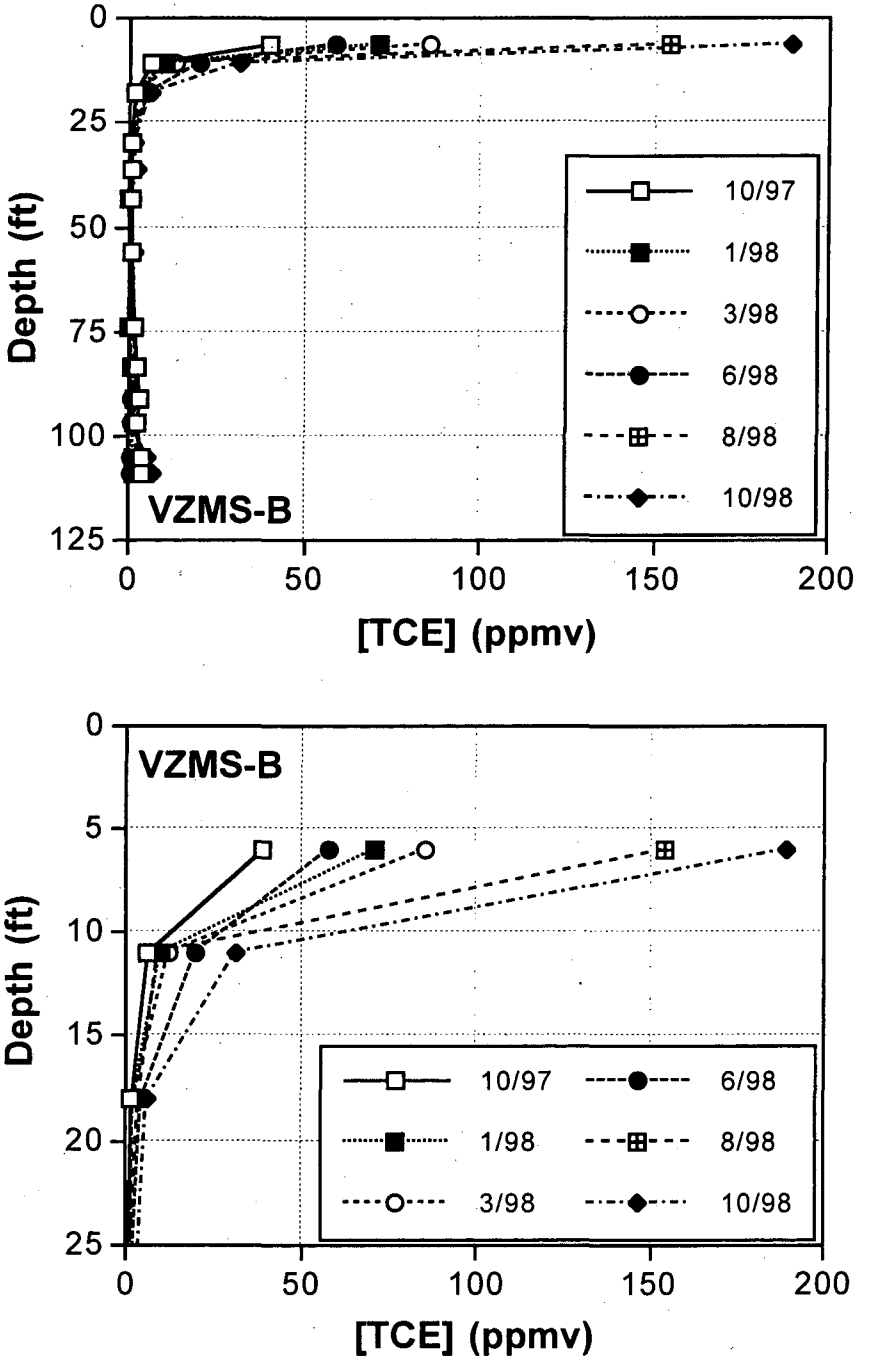

Figure 3. TCE concentrations in the gas-phase, as measured in VZMS-B, from October 1997 to October 1998. The lower frame highlights the shallow depths (0-25 ft), where the largest changes were observed.

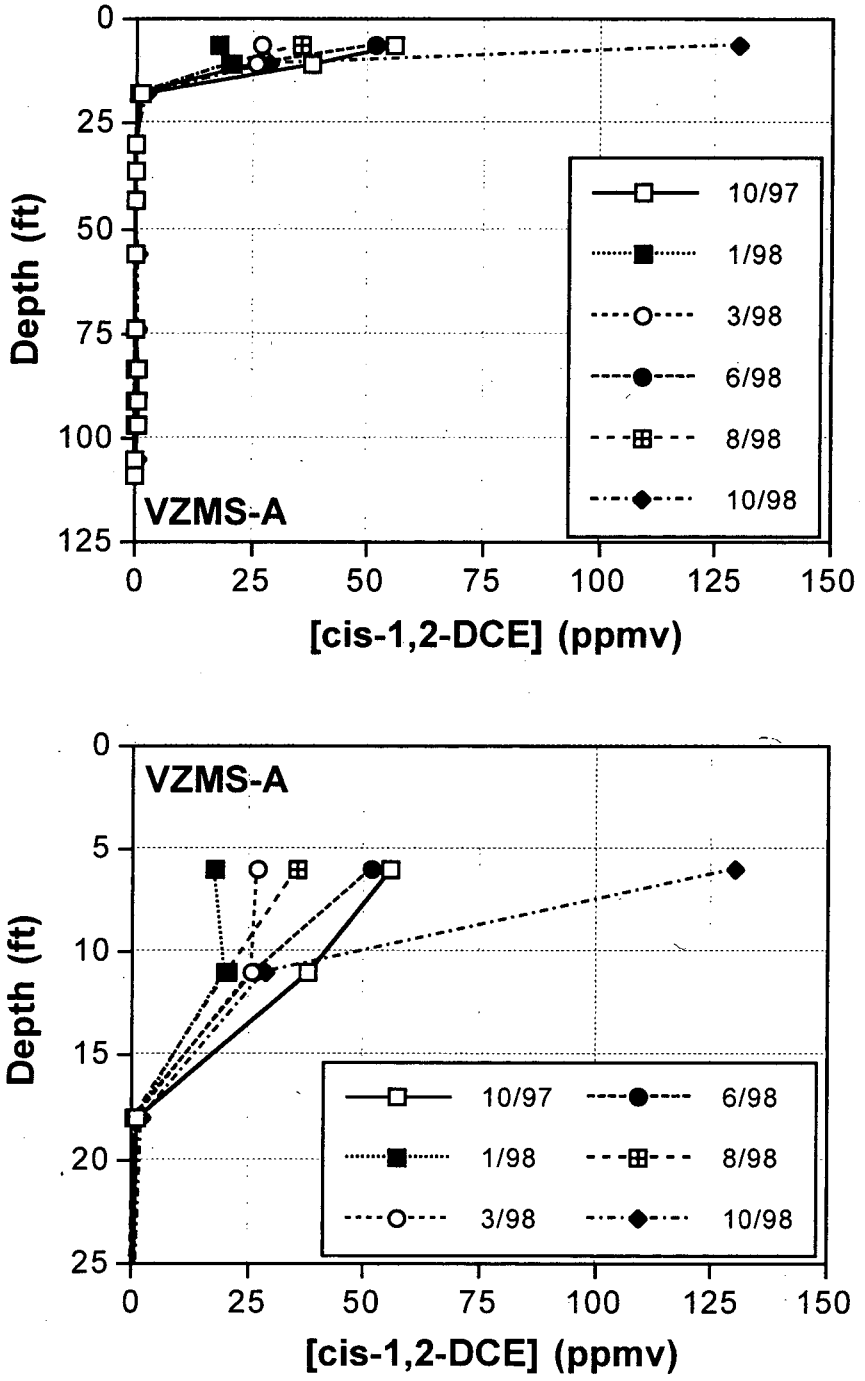

Figure 4. Cis-1,2-DCE concentrations in the gas-phase, as measured in VZMS-A, from October 1997 to October 1998. The lower frame highlights the shallow depths (0-25 ft), where the largest changes were observed.

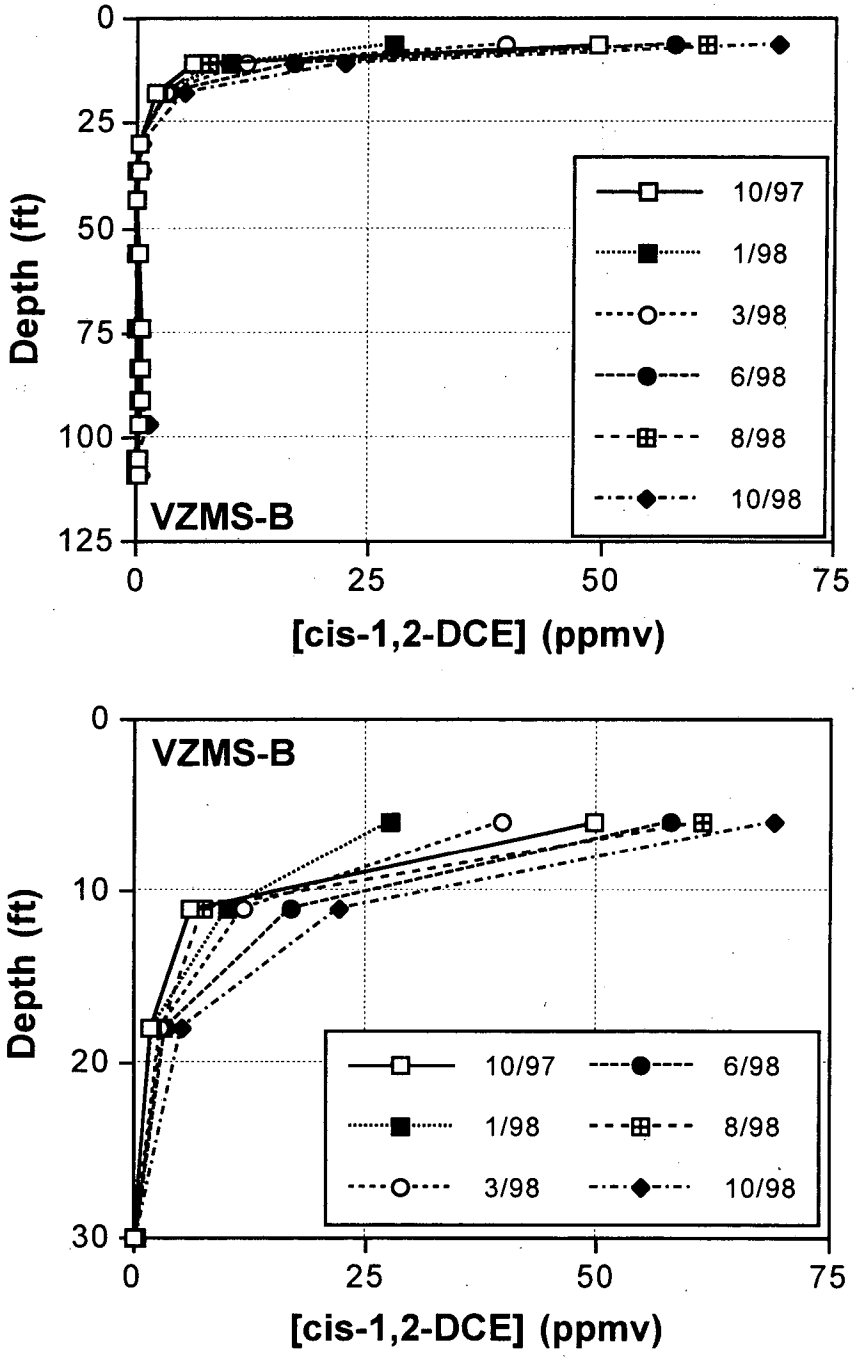

Figure 5. Cis-1,2-DCE concentrations in the gas-phase, as measured in VZMS-B, from October 1997 to October 1998. The lower frame highlights the shallow depths (0-30 ft), where the largest changes were observed.

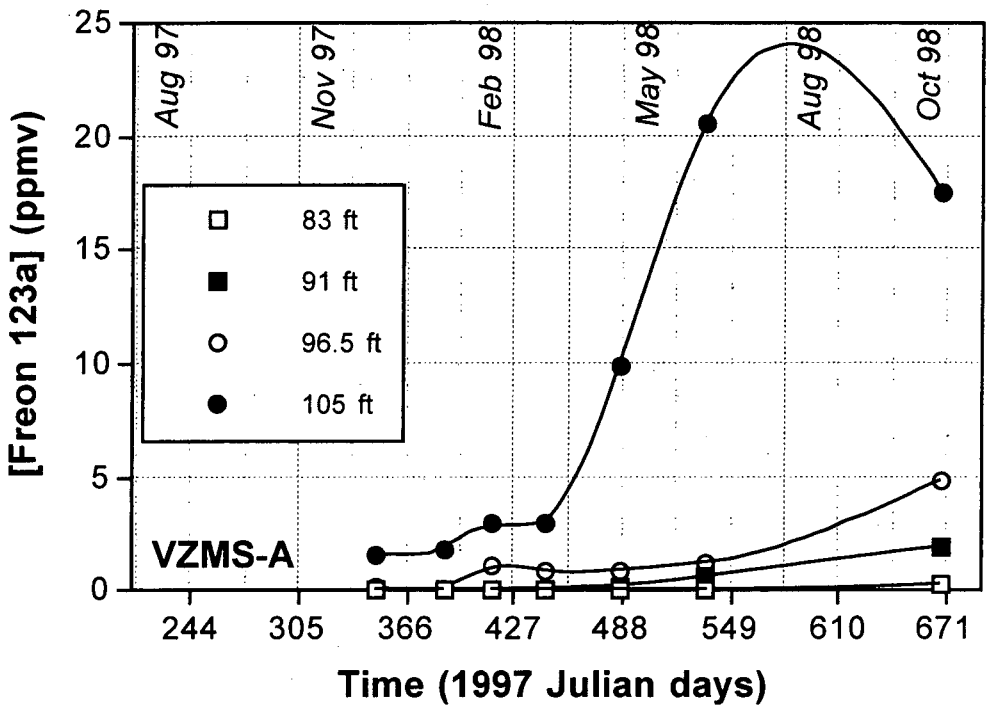

Figure 6. Freon 123a concentrations in the gas-phase, as measured in VZMS-A at 83, 91, 96.5, and 105 ft, from December 1997 to October 1998.

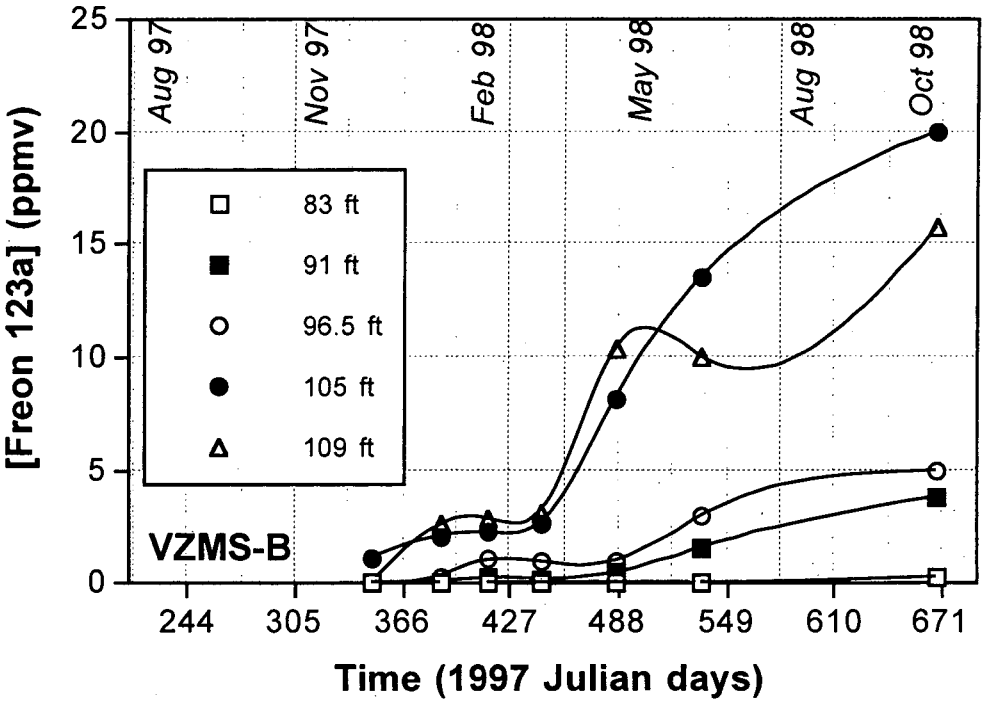

Figure 7. Freon 123a concentrations in the gas-phase, as measured in VZMS-B at 83, 91, 96.5, 105, and 109 ft, from December 1997 to October 1998.

Time-trends in Freon 123a concentrations are shown in Figs. 6 and 7, for Wells A and B, respectively. 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. There have been gradual increases in Freon 123a levels at the 105-ft depth, immediately above the water table, with the highest concentration in VZMS-A measured on 6/19/98, but a similarly high concentration observed on 10/30/98 (17.5 ppmv). Similar trends are observed in VZMS-B, but the increase in Freon 123a concentrations continued from June through October, with a high of 20 ppmv. The reason for this trend is not clear. It is not known whether more contaminated groundwater has moved into the area, or whether fluctuations in groundwater level might be a factor. Less pronounced increases were also observed at 83 ft, 91 ft, and 96.5 ft in VZMS-A, and at 83 ft, 91 ft, 96.5 ft, and 109 ft in VZMS-B.

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 μm 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 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 10/30/98. Due to the relative dryness of the formation, extracting water from levels deeper than 30 ft continues to be difficult. From Wells A and B, samples generally smaller than 20 mL, are collected over a period of a week. In many cases, samples are no greater than 5 mL. Therefore, 4- and 6-mL vials have been used to collect the smaller samples. Samples which do not completely fill the vial are topped off with distilled and deionized water, the volume of which is noted. This results in a dilution of the sample but eliminates headspace. All samples are acidified using HCl. The deepest lysimeter in Well C is at 23 ft. The use of lower air-entry pressure ceramic cups, and the fact that Well-C samplers are installed in a wetter part of the formation, makes it possible to collect 25- to 300-mL samples on a regular basis. This provides detailed information on the dissolved VOC gradient in the depth intervals which contain the bulk of the VOC mass. Generally, the deeper the sampler, the smaller the volume of water extracted, which suggests a decrease in moisture content with depth.

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

and cis-1,2-DCE showed either no change or a slight increase in October 1998. A similar but larger increase was observed in October 1997.

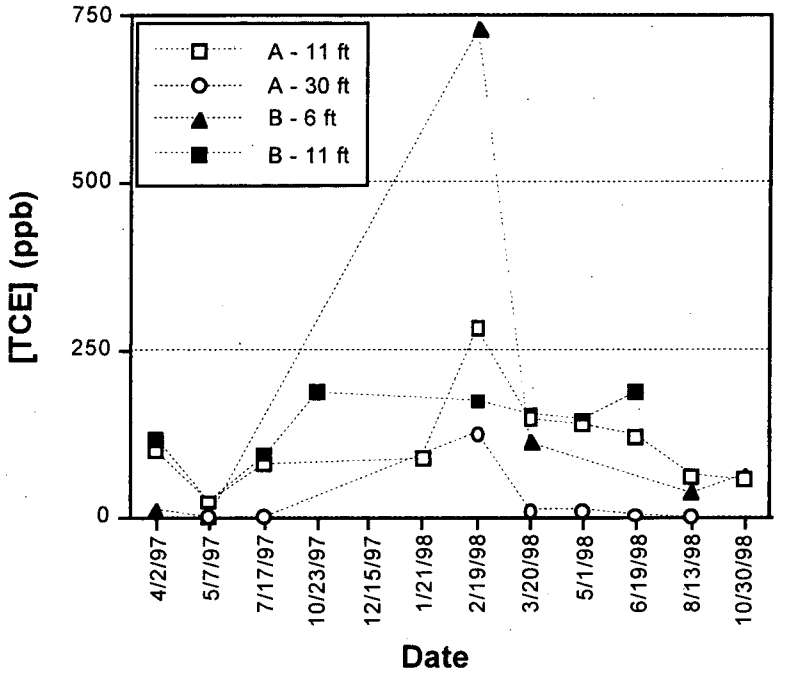

Figure 8. TCE concentrations in the liquid-phase, as measured in Well A at 11 and 30 ft, and Well B, at 6 and 11 ft, from April 1997 to October 1998.

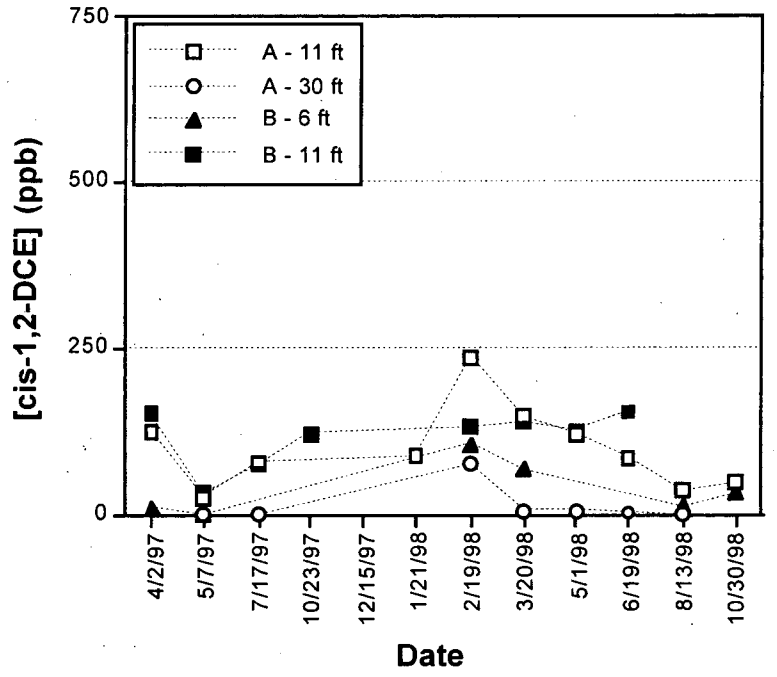

Figure 9. Cis-1,2-DCE concentrations in the liquid-phase, as measured in Well A at 11 and 30 ft, and Well B, at 6 and 11 ft, from April 1997 to October 1998.

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

Substantial increases in TCE concentrations were observed between 8/98 and 10/98 at 3 ft, 5 ft, and 7 ft. Also, small but significant increases were observed at 15, 19, and 23 ft. Similar trends can be seen in the cis-1,2-DCE distribution (Fig. 11), except that the increase at 7 ft was relatively much larger, with cis-1,2-DCE concentrations going from around 340 ppb to 540 ppb. Overall, the shape of the TCE and cis-1,2-DCE profiles remained unchanged and several additional measurements over the next few months will be needed to establish a range of field variability.

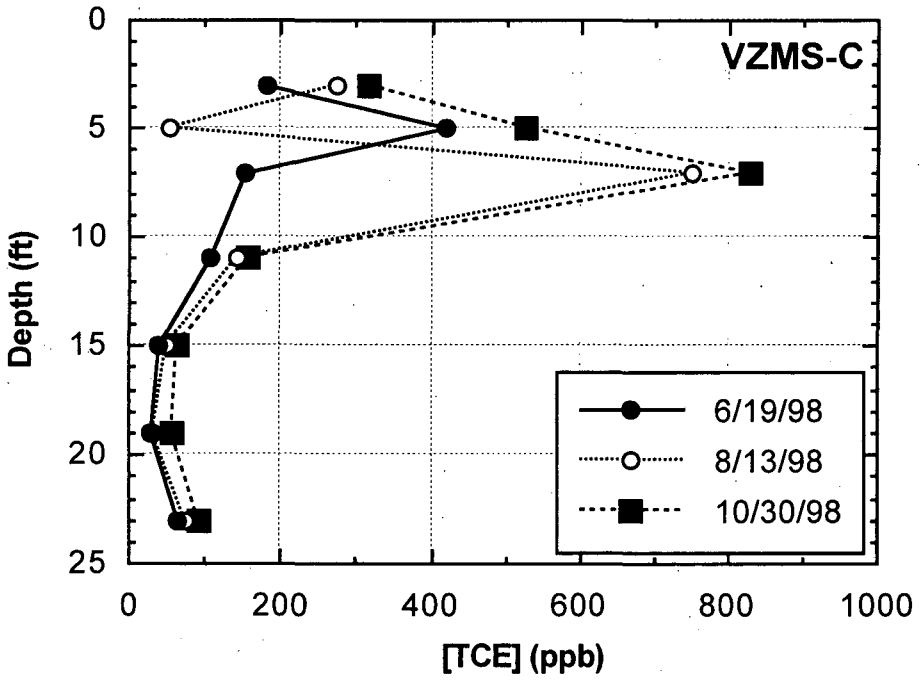

Figure 10. TCE concentrations in the liquid-phase, as measured in Well C on 6/19/98, 8/13/98, and 10/30/98.

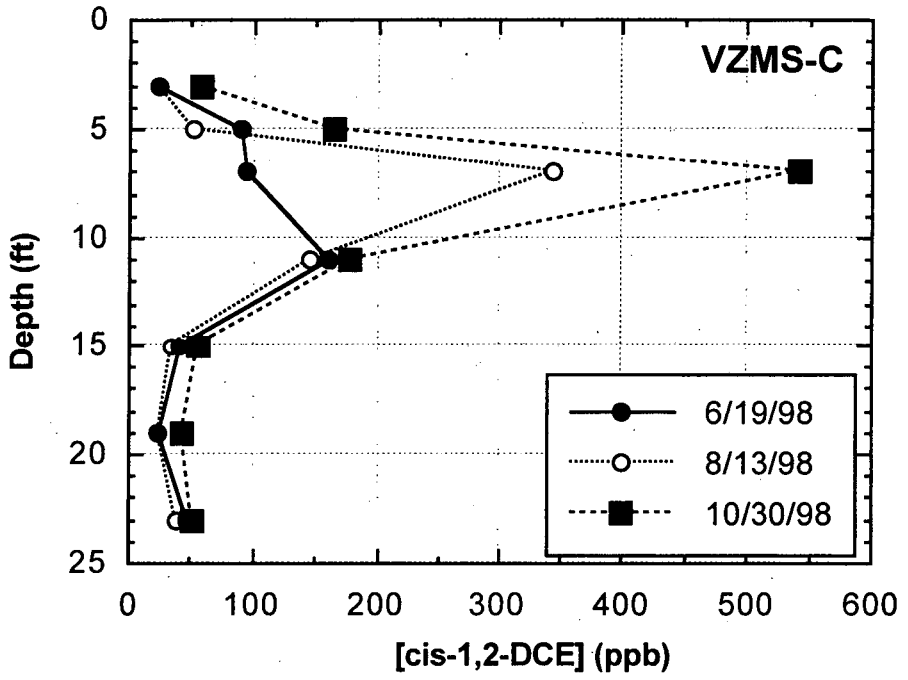

Figure 11. Cis-1,2-DCE concentrations in the liquid-phase, as measured in Well C on 6/19/98, 8/13/98, and 10/30/98.

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

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. The results of pore-water sampling using the lysimeters are described in Section 2.3.

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

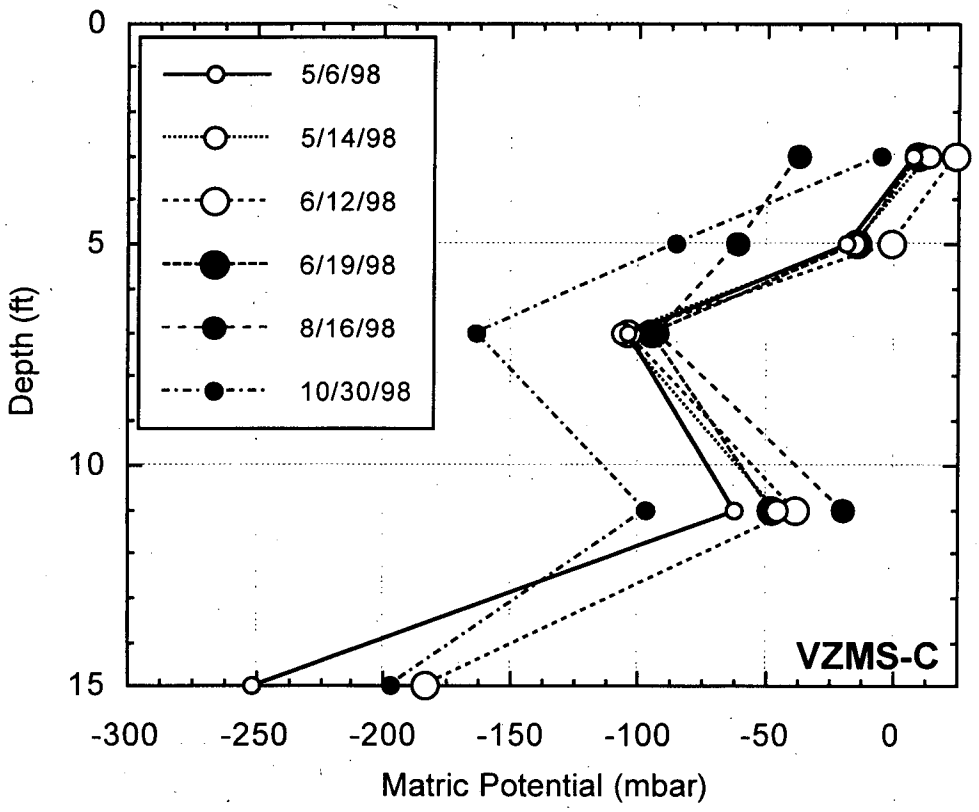

Figure 12. Matric potential of the formation as measured using tensiometers in Well C, 5/98-10/98.

Psychrometric data collected in May and June 1998 qualitatively indicate that the matric potentials in the formation are higher than -2 bar, i.e., outside of the practical range of psychrometric measurement. This is confirmed by tensiometer readings. Tensiometers below the depth of 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 12. Any positive matric potentials indicate a saturated state. Therefore, the formation at the 3-ft depth was

saturated in May and June, but became unsaturated in August and October. There was also a decrease in moisture at 5 ft during the same period of time. One needs to keep in mind that the decrease in moisture content at or near saturation can be very small (e.g., <1%) and still result in a measurable change in matric potential. Nevertheless, some moisture loss occurred in October, most notably at 5, 7, and 11 ft.

Tensiometer readings are expressed in terms of total hydraulic head in Figure 13. The data indicate a downward potential gradient, suggesting that net water flow is from the surface down. The combination of a fairly steep hydraulic gradient and its relative stability over time are indicative of very low unsaturated permeability in this part of the formation.

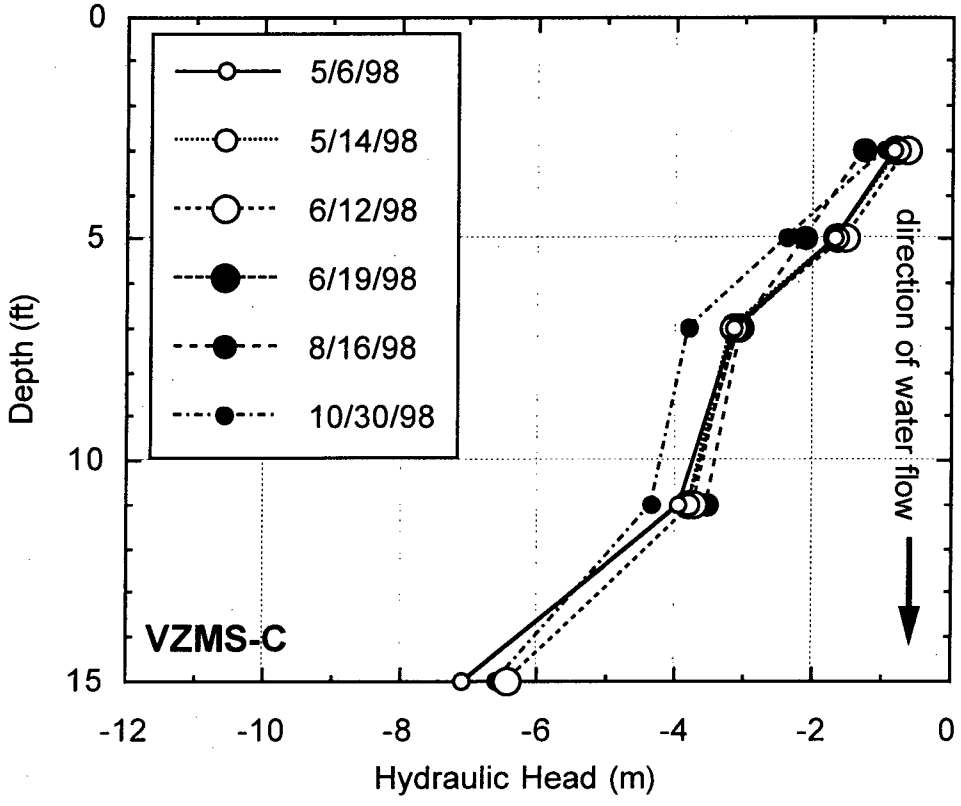

Figure 13. Hydraulic head as measured using tensiometers in Well C, 5/98-10/98.

3.0 SUMMARY

Data collected over the last quarter support previous findings of contaminant movement in both the gas and liquid phase within the top 11 ft of the formation. Very few consistent changes are observed below this depth. These findings are further supported by data collected from recently installed tensiometers and soil water samplers of Well C. Substantial increases in TCE and cis-1,2-DCE concentrations in the gas phase at 6 and especially at 11 ft in October 1998 suggest either downward movement of gas-phase VOCs or their partitioning among the liquid-adsorbed-gas phases. Data from Well C also document increases in both TCE and cis-1,2-DCE between the depths of 5 and 10 ft.

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, further confirming the importance of infiltration.

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APPENDIX - ANALYTICAL REPORTS

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	A1	Laboratory ID:	OW981111
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	2.2	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981111

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	47.1	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	55.7	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	100.7	**86-115**
Dibromofluoromethane	100.3	**86-118**
Toluene-d8	101.0	**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 : Date: 11/18/98
Reviewer: Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	A6	Laboratory ID:	OW981112
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	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	4.2
4	Bromodichloromethane	75-27-4	LT	2.1
5	Bromoform	75-25-2	LT	4.2
6	Bromomethane	74-83-9	LT	8.4
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	63.0
13	Chloroethane	75-00-3	LT	63.0
14	Chloroform	67-66-3	LT	2.1
15	Chloromethane	74-87-3	LT	2.1
16	2-Chlorotoluene	95-49-8	LT	4.2
17	4-Chlorotoluene	106-43-4	LT	4.2
18	Dibromochloromethane	124-48-1	LT	4.2
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	4.2
20	1,2-Dibromoethane	106-93-4	LT	4.2
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	6.3
26	1,1-Dichloroethane	75-34-3	LT	2.1
27	1,2-Dichloroethane	107-06-2	LT	4.2
28	1,1-Dichloroethene	75-35-4	LT	2.1
29	cis-1,2-Dichloroethene	156-69-9	LT	2.1
30	trans-1,2-Dichloroethene	156-60-5	LT	2.1
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	6.3
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

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981112

	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	6.3
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	6.3
43	Isopropylbenzene	98-82-8	LT	4.2
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	10.5
46	Naphthalene	91-20-3	LT	4.2
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	4.2
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	4.2
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	LT	2.1
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	4.2
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	4.2

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103.6	**86-115**
Dibromofluoromethane	101.2	**86-118**
Toluene-d8	99.2	**88-110**

CAS #: Chemical Abstract Services Registry Number
PQL: Practical Quantitation Limits (based on 5 ml water sample volume)
LT: Less than PQL

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

Analyst : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	A12	Laboratory ID:	OW981113
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.8
2	Bromobenzene	108-86-1	LT	1.8
3	Bromochloromethane	74-97-5	LT	3.7
4	Bromodichloromethane	75-27-4	LT	1.8
5	Bromoform	75-25-2	LT	3.7
6	Bromomethane	74-83-9	LT	7.4
7	n-Butylbenzene	104-51-8	LT	1.8
8	sec-Butylbenzene	135-98-8	LT	1.8
9	ter-Butylbenzene	98-06-6	LT	1.8
10	Carbon Tetrachloride	56-23-5	LT	1.8
11	Chlorobenzene	108-90-7	LT	1.8
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	55.1
13	Chloroethane	75-00-3	LT	55.1
14	Chloroform	67-66-3	LT	1.8
15	Chloromethane	74-87-3	LT	1.8
16	2-Chlorotoluene	95-49-8	LT	3.7
17	4-Chlorotoluene	106-43-4	LT	3.7
18	Dibromochloromethane	124-48-1	LT	3.7
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	3.7
20	1,2-Dibromoethane	106-93-4	LT	3.7
21	Dibromomethane	74-95-3	LT	1.8
22	1,2-Dichlorobenzene	95-50-1	LT	1.8
23	1,3-Dichlorobenzene	541-73-1	LT	1.8
24	1,4-Dichlorobenzene	106-46-7	LT	1.8
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	5.5
26	1,1-Dichloroethane	75-34-3	LT	1.8
27	1,2-Dichloroethane	107-06-2	LT	3.7
28	1,1-Dichloroethene	75-35-4	LT	1.8
29	cis-1,2-Dichloroethene	156-69-9	47.8	1.8
30	trans-1,2-Dichloroethene	156-60-5	LT	1.8
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	5.5
32	1,2-Dichloropropane	78-87-5	LT	1.8
33	1,3-Dichloropropane	142-28-9	LT	1.8
34	2,2-Dichloropropane	594-20-7	LT	1.8

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981113

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.8
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.8
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.8
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	5.5
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.8
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.8
41	Ethylbenzene	100-41-4	LT	1.8
42	Hexachlorobutadien	87-68-3	LT	5.5
43	Isopropylbenzene	98-82-8	LT	3.7
44	p-Isopropyltoluene	99-87-6	LT	1.8
45	Methylene Chloride	75-09-2	LT	1.8
45	Methyl tert-Butyl Ether	1634-04-4	LT	9.2
46	Naphthalene	91-20-3	LT	3.7
47	n-Propylbenzene	103-65-1	LT	1.8
48	Styrene	100-42-5	LT	1.8
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.8
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	3.7
51	Tetrachloroethene	127-18-4	LT	1.8
52	Toluene	108-88-3	LT	1.8
53	1,2,3-Trichlorobenzene	87-61-6	LT	3.7
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.8
55	1,1,1-Trichloroethane	71-55-6	LT	1.8
56	1,1,2-Trichloroethane	79-00-5	LT	1.8
57	Trichloroethene	79-01-6	53.0	1.8
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	3.7
59	1,2,3-Trichloropropane	96-18-4	LT	1.8
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.8
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.8
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.8
63	Vinyl Chloride	75-01-4	LT	1.8
64	Total-Xylene	1330-20-7	LT	3.7

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	100.6	**86-115**
Dibromofluoromethane	99.6	**86-118**
Toluene-d8	100.8	**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 : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	B1	Laboratory ID:	OW981114
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	2.4	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981114

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	38.0	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	52.9	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	101.4	**86-115**
Dibromofluoromethane	99.4	**86-118**
Toluene-d8	98.6	**88-110**

CAS #: Chemical Abstract Services Registry Number
PQL: Practical Quantitation Limits (based on 5 ml water sample volume)
LT: Less than PQL

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

Analyst : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	B8	Laboratory ID:	OW981115
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	5.2
2	Bromobenzene	108-86-1	LT	5.2
3	Bromochloromethane	74-97-5	LT	10.5
4	Bromodichloromethane	75-27-4	LT	5.2
5	Bromoform	75-25-2	LT	10.5
6	Bromomethane	74-83-9	LT	20.9
7	n-Butylbenzene	104-51-8	LT	5.2
8	sec-Butylbenzene	135-98-8	LT	5.2
9	ter-Butylbenzene	98-06-6	LT	5.2
10	Carbon Tetrachloride	56-23-5	LT	5.2
11	Chlorobenzene	108-90-7	LT	5.2
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	157.1
13	Chloroethane	75-00-3	LT	157.1
14	Chloroform	67-66-3	LT	5.2
15	Chloromethane	74-87-3	LT	5.2
16	2-Chlorotoluene	95-49-8	LT	10.5
17	4-Chlorotoluene	106-43-4	LT	10.5
18	Dibromochloromethane	124-48-1	LT	10.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	10.5
20	1,2-Dibromoethane	106-93-4	LT	10.5
21	Dibromomethane	74-95-3	LT	5.2
22	1,2-Dichlorobenzene	95-50-1	LT	5.2
23	1,3-Dichlorobenzene	541-73-1	LT	5.2
24	1,4-Dichlorobenzene	106-46-7	LT	5.2
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	15.7
26	1,1-Dichloroethane	75-34-3	LT	5.2
27	1,2-Dichloroethane	107-06-2	LT	10.5
28	1,1-Dichloroethene	75-35-4	LT	5.2
29	cis-1,2-Dichloroethene	156-69-9	LT	5.2
30	trans-1,2-Dichloroethene	156-60-5	LT	5.2
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	15.7
32	1,2-Dichloropropane	78-87-5	LT	5.2
33	1,3-Dichloropropane	142-28-9	LT	5.2
34	2,2-Dichloropropane	594-20-7	LT	5.2

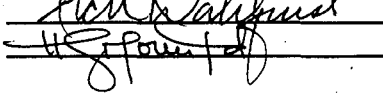
Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981115

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	5.2
36	cis-1,3-Dichloropropene	10061-01-5	LT	5.2
37	trans-1,3-Dichloropropene	10061-02-6	LT	5.2
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	15.7
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	5.2
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	5.2
41	Ethylbenzene	100-41-4	LT	5.2
42	Hexachlorobutadien	87-68-3	LT	15.7
43	Isopropylbenzene	98-82-8	LT	10.5
44	p-Isopropyltoluene	99-87-6	LT	5.2
45	Methylene Chloride	75-09-2	LT	5.2
45	Methyl tert-Butyl Ether	1634-04-4	LT	26.2
46	Naphthalene	91-20-3	LT	10.5
47	n-Propylbenzene	103-65-1	LT	5.2
48	Styrene	100-42-5	LT	5.2
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	5.2
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	10.5
51	Tetrachloroethene	127-18-4	LT	5.2
52	Toluene	108-88-3	LT	5.2
53	1,2,3-Trichlorobenzene	87-61-6	LT	10.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	5.2
55	1,1,1-Trichloroethane	71-55-6	LT	5.2
56	1,1,2-Trichloroethane	79-00-5	LT	5.2
57	Trichloroethene	79-01-6	LT	5.2
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	10.5
59	1,2,3-Trichloropropane	96-18-4	LT	5.2
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	5.2
61	1,2,4-Trimethylbenzene	95-63-6	LT	5.2
62	1,3,5-Trimethylbenzene	108-67-8	LT	5.2
63	Vinyl Chloride	75-01-4	LT	5.2
64	Total-Xylene	1330-20-7	LT	10.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	103.2	**86-115**
Dibromofluoromethane	99.0	**86-118**
Toluene-d8	100.2	**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 :  Date: 11/18/98
Reviewer:  Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	B13	Laboratory ID:	OW981116
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	4.0
2	Bromobenzene	108-86-1	LT	4.0
3	Bromochloromethane	74-97-5	LT	8.0
4	Bromodichloromethane	75-27-4	LT	4.0
5	Bromoform	75-25-2	LT	8.0
6	Bromomethane	74-83-9	LT	16.1
7	n-Butylbenzene	104-51-8	LT	4.0
8	sec-Butylbenzene	135-98-8	LT	4.0
9	ter-Butylbenzene	98-06-6	LT	4.0
10	Carbon Tetrachloride	56-23-5	LT	4.0
11	Chlorobenzene	108-90-7	LT	4.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	120.5
13	Chloroethane	75-00-3	LT	120.5
14	Chloroform	67-66-3	LT	4.0
15	Chloromethane	74-87-3	LT	4.0
16	2-Chlorotoluene	95-49-8	LT	8.0
17	4-Chlorotoluene	106-43-4	LT	8.0
18	Dibromochloromethane	124-48-1	LT	8.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	8.0
20	1,2-Dibromoethane	106-93-4	LT	8.0
21	Dibromomethane	74-95-3	LT	4.0
22	1,2-Dichlorobenzene	95-50-1	LT	4.0
23	1,3-Dichlorobenzene	541-73-1	LT	4.0
24	1,4-Dichlorobenzene	106-46-7	LT	4.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	12.0
26	1,1-Dichloroethane	75-34-3	LT	4.0
27	1,2-Dichloroethane	107-06-2	LT	8.0
28	1,1-Dichloroethene	75-35-4	LT	4.0
29	cis-1,2-Dichloroethene	156-69-9	31.4	4.0
30	trans-1,2-Dichloroethene	156-60-5	LT	4.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	12.0
32	1,2-Dichloropropane	78-87-5	LT	4.0
33	1,3-Dichloropropane	142-28-9	LT	4.0
34	2,2-Dichloropropane	594-20-7	LT	4.0

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981116

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	4.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	4.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	4.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	12.0
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	4.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	4.0
41	Ethylbenzene	100-41-4	LT	4.0
42	Hexachlorobutadien	87-68-3	LT	12.0
43	Isopropylbenzene	98-82-8	LT	8.0
44	p-Isopropyltoluene	99-87-6	LT	4.0
45	Methylene Chloride	75-09-2	LT	4.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	20.1
46	Naphthalene	91-20-3	LT	8.0
47	n-Propylbenzene	103-65-1	LT	4.0
48	Styrene	100-42-5	LT	4.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	4.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	8.0
51	Tetrachloroethene	127-18-4	LT	4.0
52	Toluene	108-88-3	LT	4.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	8.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	4.0
55	1,1,1-Trichloroethane	71-55-6	LT	4.0
56	1,1,2-Trichloroethane	79-00-5	LT	4.0
57	Trichloroethene	79-01-6	61.4	4.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	8.0
59	1,2,3-Trichloropropane	96-18-4	LT	4.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	4.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	4.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	4.0
63	Vinyl Chloride	75-01-4	LT	4.0
64	Total-Xylene	1330-20-7	LT	8.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	100.2	**86-115**
Dibromofluoromethane	99.2	**86-118**
Toluene-d8	98.6	**88-110**

CAS #: Chemical Abstract Services Registry Number
PQL: Practical Quantitation Limits (based on 5 ml water sample volume)
LT: Less than PQL

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

Analyst : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	C1	Laboratory ID:	OW981117
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.3
2	Bromobenzene	108-86-1	LT	1.3
3	Bromochloromethane	74-97-5	LT	2.5
4	Bromodichloromethane	75-27-4	LT	1.3
5	Bromoform	75-25-2	LT	2.5
6	Bromomethane	74-83-9	LT	5.0
7	n-Butylbenzene	104-51-8	LT	1.3
8	sec-Butylbenzene	135-98-8	LT	1.3
9	ter-Butylbenzene	98-06-6	LT	1.3
10	Carbon Tetrachloride	56-23-5	LT	1.3
11	Chlorobenzene	108-90-7	LT	1.3
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	37.7
13	Chloroethane	75-00-3	LT	37.7
14	Chloroform	67-66-3	LT	1.3
15	Chloromethane	74-87-3	LT	1.3
16	2-Chlorotoluene	95-49-8	LT	2.5
17	4-Chlorotoluene	106-43-4	LT	2.5
18	Dibromochloromethane	124-48-1	LT	2.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.5
20	1,2-Dibromoethane	106-93-4	LT	2.5
21	Dibromomethane	74-95-3	LT	1.3
22	1,2-Dichlorobenzene	95-50-1	LT	1.3
23	1,3-Dichlorobenzene	541-73-1	LT	1.3
24	1,4-Dichlorobenzene	106-46-7	LT	1.3
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.8
26	1,1-Dichloroethane	75-34-3	LT	1.3
27	1,2-Dichloroethane	107-06-2	5.2	2.5
28	1,1-Dichloroethene	75-35-4	LT	1.3
29	cis-1,2-Dichloroethene	156-69-9	50.1	1.3
30	trans-1,2-Dichloroethene	156-60-5	LT	1.3
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.8
32	1,2-Dichloropropane	78-87-5	LT	1.3
33	1,3-Dichloropropane	142-28-9	LT	1.3
34	2,2-Dichloropropane	594-20-7	LT	1.3

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981117

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.3
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.3
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.3
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.8
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.3
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.3
41	Ethylbenzene	100-41-4	LT	1.3
42	Hexachlorobutadien	87-68-3	LT	3.8
43	Isopropylbenzene	98-82-8	LT	2.5
44	p-Isopropyltoluene	99-87-6	LT	1.3
45	Methylene Chloride	75-09-2	LT	1.3
45	Methyl tert-Butyl Ether	1634-04-4	LT	6.3
46	Naphthalene	91-20-3	LT	2.5
47	n-Propylbenzene	103-65-1	LT	1.3
48	Styrene	100-42-5	LT	1.3
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.3
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.5
51	Tetrachloroethene	127-18-4	LT	1.3
52	Toluene	108-88-3	LT	1.3
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.3
55	1,1,1-Trichloroethane	71-55-6	LT	1.3
56	1,1,2-Trichloroethane	79-00-5	LT	1.3
57	Trichloroethene	79-01-6	91.9	1.3
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.5
59	1,2,3-Trichloropropane	96-18-4	LT	1.3
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.3
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.3
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.3
63	Vinyl Chloride	75-01-4	LT	1.3
64	Total-Xylene	1330-20-7	LT	2.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101.2	**86-115**
Dibromofluoromethane	100.0	**86-118**
Toluene-d8	97.8	**88-110**

CAS #: Chemical Abstract Services Registry Number
PQL: Practical Quantitation Limits (based on 5 ml water sample volume)
LT: Less than PQL

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

Analyst : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	C2	Laboratory ID:	OW981118
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	8.6	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	42.4	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981118

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	57.4	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	100.6	**86-115**
Dibromofluoromethane	98.8	**86-118**
Toluene-d8	100.6	**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 : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	C3	Laboratory ID:	OW981119
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	8.6	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	54.8	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981119

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	63.1	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	103.6	**86-115**
Dibromofluoromethane	98.6	**86-118**
Toluene-d8	99.8	**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 : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	C4	Laboratory ID:	OW981120
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	6.1	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	178	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981120

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	157	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	97.4	**86-115**
Dibromofluoromethane	100.0	**86-118**
Toluene-d8	98.9	**88-110**

CAS #: Chemical Abstract Services Registry Number
PQL: Practical Quantitation Limits (based on 5 ml water sample volume)
LT: Less than PQL

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

Analyst : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	C5	Laboratory ID:	OW981121
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/2/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	10.2
2	Bromobenzene	108-86-1	LT	10.2
3	Bromochloromethane	74-97-5	LT	20.5
4	Bromodichloromethane	75-27-4	LT	10.2
5	Bromoform	75-25-2	LT	20.5
6	Bromomethane	74-83-9	LT	40.9
7	n-Butylbenzene	104-51-8	LT	10.2
8	sec-Butylbenzene	135-98-8	LT	10.2
9	ter-Butylbenzene	98-06-6	LT	10.2
10	Carbon Tetrachloride	56-23-5	LT	10.2
11	Chlorobenzene	108-90-7	LT	10.2
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	307.1
13	Chloroethane	75-00-3	LT	307.1
14	Chloroform	67-66-3	LT	10.2
15	Chloromethane	74-87-3	LT	10.2
16	2-Chlorotoluene	95-49-8	LT	20.5
17	4-Chlorotoluene	106-43-4	LT	20.5
18	Dibromochloromethane	124-48-1	LT	20.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	20.5
20	1,2-Dibromoethane	106-93-4	LT	20.5
21	Dibromomethane	74-95-3	LT	10.2
22	1,2-Dichlorobenzene	95-50-1	LT	10.2
23	1,3-Dichlorobenzene	541-73-1	LT	10.2
24	1,4-Dichlorobenzene	106-46-7	LT	10.2
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	30.7
26	1,1-Dichloroethane	75-34-3	LT	10.2
27	1,2-Dichloroethane	107-06-2	LT	20.5
28	1,1-Dichloroethene	75-35-4	LT	10.2
29	cis-1,2-Dichloroethene	156-69-9	542	10.2
30	trans-1,2-Dichloroethene	156-60-5	LT	10.2
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	30.7
32	1,2-Dichloropropane	78-87-5	LT	10.2
33	1,3-Dichloropropane	142-28-9	LT	10.2
34	2,2-Dichloropropane	594-20-7	LT	10.2

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981121

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	10.2
36	cis-1,3-Dichloropropene	10061-01-5	LT	10.2
37	trans-1,3-Dichloropropene	10061-02-6	LT	10.2
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	30.7
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	10.2
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	10.2
41	Ethylbenzene	100-41-4	LT	10.2
42	Hexachlorobutadien	87-68-3	LT	30.7
43	Isopropylbenzene	98-82-8	LT	20.5
44	p-Isopropyltoluene	99-87-6	LT	10.2
45	Methylene Chloride	75-09-2	LT	10.2
45	Methyl tert-Butyl Ether	1634-04-4	LT	51.2
46	Naphthalene	91-20-3	LT	20.5
47	n-Propylbenzene	103-65-1	LT	10.2
48	Styrene	100-42-5	LT	10.2
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	10.2
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	20.5
51	Tetrachloroethene	127-18-4	LT	10.2
52	Toluene	108-88-3	LT	10.2
53	1,2,3-Trichlorobenzene	87-61-6	LT	20.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	10.2
55	1,1,1-Trichloroethane	71-55-6	LT	10.2
56	1,1,2-Trichloroethane	79-00-5	LT	10.2
57	Trichloroethene	79-01-6	872	10.2
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	20.5
59	1,2,3-Trichloropropane	96-18-4	LT	10.2
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	10.2
61	1,2,4-Trimethylbenzene	95-63-6	LT	10.2
62	1,3,5-Trimethylbenzene	108-67-8	LT	10.2
63	Vinyl Chloride	75-01-4	LT	10.2
64	Total-Xylene	1330-20-7	LT	20.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101.2	**86-115**
Dibromofluoromethane	102.8	**86-118**
Toluene-d8	97.8	**88-110**

CAS #: Chemical Abstract Services Registry Number
PQL: Practical Quantitation Limits (based on 5 ml water sample volume)
LT: Less than PQL

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

Analyst : Rob Dahlquist Date: 11/18/98
Reviewer: H. Louie Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	C7	Laboratory ID:	OW981123
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/3/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	10.2
2	Bromobenzene	108-86-1	LT	10.2
3	Bromochloromethane	74-97-5	LT	20.5
4	Bromodichloromethane	75-27-4	LT	10.2
5	Bromoform	75-25-2	LT	20.5
6	Bromomethane	74-83-9	LT	40.9
7	n-Butylbenzene	104-51-8	LT	10.2
8	sec-Butylbenzene	135-98-8	LT	10.2
9	ter-Butylbenzene	98-06-6	LT	10.2
10	Carbon Tetrachloride	56-23-5	LT	10.2
11	Chlorobenzene	108-90-7	LT	10.2
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	307.1
13	Chloroethane	75-00-3	LT	307.1
14	Chloroform	67-66-3	LT	10.2
15	Chloromethane	74-87-3	LT	10.2
16	2-Chlorotoluene	95-49-8	LT	20.5
17	4-Chlorotoluene	106-43-4	LT	20.5
18	Dibromochloromethane	124-48-1	LT	20.5
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	20.5
20	1,2-Dibromoethane	106-93-4	LT	20.5
21	Dibromomethane	74-95-3	LT	10.2
22	1,2-Dichlorobenzene	95-50-1	LT	10.2
23	1,3-Dichlorobenzene	541-73-1	LT	10.2
24	1,4-Dichlorobenzene	106-46-7	LT	10.2
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	30.7
26	1,1-Dichloroethane	75-34-3	LT	10.2
27	1,2-Dichloroethane	107-06-2	LT	20.5
28	1,1-Dichloroethene	75-35-4	LT	10.2
29	cis-1,2-Dichloroethene	156-69-9	57.0	10.2
30	trans-1,2-Dichloroethene	156-60-5	LT	10.2
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	30.7
32	1,2-Dichloropropane	78-87-5	LT	10.2
33	1,3-Dichloropropane	142-28-9	LT	10.2
34	2,2-Dichloropropane	594-20-7	LT	10.2

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981123

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	10.2
36	cis-1,3-Dichloropropene	10061-01-5	LT	10.2
37	trans-1,3-Dichloropropene	10061-02-6	LT	10.2
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	30.7
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	10.2
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	LT	10.2
41	Ethylbenzene	100-41-4	LT	10.2
42	Hexachlorobutadien	87-68-3	LT	30.7
43	Isopropylbenzene	98-82-8	LT	20.5
44	p-Isopropyltoluene	99-87-6	LT	10.2
45	Methylene Chloride	75-09-2	LT	10.2
45	Methyl tert-Butyl Ether	1634-04-4	LT	51.2
46	Naphthalene	91-20-3	LT	20.5
47	n-Propylbenzene	103-65-1	LT	10.2
48	Styrene	100-42-5	LT	10.2
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	10.2
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	20.5
51	Tetrachloroethene	127-18-4	LT	10.2
52	Toluene	108-88-3	LT	10.2
53	1,2,3-Trichlorobenzene	87-61-6	LT	20.5
54	1,2,4-Trichlorobenzene	120-82-1	LT	10.2
55	1,1,1-Trichloroethane	71-55-6	LT	10.2
56	1,1,2-Trichloroethane	79-00-5	LT	10.2
57	Trichloroethene	79-01-6	318	10.2
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	20.5
59	1,2,3-Trichloropropane	96-18-4	LT	10.2
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	10.2
61	1,2,4-Trimethylbenzene	95-63-6	LT	10.2
62	1,3,5-Trimethylbenzene	108-67-8	LT	10.2
63	Vinyl Chloride	75-01-4	LT	10.2
64	Total-Xylene	1330-20-7	LT	20.5

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101.4	**86-115**
Dibromofluoromethane	99.2	**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 Date: 11/18/98
Reviewer: [signature] Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	Dup 1	Laboratory ID:	OW981124
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/3/98	Method:	EPA 8260(Purge & Trap)

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
1	Benzene	71-43-2	LT	1.0
2	Bromobenzene	108-86-1	LT	1.0
3	Bromochloromethane	74-97-5	LT	2.0
4	Bromodichloromethane	75-27-4	LT	1.0
5	Bromoform	75-25-2	LT	2.0
6	Bromomethane	74-83-9	LT	4.1
7	n-Butylbenzene	104-51-8	LT	1.0
8	sec-Butylbenzene	135-98-8	LT	1.0
9	ter-Butylbenzene	98-06-6	LT	1.0
10	Carbon Tetrachloride	56-23-5	LT	1.0
11	Chlorobenzene	108-90-7	LT	1.0
12	Chlorodifluoromethane(Freon-22)	75-45-6	LT	30.7
13	Chloroethane	75-00-3	LT	30.7
14	Chloroform	67-66-3	LT	1.0
15	Chloromethane	74-87-3	LT	1.0
16	2-Chlorotoluene	95-49-8	LT	2.0
17	4-Chlorotoluene	106-43-4	LT	2.0
18	Dibromochloromethane	124-48-1	LT	2.0
19	1,2-Dibromo-3-chloropropane	96-12-8	LT	2.0
20	1,2-Dibromoethane	106-93-4	LT	2.0
21	Dibromomethane	74-95-3	LT	1.0
22	1,2-Dichlorobenzene	95-50-1	LT	1.0
23	1,3-Dichlorobenzene	541-73-1	LT	1.0
24	1,4-Dichlorobenzene	106-46-7	LT	1.0
25	Dichlorodifluoromethane(Freon-12)	75-71-8	LT	3.1
26	1,1-Dichloroethane	75-34-3	LT	1.0
27	1,2-Dichloroethane	107-06-2	LT	2.0
28	1,1-Dichloroethene	75-35-4	LT	1.0
29	cis-1,2-Dichloroethene	156-69-9	1.9	1.0
30	trans-1,2-Dichloroethene	156-60-5	LT	1.0
31	Dichlorofluoromethane(Freon-21)	75-43-4	LT	3.1
32	1,2-Dichloropropane	78-87-5	LT	1.0
33	1,3-Dichloropropane	142-28-9	LT	1.0
34	2,2-Dichloropropane	594-20-7	LT	1.0

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981124

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	47.8	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	54.7	1.0
58	Trichlorofluoromethane(Freon-11)	75-69-4	LT	2.0
59	1,2,3-Trichloropropane	96-18-4	LT	1.0
60	1,1,2-Trichlorotrifluoroethane(Freon-113)	76-13-1	LT	1.0
61	1,2,4-Trimethylbenzene	95-63-6	LT	1.0
62	1,3,5-Trimethylbenzene	108-67-8	LT	1.0
63	Vinyl Chloride	75-01-4	LT	1.0
64	Total-Xylene	1330-20-7	LT	2.0

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	99.3	**86-115**
Dibromofluoromethane	99.6	**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 : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	Dup 2	Laboratory ID:	OW981125
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/3/98	Method:	EPA 8260(Purge & Trap)

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

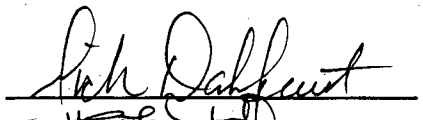
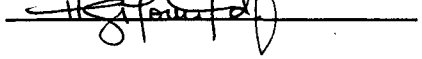
Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981125

	Compound	CAS #	Conc.(ug/L)	PQL(ug/L)
35	1,1-Dichloropropene	563-58-6	LT	1.0
36	cis-1,3-Dichloropropene	10061-01-5	LT	1.0
37	trans-1,3-Dichloropropene	10061-02-6	LT	1.0
38	1,2-Dichlorotetrafluoroethane(Freon-114)	76-14-2	LT	3.1
39	Dichlorotrifluoroethane(Freon-123)	306-83-2	LT	1.0
40	Dichlorotrifluoroethane(Freon-123A)	354-23-4	40.5	1.0
41	Ethylbenzene	100-41-4	LT	1.0
42	Hexachlorobutadien	87-68-3	LT	3.1
43	Isopropylbenzene	98-82-8	LT	2.0
44	p-Isopropyltoluene	99-87-6	LT	1.0
45	Methylene Chloride	75-09-2	LT	1.0
45	Methyl tert-Butyl Ether	1634-04-4	LT	5.1
46	Naphthalene	91-20-3	LT	2.0
47	n-Propylbenzene	103-65-1	LT	1.0
48	Styrene	100-42-5	LT	1.0
49	1,1,2,2-Tetrachloroethane	79-34-5	LT	1.0
50	1,1,1,2-Tetrachloroethane	79-34-5	LT	2.0
51	Tetrachloroethene	127-18-4	LT	1.0
52	Toluene	108-88-3	LT	1.0
53	1,2,3-Trichlorobenzene	87-61-6	LT	2.0
54	1,2,4-Trichlorobenzene	120-82-1	LT	1.0
55	1,1,1-Trichloroethane	71-55-6	LT	1.0
56	1,1,2-Trichloroethane	79-00-5	LT	1.0
57	Trichloroethene	79-01-6	54.9	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	101.0	**86-115**
Dibromofluoromethane	98.4	**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 :  Date: 11/18/98
Reviewer:  Date: 11/18/98

LBL Environmental Measurements Laboratory
Volatile Organics Analysis Data Sheet

Sample ID:	FB	Laboratory ID:	OW981126
Matrix:	Water	Sample Wt./Vol.:	5.0 ml
Date Sampled:	10/30/98	Date Received:	11/2/98
Date Analyzed:	11/3/98	Method:	EPA 8260(Purge & Trap)

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

Volatile Organics Analysis Data Sheet (Continued) Laboratory ID: OW981126

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

Surrogate Compounds	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101.0	**86-115**
Dibromofluoromethane	100.6	**86-118**
Toluene-d8	97.8	**88-110**

CAS #: Chemical Abstract Services Registry Number
PQL: Practical Quantitation Limits (based on 5 ml water sample volume)
LT: Less than PQL

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

Analyst : _____ Date: 11/18/98
Reviewer: _____ Date: 11/18/98

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-2	Laboratory ID:	OA981102
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/2/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	392	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	5540	19.08
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	17500	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		23432	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	87%	**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 : Richard Dahlquist Date: 1/4/99

Reviewer: Hugh Foster Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-3	Laboratory ID:	OA981103
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/4/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	341	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1020	19.08
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	4810	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		6171	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-4	Laboratory ID:	OA981104
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/2/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	38.8	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	775	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	53.1	15.12
16	Toluene	108-88-3	31.5	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	2060	19.08
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	1930	16.61
21	1,2,4-Trimethylbenzene	95-63-6	267	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		5156	

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

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

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

Analyst : Rich Dahlquist Date: 1/4/99
Reviewer: H. Spurgeon Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-5	Laboratory ID:	OA981105
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/2/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	64.62
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	395	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	469	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1650	19.08
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	208	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		2722	

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

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

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

Analyst : Jack Dahlgren Date: 1/4/99
Reviewer: H. Gouveia Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-6	Laboratory ID:	OA981106
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/2/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	297	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1210	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	342	23.62
24	Total VOC		1850	

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

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

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

Analyst : Rick Dalgliesh Date: 1/4/99
Reviewer: H. Howard Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-7	Laboratory ID:	OA981107
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	9/11/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	57.1	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	313	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	34.0	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1420	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	33.8	23.62
24	Total VOC		1858	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-8	Laboratory ID:	OA981108
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/2/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	284	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
14	Tetrachloroethene	127-18-4	LT	15.12
15	Toluene	108-88-3	LT	27.20
16	1,1,1-Trichloroethane	71-55-6	LT	18.77
16	1,1,2-Trichloroethane	79-00-5	LT	18.77
17	Trichloroethene	79-01-6	1400	19.08
18	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
17	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
18	Vinyl Chloride	75-01-4	LT	40.06
19	Total-Xylene	1330-20-7	LT	23.62
19	Total VOC		1685	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-9	Laboratory ID:	OA981109
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/2/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	203	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	949	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		1152	

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

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

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

Analyst : Rick Dahlquist Date: 1/4/99
Reviewer: [signature] Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-10	Laboratory ID:	OA981110
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/2/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	250	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	30.5	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1150	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	39.5	23.62
24	Total VOC		1431	

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

CAS #: Chemical Abstract Services Registry Number
PQL: Practical Quantitation Limits
LT: Less than PQL
* Compounds could not be determined because of interferent on detector.
California D.O.H.S. Cert. # 1704

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-11	Laboratory ID:	OA981111
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/3/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	430
2	Benzene	71-43-2	LT	321
3	Carbon Tetrachloride	56-23-5	LT	163
4	Chloroform	67-66-3	LT	210
5	1,2-Dichlorobenzene	95-50-1	LT	170
6	1,3-Dichlorobenzene	541-73-1	LT	170
7	1,4-Dichlorobenzene	106-46-7	LT	170
8	1,1-Dichloroethane	75-34-3	LT	253
9	1,2-Dichloroethane	107-06-2	LT	258
10	1,1-Dichloroethene	75-35-4	LT	258
11	cis-1,2-Dichloroethene	156-69-9	2040	258
12	trans-1,2-Dichloroethene	156-60-5	LT	258
13	Ethylbenzene	100-41-4	LT	236
14	Methylene Chloride	75-09-2	LT	295
15	Tetrachloroethene	127-18-4	LT	151
16	Toluene	108-88-3	LT	272
17	1,1,1-Trichloroethane	71-55-6	LT	188
18	1,1,2-Trichloroethane	79-00-5	LT	188
19	Trichloroethene	79-01-6	3110	191
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	166
21	1,2,4-Trimethylbenzene	95-63-6	LT	272
22	Vinyl Chloride	75-01-4	LT	401
23	Total-Xylene	1330-20-7	LT	236
24	Total VOC		5150	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-12-1	Laboratory ID:	OA981112
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/4/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4304
2	Benzene	71-43-2	LT	3205
3	Carbon Tetrachloride	56-23-5	LT	1630
4	Chloroform	67-66-3	LT	2100
5	1,2-Dichlorobenzene	95-50-1	LT	1705
6	1,3-Dichlorobenzene	541-73-1	LT	1705
7	1,4-Dichlorobenzene	106-46-7	LT	1705
8	1,1-Dichloroethane	75-34-3	LT	2528
9	1,2-Dichloroethane	107-06-2	LT	2585
10	1,1-Dichloroethene	75-35-4	LT	2585
11	cis-1,2-Dichloroethene	156-69-9	28500	2585
12	trans-1,2-Dichloroethene	156-60-5	LT	2585
13	Ethylbenzene	100-41-4	LT	2362
14	Methylene Chloride	75-09-2	LT	2951
15	Tetrachloroethene	127-18-4	LT	1512
16	Toluene	108-88-3	LT	2720
17	1,1,1-Trichloroethane	71-55-6	LT	1877
18	1,1,2-Trichloroethane	79-00-5	LT	1877
19	Trichloroethene	79-01-6	47500	1908
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1661
21	1,2,4-Trimethylbenzene	95-63-6	LT	2720
22	Vinyl Chloride	75-01-4	LT	4006
23	Total-Xylene	1330-20-7	LT	2362
24	Total VOC		76000	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	89%	**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 : [signature] Date: 1/4/99

Reviewer: [signature] Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	AG-13	Laboratory ID:	OA981113
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/4/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4304
2	Benzene	71-43-2	LT	3205
3	Carbon Tetrachloride	56-23-5	LT	1630
4	Chloroform	67-66-3	LT	2100
5	1,2-Dichlorobenzene	95-50-1	LT	1705
6	1,3-Dichlorobenzene	541-73-1	LT	1705
7	1,4-Dichlorobenzene	106-46-7	LT	1705
8	1,1-Dichloroethane	75-34-3	LT	2528
9	1,2-Dichloroethane	107-06-2	LT	2585
10	1,1-Dichloroethene	75-35-4	LT	2585
11	cis-1,2-Dichloroethene	156-69-9	129900	2585
12	trans-1,2-Dichloroethene	156-60-5	LT	2585
13	Ethylbenzene	100-41-4	LT	2362
14	Methylene Chloride	75-09-2	LT	2951
15	Tetrachloroethene	127-18-4	LT	1512
16	Toluene	108-88-3	LT	2720
17	1,1,1-Trichloroethane	71-55-6	LT	1877
18	1,1,2-Trichloroethane	79-00-5	LT	1877
19	Trichloroethene	79-01-6	184000	1908
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1661
21	1,2,4-Trimethylbenzene	95-63-6	LT	2720
22	Vinyl Chloride	75-01-4	LT	4006
23	Total-Xylene	1330-20-7	LT	2362
24	Total VOC		313900	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	Field Blank-1	Laboratory ID:	OA971114
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/1/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	25.85
11	cis-1,2-Dichloroethene	156-69-9	LT	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	LT	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		0	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	105%	**75-130**

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	DUP-1	Laboratory ID:	OA971115
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/4/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	167	25.85
11	cis-1,2-Dichloroethene	156-69-9	1370	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1250	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		2787	

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

* Saturated Detector and no duplicate sample for reanalysis.
CAS #: Chemical Abstract Services Registry Number
PQL: Practical Quantitation Limits
LT: Less than PQL

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG 1	Laboratory ID:	OA981116
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/3/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	597	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	71-55-6	LT	18.77
19	Trichloroethene	79-01-6	6630	19.08
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	15700	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		22927	

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

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

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

Analyst : Rich Dahlquist Date: 1/4/99
Reviewer: H Sprunt Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-2	Laboratory ID:	OA981117
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/3/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	302	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	4790	19.08
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	20000	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		25092	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-3	Laboratory ID:	OA981118
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/1/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	497	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	33.1	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	46.5	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	1320	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	36.8	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	131	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1350	19.08
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	4980	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		8395	

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

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

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

Analyst : Rich Dahlquist Date: 1/4/99
Reviewer: [signature] Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-4	Laboratory ID:	OA981119
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/1/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	44.1	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	50.8	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	117	77.54
11	cis-1,2-Dichloroethene	156-69-9	445	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	3.6	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1050	19.08
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	3820	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		5530	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-5	Laboratory ID:	OA981120
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/1/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	77.6	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	45.4	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	54.1	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	141	77.54
11	cis-1,2-Dichloroethene	156-69-9	668	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1760	19.08
20	Dichlorotrifluoroethane(Freon-123)	306-83-2	265	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		3011	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-6	Laboratory ID:	OA981121
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/1/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	40.7	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	292	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	49.6	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	32.0	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1140	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		1554	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-7	Laboratory ID:	OA981122
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/1/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	27.7	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	172	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	25.2	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	997	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		1222	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-8	Laboratory ID:	OA981123
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/1/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	48.1	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
14	Tetrachloroethene	127-18-4	LT	15.12
15	Toluene	108-88-3	LT	27.20
16	1,1,1-Trichloroethane	71-55-6	LT	18.77
16	1,1,2-Trichloroethane	79-00-5	LT	18.77
17	Trichloroethene	79-01-6	303	19.08
18	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
17	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
18	Vinyl Chloride	75-01-4	LT	40.06
19	Total-Xylene	1330-20-7	LT	23.62
19	Total VOC		351	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-9	Laboratory ID:	OA981124
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/1/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	155	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	524	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	63.6	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1870	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	56.2	23.62
24	Total VOC		2669	

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

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

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

Analyst : Rick Dahlquist Date: 1/4/99
Reviewer: [illegible] Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-10	Laboratory ID:	OA981125
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/2/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	36.4	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	27.1	25.28
9	1,2-Dichloroethane	107-06-2	78.1	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	489	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	32.1	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	1470	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		2132	

Surrogate Compound	% Recovery	QC Limits (%)
4-Bromofluorobenzene	101%	**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 : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-11	Laboratory ID:	OA981126
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/3/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4304
2	Benzene	71-43-2	LT	3205
3	Carbon Tetrachloride	56-23-5	LT	1630
4	Chloroform	67-66-3	LT	2100
5	1,2-Dichlorobenzene	95-50-1	LT	1705
6	1,3-Dichlorobenzene	541-73-1	LT	1705
7	1,4-Dichlorobenzene	106-46-7	LT	1705
8	1,1-Dichloroethane	75-34-3	LT	2528
9	1,2-Dichloroethane	107-06-2	LT	2585
10	1,1-Dichloroethene	75-35-4	LT	2585
11	cis-1,2-Dichloroethene	156-69-9	5110	2585
12	trans-1,2-Dichloroethene	156-60-5	LT	2585
13	Ethylbenzene	100-41-4	LT	2362
14	Methylene Chloride	75-09-2	LT	2951
15	Tetrachloroethene	127-18-4	LT	1512
16	Toluene	108-88-3	LT	2720
17	1,1,1-Trichloroethane	71-55-6	LT	1877
18	1,1,2-Trichloroethane	79-00-5	LT	1877
19	Trichloroethene	79-01-6	5990	1908
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1661
21	1,2,4-Trimethylbenzene	95-63-6	LT	2720
22	Vinyl Chloride	75-01-4	LT	4006
23	Total-Xylene	1330-20-7	LT	2362
24	Total VOC		11100	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-12-1	Laboratory ID:	OA981127
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/4/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4304
2	Benzene	71-43-2	LT	3205
3	Carbon Tetrachloride	56-23-5	LT	1630
4	Chloroform	67-66-3	LT	2100
5	1,2-Dichlorobenzene	95-50-1	LT	1705
6	1,3-Dichlorobenzene	541-73-1	LT	1705
7	1,4-Dichlorobenzene	106-46-7	LT	1705
8	1,1-Dichloroethane	75-34-3	LT	2528
9	1,2-Dichloroethane	107-06-2	LT	2585
10	1,1-Dichloroethene	75-35-4	LT	2585
11	cis-1,2-Dichloroethene	156-69-9	22200	2585
12	trans-1,2-Dichloroethene	156-60-5	LT	2585
13	Ethylbenzene	100-41-4	LT	2362
14	Methylene Chloride	75-09-2	LT	2951
15	Tetrachloroethene	127-18-4	LT	1512
16	Toluene	108-88-3	LT	2720
17	1,1,1-Trichloroethane	71-55-6	LT	1877
18	1,1,2-Trichloroethane	79-00-5	LT	1877
19	Trichloroethene	79-01-6	31000	1908
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1661
21	1,2,4-Trimethylbenzene	95-63-6	LT	2720
22	Vinyl Chloride	75-01-4	LT	4006
23	Total-Xylene	1330-20-7	LT	2362
24	Total VOC		53200	

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

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

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

Analyst : Rich Dahlgren Date: 1/4/99
Reviewer: H.S. Lowenthal Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	BG-13-3	Laboratory ID:	OA981128
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/4/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	4304
2	Benzene	71-43-2	LT	3205
3	Carbon Tetrachloride	56-23-5	LT	1630
4	Chloroform	67-66-3	LT	2100
5	1,2-Dichlorobenzene	95-50-1	LT	1705
6	1,3-Dichlorobenzene	541-73-1	LT	1705
7	1,4-Dichlorobenzene	106-46-7	LT	1705
8	1,1-Dichloroethane	75-34-3	LT	2528
9	1,2-Dichloroethane	107-06-2	LT	2585
10	1,1-Dichloroethene	75-35-4	LT	2585
11	cis-1,2-Dichloroethene	156-69-9	69000	2585
12	trans-1,2-Dichloroethene	156-60-5	LT	2585
13	Ethylbenzene	100-41-4	LT	2362
14	Methylene Chloride	75-09-2	LT	2951
15	Tetrachloroethene	127-18-4	LT	1512
16	Toluene	108-88-3	LT	2720
17	1,1,1-Trichloroethane	71-55-6	LT	1877
18	1,1,2-Trichloroethane	79-00-5	LT	1877
19	Trichloroethene	79-01-6	189000	1908
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	1661
21	1,2,4-Trimethylbenzene	95-63-6	LT	2720
22	Vinyl Chloride	75-01-4	LT	4006
23	Total-Xylene	1330-20-7	LT	2362
24	Total VOC		258000	

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

** Detector is saturated

CAS #: Chemical Abstract Services Registry Number

PQL: Practical Quantitation Limits

LT: Less than PQL

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

Analyst : _____ Date: 1/4/99

Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	FB 2	Laboratory ID:	OA981129
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/2/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	LT	25.85
10	1,1-Dichloroethene	75-35-4	LT	77.54
11	cis-1,2-Dichloroethene	156-69-9	LT	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	131	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	242	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		373	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

LBL Environmental Measurements Laboratory
TO-14 Analysis Data Sheet

Sample ID:	Dup 2	Laboratory ID:	OA981130
Matrix:	Gas Cartridge	Sample Vol.(L):	0.096
Date Sampled:	10/30/98	Date Received:	11/9/98
Date Analyzed:	12/4/98	Method:	TO-14

	Compound	CAS #	Conc.(ppbv)	PQL(ppbv)
1	Acetone	67-64-1	LT	43.04
2	Benzene	71-43-2	LT	32.05
3	Carbon Tetrachloride	56-23-5	LT	16.30
4	Chloroform	67-66-3	LT	21.00
5	1,2-Dichlorobenzene	95-50-1	LT	17.05
6	1,3-Dichlorobenzene	541-73-1	LT	17.05
7	1,4-Dichlorobenzene	106-46-7	LT	17.05
8	1,1-Dichloroethane	75-34-3	LT	25.28
9	1,2-Dichloroethane	107-06-2	69.5	25.85
10	1,1-Dichloroethene	75-35-4	277	77.54
11	cis-1,2-Dichloroethene	156-69-9	702	25.85
12	trans-1,2-Dichloroethene	156-60-5	LT	25.85
13	Ethylbenzene	100-41-4	LT	23.62
14	Methylene Chloride	75-09-2	LT	29.51
15	Tetrachloroethene	127-18-4	LT	15.12
16	Toluene	108-88-3	LT	27.20
17	1,1,1-Trichloroethane	71-55-6	LT	18.77
18	1,1,2-Trichloroethane	79-00-5	LT	18.77
19	Trichloroethene	79-01-6	681	19.08
20	Dichlorotrifluoroethane (Freon 123)	306-83-2	LT	16.61
21	1,2,4-Trimethylbenzene	95-63-6	LT	27.20
22	Vinyl Chloride	75-01-4	LT	40.06
23	Total-Xylene	1330-20-7	LT	23.62
24	Total VOC		1730	

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

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

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

Analyst : _____ Date: 1/4/99
Reviewer: _____ Date: 1/4/99

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