

**SECOND QUARTER 2001  
PROGRESS REPORT**

**PHOTOCIRCUITS AND FORMER PASS & SEYMOUR SITES  
31 & 45 SEA CLIFF AVENUE**

**SITE NUMBERS 1-30-009 AND 1-30-053A**

*Prepared for:*  
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August, 2001

## **1.0 Introduction**

This Second Quarter 2001 Progress Report (2Q01) is being submitted pursuant to the 1997 Order on Consent between Photocircuits Corporation and the New York State Department of Environmental Conservation (NYSDEC).

During the Second Quarter of 2001, the following tasks were accomplished:

- Operation of the Soil Vapor Extraction (SVE) System at the 31 Sea Cliff Avenue site was continued using the catalytic oxidation (CatOx) unit to treat recovered vapors.
- One round of groundwater sampling and analysis was conducted in July at the 31 Sea Cliff Avenue site in support of the bioremediation pilot test; this sampling event included several wells located along Sea Cliff Avenue.
- Operation of the SVE/air sparging (AS) system at Building 7 (45 Sea Cliff Avenue) was continued and using activated carbon to treat collected vapors.

## **2.0 Discussion of Results**

### **2.1 SVE System at 31 Sea Cliff Avenue**

The SVE system at the 31 Sea Cliff Avenue site was installed as an Interim Remedial Measure (IRM), and started operation in April 2000. The SVE system, equipped with the CatOx/scrubber for extracted vapor treatment, was restarted on July 21, 2000 and has operated continuously with only a few brief shutdowns for maintenance activities. An additional SVE well was connected to the system in December; well SVE-6 is located due west of the SVE system against the wall of the Photocircuits Main Building. The system was shut down in March 2001 because high water-table conditions and restarted on May 15, and was operated until early August.

Monitoring data for the SVE system are provided in the attached tables, which include the results of vapor sample analyses. Concentrations of recovered vapor phase contaminants are provided in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and in parts per million by volume (ppmv). Contaminant concentrations have also been multiplied by the system flow rate to express the rate of contaminant mass recovery in pounds per day (lbs/day). Several figures have also been prepared, showing the mass removal of individual VOCs versus time (influent to the CatOx treatment system). A table is also attached that presents the results of regular measurements at soil vapor extraction wells using a photoionization detector (PID), which provides a measure of total volatile organic

compounds (VOCs) in the extracted soil vapor. Several figures have also been prepared, showing the PID readings at individual wells over time.

Taken together, the results of vapor sample analyses and the PID readings demonstrate that contaminant mass removal versus time has clearly become asymptotic. There has been virtually no “rebound” in contaminant concentrations after the system has been off for a period of time. If there were appreciable residual contamination, such a rebound in contaminant concentrations would occur during the system shut-down period as equilibrium conditions in the subsurface became re-established; the increase in concentrations would be evident following system re-start. We conclude that we have demonstrated that there is little or no residual contamination in the unsaturated zone, and that further contaminant removal from the unsaturated zone is infeasible.

## 2.2 Bioremediation Pilot Test

The bioremediation pilot test was started during the week of August 28, 2000 when Terra Systems conducted the injection of a nutrient solution (substrate) into the subsurface at the 31 Sea Cliff Avenue site. Following the injection, groundwater samples were collected from the following monitoring wells/points: MW-7, MW-14, SMP-1, DMP-1, SMP-3, DMP-3, SMP-4 and DMP-4. These wells/points were sampled again on October 18-19, December 20, 2000, March 27-28, 2001 and July 11-12, 2001; the March and sampling events included several wells located along Sea Cliff Avenue (MW-8, MW-9, MW-12 and MW-13) along with the wells sampled during the previous events. The results of the most recent sampling round are attached to this report.

A status report on the pilot test (including the data from the samples collected in July 2001) was prepared by Terra Systems and is included as Appendix A to this Progress Report. The main conclusion of the report is that conditions continue to be favorable for accelerated anaerobic degradation of chlorinated VOCs within the pilot test area. The report discusses the decreases in parent compounds and increases in daughter compounds in support of this conclusion.

The concentration of the parent compound 1,1,1-trichloroethane (TCA) continues to decline in well SMP-3, which contained the highest concentrations of VOCs at the beginning of the pilot test. In three wells (MW-14, SMP-1 and DMP-3), there were increases in total VOCs; it is not clear whether this increase is the result of a decline in microbial activity or the enhanced solubilization of adsorbed VOCs. The presence of the soybean oil substrate (which is non-polar and generally hydrophobic) in the subsurface would provide a favorable medium for VOCs (which are also non-polar and generally hydrophobic) that may be adsorbed onto soil particles. Also, some microbial action can have a surfactant effect, which would tend to transfer VOCs into the aqueous phase from an adsorbed phase. Concentrations of VOCs in the other wells in the pilot test area were similar to concentrations detected during March.

The report goes on to discuss the high rate of utilization of the substrate in part of the pilot test area. Finally, the report recommends the injection of additional substrate in the pilot test area as well as substrate injection into the deeper zones in and around the pilot test area. To illustrate the pilot test progress, concentrations of 1,1,1-trichloroethane (TCA) and 1,1-dichloroethane are plotted versus time (starting from 1999 to the present) in wells SMP-3 and DMP-3; these figures follow the Terra Systems Report in Appendix A.

As indicated earlier, samples were collected from wells located north of the bioremediation pilot test area, along Sea Cliff Avenue (MW-8, MW-9, MW-12 and MW-13). These wells were last sampled in March 2001. The concentrations detected during the 2001 sampling event are generally similar to the previous results, both in the compounds detected and their respective concentrations.

### **2.3 IRM at 45 Sea Cliff Avenue**

As discussed in the 4Q 2000 report, SVE/AS equipment was procured and delivered to the site. The SVE/AS system consists of a 10 horsepower (hp) regenerative blower and 5 hp compressor, along with electrical controls, filters, moisture separators, and valves; the system is contained within an insulated trailer, which has been located just outside of Building 7. Following delivery, the system components were connected to the piping networks for the AS and SVE wells. Two 1200 lb activated carbon adsorbers were attached in series to the blower outlet to treat recovered vapors. The SVE system was started on November 1, 2000; because the initial contaminant concentrations were relatively high, the AS portion of the system was not started. The AS component of this system was started on March 28, 2001. The system was down from April 20-24 due to an electrical problem. The system has been down most of June and July due to equipment overheating; the system was re-started in late July/early August.

Monitoring data are presented in the attached tables; these tables present data from sampling of individual SVE wells (March 2001) and sampling of total SVE system effluent over time. Prior to the start of the AS component, the relationship of total contaminant mass removal versus time was clearly becoming asymptotic. The start of the AS component increased contaminant mass recovery somewhat (see the April 2001 sample results). However, the results of the May vapor sample indicate that mass removal versus time relationship became asymptotic. We conclude that we have demonstrated that there is little or no residual contamination, and that further contaminant removal is infeasible.

### **3.0 Schedule**

The planned schedule of activities for the next few months is attached.

***ATTACHMENT A***  
***MONITORING DATA***  
***SOIL VAPOR EXTRACTION SYSTEMS***

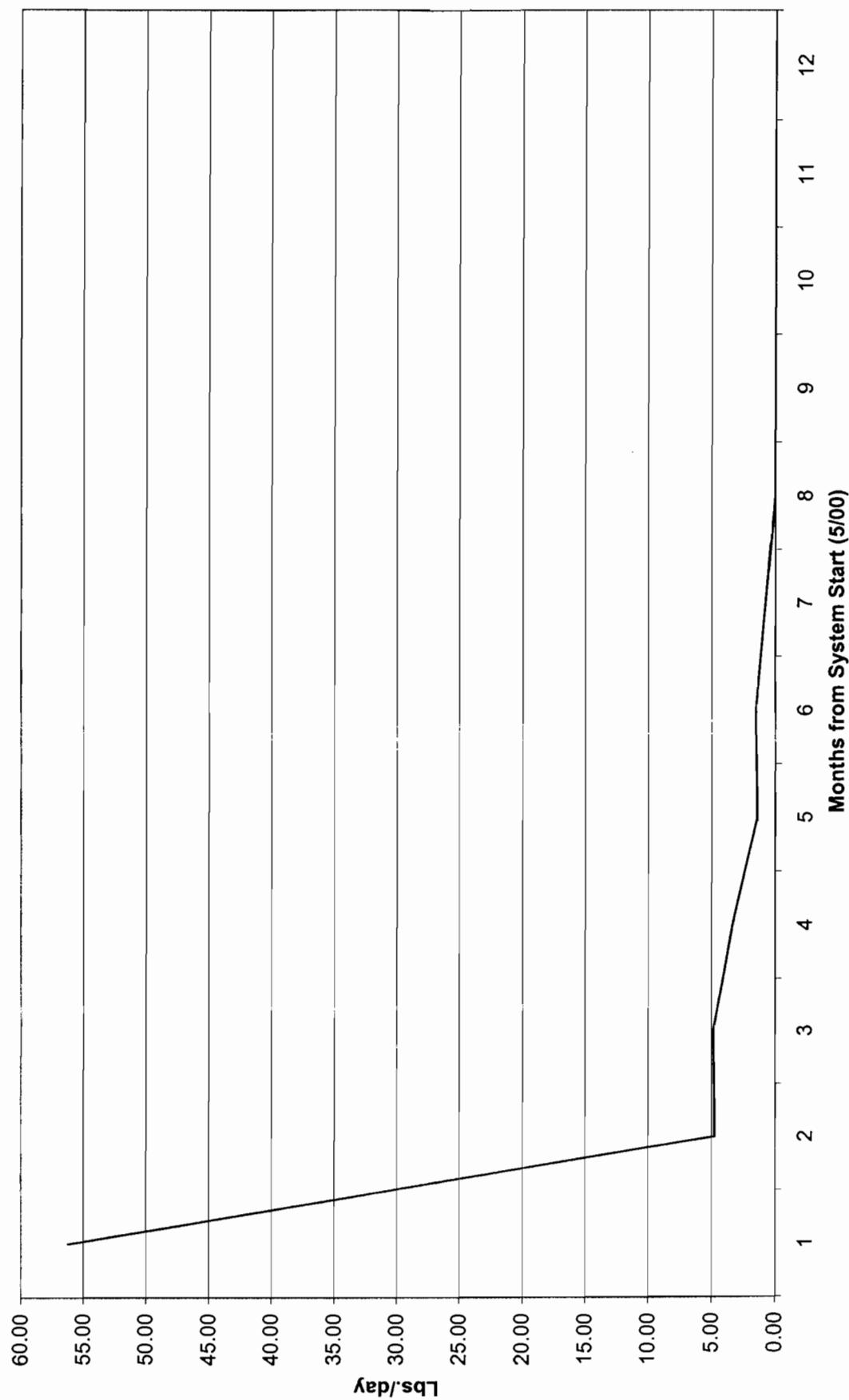
**TABLE 1**  
**SVE INLET MONITORING DATA - INLET LOAD CALCULATIONS**  
**31 SEA CLIFF AVENUE**

PARAMETER	UNITS	MONITORING EVENT						
		04/19/00	04/28/2000	05/22/2000	08/11/2000	09/28/2000	10/26/2000	11/16/2000
Flow	cfm	300	300	300	300	300	300	300
1,1,1-Trichloroethane	ug/m3	273,000	675,000	2,090,000	176,000	181,000	124,000	50,800
1,1-Dichloroethane	ug/m3	6,000	29,000	133,000	7,890	8,080	7,750	2,120
Chloroethane	ND	ND	3,200	26,500	496	514	623	547
PCE	ug/m3	ND	445	2,600	347	19.2	86	133
TCE	ug/m3	ND	<165	1,700	583	530	730	266
1,1-Dichloroethylene	ug/m3	ND	949	7,700	608	954	501	219
cis-1,2-Dichloroethylene	ug/m3	ND	<203	1,800	471	834	1,340	328
trans-1,2-Dichloroethylene	ug/m3	ND	<198	130	422	46.3	40	320
Vinyl Chloride	ug/m3	ND	1,410	8,500	508	46.3	1,930	320
Methylene Chloride-[Dichloromethane]	ug/m3	ND	3,190	15,600	486	157	2,480	1,090
1,1,1-Trichloroethane	ppmv	50.05	123.76	383.20	32.27	33.19	22.74	9.31
1,1-Dichloroethane	ppmv	1.48	7.17	32.88	1.95	2.00	1.92	0.52
Chloroethane	ppmv	ND	1.21	10.05	0.19	0.19	0.24	0.21
PCE	ppmv	ND	0.07	0.38	0.05	0.00	0.01	0.02
TCE	ppmv	ND	0.24	0.32	0.11	0.10	0.14	0.05
1,1-Dichloroethylene	ppmv	ND	1.94	0.15	0.24	0.24	0.13	0.06
cis-1,2-Dichloroethylene	ppmv	ND	0.45	0.12	0.21	0.21	0.34	0.08
trans-1,2-Dichloroethylene	ppmv	ND	0.03	0.11	0.01	0.01	0.01	0.08
Vinyl Chloride	ppmv	ND	0.55	3.33	0.20	0.02	0.76	0.13
Methylene Chloride-[Dichloromethane]	ppmv	ND	0.92	4.49	0.14	0.05	0.71	0.31
1,1,1-Trichloroethane	lb/day	7.34	18.16	56,213	4,734	4,868	3,335	1,3663
1,1-Dichloroethane	lb/day	0.16	0.78	3,577	0.212	0.217	0.208	0.0570
Chloroethane	lb/day	ND	0.09	0.713	0.013	0.014	0.017	0.0147
PCE	lb/day	ND	0.01	0.070	0.009	0.001	0.002	0.0036
TCE	lb/day	ND	0.03	0.046	0.016	0.014	0.020	0.0072
1,1-Dichloroethylene	lb/day	ND	0.03	0.207	0.016	0.026	0.013	0.0059
cis-1,2-Dichloroethylene	lb/day	ND	0.048	0.013	0.022	0.022	0.036	0.0088
trans-1,2-Dichloroethylene	lb/day	ND	0.04	0.003	0.011	0.001	0.001	0.0086
Vinyl Chloride	lb/day	ND	0.09	0.229	0.014	0.001	0.052	0.0086
Methylene Chloride-[Dichloromethane]	lb/day	ND	0.09	0.420	0.013	0.004	0.067	0.0293
<b>TOTAL</b>	<b>lb/day</b>	<b>7.50</b>	<b>19.18</b>	<b>61.53</b>	<b>5.05</b>	<b>5.17</b>	<b>3.75</b>	<b>1.51</b>

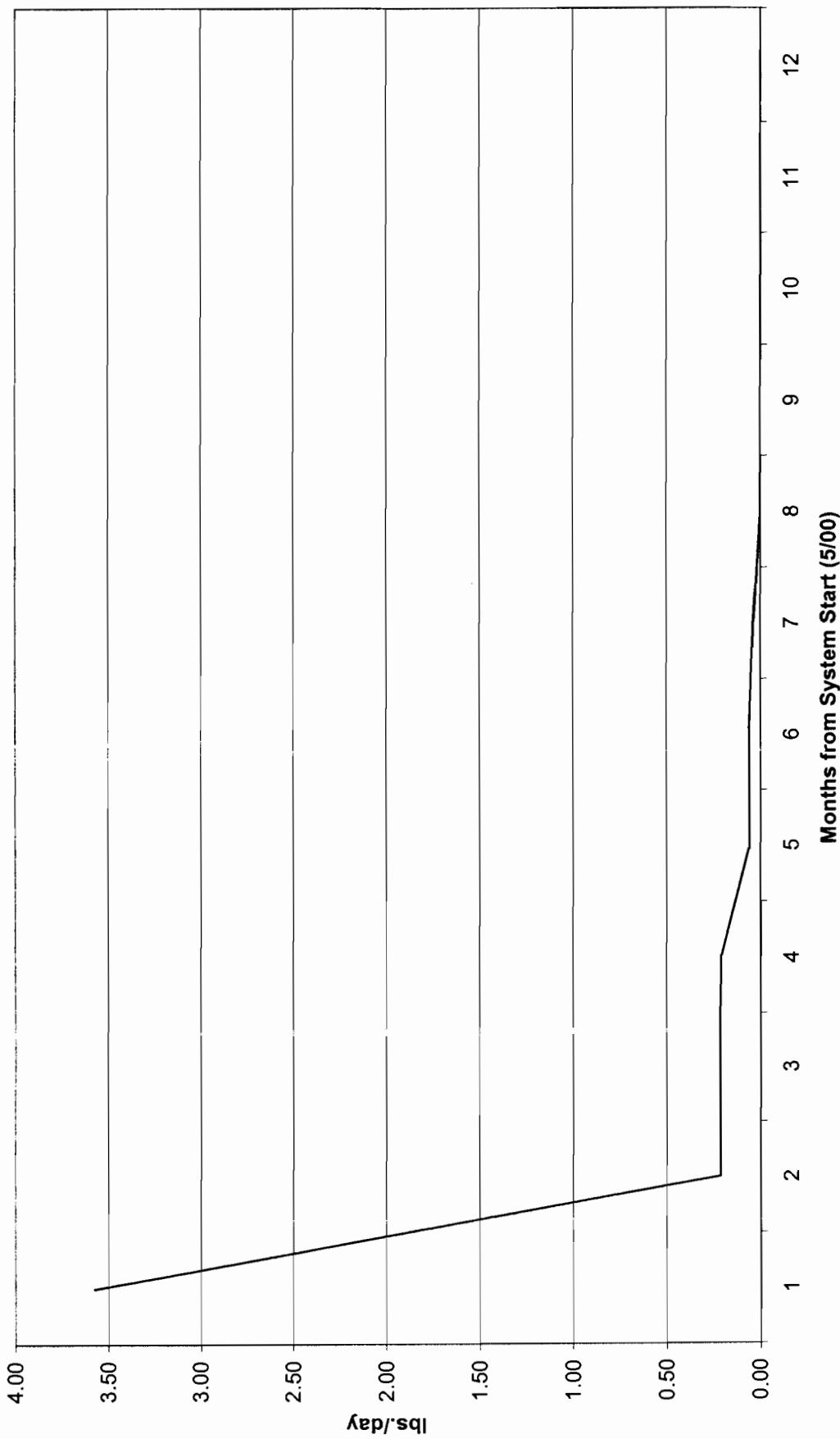
**TABLE 1**  
**SVE INLET MONITORING DATA - INLET LOAD CALCULATIONS**  
**31 SEA CLIFF AVENUE**

		MONITORING EVENT						
		12/07/2000	01/24/2001	02/14/2001	03/28/2001	05/24/2001	06/13/2001	07/11/2001
	300	300			300	300	300	
55,000	26,600	8.86	13.6	115	69.1	66.4		
2,220	1,350	0.49	0.022	1.25	2.13	0.021		
1,910	51.6	0.02	0.035	0.1	0.015	0.02		
602	36.1	0.014	0.0085	0.15	0.11	0.18		
267	135	0.023	0.017	0.014	0.17	0.28		
668	63.2	0.024	0.014	0.035	0.16	0.18		
688	33.0	0.019	0.021	0.036	0.17	0.19		
382	43.9	0.017	0.021	0.01	0.024	0.017		
898	52.9	0.021	0.021	0.047	0.021	0.021		
6,150	54.2	0.021	0.72	0.21	0.3	0.021		
10.08	4.88	0.00	0.00	0.02	0.01	0.01		
0.55	0.33	0.00	0.00	0.00	0.00	0.00		
0.72	0.02	0.00	0.00	0.00	0.00	0.00		
0.09	0.01	0.00	0.00	0.00	0.00	0.00		
0.05	0.03	0.00	0.00	0.00	0.00	0.00		
0.17	0.02	0.00	0.00	0.00	0.00	0.00		
0.17	0.08	0.00	0.00	0.00	0.00	0.00		
0.10	0.01	0.00	0.00	0.00	0.00	0.00		
0.35	0.02	0.00	0.00	0.00	0.00	0.00		
1.77	0.02	0.00	0.00	0.00	0.00	0.00		
1.4793	0.7154	-	-	0.003093	0.001859	0.001786		
0.0597	0.0363	-	-	0.000034	0.000057	0.000001		
0.0514	0.0014	-	-	0.000003	0.000000	0.000001		
0.0162	0.0010	-	-	0.000004	0.000003	0.000005		
0.0072	0.0036	-	-	0.000000	0.000005	0.000008		
0.0180	0.0017	-	-	0.000001	0.000004	0.000005		
0.0185	0.0089	-	-	0.000001	0.000005	0.000005		
0.0103	0.0012	-	-	0.000000	0.000001	0.000000		
0.0242	0.0014	-	-	0.000001	0.000001	0.000001		
0.1654	0.0015	-	-	0.000006	0.000008	0.000001		
<b>1.85</b>	<b>0.77</b>	<b>-</b>	<b>-</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	

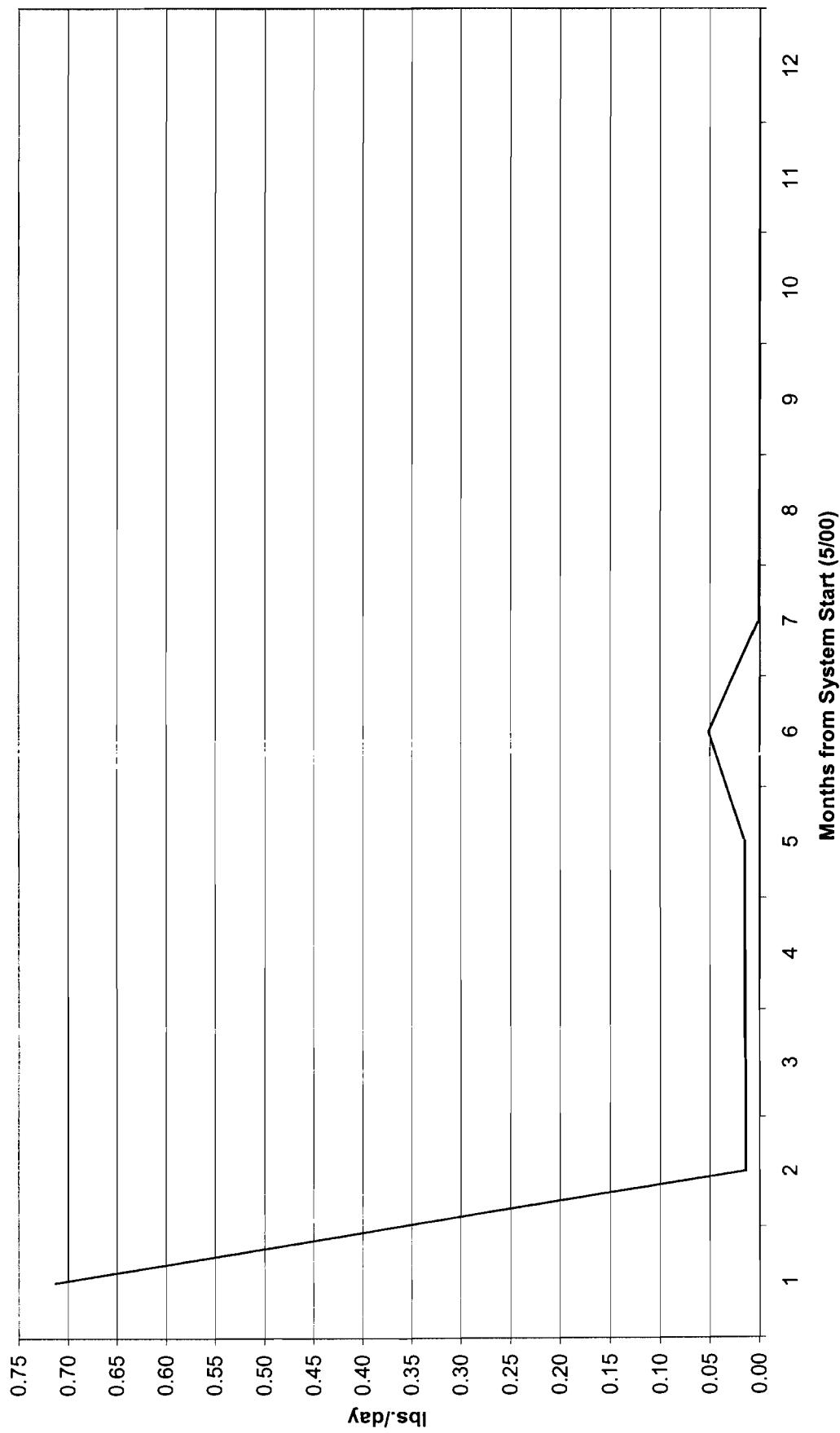
**MASS REMOVAL FOR 31 SEA CLIFF AVENUE SVE SYSTEM**  
**1,1,1-Trichloroethane**



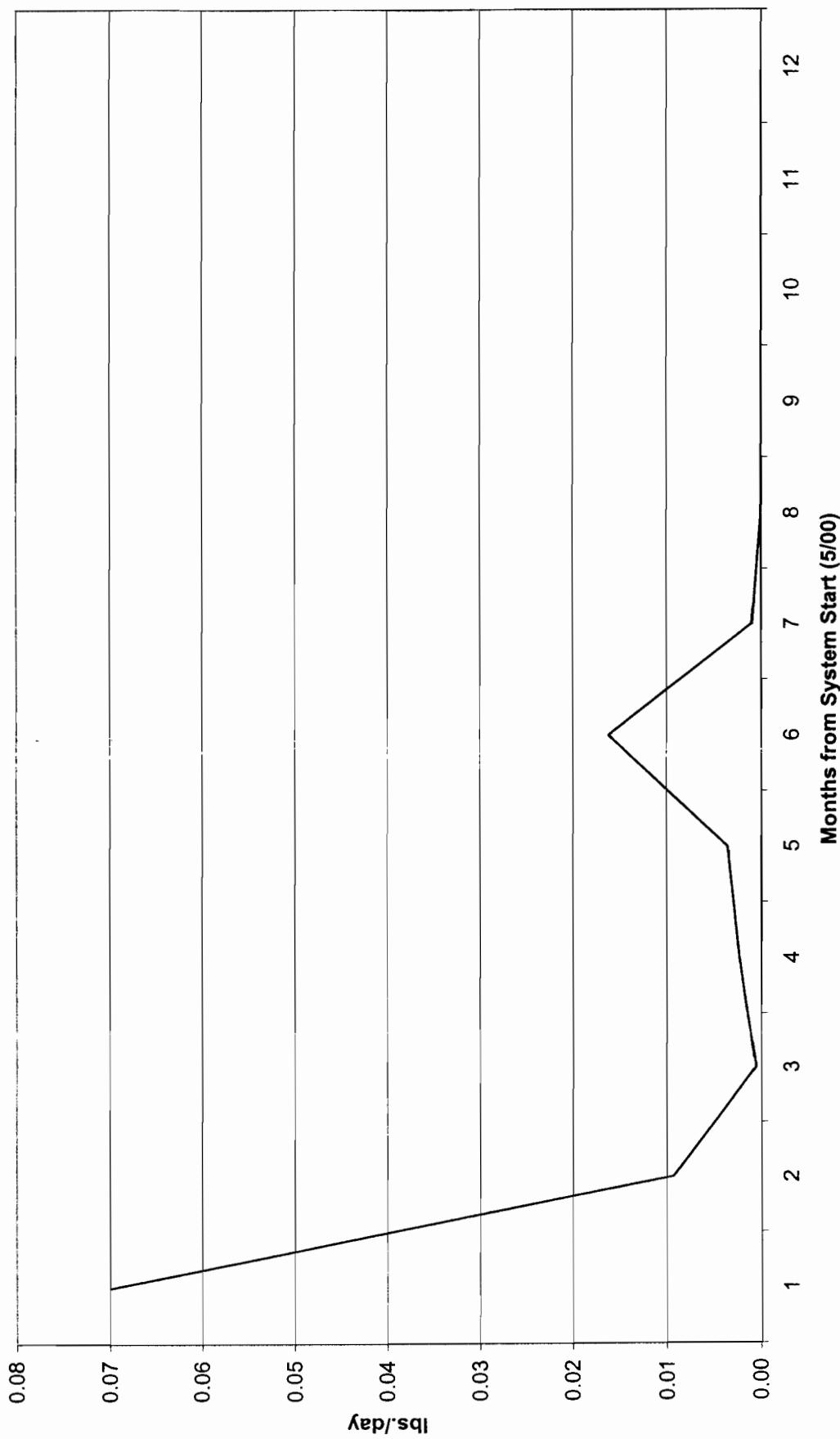
**MASS REMOVAL FOR 31 SEA CLIFF AVENUE SVE SYSTEM**  
**1,1-Dichloroethane**



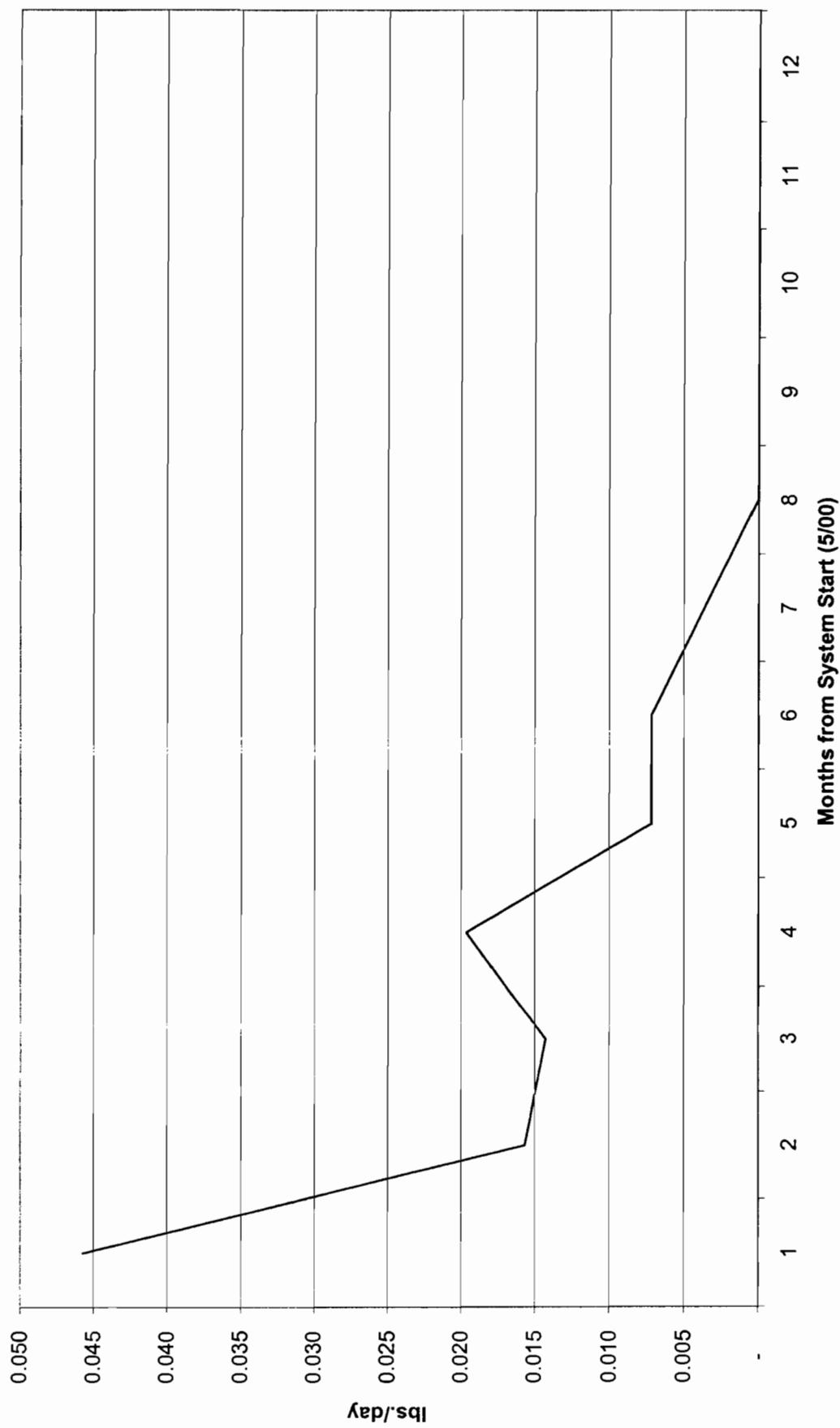
**MASS REMOVAL FOR 31 SEA CLIFF AVENUE SVE SYSTEM**  
**Chloroethane**



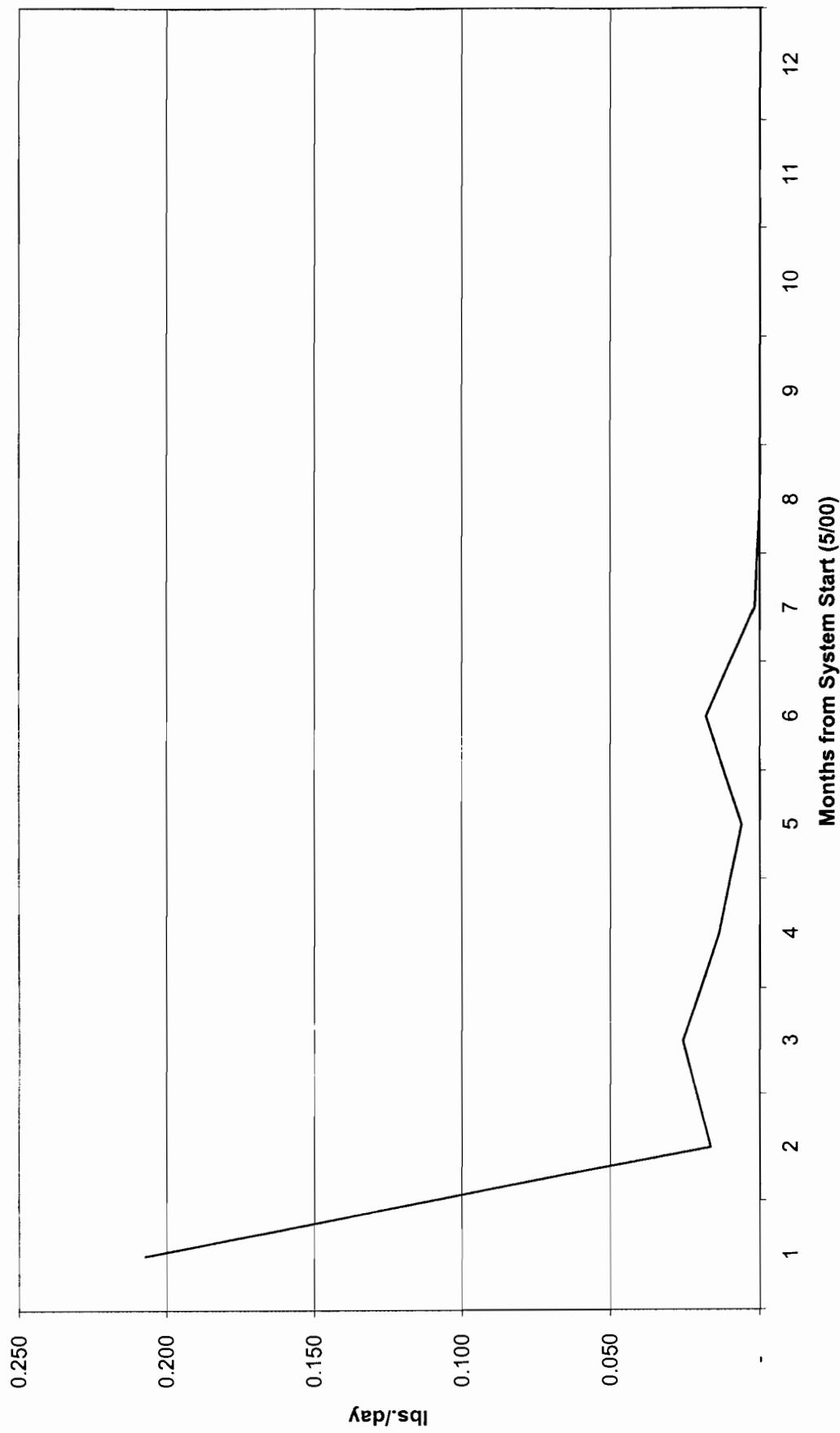
**MASS REMOVAL FOR 31 SEA CLIFF AVENUE SVE SYSTEM  
PCE (Perchloroethylene)**



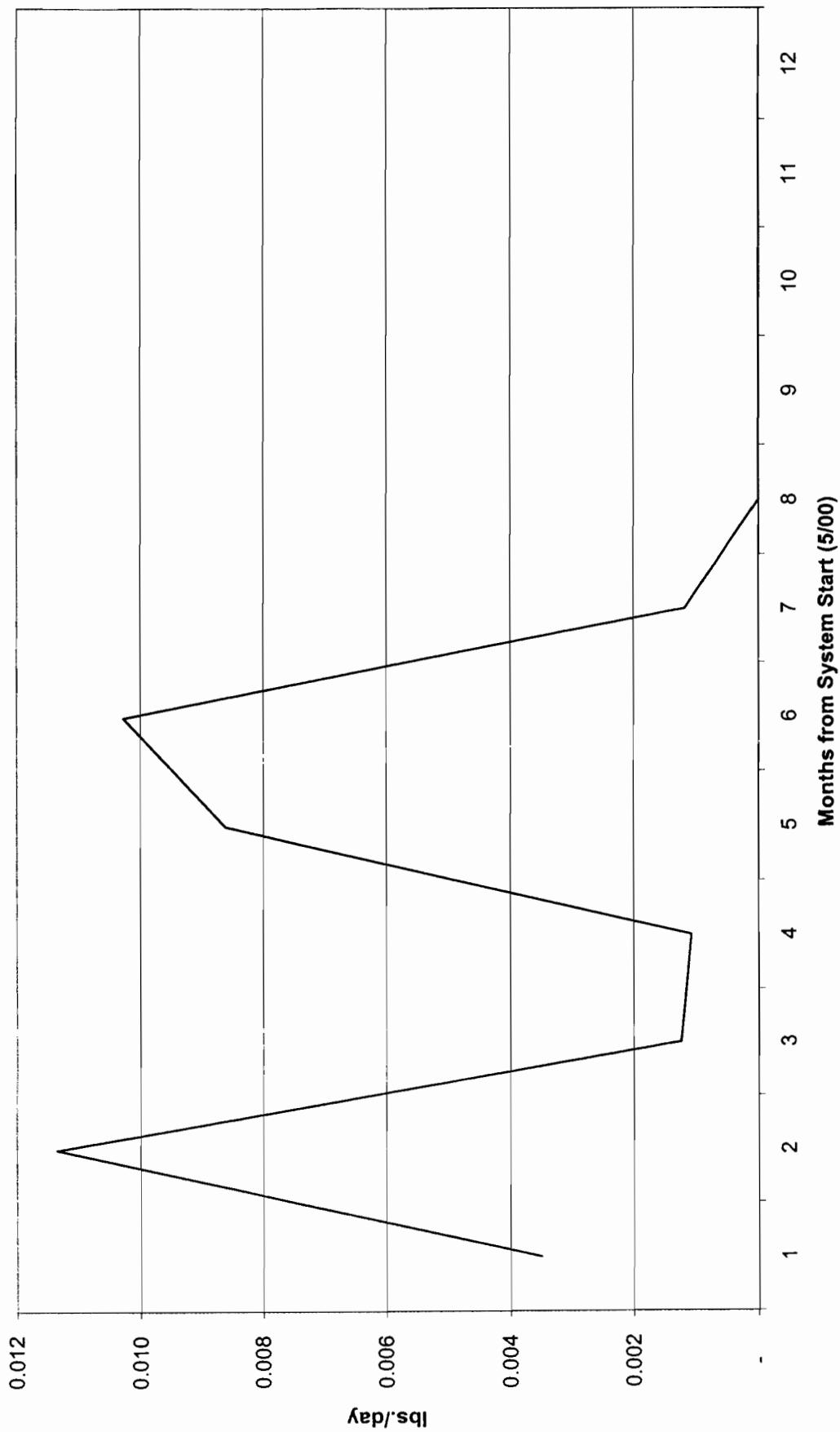
**MASS REMOVAL FOR 31 SEA CLIFF AVENUE SVE SYSTEM  
TCE (Trichloroethylene)**



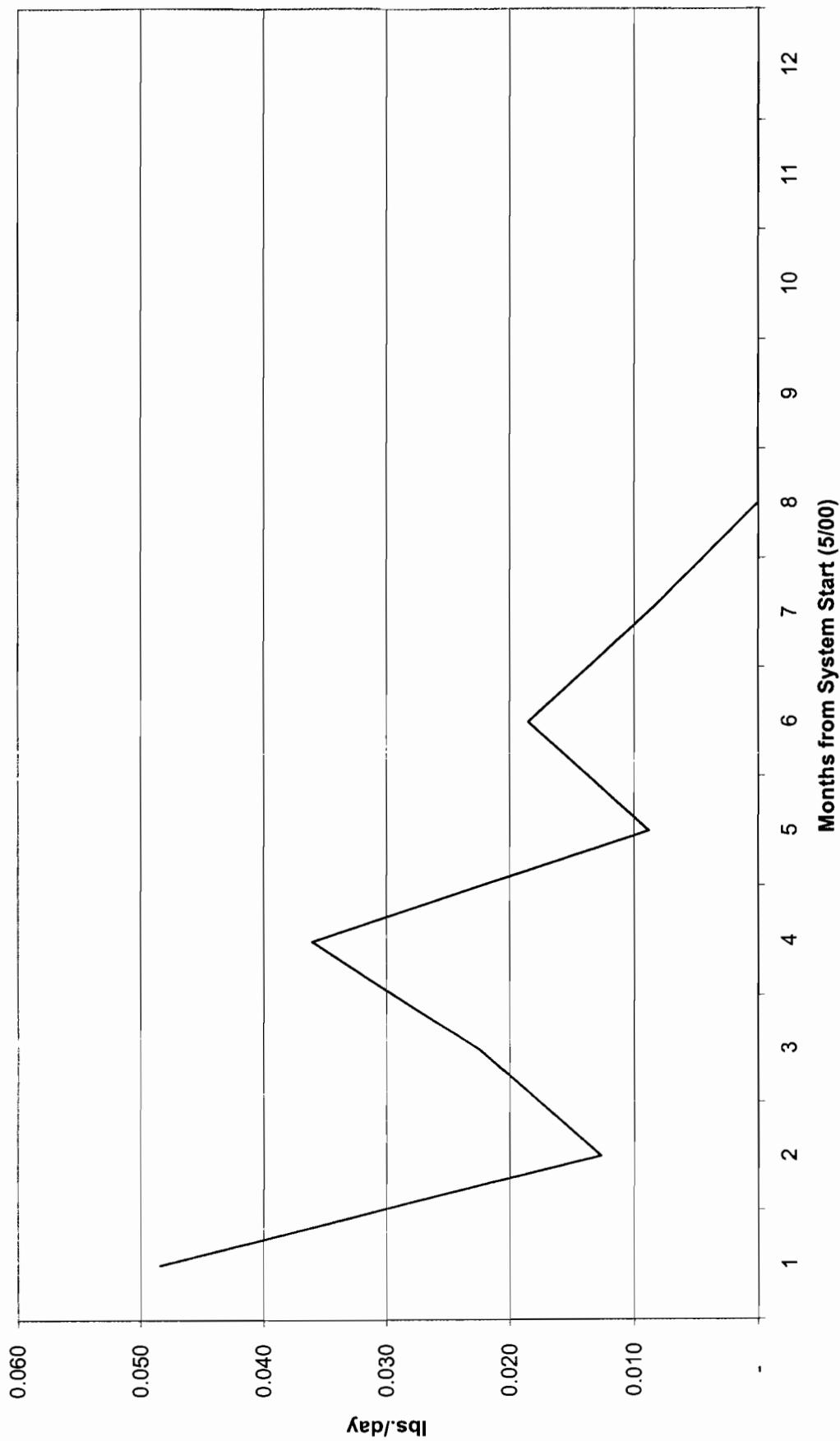
**MASS REMOVAL FOR 31 SEA CLIFF AVENUE SVE SYSTEM**  
**1,1-Dichloroethylene**



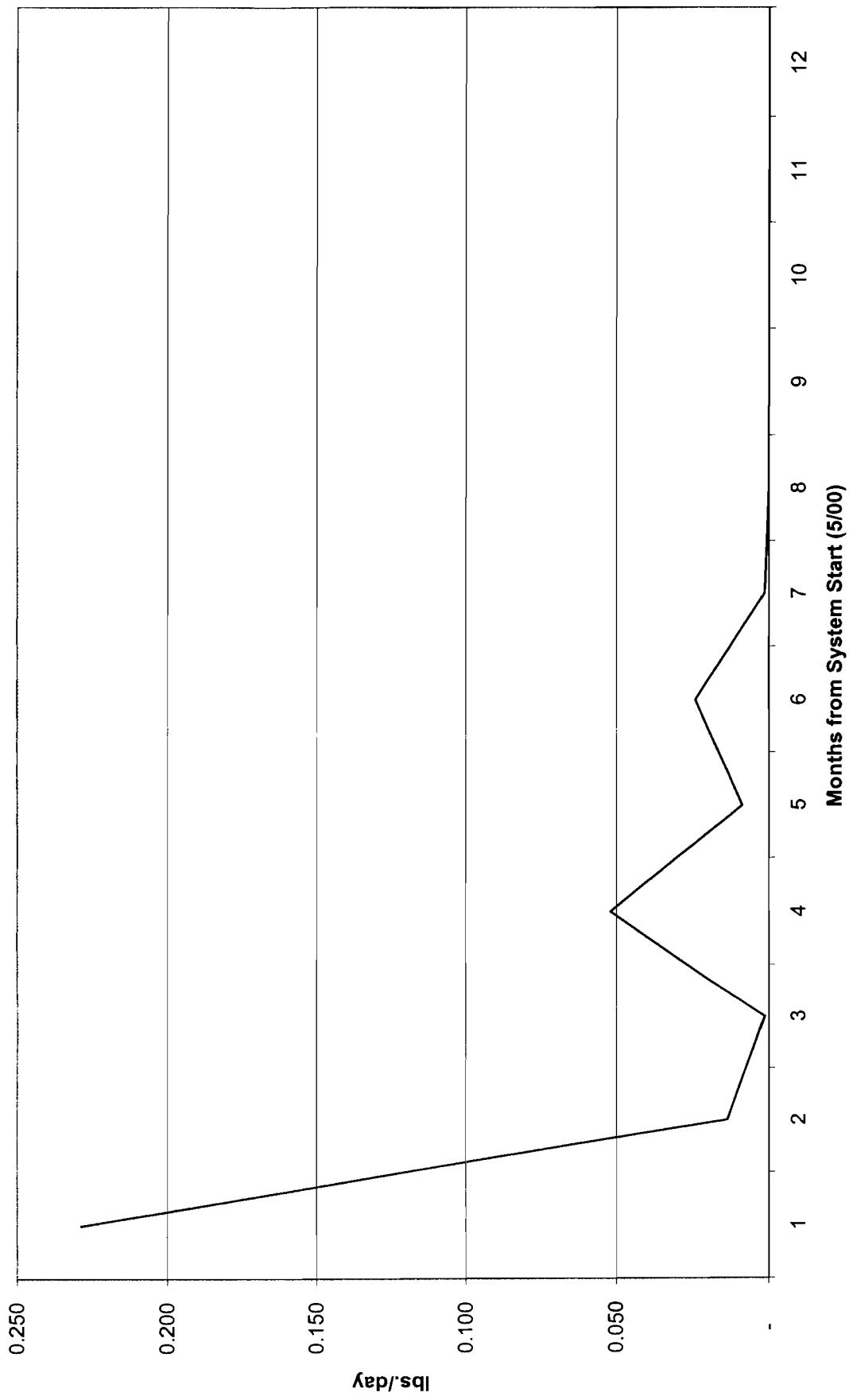
**MASS REMOVAL FOR 31 SEA CLIFF AVENUE SVE SYSTEM**  
**trans-1,2-Dichloroethylene**



**MASS REMOVAL FOR 31 SEA CLIFF AVENUE SVE SYSTEM**  
**cis-1,2-Dichloroethylene**



**MASS REMOVAL FOR 31 SEA CLIFF AVENUE SVE SYSTEM**  
**Vinyl Chloride**



**Photocircuits Corporation  
31 Sea Cliff Avenue Site  
Interim Remedial Measure**

Date	SVE Well	PID (ppm)	Vacuum (in. H2O)	Flow (scfm)	
04/20/2000	1	<5	nm	nm	
	2	40-80	nm	nm	
	3	<10	nm	nm	
	4	40-60	nm	nm	
	5	<10	nm	nm	
04/27/2000	1	0	nm	nm	
	2	8.2	nm	nm	
	3	2.4	nm	nm	
	4	8.4	nm	nm	
	5	6	nm	nm	
	Influent	48.4	nm	nm	
04/28/2000	1	nm	30	52	
	2	nm	32	97	
	3	nm	42	75	
	4	nm	34	22	
	5	nm	24	24	
08/10/2000	1	80			
	2	33			
	3	6.1			
	4	9.1			
	5	23			
08/17/2000	1	75			
	2	39			
	3	4			
	4	9			
	5	22			
08/25/2000	1	72			
	2	28			
	3	6			
	4	10			
	5	20			
08/31/2000	1	30	>10	3000	
	2	20.4	>10	2300	
	3	5	>10	2000	
	4	6.8	>10	1400	
	5	19	>10	2000	
Inlet (ppm)	27.6				
Outlet (ppm)	10				

nm = not measured

**Photocircuits Corporation**  
**31 Sea Cliff Avenue Site**  
**Interim Remedial Measure**

Date	SVE Well	PID (ppm)	Vacuum (in. H <sub>2</sub> O)	Flow (scfm)		
09/11/2000	1	28	>10	2900		
	2	17.5	>10	2300		
	3	5	>10	1950		
	4	5	>10	1300		
	5	18	>10	2000		
Inlet (ppm)	30					
Outlet (ppm)	12					
09/22/2000	1	9.1	>10	3000		
	2	10	>10	2300		
	3	3	>10	2000		
	4	3.5	>10	1400		
	5	11.7	>10	2000		
Inlet (ppm)	25.3					
Outlet (ppm)	8.8					
09/28/2000	1	7.6				
	2	2.5				
	3	2.4				
	4	1.9				
	5	4.5				
Inlet (ppm)	20.4					
Outlet (ppm)	6.6					
10/05/2000	1	39.8				
	2	4				
	3	5.2				
	4	4.5				
	5	3				
Inlet (ppm)	25					
Outlet (ppm)	7.7					
10/12/2000	1	20.7	10	600		
	2	1.4	10	3100		
	3	2.5	9.2	2800		
	4	1.1	10	2300		
	5	2	10	1500		
Inlet (ppm)	12.5					
Outlet (ppm)	2.9					
10/18/2000	1	7				
	2	0.8				
	3	0.6				
	4	0.8				
	5	1.7				
Inlet (ppm)	13					
Outlet (ppm)	4					

nm = not measured

**Photocircuits Corporation**  
**31 Sea Cliff Avenue Site**  
**Interim Remedial Measure**

Date	SVE Well	PID (ppm)	Vacuum (in. H <sub>2</sub> O)	Flow (scfm)		
10/26/2000	1	20.8				
	2	4.0				
	3	3.8				
	4	1.9				
	5	3.8				
Inlet (ppm)	21					
Outlet (ppm)	7.0					
10/29/2000	1	17.8				
	2	1.0				
	3	1.3				
	4	0.5				
	5	1.1				
Inlet (ppm)	12					
Outlet (ppm)	2.4					
11/02/2000	1	23.0				
	2	0.2				
	3	0.8				
	4	0.0				
	5	0.0				
Inlet (ppm)	18.4					
Outlet (ppm)	0.9					
11/15/2000	1	36.5				
	2	0.5				
	3	1.0				
	4	0.9				
	5	1.1				
Inlet (ppm)	18					
Outlet (ppm)	0.5					
11/30/2000	1	8.5				
	2	0.0				
	3	0.0	closed valve on well			
	4	0.0				
	5	0.0	closed valve on well			
Inlet (ppm)	14.4					
Outlet (ppm)	4.1					
11/30/2000	1	2.3				
	2	0.0				
	3	0.0				
	4	0.0				
	5	0.0				
Inlet (ppm)	5.8					
Outlet (ppm)	1.4					

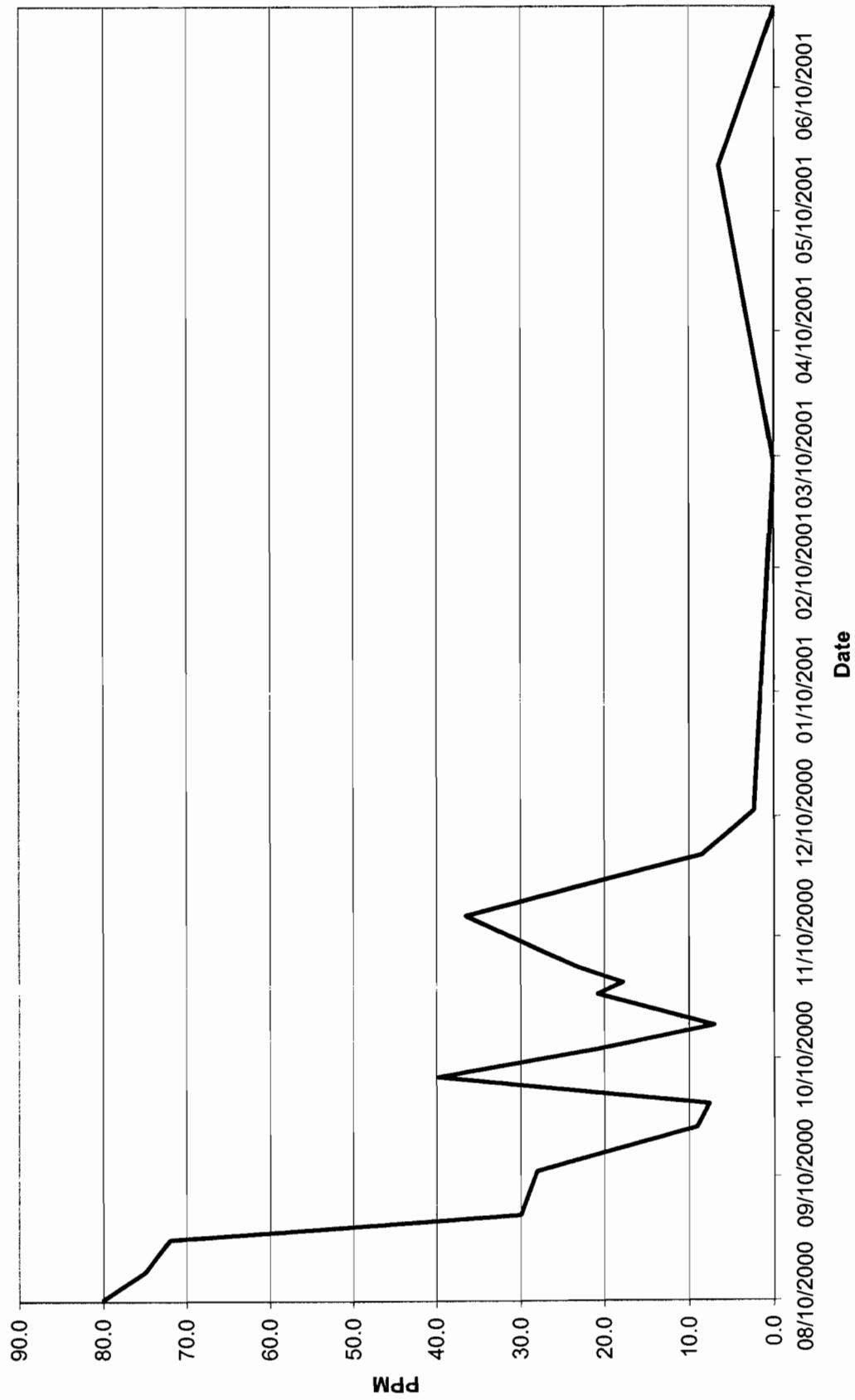
nm = not measured

**Photocircuits Corporation**  
**31 Sea Cliff Avenue Site**  
**Interim Remedial Measure**

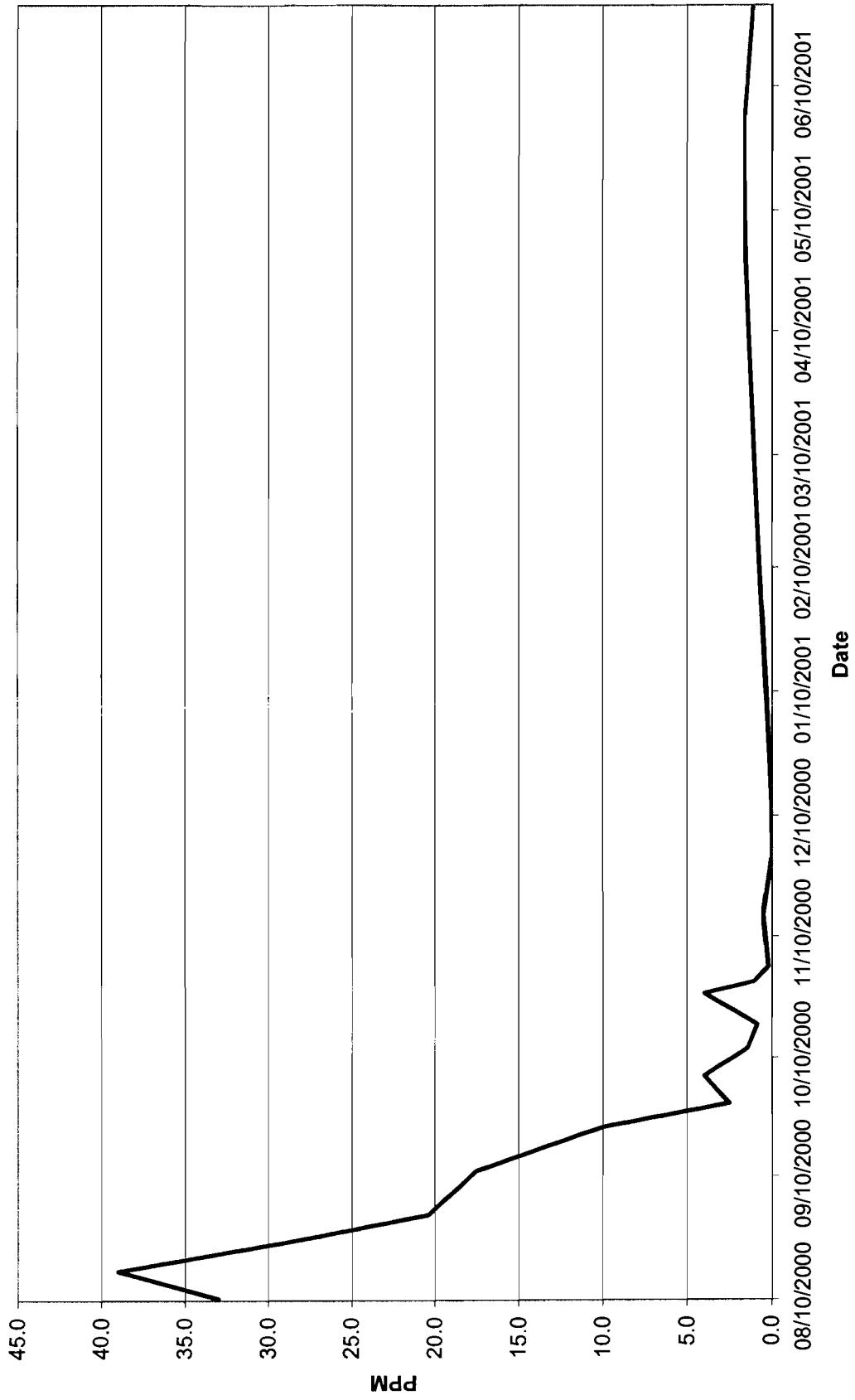
Date	SVE Well	PID (ppm)	Vacuum (in. H <sub>2</sub> O)	Flow (scfm)		
03/08/2001	1	0.0				
	2	1.0				
	3	2.0				
	4	1.1				
	5	1.2				
Inlet (ppm)	5					
Outlet (ppm)	1.2					
System was down from 4/1/01 to 5/15/01 to allow a significant drop in water table. Water level had been knocking system out repeatedly. Propeller was initially "frozen" upon first attempt to start, facilities fixed problem.						
05/21/2001	1	6.5				
	2	1.8				
	3	2.2				
	4	1.6				
	5	1.4				
	6	3.0				
Inlet (ppm)	12					
Outlet (ppm)	2.3					
06/29/2001	1	0.0				
	2	1.1				
	3	1.3				
	4	0.8				
	5	1.0				
	6	1.8				
Inlet (ppm)	3					
Outlet (ppm)	1.1					

nm = not measured

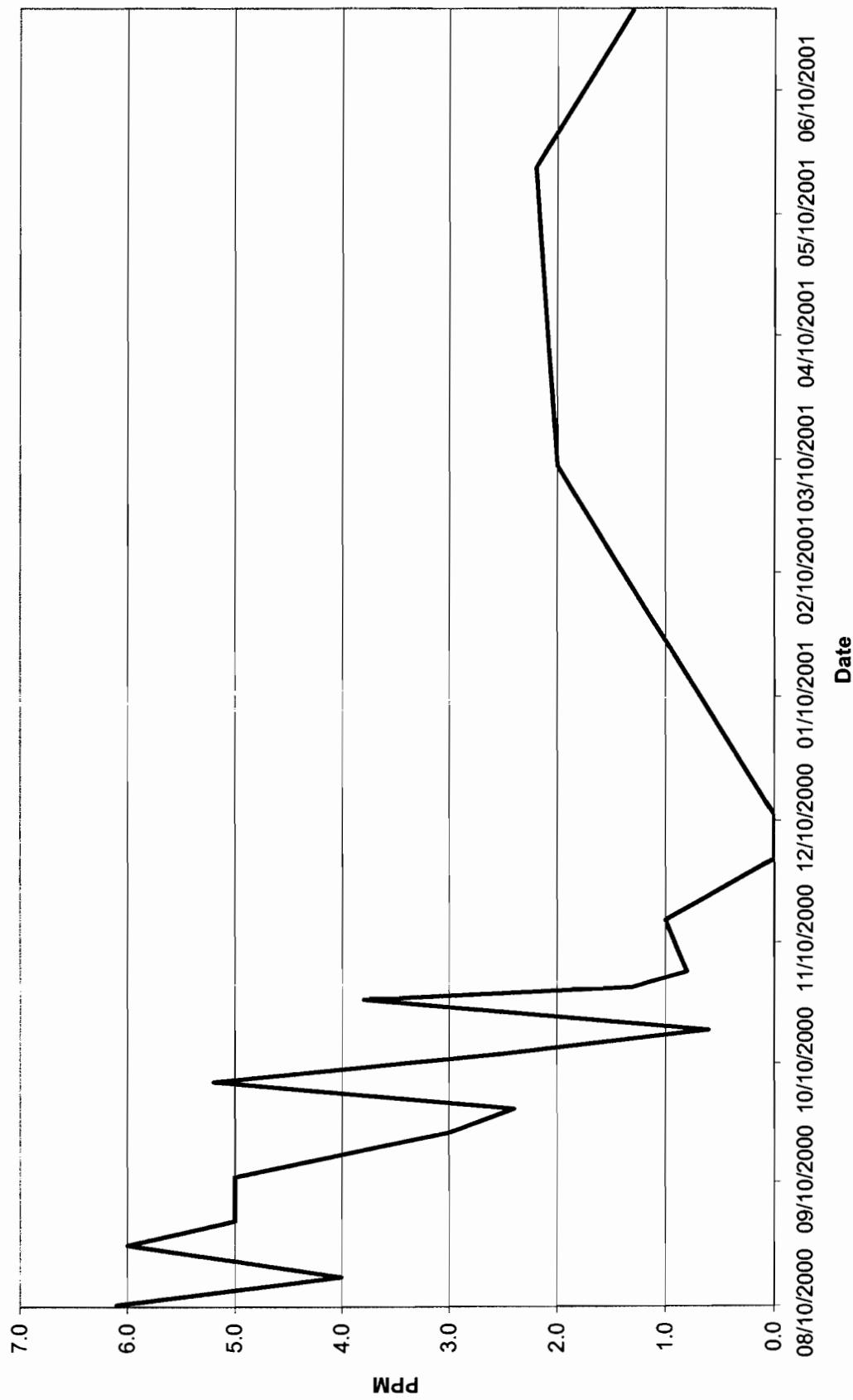
**31 SEA CLIFF AVE SVE WEII 1**  
**WEEKLY PID MONITORING RESULTS**



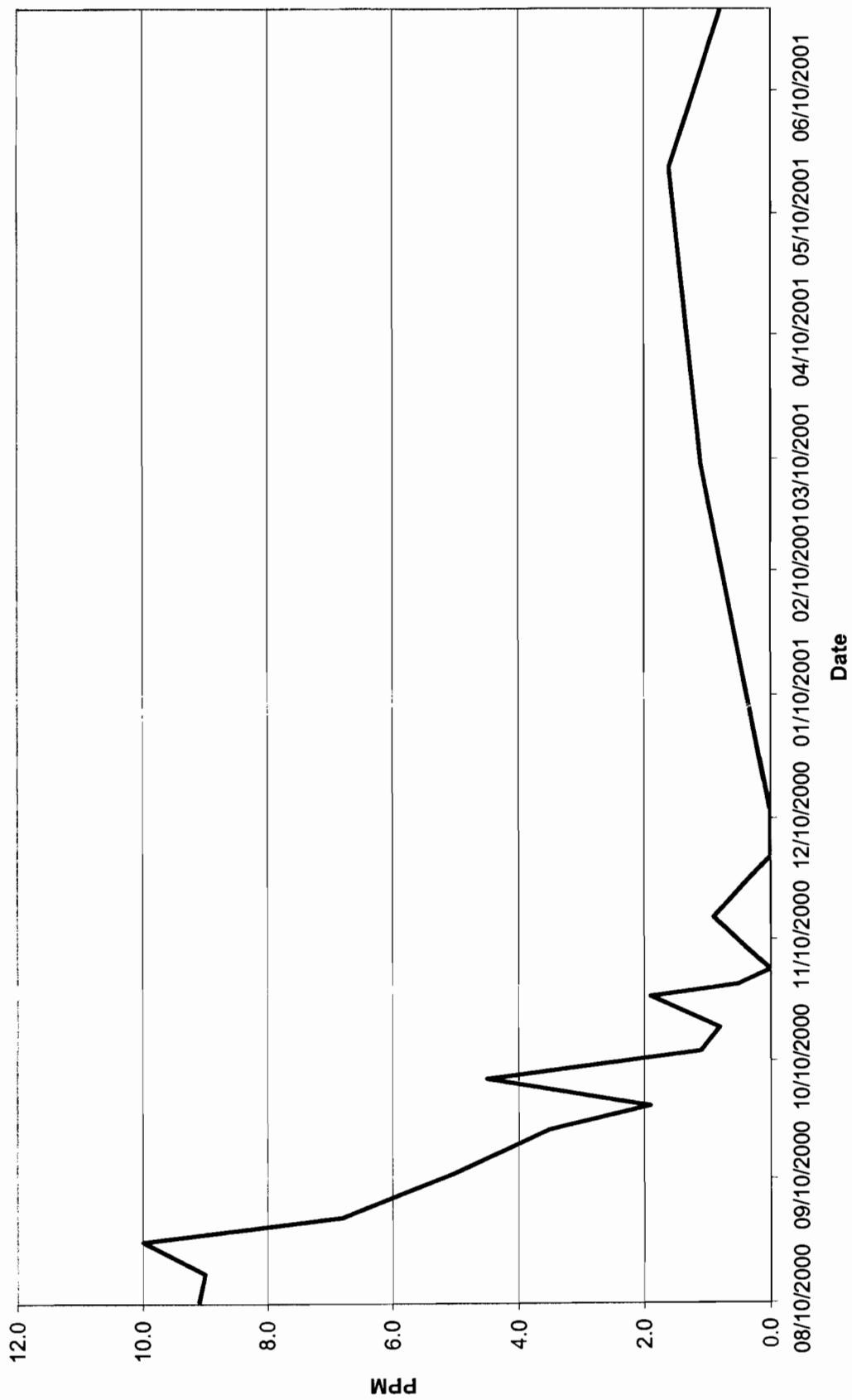
**31 SEA CLIFF AVENUE WELL 2**  
**WEEKLY PID MONITORING RESULTS**



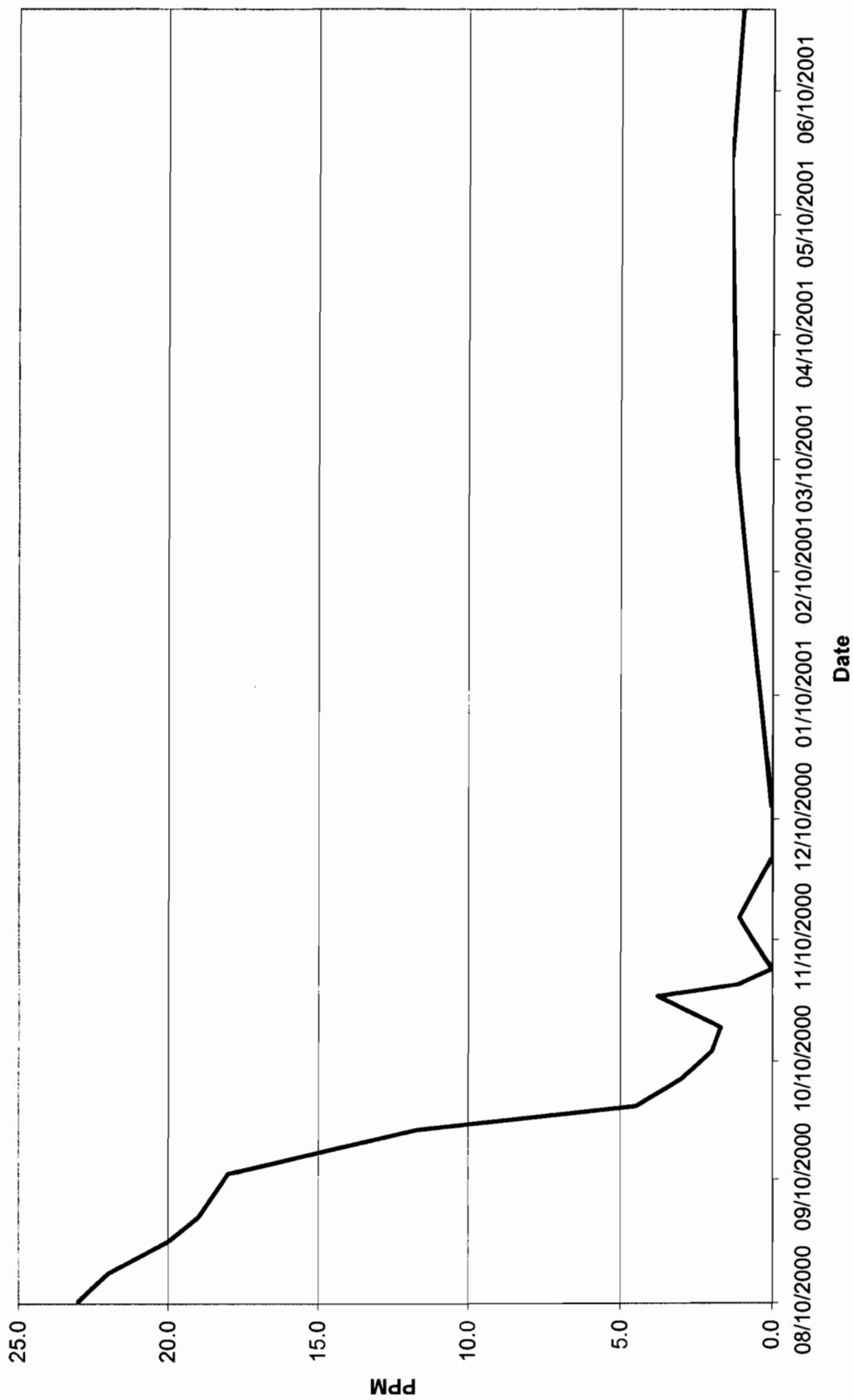
**31 SEA CLIFF AVENUE WELL 3**  
**WEEKLY PID MONITORING RESULTS**



**31 SEA CLIFF AVENUE WELL 4**  
**WEEKLY PID MONITORING RESULTS**



**31 SEA CLIFF AVENUE WELL 5  
WEEKLY PID MONITORING RESULTS**



**TABLE 2**  
**SVE INLET MONITORING DATA - INLET LOAD CALCULATIONS**  
**45 SEA CLIFF AVENUE**

**SVE System Inlet Load Contribution - Well #1**  
**45 Sea Cliff Avenue**

	UNITS	03/28/2001
Flow	cfm	
1,1,1-Trichloroethane	ug/m3	0.13
1,1-Dichloroethane	ug/m3	0.00043
Chloroethane	ug/m3	0.00041
PCE	ug/m3	7.9
TCE	ug/m3	0.00034
1,1-Dichloroethylene	ug/m3	0.00028
cis-1,2-Dichloroethylene	ug/m3	0.00042
trans-1,2-Dichloroethylene	ug/m3	0.00041
Vinyl Chloride	ug/m3	0.00041
Methylene Chloride-[Dichloromethane]	ug/m3	0.71
1,1,1-Trichloroethane	ppmv	0.00
1,1-Dichloroethane	ppmv	0.00
Chloroethane	ppmv	0.00
PCE	ppmv	0.00
TCE	ppmv	0.00
1,1-Dichloroethylene	ppmv	0.00
cis-1,2-Dichloroethylene	ppmv	0.00
trans-1,2-Dichloroethylene	ppmv	0.00
Vinyl Chloride	ppmv	0.00
Methylene Chloride-[Dichloromethane]	ppmv	0.00
1,1,1-Trichloroethane	lb/day	
1,1-Dichloroethane	lb/day	
Chloroethane	lb/day	
PCE	lb/day	
TCE	lb/day	
1,1-Dichloroethylene	lb/day	
cis-1,2-Dichloroethylene	lb/day	
trans-1,2-Dichloroethylene	lb/day	
Vinyl Chloride	lb/day	
Methylene Chloride-[Dichloromethane]	lb/day	

**SVE System Inlet Load Contribution - Well #2**  
**45 Sea Cliff Avenue**

	UNITS	03/28/2001
Flow	cfm	
1,1,1-Trichloroethane	ug/m3	0.015
1,1-Dichloroethane	ug/m3	0.022
Chloroethane	ug/m3	0.035
PCE	ug/m3	0.76
TCE	ug/m3	0.017
1,1-Dichloroethylene	ug/m3	0.014
cis-1,2-Dichloroethylene	ug/m3	0.021
trans-1,2-Dichloroethylene	ug/m3	0.021
Vinyl Chloride	ug/m3	0.021
Methylene Chloride-[Dichloromethane]	ug/m3	1.4
1,1,1-Trichloroethane	ppmv	0.00
1,1-Dichloroethane	ppmv	0.00
Chloroethane	ppmv	0.00
PCE	ppmv	0.00
TCE	ppmv	0.00
1,1-Dichloroethylene	ppmv	0.00
cis-1,2-Dichloroethylene	ppmv	0.00
trans-1,2-Dichloroethylene	ppmv	0.00
Vinyl Chloride	ppmv	0.00
Methylene Chloride-[Dichloromethane]	ppmv	0.00
1,1,1-Trichloroethane	lb/day	
1,1-Dichloroethane	lb/day	
Chloroethane	lb/day	
PCE	lb/day	
TCE	lb/day	
1,1-Dichloroethylene	lb/day	
cis-1,2-Dichloroethylene	lb/day	
trans-1,2-Dichloroethylene	lb/day	
Vinyl Chloride	lb/day	
Methylene Chloride-[Dichloromethane]	lb/day	

**SVE System Inlet Load Contribution - Well #4**  
**45 Sea Cliff Avenue**

	<b>UNITS</b>	<b>03/28/2001</b>
<b>Flow</b>	cfm	
1,1,1-Trichloroethane	ug/m3	0.015
1,1-Dichloroethane	ug/m3	0.022
Chloroethane	ug/m3	0.035
PCE	ug/m3	0.0085
TCE	ug/m3	0.017
1,1-Dichloroethylene	ug/m3	0.014
cis-1,2-Dichloroethylene	ug/m3	0.021
trans-1,2-Dichloroethylene	ug/m3	0.021
Vinyl Chloride	ug/m3	0.021
Methylene Chloride-[Dichloromethane]	ug/m3	1.2
1,1,1-Trichloroethane	ppmv	0.00
1,1-Dichloroethane	ppmv	0.00
Chloroethane	ppmv	0.00
PCE	ppmv	0.00
TCE	ppmv	0.00
1,1-Dichloroethylene	ppmv	0.00
cis-1,2-Dichloroethylene	ppmv	0.00
trans-1,2-Dichloroethylene	ppmv	0.00
Vinyl Chloride	ppmv	0.00
Methylene Chloride-[Dichloromethane]	ppmv	0.00
1,1,1-Trichloroethane	lb/day	
1,1-Dichloroethane	lb/day	
Chloroethane	lb/day	
PCE	lb/day	
TCE	lb/day	
1,1-Dichloroethylene	lb/day	
cis-1,2-Dichloroethylene	lb/day	
trans-1,2-Dichloroethylene	lb/day	
Vinyl Chloride	lb/day	
Methylene Chloride-[Dichloromethane]	lb/day	

**SVE System Inlet Load Contribution - Well #5**  
**45 Sea Cliff Avenue**

	UNITS	03/28/2001
Flow	cfm	
1,1,1-Trichloroethane	ug/m3	0.4
1,1-Dichloroethane	ug/m3	0.022
Chloroethane	ug/m3	0.021
PCE	ug/m3	19.8
TCE	ug/m3	0.017
1,1-Dichloroethylene	ug/m3	0.014
cis-1,2-Dichloroethylene	ug/m3	0.021
trans-1,2-Dichloroethylene	ug/m3	0.021
Vinyl Chloride	ug/m3	0.021
Methylene Chloride-[Dichloromethane]	ug/m3	1.2
1,1,1-Trichloroethane	ppmv	0.00
1,1-Dichloroethane	ppmv	0.00
Chloroethane	ppmv	0.00
PCE	ppmv	0.00
TCE	ppmv	0.00
1,1-Dichloroethylene	ppmv	0.00
cis-1,2-Dichloroethylene	ppmv	0.00
trans-1,2-Dichloroethylene	ppmv	0.00
Vinyl Chloride	ppmv	0.00
Methylene Chloride-[Dichloromethane]	ppmv	0.00
1,1,1-Trichloroethane	lb/day	
1,1-Dichloroethane	lb/day	
Chloroethane	lb/day	
PCE	lb/day	
TCE	lb/day	
1,1-Dichloroethylene	lb/day	
cis-1,2-Dichloroethylene	lb/day	
trans-1,2-Dichloroethylene	lb/day	
Vinyl Chloride	lb/day	
Methylene Chloride-[Dichloromethane]	lb/day	

**SVE System Inlet Load Contribution - Well #6**  
**45 Sea Cliff Avenue**

	UNITS	03/28/2001
Flow	cfm	
1,1,1-Trichloroethane	ug/m3	0.015
1,1-Dichloroethane	ug/m3	0.022
Chloroethane	ug/m3	0.035
PCE	ug/m3	0.15
TCE	ug/m3	0.017
1,1-Dichloroethylene	ug/m3	0.014
cis-1,2-Dichloroethylene	ug/m3	0.021
trans-1,2-Dichloroethylene	ug/m3	0.021
Vinyl Chloride	ug/m3	0.021
Methylene Chloride-[Dichloromethane]	ug/m3	1.25
1,1,1-Trichloroethane	ppmv	0.00
1,1-Dichloroethane	ppmv	0.00
Chloroethane	ppmv	0.00
PCE	ppmv	0.00
TCE	ppmv	0.00
1,1-Dichloroethylene	ppmv	0.00
cis-1,2-Dichloroethylene	ppmv	0.00
trans-1,2-Dichloroethylene	ppmv	0.00
Vinyl Chloride	ppmv	0.00
Methylene Chloride-[Dichloromethane]	ppmv	0.00
1,1,1-Trichloroethane	lb/day	
1,1-Dichloroethane	lb/day	
Chloroethane	lb/day	
PCE	lb/day	
TCE	lb/day	
1,1-Dichloroethylene	lb/day	
cis-1,2-Dichloroethylene	lb/day	
trans-1,2-Dichloroethylene	lb/day	
Vinyl Chloride	lb/day	
Methylene Chloride-[Dichloromethane]	lb/day	

***ATTACHMENT B***  
***BIOREMEDIATION PILOT PROJECT***  
***JULY GROUNDWATER MONITORING***  
***REPORT***



August 28, 2001

Charles Nehrig  
Photocircuits Corporation  
31 Sea Cliff Avenue  
Glen Cove, NY 11542

RE: Interpretation of Results from Photocircuits Samples from 8/31/00, 10/18/00, 12/20/00,  
3/27/01, and 7/12/01

Dear Charlie:

#### **Background**

Photocircuits Corporation engaged Terra Systems, Inc. (TSI) to conduct an anaerobic bioremediation pilot study at the company's 31 Sea Cliff Avenue, Glen Cove, NY facility. The study area encompasses a triangular area roughly 70 feet wide and 90 long that had been used for drum storage. The groundwater has been impacted by chlorinated ethene and chlorinated ethane compounds. The pilot study commenced in August-September, 2000. Eight monitoring points (MW-14, MW-7, SMP-1, DMP-1, SMP-3, DMP-3, SMP-4, and DMP-4) are being utilized to track the progress of the pilot study. In March 2001 and July 2001, groundwater samples were also collected from wells MW-8, MW-9, MW-12, and MW-13. The locations of these wells are shown in Figure 1 with the exception of MW-9 that is further to the west.

Historical data indicates that anaerobic biodegradation is occurring at the site as evidenced by the presence of daughter products from the breakdown of tetrachloroethene (PCE) and trichloroethene (TCE) including cis-1,2-dichloroethene (cDCE), vinyl chloride (VC), and ethene. 1,1,1-Trichloroethane (1TCA) breaks down to 1,1-dichloroethene (1DCE), trans-1,2-dichloroethene (tDCE), 1,1-dichloroethane (1DCA), chloroethane (CA), and ethane. However, VC and ethene can also be generated from the breakdown of the 1TCA, 1DCA, and 1DCE. A review of the historical data indicated that the biological degradation process was limited by the availability of organic carbon.

One of the objectives of the pilot study is to determine if the addition of a food grade carbon source will enhance the extent and rate of chlorinated solvent biodegradation at the site. TSI formulated an emulsion containing soybean oil, lecithin (a soybean derivative that acts as an emulsifier), and water to provide required organic carbon.

Figure 2 depicts the location of the injection points and monitoring wells in the immediate vicinity of the pilot. For the pilot test, forty gallons of soybean oil and 117 gallons of water were injected into Point 1 using a Geoprobe and high-pressure pump. The remaining six points used in the pilot test received 3,400 gallons of an emulsion of soybean oil, lecithin, and water prepared with a high shear mixer.

## Organization of Data

The analytical data from the Photocircuits pilot collected on 8/31/00-9/1/00, 10/18-19/00, 12/20/00, 3/27-28/01, and 7/11-12/01 are summarized in the following five tables.

- Table 1 presents the volatile organic data (VOCs), final biodegradation byproducts (ethene and ethane), important electron acceptors (total iron, sulfate, nitrate, and methane), and electron donor as represented by total organic carbon (TOC).
- Table 2 converts the concentrations of the chlorinated ethenes and chlorinated ethanes to micromolar units so that one unit of PCE is equivalent to one unit of TCE, cDCE, VC, and ethene. Similarly one unit of 1TCA is equivalent to one unit of 1DCE, tDCE, 1DCA, CA, or ethane.
- Table 3 summarizes the changes between the samples collected immediately after the oil emulsion injection and the samples collected ten months later for wells MW-14, MW-7, SMP-1, DMP-1, SMP-3, DMP-3, SMP-4, and DMP-4. Positive changes indicate that the concentrations of the analyte have decreased. A negative change indicates that the concentrations have increased. In a number of cases, the contaminants were not detected in the initial samples collected after oil injection or in the samples collected after ten months. In these cases, the percent change was calculated using the analyte detection limit and the percent changes are designated as greater than (>) or less than (<) the calculated change.
- Table 4 summarizes the changes between the samples collected on 3/28/01 and the samples collected on 7/12/01 for wells MW-8, MW-9, MW-12, and MW-13.
- Table 5 summarizes the changes in the chloroethenes, chloroethanes, electron acceptors, and electron donor for all wells from the beginning of the pilot in August-September 2000 to July 2001.

## Chlorinated Ethene Results

In the original group of monitoring wells, cis-1,2-DCE and VC were the predominant chlorinated ethenes with little of the parent compounds, PCE or TCE, being detected except for TCE in SMP-1 in December 2000 and March 2001. Concentrations greater than 1,000 ug/L of chlorinated ethenes were initially only detected in SMP-1 and DMP-3.

There were increases in cDCE and/or VC concentrations in MW-14, MW-7, SMP-1, and SMP-3 from 3/28/01 to 7/11/01. We expect that the VC will decrease as it is converted to ethene. SMP-1 also had an increase in TCE concentrations, but has fallen to a level similar to the start of the pilot in July 2001. The increases may be a result of dissolution of PCE or TCE from a source zone and subsequent biodegradation. Because cDCE was not detected in SMP-1 in March 2001, but was found in July 2001, we suspect an analytical error in the sample from March 2001.

In the supplemental group of monitoring wells sampled in March and July 2001, three of the four wells had parent compounds PCE and/or TCE (MW-8, MW-12, and MW-13). Concentrations greater than 1,000 ug/L of chlorinated ethenes were detected in MW-12 only. There were large

decreases in the TCE (99%), cDCE (99%), and VC (98%) concentrations in MW-12 between March and July 2001 with an increase in the ethene concentrations.

Ethene concentrations in July 2001 increased in wells MW-14, MW-7, SMP-1, SMP-3, and DMP-3 from the initial levels observed on 8/31/00-9/1/00. Ethene concentrations for the other three wells of the original group were lower than measured initially. Ethene may be converted to carbon dioxide, ethane, or another product. Ethene may be transported away with the groundwater, or production of ethene may have slowed due to some limitation on the microbial population including lack of substrate, insufficient nutrients, or lower concentrations of the parent compounds. The continued presence of ethene in all of the wells except DMP-4 adjacent to the pilot shows that complete dechlorination of the chlorinated ethenes is occurring. Ethene increased in MW-12 and has not been detected in the other supplemental wells.

The addition of soybean oil emulsion has resulted in an increase in intermediate and final daughter products from the chlorinated ethenes in wells MW-14, MW-7, SMP-1, SMP-3, DMP-3, and MW-12. Wells DMP-1 and SMP-4 showed decreases in the parent or daughter products. Well DMP-4 has ethene only.

### **Chlorinated Ethane Results**

The analytical data for the pilot test to date provides evidence for biodegradation of the chlorinated ethanes. Wells DMP-1, SMP-3, DMP-3, and SMP-4 had the highest initial concentrations of total chlorinated ethanes with greater than 1,000 µg/L. 1TCA was the primary chlorinated ethane contaminant in wells SMP-3 and DMP-3. Reduced products such as 1,1-dichloroethane, chloroethane, and ethane predominated in wells MW-14, MW-7, SMP-1, DMP-1, SMP-4, and DMP-4. Relatively low levels of 1TCA and daughter products were found in MW-12 and MW-13, which were first monitored for this program in March 2001. No chlorinated ethanes were found in MW-8 or MW-9.

Well SMP-3 has shown a 93% (178,000 µg/L to 13,100 µg/L) reduction in the 1TCA concentrations. Between 54% reduction (38,200 to 17,600 µg/L) and 38% (5,230 to 3,250 µg/L) reductions in the 1DCA concentrations were observed respectively in SMP-3 and DMP-3. CA concentrations have declined by 94% in DMP-1 (3,290 to 193 µg/L). 1DCA, tDCE, 2DCA, and 1DCE were reduced or eliminated between March and July 2001 in MW-12. Based upon these results and laboratory studies currently underway with an anaerobic culture derived from the Photocircuits groundwater, we believe that direct utilization of 1TCA and 1DCA may be occurring rather than a reductive dechlorination reaction where daughter products are produced and degraded. Alternatively, sulfides generated from the reduction of sulfate may be reacting abiotically with the 1TCA and 1DCA (Gander et al. 2001).<sup>1</sup>

Well SMP-4 has shown decreases in the 1TCA, 1DCA, 1DCE, CA, and ethane concentrations over the ten months following injection of the oil emulsion. However, there was a rebound in

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<sup>1</sup> Gander, J. W., G. F. Parkin, and M. M. Scherer. 2001. Geomicrobiological interactions among iron sulfide minerals and methanogenic consortia. In Situ and On-Site Bioremediation Poster Abstracts. Sixth International Symposium, June 4-7, 2001. San Diego, CA. Section C8.

concentrations of these compounds between December 2000 and July 2001. Higher concentrations of 1TCA and daughter products were also observed in July 2001 for wells MW-14, MW-7, SMP-1, DMP-1, DMP-3, and DMP-4 than had been observed in September 2000. The release of VOCs adsorbed into the oil may be one explanation for these increases.

### Other Organic Compounds Results

Several other organic compounds were detected in the groundwater including 1,2-dichloroethane, acetone, methylene chloride, 2-butanone, toluene, benzene, p-ethyltoluene, 1,3,5-trimethylbenzene, 2-chlorotoluene, 4-chlorotoluene 1,2,4-trimethylbenzene, naphthalene, o-xylene, and n-propylbenzene. Over the ten months of the pilot operation to date, acetone concentrations decreased by 87% in DMP-1 and >72% in SMP-3, but increased in MW-14 and MW-7. Methylene chloride decreased in many wells with declines by as much as 98 percent in SMP-1 and DMP-3. Methylene chloride can also be anaerobically degraded. Toluene concentrations have declined in six wells, but increased in three wells (MW-14, MW-7, and SMP-1). Toluene can be also degraded anaerobically. The addition of soybean oil may have little effect on its biodegradation of toluene as dechlorinators are probably not involved in the biotransformation of toluene. 2-Chlorotoluene concentrations declined in wells SMP-4, DMP-4, and MW-12, but increased in MW-7, SMP-1, DMP-1, DMP-3, and MW-13. 2-Chlorotoluene may be biodegraded to toluene and potentially further under anaerobic conditions.

### Sum of VOAs

The sum of the concentrations of all of the contaminants in each well was calculated excluding the final degradation endproduct gases, ethene and ethane. The sum of the VOAs has declined by up to 85% in DMP-3 with large decreases in DMP-1 (77%), SMP-1 (43%), and MW-12 (97%). A more moderate decline was observed in SMP-4 (23%). The sum of VOAs has increased by 5879% in MW-14 as higher levels of 1TCA, 1DCA, 1DCE, CA, and VC were seen in March and July 2001 samples. VOCs adsorbed into the oil may be being released. Increases in the sum of VOAs were also observed to a lesser degree in MW-7 (-62%), DMP-3 (-10%), DMP-4 (-4%), MW-8 (-61), and MW-13 (-17%).

### Substrate Distribution

The total organic carbon concentrations in July 2001 ranged from 35.7 mg/L in DMP-4 to 3,530 mg/L in MW-14. Well MW-14 had free-floating soybean oil. Well SMP-3 contained a TOC level of 176 mg/L, which may represent contact with the emulsion, or the presence of co-contaminants. TOC levels were below 50 mg/L in July 2001 in wells SMP-1, SMP-4, and DMP-4. A substrate level of fifty mg/L TOC should provide sufficient carbon to support dechlorination and other electron accepting processes such as methanogenesis and sulfate-reduction. Of the wells first monitored in March 2001, only well MW-12 had more than 10 mg/L TOC. TOC levels have declined from the beginning of the pilot in wells MW-14 (85%), SMP-1 (50%), DMP-1 (82%), SMP-3 (40%), DMP-3 (47%), SMP-4 (37%), and DMP-4 (18%), but increased in MW-7 (-51%). Additional substrate injection in the pilot area is warranted.

### Electron Acceptor Results

As the microbes breakdown the emulsion, we would expect the sulfate to be depleted and the concentrations of iron and methane to increase. Nitrate-nitrogen was present in July 2001 at low concentrations of <0.0015 to 5.63 mg/L and is a minor electron acceptor. The predominant

electron acceptor in the groundwater in July 2001 was sulfate with concentrations that ranged from 23 mg/L in MW-8 and MW-9 to 1,910 mg/L in SMP-4. Sulfate concentrations have declined from the initial concentrations in September 2000 in wells MW-14 (77%), MW-7 (34%), DMP-1 (95% from 23,500 to 1,420 mg/L), and MW-13 (3%) as would be expected with consumption of the oil emulsion. However, sulfate levels have increased in SMP-1, SMP-3, DMP-3, SMP-4, DMP-4, MW-8, MW-9, and MW-12 over the course of the pilot. There may not be sufficient substrate available to remove the sulfate. Total iron concentrations within the pilot in July 2001 ranged from 8.6 mg/L in DMP-1 to 188 mg/L in MW-14, which indicated that iron is also an important electron acceptor. Lower levels of iron were seen in the largely uncontaminated well MW-8 (0.088 mg/L). Total iron concentrations have increased in five of the eight wells in the pilot area. The drop in dissolved iron concentrations in the other wells may be due to precipitation of the ferrous iron with sulfide produced from the utilization of sulfate. During the most recent sampling event, methane was detected in all wells except DMP-4 with methanogenic conditions ( $>1,000 \mu\text{g/L}$ ) in MW-14, MW-7, SMP-1, SMP-4, and MW-12. Methane concentrations have increased in five wells in the pilot area between September 2000 to July 2001.

### **Summary**

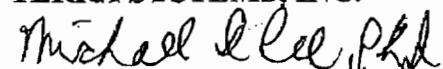
Conditions continue to be favorable for accelerated anaerobic biodegradation of the chlorinated solvents at the Photocircuits site based upon the following positive results from the pilot to date including:

- decreases in the parent compound concentrations observed in many wells, particularly the large drops in the 1TCA and 1DCA concentrations in wells SMP-3 and DMP-3
- increases in the daughter products including final products ethene and ethane in many of the wells.
- good distribution of substrate and its consumption
- prevalence of reducing conditions based upon the removal of sulfate and the production of dissolved iron and methane

As a result of the high utilization of the substrate in the area of wells SMP-3, DMP-3, SMP-4, and DMP-4, we recommend that additional emulsified oil be injected into the pilot area. We also recommend that the monitoring program be modified to include one sampling event immediately after substrate injection and one sampling event three months later. Based upon the positive results we have seen in the zone from 10 to 50 feet below ground surface, we believe that this technology should also be applicable to the intermediate and deeper zones.

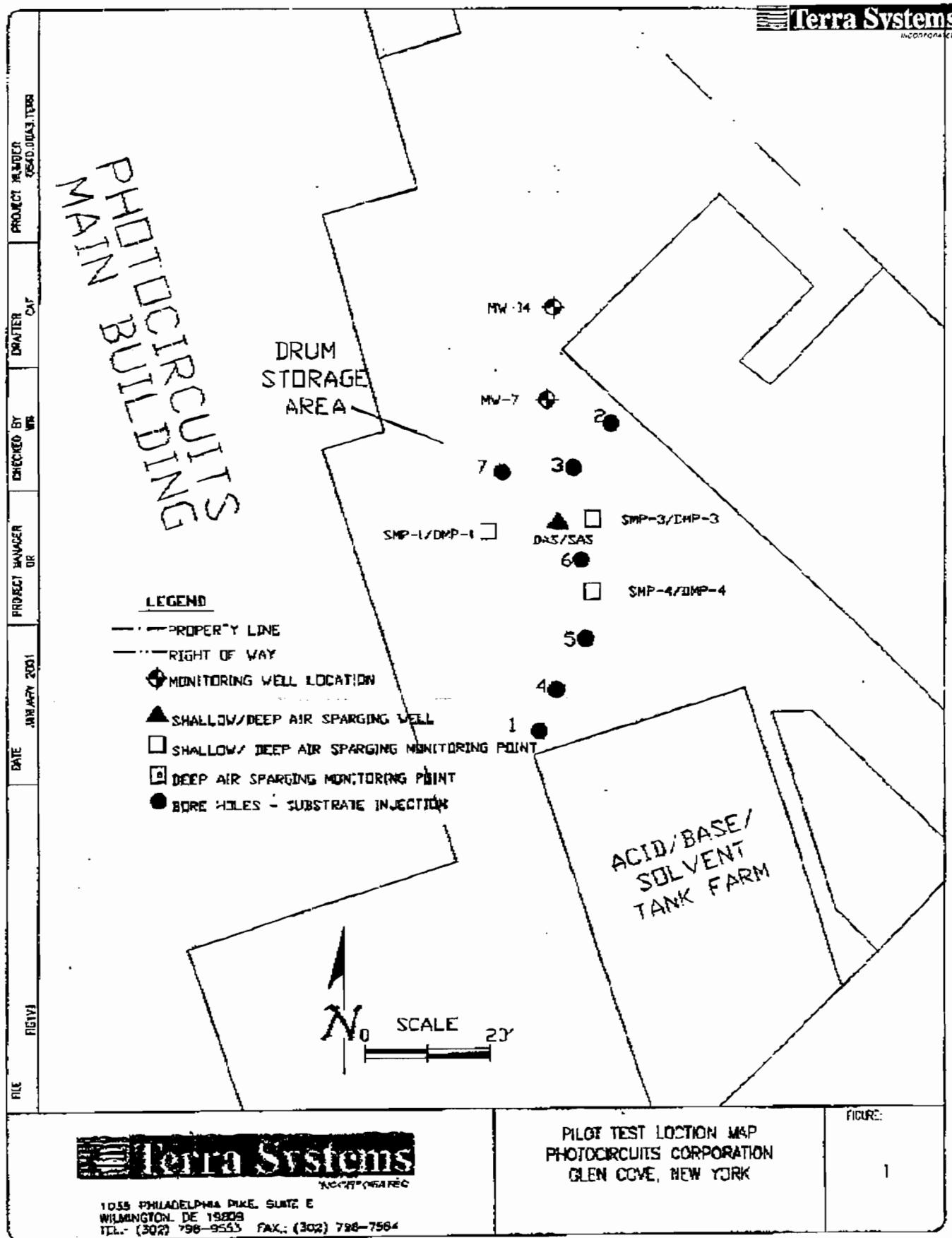
Sincerely,

**TERRA SYSTEMS, INC.**



Michael D. Lee, Ph.D.

Vice-President



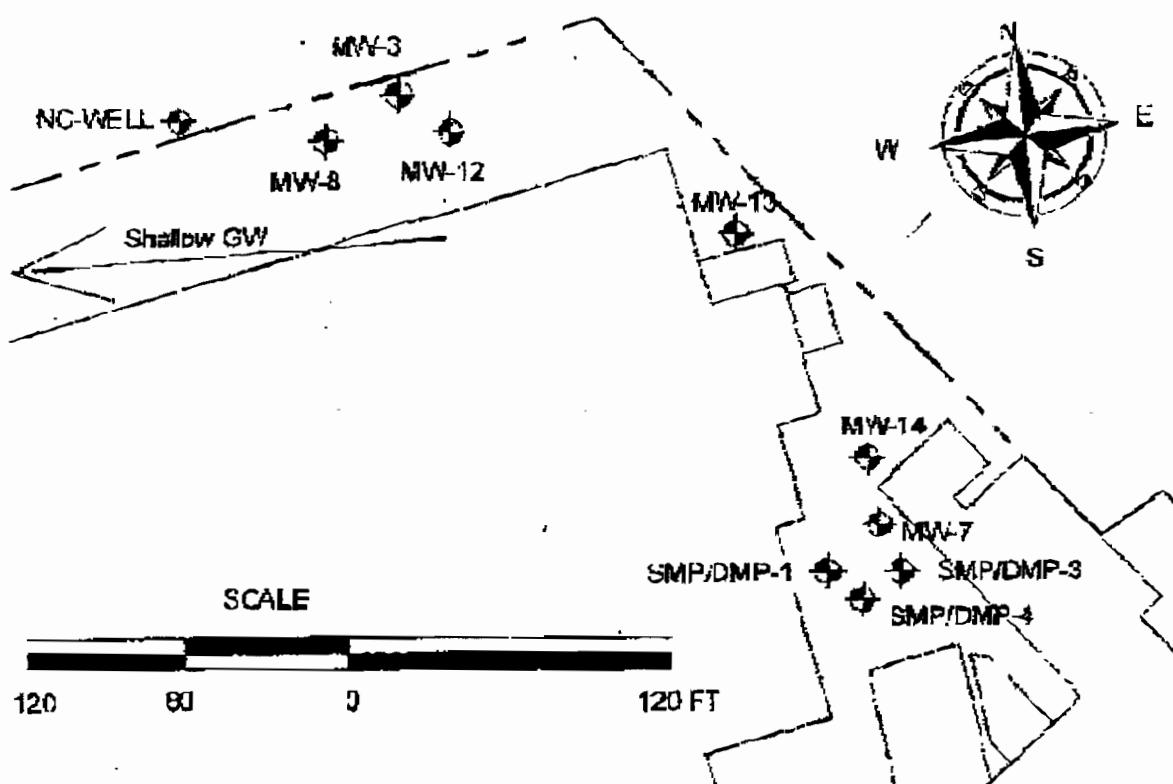
**Terra Systems**  
INCORPORATED

1055 PHILADELPHIA DRIVE, SUITE E  
WILMINGTON, DE 19809  
TEL.: (302) 798-9553 FAX: (302) 798-7564

FIGURE:

1

Figure 2. Site Map Showing Monitoring Wells



**Table 1. Photocircuits Anaerobic Pilot Analytical Summary**

Well	Date	MW-14				MW-7				SMP-1						
		8/31/00	10/19/00	12/20/00	3/28/01	7/11/01	8/31/00	10/19/00	12/20/00	3/27/01	7/11/01	8/31/00	10/18/00	12/20/00	3/27/01	
Tetrachloroethene	ug/L	<1.4	<0.40	<5.5	<4.0	<0.40	<0.56	<0.40	<2.2	<0.20	<1.6	<0.40	<22	<5.5	<2.0	
Trichloroethene	ug/L	<0.85	<1.35	<0.85	<10	<3.4	<0.85	<19.3	<0.85	<4	16	<34	79	860	1530	25.3
cis-1,2-Dichloroethene	ug/L	<0.95	<1.7	<0.95	<15	<2.8	47.3	283	355	149	187	2490	37500	30100	<0.27	12300
Vinyl Chloride	ug/L	<1.75	10.6	<1.75	114	145	39.3	67.1	139	60	63.9	4710	5990	5990	4770	4230
Ethene	ug/L	43	47	60	65	130	63	170	110	33	94	930	2400	1140	900	1890
1,1,1-Trichloroethane	ug/L	14.4	<1.7	8.9	994	2040	<0.55	<0.62	<0.55	<4	<0.16	<22	<0.55	<34	356	158
1,1-Dichloroethane	ug/L	126	216	293	9230	18800	122	214	268	135	207	506	486	628	708	536
trans-1,2-Dichloroethene	ug/L	<1.35	<1.40	<1.35	<11	<2.8	<1.35	<0.56	<1.35	<4.4	2.6	<54	69.9	<40	132	34.5
1,2-Dichloroethane	ug/L	<0.80	<0.95	<0.80	<10	<10	<34.2	<0.80	<0.38	<4	<0.13	<32	<0.80	<17	<10	<1.3
1,1-Dichloroethene	ug/L	<1.05	6.3	<1.05	443	751	<1.05	<0.96	<1.05	<3.6	1.9	<42	64.3	<27	184	55.1
Chloroethane	ug/L	15.6	<1.25	<1.65	132	298	258	181	201	160	269	<72	71.6	<53	<15	<1.8
Ethane	ug/L	52	69	48	34	66	<6	130	81	34	71	<6	<6	<25	<25	<25
Acetone	ug/L	97.8	170	126	<74	551	<9.45	52.2	<9.45	<29.6	18.5	<37.8	<9.45	<166	<74	<14.4
Methylene Chloride	ug/L	15.1	<1.50	<1.0	220	156	12.8	6.00	<1	51.6	3.9	482	43.1	<56	<20.5	11.9
2-Butanone	ug/L	124	75.3	<5.1	<125	863	<5.1	<1.64	<5.1	<50	<6.25	<204	<5.1	<68	<125	<62.5
Toluene	ug/L	3.0	<0.80	<0.80	<7.5	32.4	6.2	8.4	8.3	<3	8.6	<32	61.1	<19	126	51.4
Benzene	ug/L	<0.70	<0.70	<0.70	<5	<2.6	4.0	3.5	<0.7	<2	2.8	<28	4.40	<34	<5	<1.3
p-Ethyltoluene	ug/L	<1.2	<1.05	<1.2	<8	<4.4	<1.2	<0.68	<1.2	<3.2	<0.22	<48	<1.2	<20	<8	11.3
1,3,5-Trimethylbenzene	ug/L	<0.60	<1.50	<0.60	<17	<2.2	<0.60	<0.60	<0.6	<6.8	<0.11	<24	<0.60	<20	<17	<1.1
2-Chlorotoluene	ug/L	<0.85	<1.35	<0.85	<10.5	<3.2	<0.85	5.2	<0.85	<4.2	6.3	<34	16.3	<25	<10.5	47.3
1,2,4-Trimethylbenzene	ug/L	<0.65	<1.25	<0.65	<1.1	<4.4	<0.65	<0.50	<0.50	<4.4	1.2	<26	<0.65	<11	15.7	
Naphthalene	ug/L	<1.35	<0.90	<1.35	<9.5	<8.2	<1.35	<0.36	<1.35	<3.8	1.2	<54	<1.35	<16	<9.5	21.2
o-Xylene	ug/L	<0.40	<1.35	<0.40	<8	<3.2	<0.40	<0.54	<0.4	<3.2	1.1	<16	<0.40	<18	<8	11.4
n-Propylbenzene	ug/L	<0.70	<1.40	<0.70	<10.5	<6.2	<0.70	<0.56	<0.7	<4.2	<0.31	<28	<0.70	<17	<10.5	<3.1
Sum VOAs (w/o Gases)	ug/L	396	478	428	11133	23671	490	840	971	556	791	30598	44386	36678	7806	17509
Methane	ug/L	44	58	380	1800	6400	660	1900	760	1050	5930	3400	6200	2500	2060	3400
Iron, Total	mg/L	55.2	13.2	69	197	188	2.22	3.93	6.72	8.78	19.8	11.6	15.1	11.1	29.9	
Sulfate	mg/L	5470	779	32.6	307	1270	104	117	264	203	68.9	236	360	443	813	905
Nitrate-Nitrogen	mg/L	0.15	0.17	<0.025	<0.0015	<0.015	0.023	0.017	0.029	0.017	0.054	0.071	12.3	0.016		
Total Organic Carbon	mg/L	23500	868	1990	2590	3530	38.8	53.1	60	72.9	58.5	91.7	88	59.7	45.9	

**Table 1 Continued. Photocircuits Anaerobic Pilot Analytical Summary**

Well	Date	SMP-1												SMP-3														
		8/31/00	10/18/00	12/20/00	3/27/01	7/11/01	9/1/00	10/19/00	12/20/00	3/27/01	7/11/01	9/1/00	10/19/00	12/20/00	3/27/01	7/11/01	9/1/00	10/19/00	12/20/00	3/27/01	7/11/01	9/1/00	10/19/00	12/20/00	3/27/01	7/11/01		
Tetrachloroethene	ug/L	<0.40	<0.080	<0.40	<5.5	<1.0	<80	<8	13.7	12.2	<1.6	60.5	<4.0	<1.1	<1.1	72.3												
Trichloroethene	ug/L	<0.85	<0.17	<0.85	<10	4.5	<170	<17	<0.2	<1.7	<34	<13.5	<8.5	<2	8.6													
cis-1,2-Dichloroethene	ug/L	50.4	1.70	17.4	73.5	38.4	<190	<1.9	2.3	16.4	<38	<17	<9.5	<3	14.9													
Vinyl Chloride	ug/L	188	3.5	40	125	42.7	<350	<35	38.8	98.8	1040	928	818	145	785													
Ethene	ug/L	560	1080	920	690	110	84	98	39	18	110	430	450	310	290	490												
1,1-Trichloroethane	ug/L	<0.55	<0.11	<0.55	193	28.1	178000	235000	32600	33700	13100	19700	14300	23400	793	24000												
1,1-Dichloroethane	ug/L	91.8	17.6	357	1130	1320	38200	47800	4770	<0.5	17600	5230	4860	4200	764	3250												
trans-1,2-Dichloroethane	ug/L	<1.35	<0.27	<1.35	<11	<0.70	<270	<27	<0.22	<1.4	<54	<14	<13.5	<2.2	<1.4													
1,2-Dichloroethane	ug/L	<0.80	<0.16	<0.80	<10	14.9	<160	<160	<16	6	20.6	<32	<9.5	<8.0	<2	25.4												
1,1-Dichloroethene	ug/L	<1.05	<0.21	<1.05	<9	<0.70	<210	<21	<0.27	164	156	<24	<10.5	<1.8	168													
Chloroethane	ug/L	3290	43.4	232	159	193	<330	<33	76.6	411	5370	6970	3760	729	6630													
Ethane	ug/L	<6	<6	<50	<100	<50	39	45	41	23	29	5.7	9.4	44	12	8.2												
Acetone	ug/L	8670	139	557	<74	1150	<1890	<1890	<189	3690	5336	<378	<65	<94.5	<14.8	<14.4												
Methylene Chloride	ug/L	68.3	1.40	22.4	191.5	32.8	2400	<200	<20	14.6	122	436	149	<10	31.8	58.7												
2-Butanone	ug/L	<5.1	<1.02	5.1	<125	<31.3	<1020	<1020	<102	<2.5	<62.5	<204	<41	<51	<25	<62.5												
Toluene	ug/L	36.5	2.80	24.1	40.5	9.1	<160	<160	<16	31.7	96.5	232	134	103	15.7	140												
Benzene	ug/L	<0.70	<0.14	5.5	<5	<0.65	<140	<14	<0.1	20.6	<28	<7.0	<7.0	<1	<1.3													
p-Ethyltoluene	ug/L	2.9	<0.24	<1.2	<8	<1.1	<240	<24	<0.16	<2.2	<48	<17	<12	<1.6	9.9													
1,3,5-Trimethylbenzene	ug/L	2.8	<0.12	<0.60	<17	<0.55	<120	<120	<12	0.63	<1.1	<24	<15	<6	<3.4	<1.1												
2-Chlorotoluene	ug/L	23.7	<0.17	18.2	<10.5	33.7	<170	<170	<17	5.1	<1.6	<34	<13.5	<8.5	<2.1	51.5												
1,2,4-Trimethylbenzene	ug/L	8.4	0.77	8.4	<11	4.8	<130	<130	<13	<0.22	<2.2	<26	<12.5	<6.5	<2.2	17												
Naphthalene	ug/L	3.1	<0.27	<1.35	<9.5	<2.05	<270	<27	<0.19	<4.1	<54	<9.0	<13.5	<1.9	<4.1													
o-Xylene	ug/L	<0.40	<0.080	<0.40	<8	<0.80	<80	<80	<8	<0.	<1.4	<16	<13.5	<4.0	<1.6	<1.6												
n-Propylbenzene	ug/L	<0.70	<0.14	16.9	<10.5	<1.55	<140	<140	<14	<0.21	<3.1	<28	<14.0	<7.0	<2.1	<3.1												
Sum VOAs (w/o Gases)	ug/L	12436	210	1304	1912	2872	218600	282800	37370	37579	32198	32164	27402	32281	2479	35231												
Methane	ug/L	8200	23000	10300	4660	730	100	140	44	36	500	390	890	800	930	870												
Iron, Total	mg/L	88.5	4.45	3.1	21.7	8.65	50.6	5.91	69.6	11.1	32.5	60.4	66.8	74.3	20.8	77.5												
Sulfate	mg/L	29600	37.7	179	715	1420	286	392	154	53.7	1050	124	186	137	94.6	173												
Nitrate-Nitrogen	mg/L	0.20	0.024	0.05	0.019	<0.015	0.53	0.037	<0.015	0.93	0.35	0.073	0.0030	0.35	0.073	0.0030												
Total Organic Carbon	mg/L	299	224	137	132	54.5	294	432	22.7	48.1	176	98.2	88.6	104	27.8	51.8												

**Table 1 Continued. Photocircuits Anaerobic Pilot Analytical Summary**

Well	Date	SMF-4				DMP-4				MW-8				MW-9			
		9/1/00	10/19/00	12/20/00	3/27/01	7/11/01	9/1/00	10/19/00	12/20/00	3/27/01	7/11/01	9/1/00	10/19/00	12/20/00	3/27/01	7/11/01	9/1/00
Tetrachloroethene	ug/L	13.2	<5.6	<0.80	<5.5	9.3	<0.40	<0.080	<0.11	<2.0	<0.11	<0.20	<0.11	<0.20	<0.11	<0.20	<0.20
Trichloroethene	ug/L	<0.85	<5.4	<1.7	<10	<1.7	<0.85	<1.70	<0.17	<1.7	<1.7	1.8	1.7	<0.20	<0.20	<0.17	<0.20
cis-1,2-Dichloroethene	ug/L	143	<6.8	<1.9	<15	10.8	<0.95	<1.90	<0.19	<1.4	<0.30	1.2	<0.30	<0.14	<0.30	<0.14	<0.14
Vinyl Chloride	ug/L	175	34.6	37.6	72.5	111	<1.75	<3.50	<0.35	2.9	<0.70	<0.25	<0.070	<0.25	<0.070	<0.25	<0.070
Ethene	ug/L	220	190	220	170	160	25.0	260	220	160	<6	<6	<6	<6	<6	<6	<6
1,1,1-Trichloroethane	ug/L	3150	246	997	3100	2610	56.3	130	<0.11	15.3	18.4	<0.20	<0.16	<0.20	<0.16	<0.20	<0.16
1,1-Dichloroethane	ug/L	4070	1740	1180	2230	3270	29.7	20.1	<0.14	50.1	30.0	<0.14	<0.12	<0.14	<0.12	<0.14	<0.12
trans-1,2-Dichloroethene	ug/L	<1.35	<5.6	<2.7	<11	<1.4	<1.35	<2.70	<0.27	3.4	<1.4	<0.22	<0.14	<0.22	<0.14	<0.22	<0.14
1,2-Dichloroethane	ug/L	26.2	<3.8	<1.6	<10	19.7	<0.80	<1.60	<0.16	8.7	<1.3	<0.20	<0.13	<0.20	<0.13	<0.20	<0.13
1,1-Dichloroethene	ug/L	105	<9.6	<2.1	<9	48.2	<1.05	<2.10	<0.21	<0.18	<1.4	<0.18	<0.14	<0.18	<0.14	<0.18	<0.14
Chloroethane	ug/L	1220	827	3000	1590	945	2420	2580	3300	3680	2680	<0.30	<0.18	<0.3	<0.18	<0.3	<0.18
Ethane	ug/L	<6	<6	39	<10	<10	<6	<6	37	<6	<6	<6	<6	<6	<6	<6	<6
Acetone	ug/L	<9.4	<26	<18.9	<74	<14.4	<9.45	<18.9	<1.89	58.4	<14.4	<1.48	<1.44	<1.48	<1.44	<1.48	<1.44
Methylene Chloride	ug/L	295	123	<2	278	127	22.8	16.6	3.9	19.8	20.8	<0.41	<0.15	<0.41	<0.15	<0.41	<0.15
2-Butanone	ug/L	<5.1	<16.4	<10.2	<125	<62.5	<5.1	<10.2	<1.02	<2.5	<62.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25
Toluene	ug/L	116	37.6	25.5	<7.5	48.2	<11	7.50	3.1	6.1	<1.4	<0.15	<0.14	<0.15	<0.14	<0.14	<0.14
Benzene	ug/L	<0.70	<2.8	<1.4	<5	<1.3	<0.70	<1.40	<0.14	<0.10	<1.3	<0.10	<0.13	<0.10	<0.13	<0.10	<0.13
p-Ethyltoluene	ug/L	4.8	<6.8	<2.4	<8	<2.2	3.7	<2.40	<0.24	1.2	<2.2	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
1,3,5-Trimethylbenzene	ug/L	3.2	<6.0	<1.2	<17	<1.1	9.2	<1.20	2.5	3.4	<1.1	<0.34	<0.11	<0.34	<0.11	<0.34	<0.11
2-Chlorotoluene	ug/L	45.5	<5.4	<1.7	<10.5	21.4	64.5	44.5	17.1	31.6	31.9	<0.21	<0.16	<0.21	<0.16	<0.16	<0.16
1,2,4-Trimethylbenzene	ug/L	8.6	<5.0	<1.3	<11	<2.2	18.3	15.9	5.3	<0.22	9.2	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22
Naphthalene	ug/L	<1.35	<3.6	<2.7	<9.5	<4.1	4.3	<2.70	<0.27	1.6	<4.1	<0.19	<0.41	<0.19	<0.41	<0.19	<0.41
o-Xylene	ug/L	<0.40	<5.4	<0.8	<8	<1.6	4.8	<0.80	<0.008	5.0	<1.6	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
n-Propylbenzene	ug/L	<0.70	<5.6	<1.4	<10.5	<3.1	44.3	<1.40	<0.14	<0.21	<3.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
Sum VOAs (w/o Gases)	ug/L	9376	3008	5240	7271	7221	2689	2815	3332	3888	2790	1.8	2.9	0.0	0.0	0.0	0.0
Methane	ug/L	450	470	1100	3650	1890	180	210	190	300	<6	<6	61	300	940	940	940
Iron, Total	mg/L	76.2	38.9	47.1	54.5	41.2	48.2	39.2	42.5	85.4	1116	0.023 J	0.088 J	10.4	21.9	21.9	21.9
Sulfate	mg/L	933	470	435	1700	1910	133	171	98.5	209	323	22.6	23.4	4.43	23.1	23.1	23.1
Nitrate-Nitrogen	mg/L	<0.015	0.31	0.19	0.037	0.22	0.31	0.17	<0.015	6.1	5.63	<0.025	<0.015	<0.015	<0.015	<0.015	<0.015
Total Organic Carbon	mg/L	73.6	60.4	<0.94	34.6	46.5	43.7	52.4	50.9	34.6	35.7	4.97	<0.94	7.98	6.79	6.79	6.79

**Table 1 Continued. Photocircuits Anoxic Pilot Analytical Summary**

Well	Date	MW-12	MW-13	MW-12	MW-13
		3/28/01	7/12/01	3/28/01	7/12/01
Tetrachlorethene	ug/L	<0.11	<0.20	82.8	120
Trichloroethene	ug/L	122	0.93	85.9	114
cis-1,2-Dichloroethene	ug/L	1280	18.2	784	897
Vinyl Chloride	ug/L	244	5.7	38.6	58.6
Ethene	ug/L	6.7	69	<6	<6
1,1,1-Trichloroethane	ug/L	<0.20	<0.16	40	36.7
1,1-Dichloroethane	ug/L	72.2	3.7	323	351
trans-1,2-Dichloroethene	ug/L	7.3	<0.14	3.6	4.7
1,2-Dichloroethane	ug/L	2.9	<0.13	2.6	2.3
1,1-Dichloromethane	ug/L	8.4	<0.14	60.6	60.4
Chloroethane	ug/L	<0.30	<0.18	<0.30	<0.18
Ethane	ug/L	<6	13	5.8	6.7
Acetone	ug/L	<1.48	<1.44	<1.48	<1.44
Methylene Chloride	ug/L	<0.41	<0.15	<0.41	<0.15
2-Butanone	ug/L	<2.5	<6.25	<2.5	<6.25
Toluene	ug/L	0.97	<0.14	<0.15	<0.14
Benzene	ug/L	5.3	<0.13	7.1	7.1
p-Ethyltoluene	ug/L	<0.16	<0.22	<0.16	<0.22
1,3,5-Trimethylbenzene	ug/L	<0.34	<0.11	<0.34	<0.11
2-Chlorotoluene	ug/L	393	26.9	16.3	43.2
1,2,4-Trimethylbenzene	ug/L	<0.22	<0.22	<0.22	<0.22
Naphthalene	ug/L	<0.19	<0.41	<0.19	<0.41
o-Xylene	ug/L	<0.16	<0.16	<0.16	<0.16
n-Propylbenzene	ug/L	<0.21	<0.31	<0.21	<0.31
Sum VOAs (w/o Gases)	ug/L	2136	55	1445	1695
Methane	ug/L	420	1800	12	21
Iron, Total	mg/L	7.29	55.6	0.54	0.48
Sulfate	mg/L	417	824	597	579
Nitrate-Nitrogen	mg/L	<0.025	0.070	3.95	4.68
Total Organic Carbon	mg/L	33.3	36.6	9.52	13.3

**Table 2. Photocircuits Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations**

Contaminant	Well	MW-14	MW-7	SMP-1													
Date	8/31/00	10/19/00	12/20/00	3/28/01	7/11/01	8/31/00	10/19/00	12/20/00	3/27/01	7/11/01	8/31/00	10/18/00	12/20/00	3/27/01	7/11/01		
Tetrachloroethene	uM	<0.0084	<0.0024	<0.033	<0.024	<0.0024	<0.0034	<0.0024	<0.013	<0.0012	<0.096	<0.0024	<0.13	<0.033	<0.012		
Trichloroethene	uM	<0.0065	<0.010	<0.0065	<0.076	<0.026	<0.0065	0.15	<0.0065	<0.030	0.12	<0.026	0.60	6.5	11.6	0.19	
cis-1,2-Dichloroethene	uM	<0.0098	<0.018	<0.0098	<0.15	<0.029	0.49	2.9	3.7	1.5	1.9	257	387	311	<0.0028	127	
Vinyl Chloride	uM	<0.028	0.17	<0.028	1.8	2.3	0.63	1.1	2.2	1.0	1.0	75	96	81	76	68	
Ethene	uM	1.5	1.7	2.1	2.3	4.6	2.3	6.1	3.9	1.2	3.4	33	86	41	32	68	
1,1,1-Trichloroethane	uM	0.11	<0.013	0.067	7.5	15.3	<0.0041	<0.046	<0.0041	<0.030	<0.0012	<0.16	<0.0041	<0.25	2.7	1.2	
1,1-Dichloroethane	uM	1.3	2.2	3.0	93.2	189.9	1.2	2.2	2.7	1.4	2.1	5.1	4.9	6.3	7.2	5.4	
trans-1,2-Dichloroethene	uM	<0.014	<0.014	<0.014	<0.11	<0.021	<0.014	<0.0058	<0.014	<0.045	<0.027	<0.56	0.72	<0.41	1.4	0.36	
1,2-Dichloroethane	uM	<0.0081	<0.0096	<0.0081	<0.10	0.35	<0.0081	<0.0038	<0.0081	<0.040	<0.0013	<0.32	<0.0081	<0.17	<0.033	<0.033	
1,1-Dichloroethene	uM	<0.011	0.065	<0.011	4.6	7.8	<0.011	<0.0099	<0.011	<0.037	0.020	<0.43	0.66	<0.27	1.9	0.57	
Chloroethane	uM	0.24	<0.019	<0.026	2.0	4.6	4.0	2.8	3.1	2.5	4.2	<1.1	1.1	<0.82	<0.23	<0.23	
Ethane	uM	1.7	2.3	1.6	1.1	2.2	<0.20	4.3	2.7	1.1	2.4	<0.20	<0.20	<0.83	<0.83	<0.83	
Contaminant	Well	DMP-1	DMP-3	DMP-3													
Date	8/31/00	10/18/00	12/20/00	3/27/01	7/11/01	9/1/00	10/19/00	12/20/00	3/27/01	7/11/01	9/1/00	10/19/00	12/20/00	3/27/01	7/11/01		
Tetrachloroethene	uM	<0.0024	<0.0048	<0.0024	<0.033	<0.0060	<0.48	<0.48	<0.048	0.083	0.074	<0.097	0.36	<0.024	<0.0066	0.44	
Trichloroethene	uM	<0.0065	<0.0018	<0.0065	<0.076	0.034	<1.3	<1.3	<0.13	<0.015	<0.013	<0.26	<0.10	<0.065	<0.015	0.065	
cis-1,2-Dichloroethene	uM	0.52	0.018	0.18	0.18	0.76	0.40	<2.0	<2.0	<0.20	0.024	0.17	<0.39	<0.18	<0.098	<0.031	0.15
Vinyl Chloride	uM	3.0	0.056	0.640	2.0	0.68	<5.6	<5.6	<0.56	0.62	1.6	1.7	15	13	2.3	12.6	
Ethene	uM	20	39	33	25	3.9	3.0	3.5	3.5	1.4	0.64	3.9	15.4	16.1	11.1	10.4	
1,1,1-Trichloroethane	uM	<0.0041	<0.0082	<0.0041	1.4	0.21	1334	1762	244	253	98	148	107	175	5.9	180	
1,1-Dichloroethane	uM	0.93	0.18	3.61	11	13	186	483	48	<0.0051	178	53	49	42	7.7	32.8	
trans-1,2-Dichloroethene	uM	<0.014	<0.0028	<0.014	<0.11	<0.0072	<2.8	<2.8	<0.28	<0.0023	<0.014	<0.56	<0.14	<0.14	<0.023	<0.014	
1,2-Dichloroethane	uM	<0.0081	<0.0016	<0.0081	<0.10	0.15	<1.6	<1.6	<0.16	0.061	0.21	<0.32	<0.096	<0.081	<0.020	0.26	
1,1-Dichloroethene	uM	<0.011	<0.0022	<0.011	<0.093	<0.071	<2.2	<2.2	<0.22	<0.0028	1.7	1.6	<0.25	<0.11	<0.018	1.7	
Chloroethane	uM	51.0	0.67	3.60	2.5	3.0	<5.1	<5.1	<0.51	1.2	6.4	8.3	108	58	11	103	
Ethane	uM	<0.20	<0.20	<1.7	<3.3	<1.7	1.3	1.5	1.4	0.77	0.97	0.19	0.31	1.5	0.40	0.27	

**Table 2 continued. Photocircuits Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations**

Contaminant	Date	Well	SMP-4	DMP-4	DMP-4	DMP-4	MW-8
		9/1/00	10/19/00	12/20/00	3/27/01	7/11/01	10/19/00
							12/20/00
							3/27/01
							7/11/01
							3/28/01
							7/12/01
Tetrachloroethene	uM	0.030	<0.0034	<0.0048	<0.033	0.056	<0.0024
Trichloroethene	uM	<0.0065	<0.041	<0.013	<0.076	<0.0065	<0.00048
cis-1,2-Dichloroethene	uM	1.5	<0.070	<0.020	<0.15	0.11	<0.0098
Vinyl Chloride	uM	2.8	0.55	0.60	1.2	1.8	<0.028
Ethene	uM	7.9	6.8	7.9	6.1	5.7	8.9
1,1,1-Trichloroethane	uM	24	1.8	7.5	23	20	0.42
1,1-Dichloroethane	uM	41	18	12	23	33	0.30
trans-1,2-Dichloroethene	uM	<0.014	<0.058	<0.0028	<0.11	<0.014	<0.014
1,2-Dichloroethane	uM	0.26	<0.038	<0.016	<0.10	0.20	<0.0081
1,1-Dichloroethene	uM	1.1	<0.099	<0.022	<0.093	0.50	<0.011
Chloroethane	uM	19	13	47	25	15	38
Ethane	uM	<0.20	<0.20	1.3	<0.33	<0.33	<0.20
							<0.20
Tetrachloroethene	uM	<0.00066	<0.0012	<0.00056	<0.0012	0.499	0.72
Trichloroethene	uM	<0.0015	<0.0013	0.93	0.0071	0.65	0.87
cis-1,2-Dichloroethene	uM	<0.0031	<0.014	13.2	0.19	8.1	9.3
Vinyl Chloride	uM	<0.0040	<0.011	3.9	0.091	0.6	0.94
Ethene	uM	<0.21	<0.21	0.24	2.5	<0.21	<0.21
1,1,1-Trichloroethane	uM	<0.0015	<0.0012	<0.0015	<0.0012	0.30	0.28
1,1-Dichloroethane	uM	<0.0014	<0.0012	0.73	0.037	3.26	3.5
trans-1,2-Dichloroethene	uM	<0.0022	<0.0014	0.075	<0.0014	0.037	0.049
1,2-Dichloroethane	uM	<0.0020	<0.0013	0.029	<0.0013	0.026	0.023
1,1-Dichloroethene	uM	<0.0019	<0.0014	0.087	<0.0014	0.63	0.62
Chloroethane	uM	<0.0047	<0.0028	<0.0047	<0.0047	<0.0047	<0.0025
Ethane	uM	<0.20	<0.20	<0.20	0.43	0.19	0.22

**Table 3. Photocircuits Anaerobic Pilot Percent Change Between 9/1/00 and 7/12/01**

Compound	MW-14	MW-7	SMP-1	DMP-1	SMP-3	DMP-3	SMP-4	DMP-4
Acetone	-463	>-96		87	<72			
Methylene Chloride	-933	70	98	52	95	98	57	9
Toluene	-980	-39	>-61	75	<40	40	58	<88
2-Chlorotoluene	>-641	>-39	-42		<-51	53	51	
Sum VOAs (w/o gases)	-5879	-62	43	77	85	-10	23	-4
Methane	-14445	-798	0	91	-400	-123	-300	>97
Iron	-241	-295	-51	90	36	-28	46	-141
Sulfate	77	34	-283	95	-267	-40	-105	-143
TOC	85	-51	50	82	40	47	37	18
PCE					<85	<352	30	
TCE	>-1782	>26	>-429		<75			
EDCE	-295	51	24	<91	<61	92		
VC	>-8186	-63	10	77	<72	25	37	
Ethene	-202	-49	-103	80	-31	-14	27	
ITCA	-14057		>-618	>-5009	93	-22	17	67
IDCA	-14821	-70	-6	-1338	54	38	20	-1
IDCE	>-71424	>-81	-31	>-1763	<22	-8	54	
CA	-1810	-4		94	<-25	-23	23	
Ethane	-27	>-1083		26	-44			

**Table 4. Photocircuits Anaerobic Pilot Percent Change Between 3/28/00 and 7/12/01**

Compound	MW-8	MW-9	MW-12	MW-13
Acetone				
Methylene Chloride				
Toluene				
2-Chlorotoluene	-61			
Sum VOAs (w/o gases)	>-917	-213	97	-17
Methane	-283	-111	-329	-75
Iron			-663	11
Sulfate	-4	-421	98	3
TOC	>81	15	-10	-40
PCE				-45
TCE	6		99	-33
cDCE	>-300		99	-14
VC			98	-52
Ethene			-930	
ITCA				8
IDCA			95	-9
IDCE			>98	0
CA				
Ethane			>-117	-16

#### Explanations

- Concentration Increased

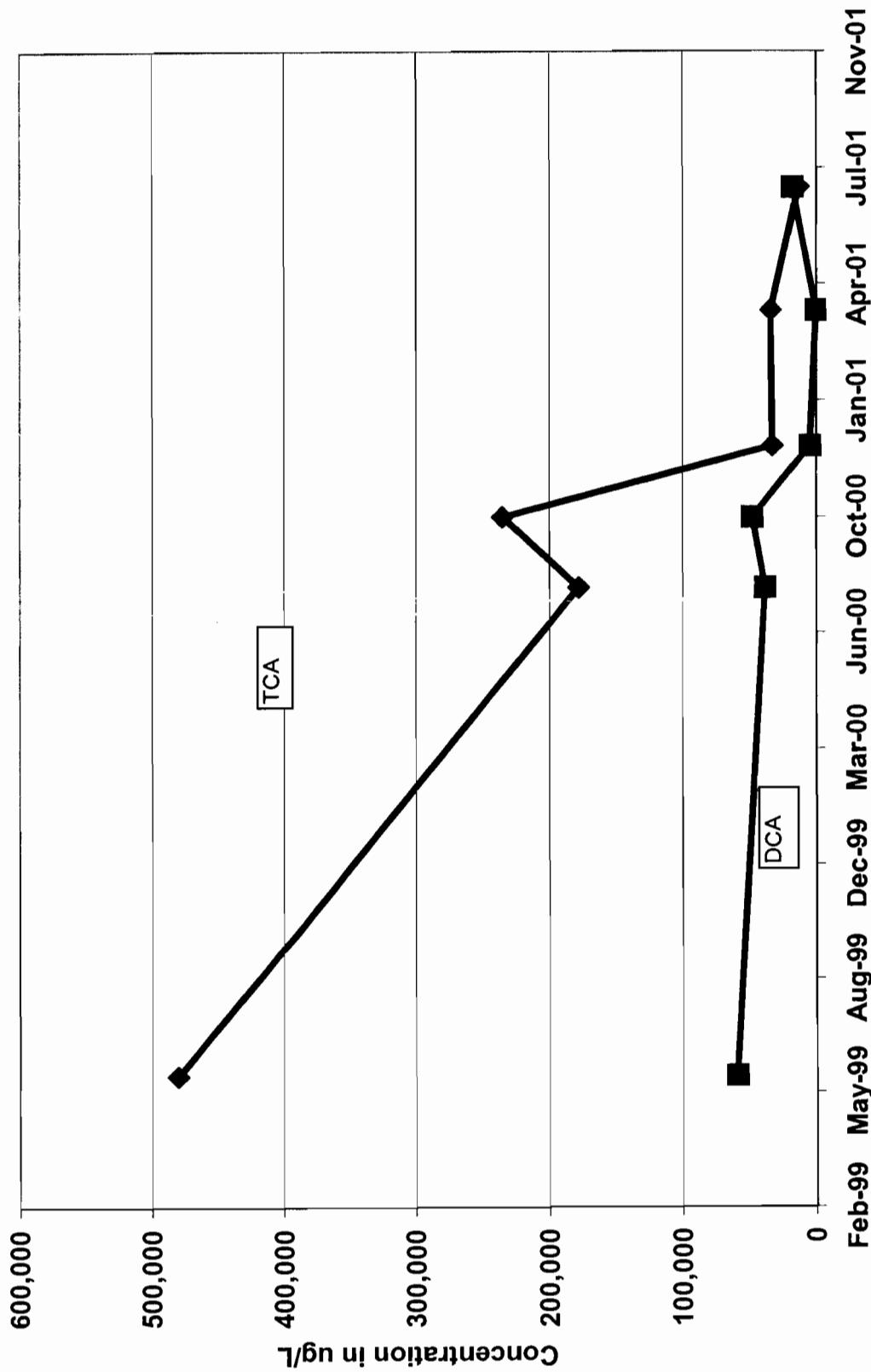
+ Concentration Decreased

> Compound Below Detection Limit; % Change Calculated Using Detection Limit for Missing Value

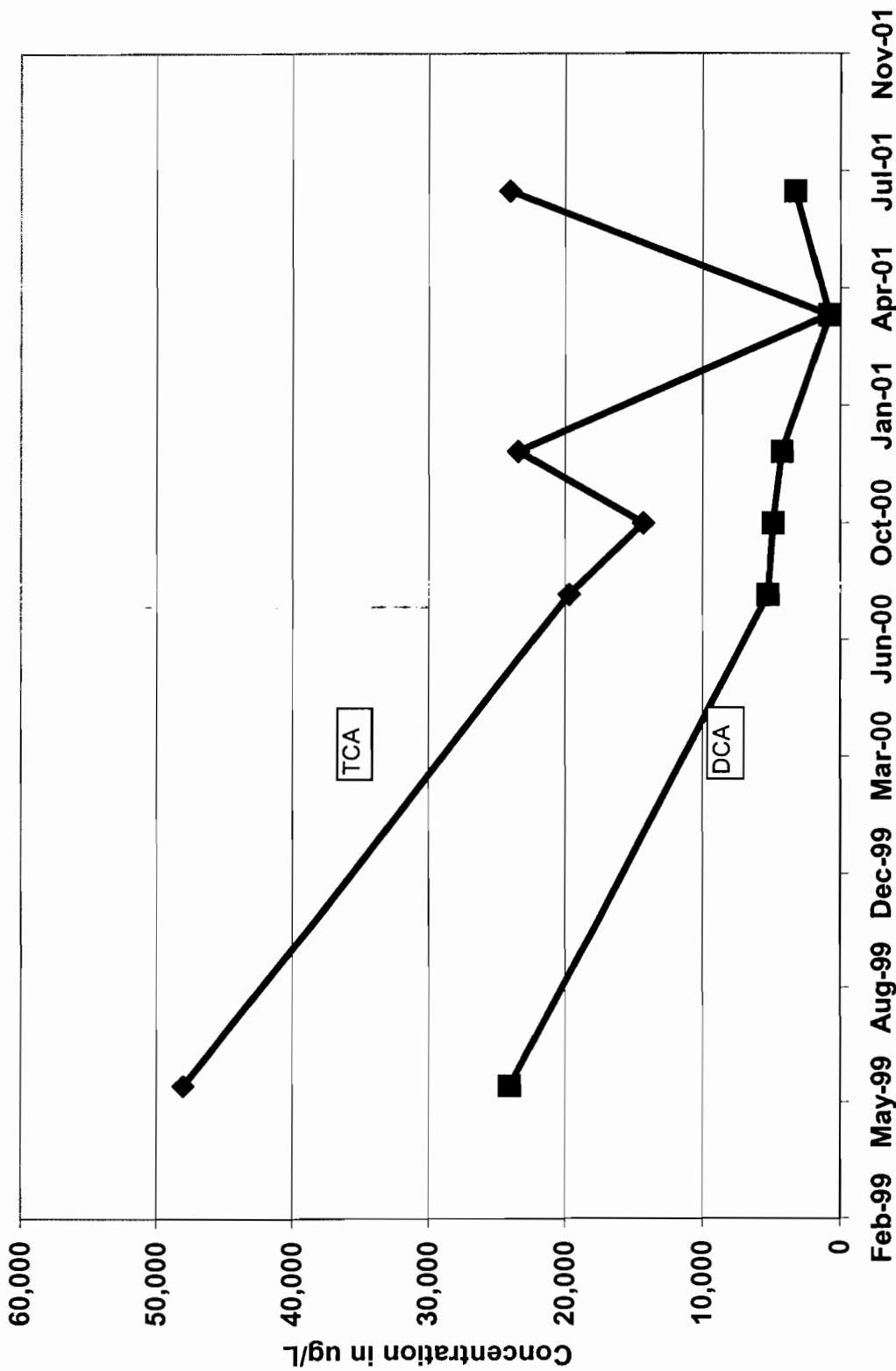
**Table 5. Summary of Changes in Concentrations of Chloroethenes, Chloroethanes, Electron Acceptors, and Electron Donor by Well**

Well	Chlorinated Ethene Dechlorination	Chlorinated Ethane Dechlorination	Electron Acceptors	Electron Donor Availability
MW-14	Ethene predominant, VC increasing since March 2001	ITCA, 1DCA, 1DCE, and CA, increased between December 2000 and July 2001, ethane stable	Sulfate decreased by 77%, methane and iron up greatly	TOC availability good
MW-7	Ethene generally predominant product, cDCE and VC up from start of pilot TCE not detected in July 2001, cDCE has declined by 51%, VC similar to start of pilot, ethene increasing	1DCA and CA up, ethane produced ITCA, 1DCA, tDCE, and 1DCE up, little CA or ethane	Sulfate has declined, methane and iron up greatly Sulfate increasing, methane same as start of test, and iron increasing	TOC has increased, above 50 mg/L TOC decreasing, now below 50 mg/L
DMP-1	cDCE and VC down slightly, ethene generally predominant product, but lower in July 2001	ITCA and 1DCA up, CA down by 94%, no ethane detected	Sulfate down 95%, methane and iron down	TOC decreasing, sufficient
SMP-3	Low levels of PCE, cDCE, and VC detected in March and July 2001, VC increasing, ethene predominant product	1TCA down by 93%, 1DCA down 54%, increasing CA and some ethane ITCA, 1DCA, and CA rebounded between March and July 2001, ethane up slightly	Sulfate increased between March and July 2001, methane increasing, and iron variable Sulfate, iron, and methane increasing	TOC rebounded to sufficient level in July 2001
DMP-3	VC down 25%, ethene increasing	1TCA, 1DCA, and 1DCE rebounded, CA declining, little ethane	Sulfate and methane increasing, iron down	TOC decreasing, now slightly above 50 mg/L
SMP-4	PCE, cDCE, and VC down, ethene relatively stable	1TCA down, low levels of 1DCA, tDCE, and 2DCA detected in March 2001, CA up – predominant product, little ethane	Sulfate and iron up, no methane detected in July 2001	TOC decreasing, now slightly lower than optimal
DMP-4	No CE except ethene which was not detect in July 2001	No chlorinated ethanes or ethane detected	Little sulfate, iron, or methane	TOC declining, now slightly lower than optimal
MW-8	Low levels TCE and cDCE, no VC or ethene detected	No chlorinated ethanes or ethane detected	Little sulfate, iron, or methane	Little TOC available
MW-9	No chlorinated ethenes or ethene detected	No chlorinated ethanes or ethane detected	Low sulfate, some methane and iron	Little TOC available
MW-12	TCE, cDCE, and VC decreasing, ethene increasing	1DCA, tDCE, 2DCA, and 1DCE reduced or eliminated between March and July 2001, ethane detected	Sulfate, iron, and methane increased	TOC level below optimal level
MW-13	Little change in PCE, TCE, cDCE, or VC concentrations, no ethene	Little change in 1TCA, 1DCA, tDCE, 2DCA, 1DCE, or ethane concentrations	Little change in methane, iron, or sulfate concentrations	Little TOC available

TCA and DCA Concentrations in Well SMP-3  
Photocircuits Bioremediation Pilot Test



**TCA and DCA Concentrations In Well DMP-3  
Photocircuits Bioremediation Pilot Test**



***ATTACHMENT C***  
***BIOREMEDIATION PILOT PROJECT***  
***JULY GROUNDWATER MONITORING***  
***LABORATORY REPORT***

# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344**

**07/31/2001**

**Custody Document: L8327**

**Received: 07/12/2001 17:20  
Sampled by: D. Hanny, E. DeSocro**

**Client: Photo Circuits**

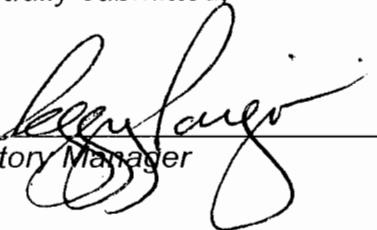
**31 Sea Cliff Avenue  
Glen Cove,  
NY 11542**

**Project: Photocircuits Corp.**

**31 Sea Cliff Avenue  
Glen Cove,  
NY**

**Manager: Andy Barber**

*Respectfully submitted,*

  
\_\_\_\_\_  
*Karen Lauer*  
Laboratory Manager

**NYS Lab ID # 10969  
NJ Cert. # 73812  
CT Cert. # PH0645  
MA Cert. # NY061  
PA Cert. # 68-535  
VA Cert. # 108  
NH Cert. # 252592-BA  
RI Cert. # 161**



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

07/31/2001

## Volatile - EPA 8260B

**Sample:** L8327-1

Client Sample ID: SMP-1

Matrix: Liquid

Type: Grab

Collected: 07/11/2001

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	2.60	2.60	ppb	U
75-45-6	Chlorodifluoromethane	0.90	0.90	ppb	U
74-87-3	Chloromethane	3.70	3.70	ppb	U
75-01-4	Vinyl Chloride	7.00	<b>4230</b>	ppb	
74-83-9	Bromomethane	4.50	4.50	ppb	U
75-00-3	Chloroethane	1.80	1.80	ppb	U
75-69-4	Trichlorofluoromethane	2.30	2.30	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.40	2.40	ppb	U
75-35-4	1,1-Dichloroethene	1.40	<b>55.1</b>	ppb	
67-64-1	Acetone	14.4	14.4	ppb	U
75-15-0	Carbon disulfide	2.20	2.20	ppb	U
75-09-2	Methylene Chloride	1.50	<b>11.9</b>	ppb	
156-60-5	t-1,2-Dichloroethene	1.40	<b>34.5</b>	ppb	
1634-04-4	Methyl t-butyl ether	0.80	0.80	ppb	U
75-34-3	1,1-Dichloroethane	1.20	<b>536</b>	ppb	
590-20-7	2,2-Dichloropropane	3.00	3.00	ppb	U
156-59-2	c-1,2-Dichloroethene	14.0	<b>12300</b>	ppb	
78-93-3	2-Butanone	62.5	62.5	ppb	U
74-97-5	Bromochloromethane	2.10	2.10	ppb	U
67-66-3	Chloroform	1.50	1.50	ppb	U
71-55-6	1,1,1-Trichloroethane	1.60	<b>158</b>	ppb	
56-23-5	Carbon Tetrachloride	1.30	1.30	ppb	U
563-58-6	1,1-Dichloropropene	6.70	6.70	ppb	U
71-43-2	Benzene	1.30	1.30	ppb	U
107-06-2	1,2-Dichloroethane	1.30	1.30	ppb	U
79-01-6	Trichloroethene	1.70	<b>25.3</b>	ppb	
78-87-5	1,2-Dichloropropane	1.50	1.50	ppb	U
74-95-3	Dibromomethane	0.60	0.60	ppb	U
75-27-4	Bromodichloromethane	0.70	0.70	ppb	U
110-75-8	2-Chloroethylvinylether	3.60	3.60	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.70	0.70	ppb	U
108-10-1	4-Methyl-2-pentanone	9.70	9.70	ppb	U
108-88-3	Toluene	1.40	<b>51.4</b>	ppb	
10061-02-6	t-1,3-Dichloropropene	0.60	0.60	ppb	U
79-00-5	1,1,2-Trichloroethane	2.00	2.00	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

07/31/2001

## Volatiles - EPA 8260B

### Sample: L8327-1...continue

Client Sample ID: SMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	2.00	2.00	ppb	U
142-28-9	1,3-Dichloropropane	0.70	0.70	ppb	U
591-78-6	2-Hexanone	14.8	14.8	ppb	U
124-48-1	Dibromochloromethane	1.20	1.20	ppb	U
106-93-4	1,2-Dibromoethane	0.90	0.90	ppb	U
108-90-7	Chlorobenzene	1.20	1.20	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	1.30	1.30	ppb	U
100-41-4	Ethylbenzene	1.80	1.80	ppb	U
108-38-3	m,p-xylene	3.10	30.7	ppb	
95-47-6	o-xylene	1.60	11.4	ppb	
100-42-5	Styrene	1.40	1.40	ppb	U
75-25-2	Bromoform	0.90	0.90	ppb	U
98-82-8	Isopropylbenzene	1.90	1.90	ppb	U
108-86-1	Bromobenzene	1.60	1.60	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.90	0.90	ppb	U
103-65-1	n-Propylbenzene	3.10	3.10	ppb	U
96-18-4	1,2,3-Trichloropropane	1.30	1.30	ppb	U
622-96-8	p-Ethyltoluene	2.20	11.3	ppb	
108-67-8	1,3,5-Trimethylbenzene	1.10	1.10	ppb	U
95-49-8	2-Chlorotoluene	1.60	47.3	ppb	
106-43-4	4-Chlorotoluene	1.70	1.70	ppb	U
98-06-6	tert-Butylbenzene	1.80	1.80	ppb	U
95-63-6	1,2,4-Trimethylbenzene	2.20	15.7	ppb	
135-98-8	sec-Butylbenzene	2.00	2.00	ppb	U
99-87-6	4-Isopropyltoluene	2.10	2.10	ppb	U
541-73-1	1,3-Dichlorobenzene	1.50	1.50	ppb	U
106-46-7	1,4-Dichlorobenzene	1.60	1.60	ppb	U
95-50-1	1,2-Dichlorobenzene	0.70	0.70	ppb	U
105-05-5	p-Diethylbenzene	2.10	2.10	ppb	U
104-51-8	n-Butylbenzene	1.90	1.90	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	2.10	2.10	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	1.50	1.50	ppb	U
120-82-1	1,2,4-Trichlorobenzene	1.80	1.80	ppb	U
87-68-3	Hexachlorobutadiene	3.20	3.20	ppb	U
91-20-3	Naphthalene	4.10	21.2	ppb	



# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344**

**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-1...continue**

Client Sample ID: SMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	1.20	1.20	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

07/31/2001

## Volatile - EPA 8260B

**Sample:** L8327-2

Client Sample ID: DMP-1

Matrix: Liquid

Type: Grab

Collected: 07/11/2001

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	1.30	1.30	ppb	U
75-45-6	Chlorodifluoromethane	0.45	0.45	ppb	U
74-87-3	Chloromethane	1.85	1.85	ppb	U
75-01-4	Vinyl Chloride	0.35	<b>42.7</b>	ppb	
74-83-9	Bromomethane	2.25	2.25	ppb	U
75-00-3	Chloroethane	0.90	<b>193</b>	ppb	
75-69-4	Trichlorodifluoromethane	1.15	1.15	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	1.20	1.20	ppb	U
75-35-4	1,1-Dichloroethene	0.70	0.70	ppb	U
67-64-1	Acetone	72.0	<b>1150</b>	ppb	
75-15-0	Carbon disulfide	1.10	1.10	ppb	U
75-09-2	Methylene Chloride	0.75	<b>32.8</b>	ppb	
156-60-5	t-1,2-Dichloroethene	0.70	0.70	ppb	U
1634-04-4	Methyl t-butyl ether	0.40	0.40	ppb	U
75-34-3	1,1-Dichloroethane	6.00	<b>1320</b>	ppb	
590-20-7	2,2-Dichloropropane	1.50	1.50	ppb	U
156-59-2	c-1,2-Dichloroethene	0.70	<b>38.4</b>	ppb	
78-93-3	2-Butanone	31.3	31.3	ppb	U
74-97-5	Bromochloromethane	1.05	1.05	ppb	U
67-66-3	Chloroform	0.75	0.75	ppb	U
71-55-6	1,1,1-Trichloroethane	0.80	<b>28.1</b>	ppb	
56-23-5	Carbon Tetrachloride	0.65	0.65	ppb	U
563-58-6	1,1-Dichloropropene	3.35	3.35	ppb	U
71-43-2	Benzene	0.65	0.65	ppb	U
107-06-2	1,2-Dichloroethane	0.65	<b>14.9</b>	ppb	
79-01-6	Trichloroethene	0.85	<b>4.50</b>	ppb	
78-87-5	1,2-Dichloropropane	0.75	0.75	ppb	U
74-95-3	Dibromomethane	0.30	0.30	ppb	U
75-27-4	Bromodichloromethane	0.35	0.35	ppb	U
110-75-8	2-Chloroethylvinylether	1.80	1.80	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.35	0.35	ppb	U
108-10-1	4-Methyl-2-pentanone	4.85	4.85	ppb	U
108-88-3	Toluene	0.70	<b>9.10</b>	ppb	
10061-02-6	t-1,3-Dichloropropene	0.30	0.30	ppb	U
79-00-5	1,1,2-Trichloroethane	1.00	1.00	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-2...continue**

Client Sample ID: DMP-1

Matrix: Liquid

Type: Grab

Collected: 07/11/2001

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	1.00	1.00	ppb	U
142-28-9	1,3-Dichloropropane	0.35	0.35	ppb	U
591-78-6	2-Hexanone	7.40	7.40	ppb	U
124-48-1	Dibromochloromethane	0.60	0.60	ppb	U
106-93-4	1,2-Dibromoethane	0.45	0.45	ppb	U
108-90-7	Chlorobenzene	0.60	0.60	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	0.65	0.65	ppb	U
100-41-4	Ethylbenzene	0.90	0.90	ppb	U
108-38-3	m,p-xylene	1.55	1.55	ppb	U
95-47-6	o-xylene	0.80	0.80	ppb	U
100-42-5	Styrene	0.70	0.70	ppb	U
75-25-2	Bromoform	0.45	0.45	ppb	U
98-82-8	Isopropylbenzene	0.95	0.95	ppb	U
108-86-1	Bromobenzene	0.80	0.80	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.45	0.45	ppb	U
103-65-1	n-Propylbenzene	1.55	1.55	ppb	U
96-18-4	1,2,3-Trichloropropane	0.65	0.65	ppb	U
622-96-8	p-Ethyltoluene	1.10	1.10	ppb	U
108-67-8	1,3,5-Trimethylbenzene	0.55	0.55	ppb	U
95-49-8	2-Chlorotoluene	0.80	33.7	ppb	
106-43-4	4-Chlorotoluene	0.85	0.85	ppb	U
98-06-6	tert-Butylbenzene	0.90	0.90	ppb	U
95-63-6	1,2,4-Trimethylbenzene	1.10	4.80	ppb	
135-98-8	sec-Butylbenzene	1.00	1.00	ppb	U
99-87-6	4-Isopropyltoluene	1.05	1.05	ppb	U
541-73-1	1,3-Dichlorobenzene	0.75	0.75	ppb	U
106-46-7	1,4-Dichlorobenzene	0.80	0.80	ppb	U
95-50-1	1,2-Dichlorobenzene	0.35	0.35	ppb	U
105-05-5	p-Diethylbenzene	1.05	1.05	ppb	U
104-51-8	n-Butylbenzene	0.95	0.95	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	1.05	1.05	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	0.75	0.75	ppb	U
120-82-1	1,2,4-Trichlorobenzene	0.90	0.90	ppb	U
87-68-3	Hexachlorobutadiene	1.60	1.60	ppb	U
91-20-3	Naphthalene	2.05	2.05	ppb	U



# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344**

**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-2...continue**

Client Sample ID: DMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	0.60	0.60	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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07/31/2001

## Volatile - EPA 8260B

**Sample:** L8327-3

Client Sample ID: SMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	2.60	2.60	ppb	U
75-45-6	Chlorodifluoromethane	0.90	0.90	ppb	U
74-87-3	Chloromethane	3.70	3.70	ppb	U
75-01-4	Vinyl Chloride	0.70	98.8	ppb	
74-83-9	Bromomethane	4.50	4.50	ppb	U
75-00-3	Chloroethane	1.80	411	ppb	
75-69-4	Trichlorofluoromethane	2.30	2.30	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.40	2.40	ppb	U
75-35-4	1,1-Dichloroethene	1.40	164	ppb	
67-64-1	Acetone	14.4	536	ppb	
75-15-0	Carbon disulfide	2.20	2.20	ppb	U
75-09-2	Methylene Chloride	1.50	122	ppb	
156-60-5	t-1,2-Dichloroethene	1.40	1.40	ppb	U
1634-04-4	Methyl t-butyl ether	0.80	9.00	ppb	
75-34-3	1,1-Dichloroethane	24.0	17600	ppb	
590-20-7	2,2-Dichloropropane	3.00	3.00	ppb	U
156-59-2	c-1,2-Dichloroethene	1.40	16.4	ppb	
78-93-3	2-Butanone	62.5	62.5	ppb	U
74-97-5	Bromochloromethane	2.10	2.10	ppb	U
67-66-3	Chloroform	1.50	1.50	ppb	U
71-55-6	1,1,1-Trichloroethane	32.0	13100	ppb	
56-23-5	Carbon Tetrachloride	1.30	1.30	ppb	U
563-58-6	1,1-Dichloropropene	6.70	6.70	ppb	U
71-43-2	Benzene	1.30	1.30	ppb	U
107-06-2	1,2-Dichloroethane	1.30	20.6	ppb	
79-01-6	Trichloroethene	1.70	1.70	ppb	U
78-87-5	1,2-Dichloropropane	1.50	1.50	ppb	U
74-95-3	Dibromomethane	0.60	0.60	ppb	U
75-27-4	Bromodichloromethane	0.70	0.70	ppb	U
110-75-8	2-Chloroethylvinylether	3.60	3.60	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.70	0.70	ppb	U
108-10-1	4-Methyl-2-pentanone	9.70	9.70	ppb	U
108-88-3	Toluene	1.40	96.5	ppb	
10061-02-6	t-1,3-Dichloropropene	0.60	0.60	ppb	U
79-00-5	1,1,2-Trichloroethane	2.00	2.00	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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07/31/2001

## Volatiles - EPA 8260B

### Sample: L8327-3...continue

Client Sample ID: SMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	2.00	12.2	ppb	
142-28-9	1,3-Dichloropropane	0.70	0.70	ppb	U
591-78-6	2-Hexanone	14.8	14.8	ppb	U
124-48-1	Dibromochloromethane	1.20	1.20	ppb	U
106-93-4	1,2-Dibromoethane	0.90	0.90	ppb	U
108-90-7	Chlorobenzene	1.20	1.20	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	1.30	1.30	ppb	U
100-41-4	Ethylbenzene	1.80	1.80	ppb	U
108-38-3	m,p-xylene	3.10	3.10	ppb	U
95-47-6	o-xylene	1.60	1.60	ppb	U
100-42-5	Styrene	1.40	1.40	ppb	U
75-25-2	Bromoform	0.90	0.90	ppb	U
98-82-8	Isopropylbenzene	1.90	1.90	ppb	U
108-86-1	Bromobenzene	1.60	1.60	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.90	0.90	ppb	U
103-65-1	n-Propylbenzene	3.10	3.10	ppb	U
96-18-4	1,2,3-Trichloropropane	1.30	1.30	ppb	U
622-96-8	p-Ethyltoluene	2.20	2.20	ppb	U
108-67-8	1,3,5-Trimethylbenzene	1.10	1.10	ppb	U
95-49-8	2-Chlorotoluene	1.60	1.60	ppb	U
106-43-4	4-Chlorotoluene	1.70	1.70	ppb	U
98-06-6	tert-Butylbenzene	1.80	1.80	ppb	U
95-63-6	1,2,4-Trimethylbenzene	2.20	2.20	ppb	U
135-98-8	sec-Butylbenzene	2.00	2.00	ppb	U
99-87-6	4-Isopropyltoluene	2.10	2.10	ppb	U
541-73-1	1,3-Dichlorobenzene	1.50	1.50	ppb	U
106-46-7	1,4-Dichlorobenzene	1.60	1.60	ppb	U
95-50-1	1,2-Dichlorobenzene	0.70	0.70	ppb	U
105-05-5	p-Diethylbenzene	2.10	2.10	ppb	U
104-51-8	n-Butylbenzene	1.90	1.90	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	2.10	2.10	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	1.50	1.50	ppb	U
120-82-1	1,2,4-Trichlorobenzene	1.80	1.80	ppb	U
87-68-3	Hexachlorobutadiene	3.20	3.20	ppb	U
91-20-3	Naphthalene	4.10	4.10	ppb	U



# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735**

**Phone - 631-249-1456 Fax - 631-249-8344**

**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-3...continue**

Client Sample ID: SMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	1.20	1.20	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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07/31/2001

## Volatile - EPA 8260B

**Sample:** L8327-4

Client Sample ID: DMP-3

Matrix: Liquid

Type: Grab

Collected: 07/11/2001

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	2.60	2.60	ppb	U
75-45-6	Chlorodifluoromethane	0.90	0.90	ppb	U
74-87-3	Chloromethane	3.70	3.70	ppb	U
75-01-4	Vinyl Chloride	0.70	785	ppb	
74-83-9	Bromomethane	4.50	4.50	ppb	U
75-00-3	Chloroethane	36.0	6630	ppb	
75-69-4	Trichlorodifluoromethane	2.30	2.30	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.40	2.40	ppb	U
75-35-4	1,1-Dichloroethene	1.40	168	ppb	
67-64-1	Acetone	14.4	14.4	ppb	U
75-15-0	Carbon disulfide	2.20	2.20	ppb	U
75-09-2	Methylene Chloride	1.50	58.7	ppb	
156-60-5	t-1,2-Dichloroethene	1.40	1.40	ppb	U
1634-04-4	Methyl t-butyl ether	0.80	0.80	ppb	U
75-34-3	1,1-Dichloroethane	24.0	3250	ppb	
590-20-7	2,2-Dichloropropane	3.00	3.00	ppb	U
156-59-2	c-1,2-Dichloroethene	1.40	14.9	ppb	
78-93-3	2-Butanone	62.5	62.5	ppb	U
74-97-5	Bromochloromethane	2.10	2.10	ppb	U
67-66-3	Chloroform	1.50	1.50	ppb	U
71-55-6	1,1,1-Trichloroethane	32.0	24000	ppb	
56-23-5	Carbon Tetrachloride	1.30	1.30	ppb	U
563-58-6	1,1-Dichloropropene	6.70	6.70	ppb	U
71-43-2	Benzene	1.30	1.30	ppb	U
107-06-2	1,2-Dichloroethane	1.30	25.4	ppb	
79-01-6	Trichloroethene	1.70	8.60	ppb	
78-87-5	1,2-Dichloropropane	1.50	1.50	ppb	U
74-95-3	Dibromomethane	0.60	0.60	ppb	U
75-27-4	Bromodichloromethane	0.70	0.70	ppb	U
110-75-8	2-Chloroethylvinylether	3.60	3.60	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.70	0.70	ppb	U
108-10-1	4-Methyl-2-pentanone	9.70	9.70	ppb	U
108-88-3	Toluene	1.40	140	ppb	
10061-02-6	t-1,3-Dichloropropene	0.60	0.60	ppb	U
79-00-5	1,1,2-Trichloroethane	2.00	2.00	ppb	U



# Environmental Testing Laboratories, Inc.

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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-4...continue**

Client Sample ID: DMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	2.00	72.3	ppb	
142-28-9	1,3-Dichloropropane	0.70	0.70	ppb	U
591-78-6	2-Hexanone	14.8	14.8	ppb	U
124-48-1	Dibromochloromethane	1.20	1.20	ppb	U
106-93-4	1,2-Dibromoethane	0.90	0.90	ppb	U
108-90-7	Chlorobenzene	1.20	1.20	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	1.30	1.30	ppb	U
100-41-4	Ethylbenzene	1.80	1.80	ppb	U
108-38-3	m,p-xylene	3.10	11.4	ppb	
95-47-6	o-xylene	1.60	1.60	ppb	U
100-42-5	Styrene	1.40	1.40	ppb	U
75-25-2	Bromoform	0.90	0.90	ppb	U
98-82-8	Isopropylbenzene	1.90	1.90	ppb	U
108-86-1	Bromobenzene	1.60	1.60	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.90	0.90	ppb	U
103-65-1	n-Propylbenzene	3.10	3.10	ppb	U
96-18-4	1,2,3-Trichloropropane	1.30	1.30	ppb	U
622-96-8	p-Ethyltoluene	2.20	9.90	ppb	
108-67-8	1,3,5-Trimethylbenzene	1.10	1.10	ppb	U
95-49-8	2-Chlorotoluene	1.60	51.5	ppb	
106-43-4	4-Chlorotoluene	1.70	1.70	ppb	U
98-06-6	tert-Butylbenzene	1.80	1.80	ppb	U
95-63-6	1,2,4-Trimethylbenzene	2.20	17.0	ppb	
135-98-8	sec-Butylbenzene	2.00	2.00	ppb	U
99-87-6	4-Isopropyltoluene	2.10	2.10	ppb	U
541-73-1	1,3-Dichlorobenzene	1.50	1.50	ppb	U
106-46-7	1,4-Dichlorobenzene	1.60	1.60	ppb	U
95-50-1	1,2-Dichlorobenzene	0.70	0.70	ppb	U
105-05-5	p-Diethylbenzene	2.10	2.10	ppb	U
104-51-8	n-Butylbenzene	1.90	1.90	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	2.10	2.10	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	1.50	1.50	ppb	U
120-82-1	1,2,4-Trichlorobenzene	1.80	1.80	ppb	U
87-68-3	Hexachlorobutadiene	3.20	3.20	ppb	U
91-20-3	Naphthalene	4.10	4.10	ppb	U



# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735  
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**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-4...continue**

Client Sample ID: DMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	1.20	1.20	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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07/31/2001

## Volatiles - EPA 8260B

**Sample: L8327-5**

Client Sample ID: SMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	2.60	2.60	ppb	U
75-45-6	Chlorodifluoromethane	0.90	0.90	ppb	U
74-87-3	Chloromethane	3.70	3.70	ppb	U
75-01-4	Vinyl Chloride	0.70	111	ppb	
74-83-9	Bromomethane	4.50	4.50	ppb	U
75-00-3	Chloroethane	1.80	945	ppb	
75-69-4	Trichlorodifluoromethane	2.30	2.30	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.40	2.40	ppb	U
75-35-4	1,1-Dichloroethene	1.40	48.2	ppb	
67-64-1	Acetone	14.4	14.4	ppb	U
75-15-0	Carbon disulfide	2.20	2.20	ppb	U
75-09-2	Methylene Chloride	1.50	127	ppb	
156-60-5	t-1,2-Dichloroethene	1.40	1.40	ppb	U
1634-04-4	Methyl t-butyl ether	0.80	0.80	ppb	U
75-34-3	1,1-Dichloroethane	6.00	3270	ppb	
590-20-7	2,2-Dichloropropane	3.00	3.00	ppb	U
156-59-2	c-1,2-Dichloroethene	1.40	10.8	ppb	
78-93-3	2-Butanone	62.5	62.5	ppb	U
74-97-5	Bromochloromethane	2.10	2.10	ppb	U
67-66-3	Chloroform	1.50	1.50	ppb	U
71-55-6	1,1,1-Trichloroethane	8.00	2610	ppb	
56-23-5	Carbon Tetrachloride	1.30	1.30	ppb	U
563-58-6	1,1-Dichloropropene	6.70	6.70	ppb	U
71-43-2	Benzene	1.30	1.30	ppb	U
107-06-2	1,2-Dichloroethane	1.30	19.7	ppb	
79-01-6	Trichloroethene	1.70	1.70	ppb	U
78-87-5	1,2-Dichloropropane	1.50	1.50	ppb	U
74-95-3	Dibromomethane	0.60	0.60	ppb	U
75-27-4	Bromodichloromethane	0.70	0.70	ppb	U
110-75-8	2-Chloroethylvinylether	3.60	3.60	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.70	0.70	ppb	U
108-10-1	4-Methyl-2-pentanone	9.70	9.70	ppb	U
108-88-3	Toluene	1.40	48.2	ppb	
10061-02-6	t-1,3-Dichloropropene	0.60	0.60	ppb	U
79-00-5	1,1,2-Trichloroethane	2.00	2.00	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-5...continue**

Client Sample ID: SMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	2.00	<b>9.30</b>	ppb	
142-28-9	1,3-Dichloropropane	0.70	0.70	ppb	U
591-78-6	2-Hexanone	14.8	14.8	ppb	U
124-48-1	Dibromochloromethane	1.20	1.20	ppb	U
106-93-4	1,2-Dibromoethane	0.90	0.90	ppb	U
108-90-7	Chlorobenzene	1.20	1.20	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	1.30	1.30	ppb	U
100-41-4	Ethylbenzene	1.80	1.80	ppb	U
108-38-3	m,p-xylene	3.10	3.10	ppb	U
95-47-6	o-xylene	1.60	1.60	ppb	U
100-42-5	Styrene	1.40	1.40	ppb	U
75-25-2	Bromoform	0.90	0.90	ppb	U
98-82-8	Isopropylbenzene	1.90	1.90	ppb	U
108-86-1	Bromobenzene	1.60	1.60	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.90	0.90	ppb	U
103-65-1	n-Propylbenzene	3.10	3.10	ppb	U
96-18-4	1,2,3-Trichloropropane	1.30	1.30	ppb	U
622-96-8	p-Ethyltoluene	2.20	2.20	ppb	U
108-67-8	1,3,5-Trimethylbenzene	1.10	1.10	ppb	U
95-49-8	2-Chlorotoluene	1.60	<b>21.4</b>	ppb	
106-43-4	4-Chlorotoluene	1.70	1.70	ppb	U
98-06-6	tert-Butylbenzene	1.80	1.80	ppb	U
95-63-6	1,2,4-Trimethylbenzene	2.20	2.20	ppb	U
135-98-8	sec-Butylbenzene	2.00	2.00	ppb	U
99-87-6	4-Isopropyltoluene	2.10	2.10	ppb	U
541-73-1	1,3-Dichlorobenzene	1.50	1.50	ppb	U
106-46-7	1,4-Dichlorobenzene	1.60	1.60	ppb	U
95-50-1	1,2-Dichlorobenzene	0.70	0.70	ppb	U
105-05-5	p-Diethylbenzene	2.10	2.10	ppb	U
104-51-8	n-Butylbenzene	1.90	1.90	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	2.10	2.10	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	1.50	1.50	ppb	U
120-82-1	1,2,4-Trichlorobenzene	1.80	1.80	ppb	U
87-68-3	Hexachlorobutadiene	3.20	3.20	ppb	U
91-20-3	Naphthalene	4.10	4.10	ppb	U



# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735**

**Phone - 631-249-1456 Fax - 631-249-8344**

**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-5...continue**

Client Sample ID: SMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	1.20	1.20	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

07/31/2001

## Volatiles - EPA 8260B

### Sample: L8327-6

Client Sample ID: DMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	2.60	2.60	ppb	U
75-45-6	Chlorodifluoromethane	0.90	0.90	ppb	U
74-87-3	Chloromethane	3.70	3.70	ppb	U
75-01-4	Vinyl Chloride	0.70	0.70	ppb	U
74-83-9	Bromomethane	4.50	4.50	ppb	U
75-00-3	Chloroethane	4.50	<b>2680</b>	ppb	
75-69-4	Trichlorofluoromethane	2.30	2.30	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.40	2.40	ppb	U
75-35-4	1,1-Dichloroethene	1.40	1.40	ppb	U
67-64-1	Acetone	14.4	14.4	ppb	U
75-15-0	Carbon disulfide	2.20	2.20	ppb	U
75-09-2	Methylene Chloride	1.50	<b>20.8</b>	ppb	
156-60-5	t-1,2-Dichloroethene	1.40	1.40	ppb	U
1634-04-4	Methyl t-butyl ether	0.80	0.80	ppb	U
75-34-3	1,1-Dichloroethane	1.20	<b>30.0</b>	ppb	
590-20-7	2,2-Dichloropropane	3.00	3.00	ppb	U
156-59-2	c-1,2-Dichloroethene	1.40	1.40	ppb	U
78-93-3	2-Butanone	62.5	62.5	ppb	U
74-97-5	Bromochloromethane	2.10	2.10	ppb	U
67-66-3	Chloroform	1.50	1.50	ppb	U
71-55-6	1,1,1-Trichloroethane	1.60	<b>18.4</b>	ppb	
56-23-5	Carbon Tetrachloride	1.30	1.30	ppb	U
563-58-6	1,1-Dichloropropene	6.70	6.70	ppb	U
71-43-2	Benzene	1.30	1.30	ppb	U
107-06-2	1,2-Dichloroethane	1.30	1.30	ppb	U
79-01-6	Trichloroethene	1.70	1.70	ppb	U
78-87-5	1,2-Dichloropropane	1.50	1.50	ppb	U
74-95-3	Dibromomethane	0.60	0.60	ppb	U
75-27-4	Bromodichloromethane	0.70	0.70	ppb	U
110-75-8	2-Chloroethylvinylether	3.60	3.60	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.70	0.70	ppb	U
108-10-1	4-Methyl-2-pentanone	9.70	9.70	ppb	U
108-88-3	Toluene	1.40	1.40	ppb	U
10061-02-6	t-1,3-Dichloropropene	0.60	0.60	ppb	U
79-00-5	1,1,2-Trichloroethane	2.00	2.00	ppb	U



# Environmental Testing Laboratories, Inc.

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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-6...continue**

Client Sample ID: DMP-4

Matrix: Liquid

Type: Grab

Collected: 07/11/2001

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	2.00	2.00	ppb	U
142-28-9	1,3-Dichloropropane	0.70	0.70	ppb	U
591-78-6	2-Hexanone	14.8	14.8	ppb	U
124-48-1	Dibromochloromethane	1.20	1.20	ppb	U
106-93-4	1,2-Dibromoethane	0.90	0.90	ppb	U
108-90-7	Chlorobenzene	1.20	1.20	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	1.30	1.30	ppb	U
100-41-4	Ethylbenzene	1.80	1.80	ppb	U
108-38-3	m,p-xylene	3.10	3.10	ppb	U
95-47-6	o-xylene	1.60	1.60	ppb	U
100-42-5	Styrene	1.40	1.40	ppb	U
75-25-2	Bromoform	0.90	0.90	ppb	U
98-82-8	Isopropylbenzene	1.90	1.90	ppb	U
108-86-1	Bromobenzene	1.60	1.60	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.90	0.90	ppb	U
103-65-1	n-Propylbenzene	3.10	3.10	ppb	U
96-18-4	1,2,3-Trichloropropane	1.30	1.30	ppb	U
622-96-8	p-Ethyltoluene	2.20	2.20	ppb	U
108-67-8	1,3,5-Trimethylbenzene	1.10	1.10	ppb	U
95-49-8	2-Chlorotoluene	1.60	31.9	ppb	
106-43-4	4-Chlorotoluene	1.70	1.70	ppb	U
98-06-6	tert-Butylbenzene	1.80	1.80	ppb	U
95-63-6	1,2,4-Trimethylbenzene	2.20	9.20	ppb	
135-98-8	sec-Butylbenzene	2.00	2.00	ppb	U
99-87-6	4-Isopropyltoluene	2.10	2.10	ppb	U
541-73-1	1,3-Dichlorobenzene	1.50	1.50	ppb	U
106-46-7	1,4-Dichlorobenzene	1.60	1.60	ppb	U
95-50-1	1,2-Dichlorobenzene	0.70	0.70	ppb	U
105-05-5	p-Diethylbenzene	2.10	2.10	ppb	U
104-51-8	n-Butylbenzene	1.90	1.90	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	2.10	2.10	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	1.50	1.50	ppb	U
120-82-1	1,2,4-Trichlorobenzene	1.80	1.80	ppb	U
87-68-3	Hexachlorobutadiene	3.20	3.20	ppb	U
91-20-3	Naphthalene	4.10	4.10	ppb	U



# **Environmental Testing Laboratories, Inc.**

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**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-6...continue**

Client Sample ID: DMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	1.20	1.20	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-7**

Client Sample ID: MW-7

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Collected: 07/11/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	0.26	0.26	ppb	U
75-45-6	Chlorodifluoromethane	0.090	0.090	ppb	U
74-87-3	Chloromethane	0.37	0.37	ppb	U
75-01-4	Vinyl Chloride	0.070	<b>63.9</b>	ppb	
74-83-9	Bromomethane	0.45	0.45	ppb	U
75-00-3	Chloroethane	9.00	<b>269</b>	ppb	
75-69-4	Trichlorodifluoromethane	0.23	0.23	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.24	0.24	ppb	U
75-35-4	1,1-Dichloroethene	0.14	<b>1.90</b>	ppb	
67-64-1	Acetone	1.44	<b>18.5</b>	ppb	
75-15-0	Carbon disulfide	0.22	<b>5.70</b>	ppb	
75-09-2	Methylene Chloride	0.15	<b>3.90</b>	ppb	
156-60-5	t-1,2-Dichloroethene	0.14	<b>2.60</b>	ppb	
1634-04-4	Methyl t-butyl ether	0.080	0.080	ppb	U
75-34-3	1,1-Dichloroethane	6.00	<b>207</b>	ppb	
590-20-7	2,2-Dichloropropane	0.30	0.30	ppb	U
156-59-2	c-1,2-Dichloroethene	7.00	<b>187</b>	ppb	
78-93-3	2-Butanone	6.25	6.25	ppb	U
74-97-5	Bromochloromethane	0.21	0.21	ppb	U
67-66-3	Chloroform	0.15	0.15	ppb	U
71-55-6	1,1,1-Trichloroethane	0.16	0.16	ppb	U
56-23-5	Carbon Tetrachloride	0.13	0.13	ppb	U
563-58-6	1,1-Dichloropropene	0.67	0.67	ppb	U
71-43-2	Benzene	0.13	<b>2.80</b>	ppb	
107-06-2	1,2-Dichloroethane	0.13	0.13	ppb	U
79-01-6	Trichloroethene	0.17	<b>16.0</b>	ppb	
78-87-5	1,2-Dichloropropane	0.15	0.15	ppb	U
74-95-3	Dibromomethane	0.060	0.060	ppb	U
75-27-4	Bromodichloromethane	0.070	0.070	ppb	U
110-75-8	2-Chloroethylvinylether	0.36	0.36	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.070	0.070	ppb	U
108-10-1	4-Methyl-2-pentanone	0.97	0.97	ppb	U
108-88-3	Toluene	0.14	<b>8.60</b>	ppb	
10061-02-6	t-1,3-Dichloropropene	0.060	0.060	ppb	U
79-00-5	1,1,2-Trichloroethane	0.20	0.20	ppb	U



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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-7...continue**

Client Sample ID: MW-7

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	0.20	0.20	ppb	U
142-28-9	1,3-Dichloropropane	0.070	0.070	ppb	U
591-78-6	2-Hexanone	1.48	1.48	ppb	U
124-48-1	Dibromochloromethane	0.12	0.12	ppb	U
106-93-4	1,2-Dibromoethane	0.090	0.090	ppb	U
108-90-7	Chlorobenzene	0.12	0.12	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	0.13	0.13	ppb	U
100-41-4	Ethylbenzene	0.18	0.18	ppb	U
108-38-3	m,p-xylene	0.31	1.50	ppb	
95-47-6	o-xylene	0.16	1.10	ppb	
100-42-5	Styrene	0.14	0.14	ppb	U
75-25-2	Bromoform	0.090	0.090	ppb	U
98-82-8	Isopropylbenzene	0.19	0.19	ppb	U
108-86-1	Bromobenzene	0.16	0.16	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.090	0.090	ppb	U
103-65-1	n-Propylbenzene	0.31	0.31	ppb	U
96-18-4	1,2,3-Trichloropropane	0.13	0.13	ppb	U
622-96-8	p-Ethyltoluene	0.22	0.22	ppb	U
108-67-8	1,3,5-Trimethylbenzene	0.11	0.11	ppb	U
95-49-8	2-Chlorotoluene	0.16	6.30	ppb	
106-43-4	4-Chlorotoluene	0.17	0.17	ppb	U
98-06-6	tert-Butylbenzene	0.18	0.18	ppb	U
95-63-6	1,2,4-Trimethylbenzene	0.22	1.20	ppb	
135-98-8	sec-Butylbenzene	0.20	0.20	ppb	U
99-87-6	4-Isopropyltoluene	0.21	0.21	ppb	U
541-73-1	1,3-Dichlorobenzene	0.15	0.15	ppb	U
106-46-7	1,4-Dichlorobenzene	0.16	0.16	ppb	U
95-50-1	1,2-Dichlorobenzene	0.070	0.070	ppb	U
105-05-5	p-Diethylbenzene	0.21	0.21	ppb	U
104-51-8	n-Butylbenzene	0.19	0.19	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	0.21	0.21	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	0.15	0.15	ppb	U
120-82-1	1,2,4-Trichlorobenzene	0.18	0.18	ppb	U
87-68-3	Hexachlorobutadiene	0.32	0.32	ppb	U
91-20-3	Naphthalene	0.41	1.20	ppb	



# **Environmental Testing Laboratories, Inc.**

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**07/31/2001**

## **Volatiles - EPA 8260B**

**Sample: L8327-7...continue**

Client Sample ID: MW-7

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	0.12	0.12	ppb	U



# Environmental Testing Laboratories, Inc.

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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-8**

Client Sample ID: MW-14

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	5.20	5.20	ppb	U
75-45-6	Chlorodifluoromethane	1.80	1.80	ppb	U
74-87-3	Chloromethane	7.40	7.40	ppb	U
75-01-4	Vinyl Chloride	1.40	145	ppb	
74-83-9	Bromomethane	9.00	9.00	ppb	U
75-00-3	Chloroethane	3.60	298	ppb	
75-69-4	Trichlorodifluoromethane	4.60	4.60	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	4.80	4.80	ppb	U
75-35-4	1,1-Dichloroethene	2.80	751	ppb	
67-64-1	Acetone	28.8	551	ppb	
75-15-0	Carbon disulfide	4.40	4.40	ppb	U
75-09-2	Methylene Chloride	3.00	156	ppb	
156-60-5	t-1,2-Dichloroethene	2.80	2.80	ppb	U
1634-04-4	Methyl t-butyl ether	1.60	1.60	ppb	U
75-34-3	1,1-Dichloroethane	60.0	18800	ppb	
590-20-7	2,2-Dichloropropane	6.00	6.00	ppb	U
156-59-2	c-1,2-Dichloroethene	2.80	2.80	ppb	U
78-93-3	2-Butanone	125	863	ppb	
74-97-5	Bromochloromethane	4.20	4.20	ppb	U
67-66-3	Chloroform	3.00	3.00	ppb	U
71-55-6	1,1,1-Trichloroethane	3.20	2040	ppb	
56-23-5	Carbon Tetrachloride	2.60	2.60	ppb	U
563-58-6	1,1-Dichloropropene	13.4	13.4	ppb	U
71-43-2	Benzene	2.60	2.60	ppb	U
107-06-2	1,2-Dichloroethane	2.60	34.2	ppb	
79-01-6	Trichloroethene	3.40	3.40	ppb	U
78-87-5	1,2-Dichloropropane	3.00	3.00	ppb	U
74-95-3	Dibromomethane	1.20	1.20	ppb	U
75-27-4	Bromodichloromethane	1.40	1.40	ppb	U
110-75-8	2-Chloroethylvinylether	7.20	7.20	ppb	U
10061-01-5	c-1,3-Dichloropropene	1.40	1.40	ppb	U
108-10-1	4-Methyl-2-pentanone	19.4	19.4	ppb	U
108-88-3	Toluene	2.80	32.4	ppb	
10061-02-6	t-1,3-Dichloropropene	1.20	1.20	ppb	U
79-00-5	1,1,2-Trichloroethane	4.00	4.00	ppb	U



# Environmental Testing Laboratories, Inc.

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07/31/2001

## Volatiles - EPA 8260B

### Sample: L8327-8...continue

Client Sample ID: MW-14

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	4.00	4.00	ppb	U
142-28-9	1,3-Dichloropropane	1.40	1.40	ppb	U
591-78-6	2-Hexanone	29.6	29.6	ppb	U
124-48-1	Dibromochloromethane	2.40	2.40	ppb	U
106-93-4	1,2-Dibromoethane	1.80	1.80	ppb	U
108-90-7	Chlorobenzene	2.40	2.40	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	2.60	2.60	ppb	U
100-41-4	Ethylbenzene	3.60	3.60	ppb	U
108-38-3	m,p-xylene	6.20	6.20	ppb	U
95-47-6	o-xylene	3.20	3.20	ppb	U
100-42-5	Styrene	2.80	2.80	ppb	U
75-25-2	Bromoform	1.80	1.80	ppb	U
98-82-8	Isopropylbenzene	3.80	3.80	ppb	U
108-86-1	Bromobenzene	3.20	3.20	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	1.80	1.80	ppb	U
103-65-1	n-Propylbenzene	6.20	6.20	ppb	U
96-18-4	1,2,3-Trichloropropane	2.60	2.60	ppb	U
622-96-8	p-Ethyltoluene	4.40	4.40	ppb	U
108-67-8	1,3,5-Trimethylbenzene	2.20	2.20	ppb	U
95-49-8	2-Chlorotoluene	3.20	3.20	ppb	U
106-43-4	4-Chlorotoluene	3.40	3.40	ppb	U
98-06-6	tert-Butylbenzene	3.60	3.60	ppb	U
95-63-6	1,2,4-Trimethylbenzene	4.40	4.40	ppb	U
135-98-8	sec-Butylbenzene	4.00	4.00	ppb	U
99-87-6	4-Isopropyltoluene	4.20	4.20	ppb	U
541-73-1	1,3-Dichlorobenzene	3.00	3.00	ppb	U
106-46-7	1,4-Dichlorobenzene	3.20	3.20	ppb	U
95-50-1	1,2-Dichlorobenzene	1.40	1.40	ppb	U
105-05-5	p-Diethylbenzene	4.20	4.20	ppb	U
104-51-8	n-Butylbenzene	3.80	3.80	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	4.20	4.20	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	3.00	3.00	ppb	U
120-82-1	1,2,4-Trichlorobenzene	3.60	3.60	ppb	U
87-68-3	Hexachlorobutadiene	6.40	6.40	ppb	U
91-20-3	Naphthalene	8.20	8.20	ppb	U



# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735**

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**07/31/2001**

## **Volatile - EPA 8260B**

### **Sample: L8327-8...continue**

Client Sample ID: MW-14

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	2.40	2.40	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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07/31/2001

## Volatile - EPA 8260B

**Sample:** L8327-9

Client Sample ID: MW-8

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	0.26	0.26	ppb	U
75-45-6	Chlorodifluoromethane	0.090	0.090	ppb	U
74-87-3	Chloromethane	0.37	0.37	ppb	U
75-01-4	Vinyl Chloride	0.070	0.070	ppb	U
74-83-9	Bromomethane	0.45	0.45	ppb	U
75-00-3	Chloroethane	0.18	0.18	ppb	U
75-69-4	Trichlorodifluoromethane	0.23	0.23	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.24	0.24	ppb	U
75-35-4	1,1-Dichloroethene	0.14	0.14	ppb	U
67-64-1	Acetone	1.44	1.44	ppb	U
75-15-0	Carbon disulfide	0.22	0.22	ppb	U
75-09-2	Methylene Chloride	0.15	0.15	ppb	U
156-60-5	t-1,2-Dichloroethene	0.14	0.14	ppb	U
1634-04-4	Methyl t-butyl ether	0.080	0.080	ppb	U
75-34-3	1,1-Dichloroethane	0.12	0.12	ppb	U
590-20-7	2,2-Dichloropropane	0.30	0.30	ppb	U
156-59-2	c-1,2-Dichloroethene	0.14	1.20	ppb	
78-93-3	2-Butanone	6.25	6.25	ppb	U
74-97-5	Bromochloromethane	0.21	0.21	ppb	U
67-66-3	Chloroform	0.15	0.15	ppb	U
71-55-6	1,1,1-Trichloroethane	0.16	0.16	ppb	U
56-23-5	Carbon Tetrachloride	0.13	0.13	ppb	U
563-58-6	1,1-Dichloropropene	0.67	0.67	ppb	U
71-43-2	Benzene	0.13	0.13	ppb	U
107-06-2	1,2-Dichloroethane	0.13	0.13	ppb	U
79-01-6	Trichloroethene	0.17	1.70	ppb	
78-87-5	1,2-Dichloropropane	0.15	0.15	ppb	U
74-95-3	Dibromomethane	0.060	0.060	ppb	U
75-27-4	Bromodichloromethane	0.070	0.070	ppb	U
110-75-8	2-Chloroethylvinylether	0.36	0.36	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.070	0.070	ppb	U
108-10-1	4-Methyl-2-pentanone	0.97	0.97	ppb	U
108-88-3	Toluene	0.14	0.14	ppb	U
10061-02-6	t-1,3-Dichloropropene	0.060	0.060	ppb	U
79-00-5	1,1,2-Trichloroethane	0.20	0.20	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735

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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-9...continue**

Client Sample ID: MW-8

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	0.20	0.20	ppb	U
142-28-9	1,3-Dichloropropane	0.070	0.070	ppb	U
591-78-6	2-Hexanone	1.48	1.48	ppb	U
124-48-1	Dibromochloromethane	0.12	0.12	ppb	U
106-93-4	1,2-Dibromoethane	0.090	0.090	ppb	U
108-90-7	Chlorobenzene	0.12	0.12	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	0.13	0.13	ppb	U
100-41-4	Ethylbenzene	0.18	0.18	ppb	U
108-38-3	m,p-xylene	0.31	0.31	ppb	U
95-47-6	o-xylene	0.16	0.16	ppb	U
100-42-5	Styrene	0.14	0.14	ppb	U
75-25-2	Bromoform	0.090	0.090	ppb	U
98-82-8	Isopropylbenzene	0.19	0.19	ppb	U
108-86-1	Bromobenzene	0.16	0.16	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.090	0.090	ppb	U
103-65-1	n-Propylbenzene	0.31	0.31	ppb	U
96-18-4	1,2,3-Trichloropropane	0.13	0.13	ppb	U
622-96-8	p-Ethyltoluene	0.22	0.22	ppb	U
108-67-8	1,3,5-Trimethylbenzene	0.11	0.11	ppb	U
95-49-8	2-Chlorotoluene	0.16	0.16	ppb	U
106-43-4	4-Chlorotoluene	0.17	0.17	ppb	U
98-06-6	tert-Butylbenzene	0.18	0.18	ppb	U
95-63-6	1,2,4-Trimethylbenzene	0.22	0.22	ppb	U
135-98-8	sec-Butylbenzene	0.20	0.20	ppb	U
99-87-6	4-Isopropyltoluene	0.21	0.21	ppb	U
541-73-1	1,3-Dichlorobenzene	0.15	0.15	ppb	U
106-46-7	1,4-Dichlorobenzene	0.16	0.16	ppb	U
95-50-1	1,2-Dichlorobenzene	0.070	0.070	ppb	U
105-05-5	p-Diethylbenzene	0.21	0.21	ppb	U
104-51-8	n-Butylbenzene	0.19	0.19	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	0.21	0.21	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	0.15	0.15	ppb	U
120-82-1	1,2,4-Trichlorobenzene	0.18	0.18	ppb	U
87-68-3	Hexachlorobutadiene	0.32	0.32	ppb	U
91-20-3	Naphthalene	0.41	0.41	ppb	U



# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735**

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**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-9...continue**

Client Sample ID: MW-8

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	0.12	0.12	ppb	U



# Environmental Testing Laboratories, Inc.

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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-10**

Client Sample ID: MW-9

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	0.26	0.26	ppb	U
75-45-6	Chlorodifluoromethane	0.090	0.090	ppb	U
74-87-3	Chloromethane	0.37	0.37	ppb	U
75-01-4	Vinyl Chloride	0.070	0.070	ppb	U
74-83-9	Bromomethane	0.45	0.45	ppb	U
75-00-3	Chloroethane	0.18	0.18	ppb	U
75-69-4	Trichlorofluoromethane	0.23	0.23	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.24	0.24	ppb	U
75-35-4	1,1-Dichloroethene	0.14	0.14	ppb	U
67-64-1	Acetone	1.44	1.44	ppb	U
75-15-0	Carbon disulfide	0.22	0.22	ppb	U
75-09-2	Methylene Chloride	0.15	0.15	ppb	U
156-60-5	t-1,2-Dichloroethene	0.14	0.14	ppb	U
1634-04-4	Methyl t-butyl ether	0.080	0.080	ppb	U
75-34-3	1,1-Dichloroethane	0.12	0.12	ppb	U
590-20-7	2,2-Dichloropropane	0.30	0.30	ppb	U
156-59-2	c-1,2-Dichloroethene	0.14	0.14	ppb	U
78-93-3	2-Butanone	6.25	6.25	ppb	U
74-97-5	Bromochloromethane	0.21	0.21	ppb	U
67-66-3	Chloroform	0.15	0.15	ppb	U
71-55-6	1,1,1-Trichloroethane	0.16	0.16	ppb	U
56-23-5	Carbon Tetrachloride	0.13	0.13	ppb	U
563-58-6	1,1-Dichloropropene	0.67	0.67	ppb	U
71-43-2	Benzene	0.13	0.13	ppb	U
107-06-2	1,2-Dichloroethane	0.13	0.13	ppb	U
79-01-6	Trichloroethene	0.17	0.17	ppb	U
78-87-5	1,2-Dichloropropane	0.15	0.15	ppb	U
74-95-3	Dibromomethane	0.060	0.060	ppb	U
75-27-4	Bromodichloromethane	0.070	0.070	ppb	U
110-75-8	2-Chloroethylvinylether	0.36	0.36	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.070	0.070	ppb	U
108-10-1	4-Methyl-2-pentanone	0.97	0.97	ppb	U
108-88-3	Toluene	0.14	0.14	ppb	U
10061-02-6	t-1,3-Dichloropropene	0.060	0.060	ppb	U
79-00-5	1,1,2-Trichloroethane	0.20	0.20	ppb	U



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07/31/2001

## Volatiles - EPA 8260B

### Sample: L8327-10...continue

Client Sample ID: MW-9

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	0.20	0.20	ppb	U
142-28-9	1,3-Dichloropropane	0.070	0.070	ppb	U
591-78-6	2-Hexanone	1.48	1.48	ppb	U
124-48-1	Dibromochloromethane	0.12	0.12	ppb	U
106-93-4	1,2-Dibromoethane	0.090	0.090	ppb	U
108-90-7	Chlorobenzene	0.12	0.12	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	0.13	0.13	ppb	U
100-41-4	Ethylbenzene	0.18	0.18	ppb	U
108-38-3	m,p-xylene	0.31	0.31	ppb	U
95-47-6	o-xylene	0.16	0.16	ppb	U
100-42-5	Styrene	0.14	0.14	ppb	U
75-25-2	Bromoform	0.090	0.090	ppb	U
98-82-8	Isopropylbenzene	0.19	0.19	ppb	U
108-86-1	Bromobenzene	0.16	0.16	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.090	0.090	ppb	U
103-65-1	n-Propylbenzene	0.31	0.31	ppb	U
96-18-4	1,2,3-Trichloropropane	0.13	0.13	ppb	U
622-96-8	p-Ethyltoluene	0.22	0.22	ppb	U
108-67-8	1,3,5-Trimethylbenzene	0.11	0.11	ppb	U
95-49-8	2-Chlorotoluene	0.16	0.16	ppb	U
106-43-4	4-Chlorotoluene	0.17	0.17	ppb	U
98-06-6	tert-Butylbenzene	0.18	0.18	ppb	U
95-63-6	1,2,4-Trimethylbenzene	0.22	0.22	ppb	U
135-98-8	sec-Butylbenzene	0.20	0.20	ppb	U
99-87-6	4-Isopropyltoluene	0.21	0.21	ppb	U
541-73-1	1,3-Dichlorobenzene	0.15	0.15	ppb	U
106-46-7	1,4-Dichlorobenzene	0.16	0.16	ppb	U
95-50-1	1,2-Dichlorobenzene	0.070	0.070	ppb	U
105-05-5	p-Diethylbenzene	0.21	0.21	ppb	U
104-51-8	n-Butylbenzene	0.19	0.19	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	0.21	0.21	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	0.15	0.15	ppb	U
120-82-1	1,2,4-Trichlorobenzene	0.18	0.18	ppb	U
87-68-3	Hexachlorobutadiene	0.32	0.32	ppb	U
91-20-3	Naphthalene	0.41	0.41	ppb	U



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**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-10...continue**

Client Sample ID: MW-9

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	0.12	0.12	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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07/31/2001

## Volatile - EPA 8260B

**Sample:** L8327-11

Client Sample ID: MW-12

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	0.26	0.26	ppb	U
75-45-6	Chlorodifluoromethane	0.090	0.090	ppb	U
74-87-3	Chloromethane	0.37	0.37	ppb	U
75-01-4	Vinyl Chloride	0.070	<b>5.70</b>	ppb	
74-83-9	Bromomethane	0.45	0.45	ppb	U
75-00-3	Chloroethane	0.18	0.18	ppb	U
75-69-4	Trichlorofluoromethane	0.23	0.23	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.24	0.24	ppb	U
75-35-4	1,1-Dichloroethene	0.14	0.14	ppb	U
67-64-1	Acetone	1.44	1.44	ppb	U
75-15-0	Carbon disulfide	0.22	0.22	ppb	U
75-09-2	Methylene Chloride	0.15	0.15	ppb	U
156-60-5	t-1,2-Dichloroethene	0.14	0.14	ppb	U
1634-04-4	Methyl t-butyl ether	0.080	0.080	ppb	U
75-34-3	1,1-Dichloroethane	0.12	<b>3.70</b>	ppb	
590-20-7	2,2-Dichloropropane	0.30	0.30	ppb	U
156-59-2	c-1,2-Dichloroethene	0.14	<b>18.2</b>	ppb	
78-93-3	2-Butanone	6.25	6.25	ppb	U
74-97-5	Bromochloromethane	0.21	0.21	ppb	U
67-66-3	Chloroform	0.15	0.15	ppb	U
71-55-6	1,1,1-Trichloroethane	0.16	0.16	ppb	U
56-23-5	Carbon Tetrachloride	0.13	0.13	ppb	U
563-58-6	1,1-Dichloropropene	0.67	0.67	ppb	U
71-43-2	Benzene	0.13	0.13	ppb	U
107-06-2	1,2-Dichloroethane	0.13	0.13	ppb	U
79-01-6	Trichloroethene	0.17	<b>0.93</b>	ppb	
78-87-5	1,2-Dichloropropane	0.15	0.15	ppb	U
74-95-3	Dibromomethane	0.060	0.060	ppb	U
75-27-4	Bromodichloromethane	0.070	0.070	ppb	U
110-75-8	2-Chloroethylvinylether	0.36	0.36	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.070	0.070	ppb	U
108-10-1	4-Methyl-2-pentanone	0.97	0.97	ppb	U
108-88-3	Toluene	0.14	0.14	ppb	U
10061-02-6	t-1,3-Dichloropropene	0.060	0.060	ppb	U
79-00-5	1,1,2-Trichloroethane	0.20	0.20	ppb	U



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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-11...continue**

Client Sample ID: MW-12

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	0.20	0.20	ppb	U
142-28-9	1,3-Dichloropropane	0.070	0.070	ppb	U
591-78-6	2-Hexanone	1.48	1.48	ppb	U
124-48-1	Dibromochloromethane	0.12	0.12	ppb	U
106-93-4	1,2-Dibromoethane	0.090	0.090	ppb	U
108-90-7	Chlorobenzene	0.12	0.12	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	0.13	0.13	ppb	U
100-41-4	Ethylbenzene	0.18	0.18	ppb	U
108-38-3	m,p-xylene	0.31	0.31	ppb	U
95-47-6	o-xylene	0.16	0.16	ppb	U
100-42-5	Styrene	0.14	0.14	ppb	U
75-25-2	Bromoform	0.090	0.090	ppb	U
98-82-8	Isopropylbenzene	0.19	0.19	ppb	U
108-86-1	Bromobenzene	0.16	0.16	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.090	0.090	ppb	U
103-65-1	n-Propylbenzene	0.31	0.31	ppb	U
96-18-4	1,2,3-Trichloropropane	0.13	0.13	ppb	U
622-96-8	p-Ethyltoluene	0.22	0.22	ppb	U
108-67-8	1,3,5-Trimethylbenzene	0.11	0.11	ppb	U
95-49-8	2-Chlorotoluene	0.16	<b>26.9</b>	ppb	
106-43-4	4-Chlorotoluene	0.17	0.17	ppb	U
98-06-6	tert-Butylbenzene	0.18	0.18	ppb	U
95-63-6	1,2,4-Trimethylbenzene	0.22	0.22	ppb	U
135-98-8	sec-Butylbenzene	0.20	0.20	ppb	U
99-87-6	4-Isopropyltoluene	0.21	0.21	ppb	U
541-73-1	1,3-Dichlorobenzene	0.15	0.15	ppb	U
106-46-7	1,4-Dichlorobenzene	0.16	0.16	ppb	U
95-50-1	1,2-Dichlorobenzene	0.070	0.070	ppb	U
105-05-5	p-Diethylbenzene	0.21	0.21	ppb	U
104-51-8	n-Butylbenzene	0.19	0.19	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	0.21	0.21	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	0.15	0.15	ppb	U
120-82-1	1,2,4-Trichlorobenzene	0.18	0.18	ppb	U
87-68-3	Hexachlorobutadiene	0.32	0.32	ppb	U
91-20-3	Naphthalene	0.41	0.41	ppb	U



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**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-11...continue**

Client Sample ID: MW-12

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	0.12	0.12	ppb	U



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-12**

Client Sample ID: MW-13

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	0.26	0.26	ppb	U
75-45-6	Chlorodifluoromethane	0.090	0.090	ppb	U
74-87-3	Chloromethane	0.37	0.37	ppb	U
75-01-4	Vinyl Chloride	0.070	<b>58.6</b>	ppb	
74-83-9	Bromomethane	0.45	0.45	ppb	U
75-00-3	Chloroethane	0.18	0.18	ppb	U
75-69-4	Trichlorofluoromethane	0.23	0.23	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.24	0.24	ppb	U
75-35-4	1,1-Dichloroethene	0.14	<b>60.4</b>	ppb	
67-64-1	Acetone	1.44	1.44	ppb	U
75-15-0	Carbon disulfide	0.22	0.22	ppb	U
75-09-2	Methylene Chloride	0.15	0.15	ppb	U
156-60-5	t-1,2-Dichloroethene	0.14	<b>4.70</b>	ppb	
1634-04-4	Methyl t-butyl ether	0.080	0.080	ppb	U
75-34-3	1,1-Dichloroethane	1.20	<b>351</b>	ppb	
590-20-7	2,2-Dichloropropane	0.30	0.30	ppb	U
156-59-2	c-1,2-Dichloroethene	1.40	<b>897</b>	ppb	
78-93-3	2-Butanone	6.25	6.25	ppb	U
74-97-5	Bromochloromethane	0.21	0.21	ppb	U
67-66-3	Chloroform	0.15	0.15	ppb	U
71-55-6	1,1,1-Trichloroethane	0.16	<b>36.7</b>	ppb	
56-23-5	Carbon Tetrachloride	0.13	0.13	ppb	U
563-58-6	1,1-Dichloropropene	0.67	0.67	ppb	U
71-43-2	Benzene	0.13	<b>7.10</b>	ppb	
107-06-2	1,2-Dichloroethane	0.13	<b>2.30</b>	ppb	
79-01-6	Trichloroethene	0.17	<b>114</b>	ppb	
78-87-5	1,2-Dichloropropane	0.15	0.15	ppb	U
74-95-3	Dibromomethane	0.060	0.060	ppb	U
75-27-4	Bromodichloromethane	0.070	0.070	ppb	U
110-75-8	2-Chloroethylvinylether	0.36	0.36	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.070	0.070	ppb	U
108-10-1	4-Methyl-2-pentanone	0.97	0.97	ppb	U
108-88-3	Toluene	0.14	0.14	ppb	U
10061-02-6	t-1,3-Dichloropropene	0.060	0.060	ppb	U
79-00-5	1,1,2-Trichloroethane	0.20	0.20	ppb	U



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07/31/2001

## Volatile - EPA 8260B

**Sample: L8327-12...continue**

Client Sample ID: MW-13

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	0.20	120	ppb	
142-28-9	1,3-Dichloropropane	0.070	0.070	ppb	U
591-78-6	2-Hexanone	1.48	1.48	ppb	U
124-48-1	Dibromochloromethane	0.12	0.12	ppb	U
106-93-4	1,2-Dibromoethane	0.090	0.090	ppb	U
108-90-7	Chlorobenzene	0.12	0.12	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	0.13	0.13	ppb	U
100-41-4	Ethylbenzene	0.18	0.18	ppb	U
108-38-3	m,p-xylene	0.31	0.31	ppb	U
95-47-6	o-xylene	0.16	0.16	ppb	U
100-42-5	Styrene	0.14	0.14	ppb	U
75-25-2	Bromoform	0.090	0.090	ppb	U
98-82-8	Isopropylbenzene	0.19	0.19	ppb	U
108-86-1	Bromobenzene	0.16	0.16	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.090	0.090	ppb	U
103-65-1	n-Propylbenzene	0.31	0.31	ppb	U
96-18-4	1,2,3-Trichloropropane	0.13	0.13	ppb	U
622-96-8	p-Ethyltoluene	0.22	0.22	ppb	U
108-67-8	1,3,5-Trimethylbenzene	0.11	0.11	ppb	U
95-49-8	2-Chlorotoluene	0.16	43.2	ppb	
106-43-4	4-Chlorotoluene	0.17	0.17	ppb	U
98-06-6	tert-Butylbenzene	0.18	0.18	ppb	U
95-63-6	1,2,4-Trimethylbenzene	0.22	0.22	ppb	U
135-98-8	sec-Butylbenzene	0.20	0.20	ppb	U
99-87-6	4-Isopropyltoluene	0.21	0.21	ppb	U
541-73-1	1,3-Dichlorobenzene	0.15	0.15	ppb	U
106-46-7	1,4-Dichlorobenzene	0.16	0.16	ppb	U
95-50-1	1,2-Dichlorobenzene	0.070	0.070	ppb	U
105-05-5	p-Diethylbenzene	0.21	0.21	ppb	U
104-51-8	n-Butylbenzene	0.19	0.19	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	0.21	0.21	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	0.15	0.15	ppb	U
120-82-1	1,2,4-Trichlorobenzene	0.18	0.18	ppb	U
87-68-3	Hexachlorobutadiene	0.32	0.32	ppb	U
91-20-3	Naphthalene	0.41	0.41	ppb	U



# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735  
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**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-12...continue**

Client Sample ID: MW-13

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	0.12	0.12	ppb	U



# Environmental Testing Laboratories, Inc.

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07/31/2001

## Volatiles - EPA 8260B

**Sample:** L8327-13

Client Sample ID: Trip Blank

Collected: 07/12/2001

Matrix: Liquid

Type: Trip Blank

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
75-71-8	Dichlorodifluoromethane	0.26	0.26	ppb	U
75-45-6	Chlorodifluoromethane	0.090	0.090	ppb	U
74-87-3	Chloromethane	0.37	0.37	ppb	U
75-01-4	Vinyl Chloride	0.070	0.070	ppb	U
74-83-9	Bromomethane	0.45	0.45	ppb	U
75-00-3	Chloroethane	0.18	0.18	ppb	U
75-69-4	Trichlorodifluoromethane	0.23	0.23	ppb	U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.24	0.24	ppb	U
75-35-4	1,1-Dichloroethene	0.14	0.14	ppb	U
67-64-1	Acetone	1.44	1.44	ppb	U
75-15-0	Carbon disulfide	0.22	0.22	ppb	U
75-09-2	Methylene Chloride	0.15	0.15	ppb	U
156-60-5	t-1,2-Dichloroethene	0.14	0.14	ppb	U
1634-04-4	Methyl t-butyl ether	0.080	0.080	ppb	U
75-34-3	1,1-Dichloroethane	0.12	0.12	ppb	U
590-20-7	2,2-Dichloropropane	0.30	0.30	ppb	U
156-59-2	c-1,2-Dichloroethene	0.14	0.14	ppb	U
78-93-3	2-Butanone	6.25	6.25	ppb	U
74-97-5	Bromochloromethane	0.21	0.21	ppb	U
67-66-3	Chloroform	0.15	0.15	ppb	U
71-55-6	1,1,1-Trichloroethane	0.16	0.16	ppb	U
56-23-5	Carbon Tetrachloride	0.13	0.13	ppb	U
563-58-6	1,1-Dichloropropene	0.67	0.67	ppb	U
71-43-2	Benzene	0.13	0.13	ppb	U
107-06-2	1,2-Dichloroethane	0.13	0.13	ppb	U
79-01-6	Trichloroethene	0.17	0.17	ppb	U
78-87-5	1,2-Dichloropropane	0.15	0.15	ppb	U
74-95-3	Dibromomethane	0.060	0.060	ppb	U
75-27-4	Bromodichloromethane	0.070	0.070	ppb	U
110-75-8	2-Chloroethylvinylether	0.36	0.36	ppb	U
10061-01-5	c-1,3-Dichloropropene	0.070	0.070	ppb	U
108-10-1	4-Methyl-2-pentanone	0.97	0.97	ppb	U
108-88-3	Toluene	0.14	0.14	ppb	U
10061-02-6	t-1,3-Dichloropropene	0.060	0.060	ppb	U
79-00-5	1,1,2-Trichloroethane	0.20	0.20	ppb	U



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07/31/2001

## Volatiles - EPA 8260B

### Sample: L8327-13...continue

Client Sample ID: Trip Blank

Collected: 07/12/2001

Matrix: Liquid

Type: Trip Blank

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
127-18-4	Tetrachloroethene	0.20	0.20	ppb	U
142-28-9	1,3-Dichloropropane	0.070	0.070	ppb	U
591-78-6	2-Hexanone	1.48	1.48	ppb	U
124-48-1	Dibromochloromethane	0.12	0.12	ppb	U
106-93-4	1,2-Dibromoethane	0.090	0.090	ppb	U
108-90-7	Chlorobenzene	0.12	0.12	ppb	U
630-20-6	1,1,1,2-Tetrachloroethane	0.13	0.13	ppb	U
100-41-4	Ethylbenzene	0.18	0.18	ppb	U
108-38-3	m,p-xylene	0.31	0.31	ppb	U
95-47-6	o-xylene	0.16	0.16	ppb	U
100-42-5	Styrene	0.14	0.14	ppb	U
75-25-2	Bromoform	0.090	0.090	ppb	U
98-82-8	Isopropylbenzene	0.19	0.19	ppb	U
108-86-1	Bromobenzene	0.16	0.16	ppb	U
79-34-5	1,1,2,2-Tetrachloroethane	0.090	0.090	ppb	U
103-65-1	n-Propylbenzene	0.31	0.31	ppb	U
96-18-4	1,2,3-Trichloropropane	0.13	0.13	ppb	U
622-96-8	p-Ethyltoluene	0.22	0.22	ppb	U
108-67-8	1,3,5-Trimethylbenzene	0.11	0.11	ppb	U
95-49-8	2-Chlorotoluene	0.16	0.16	ppb	U
106-43-4	4-Chlorotoluene	0.17	0.17	ppb	U
98-06-6	tert-Butylbenzene	0.18	0.18	ppb	U
95-63-6	1,2,4-Trimethylbenzene	0.22	0.22	ppb	U
135-98-8	sec-Butylbenzene	0.20	0.20	ppb	U
99-87-6	4-Isopropyltoluene	0.21	0.21	ppb	U
541-73-1	1,3-Dichlorobenzene	0.15	0.15	ppb	U
106-46-7	1,4-Dichlorobenzene	0.16	0.16	ppb	U
95-50-1	1,2-Dichlorobenzene	0.070	0.070	ppb	U
105-05-5	p-Diethylbenzene	0.21	0.21	ppb	U
104-51-8	n-Butylbenzene	0.19	0.19	ppb	U
95-93-2	1,2,4,5-Tetramethylbenzene	0.21	0.21	ppb	U
96-12-8	1,2-Dibromo-3-chloropropane	0.15	0.15	ppb	U
120-82-1	1,2,4-Trichlorobenzene	0.18	0.18	ppb	U
87-68-3	Hexachlorobutadiene	0.32	0.32	ppb	U
91-20-3	Naphthalene	0.41	0.41	ppb	U



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**07/31/2001**

## **Volatiles - EPA 8260B**

### **Sample: L8327-13...continue**

Client Sample ID: Trip Blank

Collected: 07/12/2001

Matrix: Liquid

Type: Trip Blank

Remarks: See Case Narrative

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
87-61-6	1,2,3-Trichlorobenzene	0.12	0.12	ppb	U



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07/31/2001

## Iron, Total

### Sample: L8327-1

Client Sample ID: SMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	29.9	ppm	

### Sample: L8327-2

Client Sample ID: DMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	8.65	ppm	

### Sample: L8327-3

Client Sample ID: SMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	32.5	ppm	

### Sample: L8327-4

Client Sample ID: DMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	77.5	ppm	



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07/31/2001

## Iron, Total

### Sample: L8327-5

Client Sample ID: SMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	41.2	ppm	

### Sample: L8327-6

Client Sample ID: DMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	116	ppm	

### Sample: L8327-7

Client Sample ID: MW-7

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	8.78	ppm	

### Sample: L8327-8

Client Sample ID: MW-14

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	188	ppm	



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07/31/2001

## Iron, Total

### Sample: L8327-9

Client Sample ID: MW-8

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	0.088	ppm	J

### Sample: L8327-10

Client Sample ID: MW-9

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	21.9	ppm	

### Sample: L8327-11

Client Sample ID: MW-12

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	55.6	ppm	

### Sample: L8327-12

Client Sample ID: MW-13

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Concentration	Units	Q
7439-89-6	Iron	0.24	0.48	ppm	



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07/31/2001

## Nitrogen/Nitrate - EPA 353.2

### Sample: L8327-1

Client Sample ID: SMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.016	ppm	

### Sample: L8327-2

Client Sample ID: DMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.019	ppm	

### Sample: L8327-3

Client Sample ID: SMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.015	ppm	U

### Sample: L8327-4

Client Sample ID: DMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.0030	ppm	J



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07/31/2001

## Nitrogen/Nitrate - EPA 353.2

### Sample: L8327-5

Client Sample ID: SMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.037	ppm	

### Sample: L8327-6

Client Sample ID: DMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.015	ppm	U

### Sample: L8327-7

Client Sample ID: MW-7

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.017	ppm	

### Sample: L8327-8

Client Sample ID: MW-14

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.015	ppm	U



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**07/31/2001**

## **Nitrogen/Nitrate - EPA 353.2**

### **Sample: L8327-9**

Client Sample ID: MW-8

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	5.63	ppm	

### **Sample: L8327-10**

Client Sample ID: MW-9

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.015	ppm	U

### **Sample: L8327-11**

Client Sample ID: MW-12

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	0.070	ppm	

### **Sample: L8327-12**

Client Sample ID: MW-13

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/17/2001

Cas No	Analyte	MDL	Result	Units	Q
14797-55-8	Nitrate	0.015	4.68	ppm	



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07/31/2001

## Sulfate - EPA 375.4

### Sample: L8327-1

Client Sample ID: SMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	1.95	905	ppm	

### Sample: L8327-2

Client Sample ID: DMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	1.95	1420	ppm	

### Sample: L8327-3

Client Sample ID: SMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	1.95	1050	ppm	

### Sample: L8327-4

Client Sample ID: DMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	0.16	173	ppm	



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07/31/2001

## Sulfate - EPA 375.4

### Sample: L8327-5

Client Sample ID: SMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	0.78	1910	ppm	

### Sample: L8327-6

Client Sample ID: DMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	0.78	323	ppm	

### Sample: L8327-7

Client Sample ID: MW-7

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	0.078	68.9	ppm	

### Sample: L8327-8

Client Sample ID: MW-14

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	0.78	1270	ppm	



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07/31/2001

## Sulfate - EPA 375.4

### Sample: L8327-9

Client Sample ID: MW-8

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	0.078	23.4	ppm	

### Sample: L8327-10

Client Sample ID: MW-9

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	0.078	23.1	ppm	

### Sample: L8327-11

Client Sample ID: MW-12

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	0.78	824	ppm	

### Sample: L8327-12

Client Sample ID: MW-13

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/16/2001

Cas No	Analyte	MDL	Result	Units	Q
14808-79-8	Sulfate	0.78	579	ppm	



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**07/31/2001**

## **Total Organic Carbon - Method 415.1**

### **Sample: L8327-1**

Client Sample ID: SMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/30/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	45.9	ppm	

### **Sample: L8327-2**

Client Sample ID: DMP-1

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/30/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	54.5	ppm	

### **Sample: L8327-3**

Client Sample ID: SMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/30/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	176	ppm	

### **Sample: L8327-4**

Client Sample ID: DMP-3

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/31/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	51.8	ppm	



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07/31/2001

## Total Organic Carbon - Method 415.1

### Sample: L8327-5

Client Sample ID: SMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/31/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	46.5	ppm	

### Sample: L8327-6

Client Sample ID: DMP-4

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/31/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	35.7	ppm	

### Sample: L8327-7

Client Sample ID: MW-7

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/31/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	58.5	ppm	

### Sample: L8327-8

Client Sample ID: MW-14

Collected: 07/11/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/31/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	47.1	3530	ppm	



# **Environmental Testing Laboratories, Inc.**

**208 Route 109, Farmingdale NY 11735**

**Phone - 631-249-1456 Fax - 631-249-8344**

**07/31/2001**

## **Total Organic Carbon - Method 415.1**

### **Sample: L8327-9**

Client Sample ID: MW-8

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/31/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	0.94	ppm	U

### **Sample: L8327-10**

Client Sample ID: MW-9

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/31/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	6.79	ppm	

### **Sample: L8327-11**

Client Sample ID: MW-12

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/31/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	36.6	ppm	

### **Sample: L8327-12**

Client Sample ID: MW-13

Collected: 07/12/2001

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 07/31/2001

Cas No	Analyte	MDL	Result	Units	Q
	TOC	0.94	13.3	ppm	



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**07/31/2001**

## **Case Narrative**

### **VOLATILES:**

The following compounds were calibrated at 25, 50, 100, 150 and 200 ppb levels in the initial calibration curve:

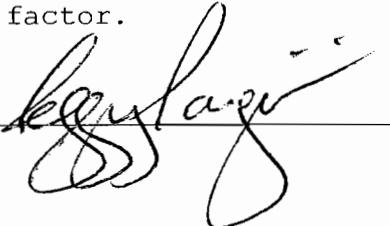
Acetone  
2-Butanone  
4-Methyl-2-pentanone  
2-Hexanone

M&P-Xylenes were calibrated at 10, 40, 100, 200 and 300 ppb levels.

All other compounds were calibrated at 5, 20, 50, 100 and 150 ppb levels.

Samples were quantitated using the continuing calibration standard response factor as opposed to the initial calibration average response factor.

Reviewed by: \_\_\_\_\_



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**07/31/2001**

## **ORGANIC METHOD QUALIFIERS**

**Q** - Qualifier - specified entries and their meanings are as follows:

**U** - The analytical result is a non-detect.

**J** - Indicates an estimated value. The concentration reported was detected below the Method Detection Limit.

**B** - The analyte was found in the associated method blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

**E** - The concentration of the analyte exceeded the calibration range of the instrument.

**D** - This flag identifies all compounds identified in an analysis at a secondary dilution.

## **INORGANIC METHOD QUALIFIERS**

**C** - (Concentration) qualifiers are as follows:

**B** - Entered if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

**U** - Entered when the analyte was analyzed for, but not detected.

**J** - Indicates an estimated value. The concentration reported was detected below the Method Detection Limit.

**Q** - Qualifier specific entries and their meanings are as follows:

**E** - Reported value is estimated because of the presence of interferences.

**M** - (Method) qualifiers are as follows:

**A** - Flame AA

**AS** - Semi-automated Spectrophotometric

**AV** - Automated Cold Vapor AA

**C** - Manual Spectrophotometric

**F** - Furnace AA

**NR** - when the analyte is not required to be analyzed.

**P** - ICP

**T** - Titrimetric



**ETL****CHAIN OF CUSTODY DOCUMENT**

Environmental Testing Laboratories, Inc.

208 Route 109 • Farmingdale • New York 11735

**631-249-1456 • Fax: 631-249-8344****L 8327**

Project Name: PhotoCircuits	Project Manager: Andy Barber	Sampler (Signature): DRH / <u>DRH</u>	(Print): DRH / <u>DRH</u>					
Project Address: 31 Sea Cliff Avenue Glen Cove NY	J/N: <input type="checkbox"/> Rush by <u>1</u>							
<b>SAMPLE INFO</b> Matrix: L = Liquid; S = Soil; SL = Sludge; A = Air; W = Waste Type: SS = Split Spoon; G = Grab; C = Composite; B = Blank Air - Vol. (Liters) include: Flow (CFM)								
ID	Date	Time	Type	Matrix	Sample Location	Total # Cont.		
1	7/1/01	6:00		SSMP-1		5		
2				Dmp-1				
3				SSMP-3				
4				Dmp-3				
5				SSMP-4				
6				Dmp-4				
7				MW-7				
8				MW-8				
9	7/10/01			MW-8				
10				MW-9				
11				MW-12				
12				MW-13				
13				Top Tank				
14								
15								
Relinquished by (Signature): <u>H. J. H.</u>				Date 7/10/01	Printed Name & Agent: <u>J. Henry S + L</u>	Received by (Signature): <u>J. Henry S + L</u>	Date 7/12/01	Printed Name & Agent: <u>J. Henry S + L</u>
Relinquished by (Signature): <u>J. H.</u>				Date 7/10/01	Printed Name & Agent: <u>J. Henry S + L</u>	Received for Lab by (Signature): <u>B</u>	Date 7/12/01	Printed Name <u>B</u>
Comments & Special Instructions				QA/QC Type:	Number & Type of Containers: <u>14</u> <u>55 Gallons</u>	Preservatives: <u>None</u>	Temp: <u>50°C</u>	<u>50°C</u>

Prepared By: Ben Department: receiving Date: 7/15/01 CC: C 8327

**Sample Information:**

COC #:	<u>C 8327</u>
Date(s) Sampled:	<u>7/11/01</u>
Date(s) Received:	<u>7/15/01</u>
Analyses Requested: (list all that apply or attach a copy of COC)	<u>8260B, TOL, Nitrate, Sulfate, Iron</u>

**Discrepancy Information (check all that apply):**

- Samples Received Outside of Holding Time
- Sample ID on bottle does not match COC
- Improper bottles received for analysis requested
- Sample bottle received broken
- Air bubble / Headspace in VOA Vials
- Number of bottles received does not match COC
- Received unlabelled/illegible sample bottle
- Insufficient volume/weight received
- COC not properly completed
- Cooler Temperature above 4 deg. C
- Analysis on COC does not match Project Synopsis
- Other (Describe) \_\_\_\_\_

**NOTES:**

Send 3 trip blanks  
not on COC

**COMMENTS:**

**Discrepancy / QC Problem Resolution:**

Client notified of problem:

Date of Client Contact: 7-16

Client Contact Via: \_\_\_\_\_ telephone \_\_\_\_\_ fax \_\_\_\_\_ other

Client Contacted By: \_\_\_\_\_

Client Response: \_\_\_\_\_

Analyses Performed & Discrepancy stated in Case Narrative

Other (specify) \_\_\_\_\_

**COMMENTS:**

***ATTACHMENT D***  
***PROJECT SCHEDULE***

## Photocircuits - Updated Schedule of Remedial Activities

## 31 & 45 Sea Cliff Avenue Sites

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8/28/01