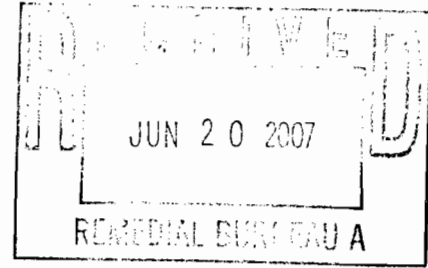


June 15, 2007

Mr. Joseph Jones
Bureau of Eastern Remedial Action
Division of Environmental Remediation
New York State Department of
Environmental Conservation
625 Broadway
Albany, NY 12233



Re: Site Numbers 1-30-009 and 1-30-053A
First Quarter 2007 Progress Report

File: 643.002

Dear Mr. Jones:

Enclosed please find the First Quarter 2007 Progress Report for the subject sites.

Should you have any questions regarding the enclosed, please feel free to contact me.

Thank you.

Very truly yours,

BARTON & LOGUIDICE, P. C.

Andrew J. Barber
Senior Managing Environmental Consultant

AJB/dal

Enclosure

cc: Justin Deming, NYSDOH, Troy, NY (2 copies)
Robert Becherer, NYSDEC, Region 1, Stony Brook, NY (1 copy)
Rosalie Rusinko, Esq., NYSDEC-DEE, White Plains, NY (1 copy)
Peter Takach, Photocircuits (1 copy)
Mike Fuggini, Photocircuits (1 copy)
Mark Pennington, Esq. (1 copy)

S:\PROJECTS\600\643_002\Q1 07 Qtrly Report\coverltrQ107.doc



**FIRST QUARTER 2007
PROGRESS REPORT**

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

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

Prepared for:

Photocircuits Corporation
31 Sea Cliff Avenue
Glen Cove, New York 11542

Prepared by:

Barton and Loguidice, P.C.
2 Corporate Plaza
264 Washington Avenue Extension
Albany, New York 12203

May, 2007

1.0 Introduction

This First Quarter 2006 Progress Report (1Q07) is being submitted pursuant to the Orders on Consent between Photocircuits Corporation and the New York State Department of Environmental Conservation (NYSDEC) dated March 1997 (31 Sea Cliff Avenue) and February 1998 (45A Sea Cliff Avenue).

During the First Quarter of 2007, the following was accomplished:

- One groundwater sampling event was conducted for monitoring wells located on both the 31 and 45A Sea Cliff Avenue sites during the period of April 2-3.
- Maintenance activities were performed on the Soil Vapor Extraction (SVE) system at the 45A Sea Cliff Avenue.
- Maintenance activities were performed on to the hydraulic control system at the 31 Sea Cliff Avenue site.

This report serves a continuation of the quarterly reports for the Photocircuits sites, which were suspended during the events surrounding the Photocircuits bankruptcy proceedings.

2.0 Discussion of Results

2.1 SVE System at 31 Sea Cliff Avenue

The SVE system is inactive.

2.2 Bioremediation Pilot Test at 31 Sea Cliff Avenue

2.2.1 Background

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 July 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. By letter dated October 25, 2001, NYSDEC authorized an additional injection of substrate that had been recommended by Photocircuits. A first phase of additional substrate injection was

conducted during the period of February 25 to March 3, 2002; during this period, slightly over 5,000 gallons of substrate was injected (as reported in the 1Q 02 report). On April 29, 2002, an additional injection of 5,777 gallons of substrate was injected using the injection points that had been installed during the February-March injection event. Sampling events conducted in 2002 were January 8-10, April 2-4, June 25-26 and October 2-3. Sampling in 2003 was conducted on January 13-15, April 28-29 and December 16-17. Sampling in 2004 was conducted on March 15-17 and June 21-23.

2.2.2 Summary of Recent Activities

The most recent sampling events were conducted on July 20-21, 2005, November 6-7, 2006 and April 2-3, 2007; the results from these sampling events are provided in Appendix A of this report (Note: well MW-7 was not sampled during this event as it was filled with oil substrate).

A status report on the pilot test (including the data from the samples collected in July 2005, November 2006 and April 2007) was prepared by Terra Systems and is included as Appendix B of this report. The main conclusions of the report are as follows

- The addition of the edible oil substrate has enhanced the extent and rate of chlorinated solvent biodegradation at the 31 sea Cliff Avenue site; conditions continue to be favorable for biodegradation based on several indicators, most notably, the large decreases in 1,1,1-trichloroethane and 1,1-dichloroethane in wells SMP-3 and DMP-3.
- Over the 79 months of operation, the overall average sum of VOCs has decreased by 80%; degradation rates have slowed as substrate levels have dropped below optimum levels in some locations.
- Bioremediation is the primary treatment technology best suited for continued contaminant destruction at the site.

The Terra Systems report (dated May 17, 2007) again contains a recommendation for additional substrate injection. A letter was sent to NYSDEC (dated April 2, 2004) requesting permission to perform the additional injection. An FFS was prepared for the 31 Sea Cliff Avenue site and submitted to the NYSDEC in Q4 06. The FFS evaluated four different remedial alternatives, and recommended continuing and enhancing the existing bioremediation program coupled with hydraulic control as the remedy for the site.

2.3 IRM at 45 Sea Cliff Avenue

2.3.1 Background

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 was down most of June and July due to equipment overheating; the system was re-started on July 30 and shut down on September 20.

Monitoring data was presented in the 2Q01 report, including 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 2001 vapor sample indicate that mass removal versus time relationship became asymptotic. We concluded at that time that we demonstrated that there was little or no residual contamination at that location, and that further contaminant removal is infeasible.

Based on results from the January 2002 groundwater sampling event, Photocircuits proposed extending the SVE/AS system at the 45A Sea Cliff Avenue site from the west side to the east side of Building 7. The basis for the extension of the system and the proposed piping and equipment layout were provided in the February 13, 2002 letter to NYSDEC.

The SVE wells and AS points were installed at the proposed locations on the east side of Building 7 in late February, 2002 in preparation for the extension of the system. After field evaluation, it was decided that it would be more efficient to move the aboveground portions of the system (equipment trailer, carbon vessels) to the east side of Building 7 rather than to extend their operation by piping from the west side to the east side of Building 7, as originally proposed. The trailer and carbon vessels were moved in April, and electrical service was also provided to the new location in April. Piping and mechanical connections were completed in early May; the original blower malfunctioned and a smaller replacement blower was installed.

The SVE portion of the system was started on May 8, 2002, and a sample of the total system effluent, prior to treatment, was collected; tetrachloroethene was detected at a concentration of 5.3 ppmv. Another effluent sample was collected on June 26;

tetrachloroethene was detected at a concentration of 142 ppmv and trichloroethene was detected at a concentration of 2 ppmv. Further sampling in 2002 was conducted on October 3, December 12 (tetrachloroethene was detected at 1.2 and 1.1 ppmv in these two samples, respectively). The AS portion of the system was started on December 11, 2002. On May 1, 2003, the system was modified to also extract vapor from monitoring well MW-4S; the well was fitted with a cap and connected to the SVE portion of the system.

On May 28, 2004, a meeting/conference call was held between Photocircuits and NYSDEC to discuss, among other issues, procedures for documenting completion of remedial activities at the 45A Sea Cliff Avenue site. A work plan was submitted to NYSDEC as a follow-up to this meeting, and approval of the amended work plan was received by letter dated September 9, 2004; one of the tasks in the work plan was pulsing the SVE system to determine whether residual contamination is present in the subsurface. The SVE system was shut down on June 23, 2004 as part of the pulsing task; the system was re-started September 28, 2004 and sampled per the approved work plan.

Concentrations of tetrachloroethene in effluent samples for 2003-2004 are provided in the following table:

Concentrations of tetrachloroethene (ppmv) in AS/SVE system effluent (east side Bldg 7 location)						
Jan-03	May-03	May-03	Aug-03	Dec-03	Mar-04	Sep-04
1.0	0.9	1.1	1.1	0.03	0.00049	2.0

Concentrations of tetrachloroethene (ug/L) in samples from monitoring well MW-4S over time are summarized in the following table:

Concentrations of tetrachloroethene (ug/L) in MW-4S														
2002				2003				2004				2005	2006	2007
Jan	Apr	Jun	Oct	Jan	Apr	Aug	Dec	Mar	Jun	Sep	Dec	Jul	Nov	Apr
1240	1910	2200	2510	3600	1420	118	180	83	29	10	110	47	35	30

Another task in the approved work plan was the collection of four soil vapor samples in and around Building 7 using summa canisters. The sampling was conducted on September 27-28, 2004 per the approved work plan, and the results were reported in the 3Q04 Report. The concentrations of tetrachloroethene detected in Samples 1 and 2 indicated that there was additional contaminant mass present in the vadose zone in the area of those samples. To address this contaminant mass, the SVE blower was brought back to the west side of Building 7 (along with activated carbon drums to treat the blower effluent). The blower was connected to two existing SVE wells (located within the area of Samples 1 and 2) by modifying the existing piping; the re-configured system was started on October 27, 2004. Samples of the blower influent (combined influent from

both SVE wells) were collected on December 14, 2004 and July 21, 2005; the samples contained 11 and 1.2 ppmv of tetrachloroethene, respectively.

2.3.2 Summary of Recent Activities

A report summarizing the IRM was prepared and submitted to NYSDEC in Q4 06; the report demonstrated that the remedial goals had been achieved, such that the IRM should be considered as the final remedy for the site. The report requested the preparation of a Record of Decision (ROD) that would dictate no further action for the site.

2.4 Hydraulic Control along Sea Cliff Avenue

2.4.1 Background

A meeting was held with NYSDEC on October 11, 2001 to discuss the progress of the bioremediation pilot test. Although there was substantial disagreement between Photocircuits and the NYSDEC over the progress of the bioremediation pilot test and the need for groundwater remediation, Photocircuits agreed to review available options for containment of groundwater along the northern boundary of the Photocircuits site (31 Sea Cliff Avenue). Photocircuits conducted the review of remedial options, and by letter dated October 26, 2001, Photocircuits presented the results of the review. Photocircuits recommended the use of hydraulic control. Photocircuits submitted a work plan for the performance of pumping tests necessary for the design of a hydraulic control system on November 13, 2001; following receipt of verbal comments from NYSDEC, Photocircuits submitted a revised work plan on December 7, 2001. Approval for implementation of the work plan was received from NYSDEC by letter dated December 19, 2001. The pumping tests were performed in January, 2002 and the remedial design report was submitted to NYSDEC on April 11, 2002. NYSDEC approval of the remedial design was received in a letter dated September 19, 2002.

Four recovery wells were installed in January, 2003. The fifth recovery well could not be installed due to the proximity of numerous underground utility lines. Groundwater modeling conducted for the design of the hydraulic control system (appended to the remedial design report/work plan) indicated that configuration of the four wells is also capable of providing hydraulic control in the subject area. The wells were installed to depths of 80 feet below grade and were constructed as described in the work plan.

The pumps, piping and control systems were installed during the week of April 28, 2003. The layout of the piping and controls are provided on the attached figure. The system was started up on May 1, 2003, with each well pumping at an initial flow rate of one gallon per minute (gpm). On May 20, the pumping rate for each well was increased to three gpm. Data and figures presented in the 2Q03 Report demonstrated that hydraulic control was being achieved in the area hydraulically downgradient of the bioremediation

pilot test area. During the August sampling event, it was noted that the pumping rate of the wells had reduced to roughly one gpm, although the pump controllers had not been adjusted. We believe that the reduction in pumping resulted from an interruption in the compressed air supply to the pumps; compressed air is supplied by the facility, and periodic interruptions occur due to maintenance activities. Because the pump controllers are pneumatic, the pump cycle logic re-sets upon re-start. We had planned to provide a back-up compressed air supply to allow the pumps to maintain the three gpm pumping rate, however, an accumulation of weathered soybean oil was detected in well MW-14 during the December 2003 sampling event and again during the March 2004 event. This well is located directly downgradient of the bioremediation pilot test area; fresh soybean oil was found in this well on three occasions in 2002, but has not been detected for roughly a year. We believe that the presence of the weathered soybean oil indicates that the hydraulic control system has not only been collecting contaminated groundwater, but may have accelerated the movement of contaminants from the bioremediation pilot test area. As a result, we have continued to operate the hydraulic control system at the lower flow rate (roughly 1 gpm per well). We believe that the water quality and water level data demonstrate that hydraulic control is being achieved, without the undesirable effects of the localized increase in groundwater velocity (i.e. – pulling the soybean oil from the bioremediation pilot test area).

2.4.2 Summary of Recent Activities

Soybean oil has not been evident in well MW-14 since the March 2004 sampling event. Some clogging in the individual pumping systems has been evident in 2005 and 2006 due precipitated iron, which is the result of the bioremediation program (naturally-occurring +3 valence iron oxides in the formation is chemically reduced to the more soluble +2 valence state). As the chemically reduced groundwater moves to the recovery well, it is mixed with air (oxygen) within the pump (which operates using compressed air); the iron is then re-oxidized and precipitates within the discharge line. The clogs were removed either mechanically or with compressed air, or the discharge tubing was replaced. We do not anticipate interruption of system operation as we continue quarterly sampling and maintenance activities.

3.0 Schedule

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



NYSDOH 11418
NJDEP NY050
CTDOH PH-0205
PADEP 68-00573

Tuesday, April 10, 2007

Peter Takach
Photocircuits Corporation
31 Sea Cliff Avenue
Glen Cove, NY 11542

TEL: (516) 609-1344

FAX (516) 609-1257

RE: Semi-Annual

Order No.: 0704031

Dear Peter Takach:

American Analytical Laboratories, LLC. received 16 sample(s) on 4/3/2007 for the analyses presented in the following report.

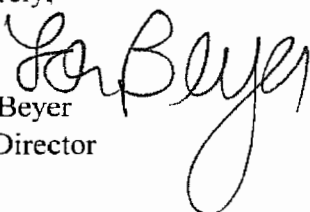
Samples were analyzed in accordance with the test procedures documented on the chain of custody and detailed throughout the text of this report.

The limits provided in the data package are analytical reporting limits and not Federal or Local mandated values to which the sample results should be compared.

There were no problems with the analyses and all data for associated QC met laboratory specifications. If there are any exceptions a Case Narrative is provided in the report.

If you have any questions regarding these tests results, please do not hesitate to call (631) 454-6100 or email me directly at lbeyer@american-analytical.com.

Sincerely,


Lori Beyer
Lab Director

CLIENT: Photocircuits Corporation
Project: Semi-Annual
Lab Order: 0704031

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
0704031-01A	DMP-1		4/2/2007 12:15:00 PM	4/3/2007
0704031-02A	SMP-1		4/2/2007 12:05:00 PM	4/3/2007
0704031-03A	DMP-3		4/2/2007 12:35:00 PM	4/3/2007
0704031-04A	SMP-3		4/2/2007 12:55:00 PM	4/3/2007
0704031-05A	DMP-4		4/2/2007 1:20:00 PM	4/3/2007
0704031-06A	SMP-4		4/2/2007 1:40:00 PM	4/3/2007
0704031-07A	MW-13		4/2/2007 4:40:00 PM	4/3/2007
0704031-08A	MW-14		4/2/2007	4/3/2007
0704031-09A	Trip Blank		4/2/2007	4/3/2007
0704031-10A	RW-1		4/3/2007 10:00:00 AM	4/3/2007
0704031-11A	RW-2		4/3/2007 10:05:00 AM	4/3/2007
0704031-12A	RW-3		4/3/2007 1:15:00 PM	4/3/2007
0704031-13A	MW-8		4/3/2007 1:00:00 PM	4/3/2007
0704031-14A	MW-12		4/3/2007 2:40:00 PM	4/3/2007
0704031-15A	MW-45 [45A Site]		4/3/2007 12:50:00 PM	4/3/2007
0704031-16A	MW-35 [45A Site]		4/3/2007 2:00:00 PM	4/3/2007



56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735
 (631) 454-6100 • FAX (631) 454-8027

NYSDOH 11418
 CTDOH PH-0205
 NJDEP NY050
 PADEP 68-573

TAG # / COC _____

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

CLIENT NAME/ADDRESS: **Photocircuits**
31 Sea Cliff Ave.
Glra Cong, NY 11542

CONTACT: **Peter Takach**
Andy Barber (BOL)

SAMPLER (SIGNATURE): *[Signature]*
 SAMPLER NAME (PRINT): **Darik M. Jordan**

SAMPLE(S) SEALED: YES / NO
 CORRECT CONTAINER(S): YES / NO

LABORATORY ID #	MATRIX	# CON-TAINERS	SAMPLING DATE/ TIME	SAMPLE # - LOCATION	ANALYSIS REQUIRED		FOR METHANOL PRESERVED SAMPLES (VOLATILE VIAL #)
					TOC	Nitrite	
020402P-82A	H ₂ O	2	4/3/07 10:00	RW-1	X		
-11-02A		2	10:05	RW-2	X		
-12-02A		2	13:15	RW-3	X		
-13-02A		6	13:00	MW-8	X	X	
-14-05A		6	13:00 14:40	MW-12	X	X	
-15-05A		2	12:50	MW-45 (45A site)	X	X	
-16-02A		2	14:00	MW-35 (45A site)	X	X	
CM							

COOLER TEMPERATURE: _____

COMMENTS / INSTRUCTIONS: _____

TURNAROUND REQUIRED: _____

NORMAL STAT BY / /

RECEIVED BY LAB (SIGNATURE): *[Signature]* DATE: 4-3-07 TIME: 4:00
 PRINTED NAME: **Darik M. Jordan**

RECEIVED BY LAB (SIGNATURE): _____ DATE: _____ TIME: _____
 PRINTED NAME: _____

AMERICAN ANALYTICAL LABORATORIES, LLC

56 TOLEDO STREET

FARMINGDALE, NEW YORK 11735

TELEPHONE: (631) 454-6100 FAX: (631) 454-8027

DATA REPORTING QUALIFIERS

For reporting results, the following "Results Qualifiers" are used:

Value	If the result is greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
J	Indicates an estimated value. The flag is used: <ol style="list-style-type: none">(1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.)(2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3ug/L was calculated report as 3J. This flag is used when similar situations arise on any organic parameter i.e. Pesticide, PCBs and others.
B	Indicates the analyte was found in the blank as well as the sample report "10B".
E	Indicates the analytes concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide / PCB target analyte when there is >25% difference for detected concentrations between the two GC Columns. The higher of the two values is reported on Form I and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
H	Indicates sample was received and/or analyzed outside of The method allowable holding time

American Analytical Laboratories, LLC.
 56 Toledo Street
 Farmingdale, NY 11735-

TEL: 631-4546100 FAX: 631-4548027

Subcontractor:

EcoTest Laboratories, Inc.
 377 Sheffield Avenue
 North Babylon, NY 11703

TEL: (631) 422-5777
 FAX: (631) 422-5770
 Acct #:

CHAIN-OF-CUSTODY RECORD

04-Apr-07

Requested Tests

Sample ID	Matrix	Date Collected	Bottle Type	SW9060
0704031-01A	Liquid	4/2/2007 12:15:00 PM	500ML PU	1
0704031-02A	Liquid	4/2/2007 12:05:00 PM	500ML PU	1
0704031-03A	Liquid	4/2/2007 12:35:00 PM	500ML PU	1
0704031-04A	Liquid	4/2/2007 12:55:00 PM	500ML PU	1
0704031-05A	Liquid	4/2/2007 1:20:00 PM	500ML PU	1
0704031-06A	Liquid	4/2/2007 1:40:00 PM	500ML PU	1
0704031-07A	Liquid	4/2/2007 4:40:00 PM	500ML PU	1
0704031-08A	Liquid	4/2/2007	500ML PU	1

General Comments: Please Analyze For TOC.
 Results Due 4/10/07.
 Thank you.

Chiz Jimenez

Date/Time 4-4-07
 4:10

Received by: *Richard Francis*
 Date/Time 04/04/07 16:10

Relinquished by:
 Relinquished by:

American Analytical Laboratories, LLC.
 56 Toledo Street
 Farmingdale, NY 11735-

TEL: 631-454-6100

FAX: 631-454-8027

Subcontractor:

EcoTest Laboratories, Inc.
 377 Sheffield Avenue
 North Babylon, NY 11703

TEL: (631) 422-5777
 FAX: (631) 422-5770
 Acct #:

CHAIN-OF-CUSTODY RECORD

04-Apr-07

Requested Tests

Sample ID	Matrix	Date Collected	Bottle Type	SW9060
0704031-13A	Liquid	4/3/2007 1:00:00 PM	VOAHCL	1
0704031-14A	Liquid	4/3/2007 2:40:00 PM	VOAHCL	1

General Comments: Please Analyze For TOC.
 Results Due 4/10/07
 Thank you.

Relinquished by: *Chris Jones* Date/Time: 4-4-07 4:10
 Relinquished by: *Richard M. Grada* Date/Time: 04/04/07 10:10
 Received by: *Richard M. Grada* Date/Time: 04/04/07 10:10
 Received by:

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-01A

Client Sample ID: DMP-1
Tag Number:
Collection Date: 4/2/2007 12:15:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	6.43	0.0200		mg/L	1	4/6/2007 10:24:07 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,1,1-Trichloroethane	6700	10		µg/L	10	4/9/2007 3:45:00 PM
1,1,2,2-Tetrachloroethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,1,2-Trichloroethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,1-Dichloroethane	820	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,1-Dichloroethene	97	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,1-Dichloropropene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2,3-Trichlorobenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2,3-Trichloropropane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2,4,5-Tetramethylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2,4-Trichlorobenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2,4-Trimethylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2-Dibromo-3-chloropropane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2-Dibromoethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2-Dichlorobenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2-Dichloroethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,2-Dichloropropane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,3,5-Trimethylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,3-Dichlorobenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,3-dichloropropane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
1,4-Dichlorobenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
2,2-Dichloropropane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
2-Butanone	U	6.0		µg/L	2	4/5/2007 3:53:00 AM
2-Chloroethyl vinyl ether	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
2-Chlorotoluene	18	2.0		µg/L	2	4/5/2007 3:53:00 AM
2-Hexanone	U	4.0		µg/L	2	4/5/2007 3:53:00 AM
2-Propanol	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
4-Chlorotoluene	20	2.0		µg/L	2	4/5/2007 3:53:00 AM
4-Isopropyltoluene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
4-Methyl-2-pentanone	U	4.0		µg/L	2	4/5/2007 3:53:00 AM
Acetone	760	4.0		µg/L	2	4/5/2007 3:53:00 AM
Acrolein	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Acrylonitrile	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Benzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Bromobenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Bromochloromethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-01A

Client Sample ID: DMP-1
Tag Number:
Collection Date: 4/2/2007 12:15:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
Bromodichloromethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Bromoform	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Bromomethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Carbon disulfide	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Carbon tetrachloride	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Chlorobenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Chlorodifluoromethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Chloroethane	230	2.0		µg/L	2	4/5/2007 3:53:00 AM
Chloroform	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Chloromethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
cis-1,2-Dichloroethene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
cis-1,3-Dichloropropene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Dibromochloromethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Dibromomethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Dichlorodifluoromethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Diisopropyl ether	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Ethanol	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Ethyl acetate	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Ethylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Freon-114	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Hexachlorobutadiene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Isopropyl acetate	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Isopropylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
m,p-Xylene	U	4.0		µg/L	2	4/5/2007 3:53:00 AM
Methyl tert-butyl ether	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Methylene chloride	21	2.0	B	µg/L	2	4/5/2007 3:53:00 AM
n-Amyl acetate	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Naphthalene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
n-Butyl acetate	U	4.0		µg/L	2	4/5/2007 3:53:00 AM
n-Butylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
n-Propyl acetate	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
n-Propylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
o-Xylene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
p-Diethylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
p-Ethyltoluene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
sec-Butylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Styrene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
t-Butyl alcohol	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
tert-Butylbenzene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery limits
U Indicates the compound was analyzed for but not detected X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-01A

Client Sample ID: DMP-1
Tag Number:
Collection Date: 4/2/2007 12:15:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
Tetrachloroethene	5.7	2.0		µg/L	2	4/5/2007 3:53:00 AM
Toluene	24	2.0		µg/L	2	4/5/2007 3:53:00 AM
trans-1,2-Dichloroethene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
trans-1,3-Dichloropropene	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Trichloroethene	2.1	2.0		µg/L	2	4/5/2007 3:53:00 AM
Trichlorofluoromethane	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Vinyl acetate	U	2.0		µg/L	2	4/5/2007 3:53:00 AM
Vinyl chloride	25	2.0		µg/L	2	4/5/2007 3:53:00 AM
Surr: 4-Bromofluorobenzene	105	54-134		%REC	2	4/5/2007 3:53:00 AM
Surr: 4-Bromofluorobenzene	96.9	54-134		%REC	10	4/9/2007 3:45:00 PM
Surr: Dibromofluoromethane	84.8	52-132		%REC	2	4/5/2007 3:53:00 AM
Surr: Dibromofluoromethane	96.4	52-132		%REC	10	4/9/2007 3:45:00 PM
Surr: Toluene-d8	96.7	51-127		%REC	10	4/9/2007 3:45:00 PM
Surr: Toluene-d8	97.2	51-127		%REC	2	4/5/2007 3:53:00 AM
NITRATE AS N		E353.2				Analyst: WN
Nitrate	2.03	0.500		mg/L	5	4/5/2007
SULFATE		E375.4				Analyst: VP
Sulfate	911	1.00		mg/L	1	4/6/2007

Qualifiers:			
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	SMP-1
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/2/2007 12:05:00 PM
Lab ID:	0704031-02A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	28.9	0.0200		mg/L	1	4/6/2007 10:26:11 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,1,1-Trichloroethane	880	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,1,2,2-Tetrachloroethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,1,2-Trichloroethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,1-Dichloroethane	570	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,1-Dichloroethene	9.6	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,1-Dichloropropene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2,3-Trichlorobenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2,3-Trichloropropane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2,4,5-Tetramethylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2,4-Trichlorobenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2,4-Trimethylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2-Dibromo-3-chloropropane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2-Dibromoethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2-Dichlorobenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2-Dichloroethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,2-Dichloropropane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,3,5-Trimethylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,3-Dichlorobenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,3-dichloropropane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
1,4-Dichlorobenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
2,2-Dichloropropane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
2-Butanone	U	6.0		µg/L	2	4/5/2007 4:31:00 AM
2-Chloroethyl vinyl ether	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
2-Chlorotoluene	6.0	2.0		µg/L	2	4/5/2007 4:31:00 AM
2-Hexanone	U	4.0		µg/L	2	4/5/2007 4:31:00 AM
2-Propanol	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
4-Chlorotoluene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
4-Isopropyltoluene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
4-Methyl-2-pentanone	U	4.0		µg/L	2	4/5/2007 4:31:00 AM
Acetone	1500	4.0		µg/L	2	4/5/2007 4:31:00 AM
Acrolein	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Acrylonitrile	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Benzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Bromobenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Bromochloromethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-02A

Client Sample ID: SMP-1
Tag Number:
Collection Date: 4/2/2007 12:05:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Bromodichloromethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Bromoform	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Bromomethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Carbon disulfide	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Carbon tetrachloride	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Chlorobenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Chlorodifluoromethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Chloroethane	640	2.0		µg/L	2	4/5/2007 4:31:00 AM
Chloroform	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Chloromethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
cis-1,2-Dichloroethene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
cis-1,3-Dichloropropene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Dibromochloromethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Dibromomethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Dichlorodifluoromethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Diisopropyl ether	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Ethanol	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Ethyl acetate	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Ethylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Freon-114	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Hexachlorobutadiene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Isopropyl acetate	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Isopropylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
m,p-Xylene	U	4.0		µg/L	2	4/5/2007 4:31:00 AM
Methyl tert-butyl ether	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Methylene chloride	19	2.0	B	µg/L	2	4/5/2007 4:31:00 AM
n-Amyl acetate	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Naphthalene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
n-Butyl acetate	U	4.0		µg/L	2	4/5/2007 4:31:00 AM
n-Butylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
n-Propyl acetate	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
n-Propylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
o-Xylene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
p-Diethylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
p-Ethyltoluene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
sec-Butylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Styrene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
t-Butyl alcohol	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
tert-Butylbenzene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detecte	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-02A

Client Sample ID: SMP-1
Tag Number:
Collection Date: 4/2/2007 12:05:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
Tetrachloroethene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Toluene	4.3	2.0		µg/L	2	4/5/2007 4:31:00 AM
trans-1,2-Dichloroethene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
trans-1,3-Dichloropropene	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Trichloroethene	2.1	2.0		µg/L	2	4/5/2007 4:31:00 AM
Trichlorofluoromethane	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Vinyl acetate	U	2.0		µg/L	2	4/5/2007 4:31:00 AM
Vinyl chloride	10	2.0		µg/L	2	4/5/2007 4:31:00 AM
Surr: 4-Bromofluorobenzene	102	54-134		%REC	2	4/5/2007 4:31:00 AM
Surr: Dibromofluoromethane	103	52-132		%REC	2	4/5/2007 4:31:00 AM
Surr: Toluene-d8	97.0	51-127		%REC	2	4/5/2007 4:31:00 AM
NITRATE AS N		E353.2				Analyst: WN
Nitrate	0.422	0.100		mg/L	1	4/5/2007
SULFATE		E375.4				Analyst: VP
Sulfate	441	1.00		mg/L	1	4/6/2007

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-03A

Client Sample ID: DMP-3
Tag Number:
Collection Date: 4/2/2007 12:35:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	16.9	0.0200		mg/L	1	4/6/2007 10:28:30 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,1,1-Trichloroethane	6400	20		µg/L	20	4/5/2007 5:09:00 AM
1,1,2,2-Tetrachloroethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,1,2-Trichloroethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,1-Dichloroethane	14000	20		µg/L	20	4/5/2007 5:09:00 AM
1,1-Dichloroethene	1400	20		µg/L	20	4/5/2007 5:09:00 AM
1,1-Dichloropropene	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2,3-Trichlorobenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2,3-Trichloropropane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2,4,5-Tetramethylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2,4-Trichlorobenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2,4-Trimethylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2-Dibromo-3-chloropropane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2-Dibromoethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2-Dichlorobenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2-Dichloroethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,2-Dichloropropane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,3,5-Trimethylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,3-Dichlorobenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,3-dichloropropane	U	20		µg/L	20	4/5/2007 5:09:00 AM
1,4-Dichlorobenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
2,2-Dichloropropane	U	20		µg/L	20	4/5/2007 5:09:00 AM
2-Butanone	U	60		µg/L	20	4/5/2007 5:09:00 AM
2-Chloroethyl vinyl ether					20	4/5/2007 5:09:00 AM
2-Chlorotoluene	24	20		µg/L	20	4/5/2007 5:09:00 AM
2-Hexanone	U	40		µg/L	20	4/5/2007 5:09:00 AM
2-Propanol	U	20		µg/L	20	4/5/2007 5:09:00 AM
4-Chlorotoluene					20	4/5/2007 5:09:00 AM
4-Isopropyltoluene	U	20		µg/L	20	4/5/2007 5:09:00 AM
4-Methyl-2-pentanone	U	40		µg/L	20	4/5/2007 5:09:00 AM
Acetone	230	40		µg/L	20	4/5/2007 5:09:00 AM
Acrolein	U	20		µg/L	20	4/5/2007 5:09:00 AM
Acrylonitrile	U	20		µg/L	20	4/5/2007 5:09:00 AM
Benzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Bromobenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Bromochloromethane	U	20		µg/L	20	4/5/2007 5:09:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	DMP-3
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/2/2007 12:35:00 PM
Lab ID:	0704031-03A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Bromodichloromethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
Bromoform	U	20		µg/L	20	4/5/2007 5:09:00 AM
Bromomethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
Carbon disulfide	U	20		µg/L	20	4/5/2007 5:09:00 AM
Carbon tetrachloride	U	20		µg/L	20	4/5/2007 5:09:00 AM
Chlorobenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Chlorodifluoromethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
Chloroethane	3800	20		µg/L	20	4/5/2007 5:09:00 AM
Chloroform	U	20		µg/L	20	4/5/2007 5:09:00 AM
Chloromethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
cis-1,2-Dichloroethene	U	20		µg/L	20	4/5/2007 5:09:00 AM
cis-1,3-Dichloropropene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Dibromochloromethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
Dibromomethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
Dichlorodifluoromethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
Diisopropyl ether	U	20		µg/L	20	4/5/2007 5:09:00 AM
Ethanol	U	20		µg/L	20	4/5/2007 5:09:00 AM
Ethyl acetate	U	20		µg/L	20	4/5/2007 5:09:00 AM
Ethylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Freon-114	U	20		µg/L	20	4/5/2007 5:09:00 AM
Hexachlorobutadiene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Isopropyl acetate	U	20		µg/L	20	4/5/2007 5:09:00 AM
Isopropylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
m,p-Xylene	U	40		µg/L	20	4/5/2007 5:09:00 AM
Methyl tert-butyl ether	U	20		µg/L	20	4/5/2007 5:09:00 AM
Methylene chloride	230	20		µg/L	20	4/5/2007 5:09:00 AM
n-Amyl acetate	U	20		µg/L	20	4/5/2007 5:09:00 AM
Naphthalene	U	20		µg/L	20	4/5/2007 5:09:00 AM
n-Butyl acetate	U	40		µg/L	20	4/5/2007 5:09:00 AM
n-Butylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
n-Propyl acetate	U	20		µg/L	20	4/5/2007 5:09:00 AM
n-Propylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
o-Xylene	U	20		µg/L	20	4/5/2007 5:09:00 AM
p-Diethylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
p-Ethyltoluene	U	20		µg/L	20	4/5/2007 5:09:00 AM
sec-Butylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Styrene	U	20		µg/L	20	4/5/2007 5:09:00 AM
t-Butyl alcohol	U	20		µg/L	20	4/5/2007 5:09:00 AM
tert-Butylbenzene	U	20		µg/L	20	4/5/2007 5:09:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	DMP-3
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/2/2007 12:35:00 PM
Lab ID:	0704031-03A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
Tetrachloroethene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Toluene	100	20		µg/L	20	4/5/2007 5:09:00 AM
trans-1,2-Dichloroethene	U	20		µg/L	20	4/5/2007 5:09:00 AM
trans-1,3-Dichloropropene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Trichloroethene	U	20		µg/L	20	4/5/2007 5:09:00 AM
Trichlorofluoromethane	U	20		µg/L	20	4/5/2007 5:09:00 AM
Vinyl acetate	U	20		µg/L	20	4/5/2007 5:09:00 AM
Vinyl chloride	470	20		µg/L	20	4/5/2007 5:09:00 AM
Surr: 4-Bromofluorobenzene	98.3	54-134		%REC	20	4/5/2007 5:09:00 AM
Surr: Dibromofluoromethane	95.0	52-132		%REC	20	4/5/2007 5:09:00 AM
Surr: Toluene-d8	95.3	51-127		%REC	20	4/5/2007 5:09:00 AM
NITRATE AS N		E353.2				Analyst: WN
Nitrate	0.324	0.100		mg/L	1	4/5/2007
SULFATE		E375.4				Analyst: VP
Sulfate	683	1.00		mg/L	1	4/6/2007

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	SMP-3
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/2/2007 12:55:00 PM
Lab ID:	0704031-04A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	11.0	0.0200		mg/L	1	4/6/2007 10:30:32 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,1,1-Trichloroethane	6900	10		µg/L	10	4/5/2007 5:46:00 AM
1,1,2,2-Tetrachloroethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,1,2-Trichloroethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,1-Dichloroethane	700	10		µg/L	10	4/5/2007 5:46:00 AM
1,1-Dichloroethene	94	10		µg/L	10	4/5/2007 5:46:00 AM
1,1-Dichloropropene	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2,3-Trichlorobenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2,3-Trichloropropane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2,4,5-Tetramethylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2,4-Trichlorobenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2,4-Trimethylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2-Dibromo-3-chloropropane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2-Dibromoethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2-Dichlorobenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2-Dichloroethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,2-Dichloropropane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,3,5-Trimethylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,3-Dichlorobenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,3-dichloropropane	U	10		µg/L	10	4/5/2007 5:46:00 AM
1,4-Dichlorobenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
2,2-Dichloropropane	U	10		µg/L	10	4/5/2007 5:46:00 AM
2-Butanone	U	30		µg/L	10	4/5/2007 5:46:00 AM
2-Chloroethyl vinyl ether	U	10		µg/L	10	4/5/2007 5:46:00 AM
2-Chlorotoluene	U	10		µg/L	10	4/5/2007 5:46:00 AM
2-Hexanone	U	20		µg/L	10	4/5/2007 5:46:00 AM
2-Propanol	U	10		µg/L	10	4/5/2007 5:46:00 AM
4-Chlorotoluene	U	10		µg/L	10	4/5/2007 5:46:00 AM
4-Isopropyltoluene	U	10		µg/L	10	4/5/2007 5:46:00 AM
4-Methyl-2-pentanone	U	20		µg/L	10	4/5/2007 5:46:00 AM
Acetone	360	20		µg/L	10	4/5/2007 5:46:00 AM
Acrolein	U	10		µg/L	10	4/5/2007 5:46:00 AM
Acrylonitrile	U	10		µg/L	10	4/5/2007 5:46:00 AM
Benzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Bromobenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Bromochloromethane	U	10		µg/L	10	4/5/2007 5:46:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation **Client Sample ID:** SMP-3
Lab Order: 0704031 **Tag Number:**
Project: Semi-Annual **Collection Date:** 4/2/2007 12:55:00 PM
Lab ID: 0704031-04A **Matrix:** LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						Analyst: MB
		SW8260B				
Bromodichloromethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
Bromoform	U	10		µg/L	10	4/5/2007 5:46:00 AM
Bromomethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
Carbon disulfide	U	10		µg/L	10	4/5/2007 5:46:00 AM
Carbon tetrachloride	U	10		µg/L	10	4/5/2007 5:46:00 AM
Chlorobenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Chlorodifluoromethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
Chloroethane	49	10		µg/L	10	4/5/2007 5:46:00 AM
Chloroform	U	10		µg/L	10	4/5/2007 5:46:00 AM
Chloromethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
cis-1,2-Dichloroethene	U	10		µg/L	10	4/5/2007 5:46:00 AM
cis-1,3-Dichloropropene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Dibromochloromethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
Dibromomethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
Dichlorodifluoromethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
Diisopropyl ether	U	10		µg/L	10	4/5/2007 5:46:00 AM
Ethanol	U	10		µg/L	10	4/5/2007 5:46:00 AM
Ethyl acetate	U	10		µg/L	10	4/5/2007 5:46:00 AM
Ethylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Freon-114	U	10		µg/L	10	4/5/2007 5:46:00 AM
Hexachlorobutadiene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Isopropyl acetate	U	10		µg/L	10	4/5/2007 5:46:00 AM
Isopropylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
m,p-Xylene	11	20	J	µg/L	10	4/5/2007 5:46:00 AM
Methyl tert-butyl ether	U	10		µg/L	10	4/5/2007 5:46:00 AM
Methylene chloride	110	10		µg/L	10	4/5/2007 5:46:00 AM
n-Amyl acetate	U	10		µg/L	10	4/5/2007 5:46:00 AM
Naphthalene	U	10		µg/L	10	4/5/2007 5:46:00 AM
n-Butyl acetate	U	20		µg/L	10	4/5/2007 5:46:00 AM
n-Butylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
n-Propyl acetate	U	10		µg/L	10	4/5/2007 5:46:00 AM
n-Propylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
o-Xylene	12	10		µg/L	10	4/5/2007 5:46:00 AM
p-Diethylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
p-Ethyltoluene	U	10		µg/L	10	4/5/2007 5:46:00 AM
sec-Butylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Styrene	U	10		µg/L	10	4/5/2007 5:46:00 AM
t-Butyl alcohol	U	10		µg/L	10	4/5/2007 5:46:00 AM
tert-Butylbenzene	U	10		µg/L	10	4/5/2007 5:46:00 AM

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery limits
U Indicates the compound was analyzed for but not detected X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation	Client Sample ID: SMP-3
Lab Order: 0704031	Tag Number:
Project: Semi-Annual	Collection Date: 4/2/2007 12:55:00 PM
Lab ID: 0704031-04A	Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
Tetrachloroethene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Toluene	8.5	10	J	µg/L	10	4/5/2007 5:46:00 AM
trans-1,2-Dichloroethene	U	10		µg/L	10	4/5/2007 5:46:00 AM
trans-1,3-Dichloropropene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Trichloroethene	U	10		µg/L	10	4/5/2007 5:46:00 AM
Trichlorofluoromethane	U	10		µg/L	10	4/5/2007 5:46:00 AM
Vinyl acetate	U	10		µg/L	10	4/5/2007 5:46:00 AM
Vinyl chloride	14	10		µg/L	10	4/5/2007 5:46:00 AM
Surr: 4-Bromofluorobenzene	100	54-134		%REC	10	4/5/2007 5:46:00 AM
Surr: Dibromofluoromethane	103	52-132		%REC	10	4/5/2007 5:46:00 AM
Surr: Toluene-d8	95.8	51-127		%REC	10	4/5/2007 5:46:00 AM
NITRATE AS N		E353.2				Analyst: WN
Nitrate	0.423	0.100		mg/L	1	4/5/2007
SULFATE		E375.4				Analyst: VP
Sulfate	198	1.00		mg/L	1	4/6/2007

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	DMP-4
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/2/2007 1:20:00 PM
Lab ID:	0704031-05A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	18.5	0.0200		mg/L	1	4/6/2007 10:32:43 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,1,1-Trichloroethane	20	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,1,2,2-Tetrachloroethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,1,2-Trichloroethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,1-Dichloroethane	2300	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,1-Dichloroethene	130	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,1-Dichloropropene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2,3-Trichlorobenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2,3-Trichloropropane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2,4,5-Tetramethylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2,4-Trichlorobenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2,4-Trimethylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2-Dibromo-3-chloropropane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2-Dibromoethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2-Dichlorobenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2-Dichloroethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,2-Dichloropropane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,3,5-Trimethylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,3-Dichlorobenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,3-dichloropropane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
1,4-Dichlorobenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
2,2-Dichloropropane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
2-Butanone	U	15		µg/L	5	4/9/2007 3:06:00 PM
2-Chloroethyl vinyl ether	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
2-Chlorotoluene	11	5.0		µg/L	5	4/9/2007 3:06:00 PM
2-Hexanone	U	10		µg/L	5	4/9/2007 3:06:00 PM
2-Propanol	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
4-Chlorotoluene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
4-Isopropyltoluene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
4-Methyl-2-pentanone	U	10		µg/L	5	4/9/2007 3:06:00 PM
Acetone	U	10		µg/L	5	4/9/2007 3:06:00 PM
Acrolein	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Acrylonitrile	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Benzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Bromobenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Bromochloromethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation	Client Sample ID: DMP-4
Lab Order: 0704031	Tag Number:
Project: Semi-Annual	Collection Date: 4/2/2007 1:20:00 PM
Lab ID: 0704031-05A	Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
Bromodichloromethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Bromoform	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Bromomethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Carbon disulfide	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Carbon tetrachloride	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Chlorobenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Chlorodifluoromethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Chloroethane	3300	5.0		µg/L	5	4/9/2007 3:06:00 PM
Chloroform	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Chloromethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
cis-1,2-Dichloroethene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
cis-1,3-Dichloropropene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Dibromochloromethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Dibromomethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Dichlorodifluoromethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Diisopropyl ether	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Ethanol	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Ethyl acetate	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Ethylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Freon-114	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Hexachlorobutadiene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Isopropyl acetate	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Isopropylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
m,p-Xylene	5.2	10	J	µg/L	5	4/9/2007 3:06:00 PM
Methyl tert-butyl ether	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Methylene chloride	39	5.0		µg/L	5	4/9/2007 3:06:00 PM
n-Amyl acetate	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Naphthalene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
n-Butyl acetate	U	10		µg/L	5	4/9/2007 3:06:00 PM
n-Butylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
n-Propyl acetate	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
n-Propylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
o-Xylene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
p-Diethylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
p-Ethyltoluene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
sec-Butylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Styrene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
t-Butyl alcohol	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
tert-Butylbenzene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	S Spike Recovery outside accepted recovery limits
	U Indicates the compound was analyzed for but not detected	X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation	Client Sample ID: DMP-4
Lab Order: 0704031	Tag Number:
Project: Semi-Annual	Collection Date: 4/2/2007 1:20:00 PM
Lab ID: 0704031-05A	Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
Tetrachloroethene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Toluene	23	5.0		µg/L	5	4/9/2007 3:06:00 PM
trans-1,2-Dichloroethene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
trans-1,3-Dichloropropene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Trichloroethene	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Trichlorofluoromethane	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Vinyl acetate	U	5.0		µg/L	5	4/9/2007 3:06:00 PM
Vinyl chloride	120	5.0		µg/L	5	4/9/2007 3:06:00 PM
Surr: 4-Bromofluorobenzene	101	54-134		%REC	5	4/9/2007 3:06:00 PM
Surr: Dibromofluoromethane	103	52-132		%REC	5	4/9/2007 3:06:00 PM
Surr: Toluene-d8	95.7	51-127		%REC	5	4/9/2007 3:06:00 PM
NITRATE AS N						
		E353.2				Analyst: WN
Nitrate	0.408	0.100		mg/L	1	4/5/2007
SULFATE						
		E375.4				Analyst: VP
Sulfate	98.1	1.00		mg/L	1	4/6/2007

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	SMP-4
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/2/2007 1:40:00 PM
Lab ID:	0704031-06A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	15.4	0.0200		mg/L	1	4/6/2007 10:34:55 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,1-Dichloroethane	10	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2,4-Trimethylbenzene	1.3	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
2-Butanone	U	3.0		µg/L	1	4/9/2007 2:27:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
2-Chlorotoluene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
2-Hexanone	U	2.0		µg/L	1	4/9/2007 2:27:00 PM
2-Propanol	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	4/9/2007 2:27:00 PM
Acetone	64	2.0		µg/L	1	4/9/2007 2:27:00 PM
Acrolein	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Acrylonitrile	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Benzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Bromobenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Bromochloromethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-06A

Client Sample ID: SMP-4
Tag Number:
Collection Date: 4/2/2007 1:40:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
Bromodichloromethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Bromoform	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Bromomethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Carbon disulfide	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Chlorobenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Chloroethane	370	1.0		µg/L	1	4/9/2007 2:27:00 PM
Chloroform	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Chloromethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
cis-1,2-Dichloroethene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Dibromochloromethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Dibromomethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Diisopropyl ether	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Ethanol	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Ethyl acetate	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Ethylbenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Freon-114	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Isopropyl acetate	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Isopropylbenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
m,p-Xylene	2.5	2.0		µg/L	1	4/9/2007 2:27:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Methylene chloride	4.4	1.0	B	µg/L	1	4/9/2007 2:27:00 PM
n-Amyl acetate	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Naphthalene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
n-Butyl acetate	U	2.0		µg/L	1	4/9/2007 2:27:00 PM
n-Butylbenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
n-Propyl acetate	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
n-Propylbenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
o-Xylene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Styrene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-06A

Client Sample ID: SMP-4
Tag Number:
Collection Date: 4/2/2007 1:40:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
Tetrachloroethene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Toluene	5.1	1.0		µg/L	1	4/9/2007 2:27:00 PM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Trichloroethene	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Vinyl acetate	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Vinyl chloride	U	1.0		µg/L	1	4/9/2007 2:27:00 PM
Surr: 4-Bromofluorobenzene	102	54-134		%REC	1	4/9/2007 2:27:00 PM
Surr: Dibromofluoromethane	106	52-132		%REC	1	4/9/2007 2:27:00 PM
Surr: Toluene-d8	97.1	51-127		%REC	1	4/9/2007 2:27:00 PM
NITRATE AS N						
		E353.2				Analyst: WN
Nitrate	1.46	0.500		mg/L	5	4/5/2007
SULFATE						
		E375.4				Analyst: VP
Sulfate	87.3	1.00		mg/L	1	4/6/2007

Qualifiers:		
B	Analyte detected in the associated Method Blank	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	S Spike Recovery outside accepted recovery limits
U	Indicates the compound was analyzed for but not detected	X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-07A

Client Sample ID: MW-13
Tag Number:
Collection Date: 4/2/2007 4:40:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	0.499	0.0200		mg/L	1	4/6/2007 10:36:55 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,1,1-Trichloroethane	130	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,1,2,2-Tetrachloroethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,1,2-Trichloroethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,1-Dichloroethane	320	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,1-Dichloroethene	150	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,1-Dichloropropene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2,3-Trichlorobenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2,3-Trichloropropane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2,4,5-Tetramethylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2,4-Trichlorobenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2,4-Trimethylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2-Dibromo-3-chloropropane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2-Dibromoethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2-Dichlorobenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2-Dichloroethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,2-Dichloropropane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,3,5-Trimethylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,3-Dichlorobenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,3-dichloropropane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
1,4-Dichlorobenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
2,2-Dichloropropane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
2-Butanone	U	15		µg/L	5	4/5/2007 7:45:00 AM
2-Chloroethyl vinyl ether	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
2-Chlorotoluene	12	5.0		µg/L	5	4/5/2007 7:45:00 AM
2-Hexanone	U	10		µg/L	5	4/5/2007 7:45:00 AM
2-Propanol	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
4-Chlorotoluene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
4-Isopropyltoluene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
4-Methyl-2-pentanone	U	10		µg/L	5	4/5/2007 7:45:00 AM
Acetone	U	10		µg/L	5	4/5/2007 7:45:00 AM
Acrolein	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Acrylonitrile	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Benzene	5.2	5.0		µg/L	5	4/5/2007 7:45:00 AM
Bromobenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Bromochloromethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-07A

Client Sample ID: MW-13
Tag Number:
Collection Date: 4/2/2007 4:40:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Bromodichloromethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Bromoform	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Bromomethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Carbon disulfide	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Carbon tetrachloride	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Chlorobenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Chlorodifluoromethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Chloroethane	33	5.0		µg/L	5	4/5/2007 7:45:00 AM
Chloroform	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Chloromethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
cis-1,2-Dichloroethene	720	5.0		µg/L	5	4/5/2007 7:45:00 AM
cis-1,3-Dichloropropene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Dibromochloromethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Dibromomethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Dichlorodifluoromethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Diisopropyl ether	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Ethanol	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Ethyl acetate	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Ethylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Freon-114	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Hexachlorobutadiene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Isopropyl acetate	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Isopropylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
m,p-Xylene	U	10		µg/L	5	4/5/2007 7:45:00 AM
Methyl tert-butyl ether	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Methylene chloride	51	5.0		µg/L	5	4/5/2007 7:45:00 AM
n-Amyl acetate	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Naphthalene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
n-Butyl acetate	U	10		µg/L	5	4/5/2007 7:45:00 AM
n-Butylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
n-Propyl acetate	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
n-Propylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
o-Xylene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
p-Diethylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
p-Ethyltoluene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
sec-Butylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Styrene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
t-Butyl alcohol	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
tert-Butylbenzene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
U Indicates the compound was analyzed for but not detected

E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits
X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-07A

Client Sample ID: MW-13
Tag Number:
Collection Date: 4/2/2007 4:40:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Tetrachloroethene	580	5.0		µg/L	5	4/5/2007 7:45:00 AM
Toluene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
trans-1,2-Dichloroethene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
trans-1,3-Dichloropropene	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Trichloroethene	3300	5.0		µg/L	5	4/5/2007 7:45:00 AM
Trichlorofluoromethane	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Vinyl acetate	U	5.0		µg/L	5	4/5/2007 7:45:00 AM
Vinyl chloride	90	5.0		µg/L	5	4/5/2007 7:45:00 AM
Surr: 4-Bromofluorobenzene	101	54-134		%REC	5	4/5/2007 7:45:00 AM
Surr: Dibromofluoromethane	97.5	52-132		%REC	5	4/5/2007 7:45:00 AM
Surr: Toluene-d8	107	51-127		%REC	5	4/5/2007 7:45:00 AM
NITRATE AS N		E353.2		Analyst: WN		
Nitrate	0.0644	0.100	J	mg/L	1	4/5/2007
SULFATE		E375.4		Analyst: VP		
Sulfate	259	1.00		mg/L	1	4/6/2007

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detect	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-08A

Client Sample ID: MW-14
Tag Number:
Collection Date: 4/2/2007
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	27.7	0.0200		mg/L	1	4/6/2007 10:51:01 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,1,1-Trichloroethane	1200	10		µg/L	10	4/5/2007 8:29:00 AM
1,1,2,2-Tetrachloroethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,1,2-Trichloroethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,1-Dichloroethane	4400	10		µg/L	10	4/5/2007 8:29:00 AM
1,1-Dichloroethene	64	10		µg/L	10	4/5/2007 8:29:00 AM
1,1-Dichloropropene	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2,3-Trichlorobenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2,3-Trichloropropane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2,4,5-Tetramethylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2,4-Trichlorobenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2,4-Trimethylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2-Dibromo-3-chloropropane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2-Dibromoethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2-Dichlorobenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2-Dichloroethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,2-Dichloropropane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,3,5-Trimethylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,3-Dichlorobenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,3-dichloropropane	U	10		µg/L	10	4/5/2007 8:29:00 AM
1,4-Dichlorobenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
2,2-Dichloropropane	U	10		µg/L	10	4/5/2007 8:29:00 AM
2-Butanone	U	30		µg/L	10	4/5/2007 8:29:00 AM
2-Chloroethyl vinyl ether	U	10		µg/L	10	4/5/2007 8:29:00 AM
2-Chlorotoluene	U	10		µg/L	10	4/5/2007 8:29:00 AM
2-Hexanone	U	20		µg/L	10	4/5/2007 8:29:00 AM
2-Propanol	U	10		µg/L	10	4/5/2007 8:29:00 AM
4-Chlorotoluene	U	10		µg/L	10	4/5/2007 8:29:00 AM
4-Isopropyltoluene	U	10		µg/L	10	4/5/2007 8:29:00 AM
4-Methyl-2-pentanone	U	20		µg/L	10	4/5/2007 8:29:00 AM
Acetone	U	20		µg/L	10	4/5/2007 8:29:00 AM
Acrolein	U	10		µg/L	10	4/5/2007 8:29:00 AM
Acrylonitrile	U	10		µg/L	10	4/5/2007 8:29:00 AM
Benzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
Bromobenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
Bromochloromethane	U	10		µg/L	10	4/5/2007 8:29:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-08A

Client Sample ID: MW-14
Tag Number:
Collection Date: 4/2/2007
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
						SW8260B
						Analyst: MB
Bromodichloromethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
Bromoform	U	10		µg/L	10	4/5/2007 8:29:00 AM
Bromomethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
Carbon disulfide	U	10		µg/L	10	4/5/2007 8:29:00 AM
Carbon tetrachloride	U	10		µg/L	10	4/5/2007 8:29:00 AM
Chlorobenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
Chlorodifluoromethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
Chloroethane	1600	10		µg/L	10	4/5/2007 8:29:00 AM
Chloroform	U	10		µg/L	10	4/5/2007 8:29:00 AM
Chloromethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
cis-1,2-Dichloroethene	23	10		µg/L	10	4/5/2007 8:29:00 AM
cis-1,3-Dichloropropene	U	10		µg/L	10	4/5/2007 8:29:00 AM
Dibromochloromethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
Dibromomethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
Dichlorodifluoromethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
Diisopropyl ether	U	10		µg/L	10	4/5/2007 8:29:00 AM
Ethanol	U	10		µg/L	10	4/5/2007 8:29:00 AM
Ethyl acetate	U	10		µg/L	10	4/5/2007 8:29:00 AM
Ethylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
Freon-114	U	10		µg/L	10	4/5/2007 8:29:00 AM
Hexachlorobutadiene	U	10		µg/L	10	4/5/2007 8:29:00 AM
Isopropyl acetate	U	10		µg/L	10	4/5/2007 8:29:00 AM
Isopropylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
m,p-Xylene	U	20		µg/L	10	4/5/2007 8:29:00 AM
Methyl tert-butyl ether	U	10		µg/L	10	4/5/2007 8:29:00 AM
Methylene chloride	100	10		µg/L	10	4/5/2007 8:29:00 AM
n-Amyl acetate	U	10		µg/L	10	4/5/2007 8:29:00 AM
Naphthalene	U	10		µg/L	10	4/5/2007 8:29:00 AM
n-Butyl acetate	U	20		µg/L	10	4/5/2007 8:29:00 AM
n-Butylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
n-Propyl acetate	U	10		µg/L	10	4/5/2007 8:29:00 AM
n-Propylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
o-Xylene	U	10		µg/L	10	4/5/2007 8:29:00 AM
p-Diethylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
p-Ethyltoluene	U	10		µg/L	10	4/5/2007 8:29:00 AM
sec-Butylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM
Styrene	U	10		µg/L	10	4/5/2007 8:29:00 AM
t-Butyl alcohol	U	10		µg/L	10	4/5/2007 8:29:00 AM
tert-Butylbenzene	U	10		µg/L	10	4/5/2007 8:29:00 AM

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	S Spike Recovery outside accepted recovery limits
	U Indicates the compound was analyzed for but not detected	X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-08A

Client Sample ID: MW-14
Tag Number:
Collection Date: 4/2/2007
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
Tetrachloroethene	9.3	10	J	µg/L	10	4/5/2007 8:29:00 AM
Toluene	34	10		µg/L	10	4/5/2007 8:29:00 AM
trans-1,2-Dichloroethene	U	10		µg/L	10	4/5/2007 8:29:00 AM
trans-1,3-Dichloropropene	U	10		µg/L	10	4/5/2007 8:29:00 AM
Trichloroethene	38	10		µg/L	10	4/5/2007 8:29:00 AM
Trichlorofluoromethane	U	10		µg/L	10	4/5/2007 8:29:00 AM
Vinyl acetate	U	10		µg/L	10	4/5/2007 8:29:00 AM
Vinyl chloride	72	10		µg/L	10	4/5/2007 8:29:00 AM
Surr: 4-Bromofluorobenzene	96.8	54-134		%REC	10	4/5/2007 8:29:00 AM
Surr: Dibromofluoromethane	101	52-132		%REC	10	4/5/2007 8:29:00 AM
Surr: Toluene-d8	96.0	51-127		%REC	10	4/5/2007 8:29:00 AM
NITRATE AS N		E353.2				Analyst: WN
Nitrate	0.262	0.100		mg/L	1	4/5/2007
SULFATE		E375.4				Analyst: VP
Sulfate	17.4	1.00		mg/L	1	4/6/2007

Qualifiers:				
B	Analyte detected in the associated Method Blank	E	Value above quantitation range	
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits	
U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level	

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-09A

Client Sample ID: Trip Blank
Tag Number:
Collection Date: 4/2/2007
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,1,1-Trichloroethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,1,2-Trichloroethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,1-Dichloroethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,1-Dichloroethene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,1-Dichloropropene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2,3-Trichloropropane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2-Dibromoethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2-Dichloroethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,2-Dichloropropane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,3-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,3-dichloropropane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
1,4-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
2,2-Dichloropropane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
2-Butanone	U	3.0		µg/L	1	4/5/2007 3:14:00 AM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
2-Chlorotoluene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
2-Hexanone	U	2.0		µg/L	1	4/5/2007 3:14:00 AM
2-Propanol	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
4-Chlorotoluene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
4-Isopropyltoluene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
4-Methyl-2-pentanone	U	2.0		µg/L	1	4/5/2007 3:14:00 AM
Acetone	U	2.0		µg/L	1	4/5/2007 3:14:00 AM
Acrolein	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Acrylonitrile	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Benzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Bromobenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Bromochloromethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Bromodichloromethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Bromoform	U	1.0		µg/L	1	4/5/2007 3:14:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-09A

Client Sample ID: Trip Blank
Tag Number:
Collection Date: 4/2/2007
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B			Analyst: MB	
Bromomethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Carbon disulfide	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Carbon tetrachloride	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Chlorobenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Chlorodifluoromethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Chloroethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Chloroform	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Chloromethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
cis-1,2-Dichloroethene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Dibromochloromethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Dibromomethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Dichlorodifluoromethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Diisopropyl ether	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Ethanol	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Ethyl acetate	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Ethylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Freon-114	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Hexachlorobutadiene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Isopropyl acetate	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Isopropylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
m,p-Xylene	U	2.0		µg/L	1	4/5/2007 3:14:00 AM
Methyl tert-butyl ether	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Methylene chloride	7.7	1.0	B	µg/L	1	4/5/2007 3:14:00 AM
n-Amyl acetate	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Naphthalene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
n-Butyl acetate	U	2.0		µg/L	1	4/5/2007 3:14:00 AM
n-Butylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
n-Propyl acetate	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
n-Propylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
o-Xylene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
p-Diethylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
p-Ethyltoluene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
sec-Butylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Styrene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
t-Butyl alcohol	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
tert-Butylbenzene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Tetrachloroethene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Toluene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM

Qualifiers:
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 U Indicates the compound was analyzed for but not detected

E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery limits
 X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-09A

Client Sample ID: Trip Blank
Tag Number:
Collection Date: 4/2/2007
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
trans-1,2-Dichloroethene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Trichloroethene	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Trichlorofluoromethane	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Vinyl acetate	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Vinyl chloride	U	1.0		µg/L	1	4/5/2007 3:14:00 AM
Surr: 4-Bromofluorobenzene	99.2	54-134		%REC	1	4/5/2007 3:14:00 AM
Surr: Dibromofluoromethane	103	52-132		%REC	1	4/5/2007 3:14:00 AM
Surr: Toluene-d8	95.3	51-127		%REC	1	4/5/2007 3:14:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-10A

Client Sample ID: RW-1
Tag Number:
Collection Date: 4/3/2007 10:00:00 AM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
1,1,1,2-Tetrachloroethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,1,1-Trichloroethane	130	20		µg/L	20	4/5/2007 9:07:00 AM
1,1,2,2-Tetrachloroethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,1,2-Trichloroethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,1-Dichloroethane	680	20		µg/L	20	4/5/2007 9:07:00 AM
1,1-Dichloroethene	200	20		µg/L	20	4/5/2007 9:07:00 AM
1,1-Dichloropropene	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2,3-Trichlorobenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2,3-Trichloropropane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2,4,5-Tetramethylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2,4-Trichlorobenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2,4-Trimethylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2-Dibromo-3-chloropropane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2-Dibromoethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2-Dichlorobenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2-Dichloroethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,2-Dichloropropane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,3,5-Trimethylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,3-Dichlorobenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,3-dichloropropane	U	20		µg/L	20	4/5/2007 9:07:00 AM
1,4-Dichlorobenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
2,2-Dichloropropane	U	20		µg/L	20	4/5/2007 9:07:00 AM
2-Butanone	U	60		µg/L	20	4/5/2007 9:07:00 AM
2-Chloroethyl vinyl ether	U	20		µg/L	20	4/5/2007 9:07:00 AM
2-Chlorotoluene	680	20		µg/L	20	4/5/2007 9:07:00 AM
2-Hexanone	U	40		µg/L	20	4/5/2007 9:07:00 AM
2-Propanol	U	20		µg/L	20	4/5/2007 9:07:00 AM
4-Chlorotoluene	U	20		µg/L	20	4/5/2007 9:07:00 AM
4-Isopropyltoluene	U	20		µg/L	20	4/5/2007 9:07:00 AM
4-Methyl-2-pentanone	U	40		µg/L	20	4/5/2007 9:07:00 AM
Acetone	180	40		µg/L	20	4/5/2007 9:07:00 AM
Acrolein	U	20		µg/L	20	4/5/2007 9:07:00 AM
Acrylonitrile	U	20		µg/L	20	4/5/2007 9:07:00 AM
Benzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
Bromobenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
Bromochloromethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
Bromodichloromethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
Bromoform	U	20		µg/L	20	4/5/2007 9:07:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
U Indicates the compound was analyzed for but not detecte

E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits
X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-10A

Client Sample ID: RW-1
Tag Number:
Collection Date: 4/3/2007 10:00:00 AM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Bromomethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
Carbon disulfide	U	20		µg/L	20	4/5/2007 9:07:00 AM
Carbon tetrachloride	U	20		µg/L	20	4/5/2007 9:07:00 AM
Chlorobenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
Chlorodifluoromethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
Chloroethane	140	20		µg/L	20	4/5/2007 9:07:00 AM
Chloroform	U	20		µg/L	20	4/5/2007 9:07:00 AM
Chloromethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
cis-1,2-Dichloroethene	9400	20		µg/L	20	4/5/2007 9:07:00 AM
cis-1,3-Dichloropropene	U	20		µg/L	20	4/5/2007 9:07:00 AM
Dibromochloromethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
Dibromomethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
Dichlorodifluoromethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
Diisopropyl ether	U	20		µg/L	20	4/5/2007 9:07:00 AM
Ethanol	U	20		µg/L	20	4/5/2007 9:07:00 AM
Ethyl acetate	U	20		µg/L	20	4/5/2007 9:07:00 AM
Ethylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
Freon-114	U	20		µg/L	20	4/5/2007 9:07:00 AM
Hexachlorobutadiene	U	20		µg/L	20	4/5/2007 9:07:00 AM
Isopropyl acetate	U	20		µg/L	20	4/5/2007 9:07:00 AM
Isopropylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
m,p-Xylene	U	40		µg/L	20	4/5/2007 9:07:00 AM
Methyl tert-butyl ether	U	20		µg/L	20	4/5/2007 9:07:00 AM
Methylene chloride	190	20		µg/L	20	4/5/2007 9:07:00 AM
n-Amyl acetate	U	20		µg/L	20	4/5/2007 9:07:00 AM
Naphthalene	U	20		µg/L	20	4/5/2007 9:07:00 AM
n-Butyl acetate	U	40		µg/L	20	4/5/2007 9:07:00 AM
n-Butylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
n-Propyl acetate	U	20		µg/L	20	4/5/2007 9:07:00 AM
n-Propylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
o-Xylene	U	20		µg/L	20	4/5/2007 9:07:00 AM
p-Diethylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
p-Ethyltoluene	U	20		µg/L	20	4/5/2007 9:07:00 AM
sec-Butylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
Styrene	U	20		µg/L	20	4/5/2007 9:07:00 AM
t-Butyl alcohol	U	20		µg/L	20	4/5/2007 9:07:00 AM
tert-Butylbenzene	U	20		µg/L	20	4/5/2007 9:07:00 AM
Tetrachloroethene	860	20		µg/L	20	4/5/2007 9:07:00 AM
Toluene	24	20		µg/L	20	4/5/2007 9:07:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	RW-1
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 10:00:00 AM
Lab ID:	0704031-10A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
						Analyst: MB
trans-1,2-Dichloroethene	U	20		µg/L	20	4/5/2007 9:07:00 AM
trans-1,3-Dichloropropene	U	20		µg/L	20	4/5/2007 9:07:00 AM
Trichloroethene	11000	20		µg/L	20	4/5/2007 9:07:00 AM
Trichlorofluoromethane	U	20		µg/L	20	4/5/2007 9:07:00 AM
Vinyl acetate	U	20		µg/L	20	4/5/2007 9:07:00 AM
Vinyl chloride	850	20		µg/L	20	4/5/2007 9:07:00 AM
Surr: 4-Bromofluorobenzene	99.5	54-134		%REC	20	4/5/2007 9:07:00 AM
Surr: Dibromofluoromethane	101	52-132		%REC	20	4/5/2007 9:07:00 AM
Surr: Toluene-d8	106	51-127		%REC	20	4/5/2007 9:07:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	RW-2
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 10:05:00 AM
Lab ID:	0704031-11A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,1,1-Trichloroethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,1,2,2-Tetrachloroethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,1,2-Trichloroethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,1-Dichloroethane	56	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,1-Dichloroethene	4.8	5.0	J	µg/L	5	4/5/2007 9:44:00 AM
1,1-Dichloropropene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2,3-Trichlorobenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2,3-Trichloropropane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2,4,5-Tetramethylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2,4-Trichlorobenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2,4-Trimethylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2-Dibromo-3-chloropropane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2-Dibromoethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2-Dichlorobenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2-Dichloroethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,2-Dichloropropane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,3,5-Trimethylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,3-Dichlorobenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,3-dichloropropane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
1,4-Dichlorobenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
2,2-Dichloropropane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
2-Butanone	U	15		µg/L	5	4/5/2007 9:44:00 AM
2-Chloroethyl vinyl ether	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
2-Chlorotoluene	220	5.0		µg/L	5	4/5/2007 9:44:00 AM
2-Hexanone	U	10		µg/L	5	4/5/2007 9:44:00 AM
2-Propanol	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
4-Chlorotoluene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
4-Isopropyltoluene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
4-Methyl-2-pentanone	U	10		µg/L	5	4/5/2007 9:44:00 AM
Acetone	17	10		µg/L	5	4/5/2007 9:44:00 AM
Acrolein	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Acrylonitrile	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Benzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Bromobenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Bromochloromethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Bromodichloromethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Bromoform	U	5.0		µg/L	5	4/5/2007 9:44:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	RW-2
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 10:05:00 AM
Lab ID:	0704031-11A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Bromomethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Carbon disulfide	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Carbon tetrachloride	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Chlorobenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Chlorodifluoromethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Chloroethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Chloroform	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Chloromethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
cis-1,2-Dichloroethene	620	5.0		µg/L	5	4/5/2007 9:44:00 AM
cis-1,3-Dichloropropene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Dibromochloromethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Dibromomethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Dichlorodifluoromethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Diisopropyl ether	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Ethanol	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Ethyl acetate	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Ethylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Freon-114	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Hexachlorobutadiene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Isopropyl acetate	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Isopropylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
m,p-Xylene	U	10		µg/L	5	4/5/2007 9:44:00 AM
Methyl tert-butyl ether	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Methylene chloride	43	5.0		µg/L	5	4/5/2007 9:44:00 AM
n-Amyl acetate	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Naphthalene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
n-Butyl acetate	U	10		µg/L	5	4/5/2007 9:44:00 AM
n-Butylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
n-Propyl acetate	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
n-Propylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
o-Xylene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
p-Diethylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
p-Ethyltoluene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
sec-Butylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Styrene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
t-Butyl alcohol	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
tert-Butylbenzene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Tetrachloroethene	34	5.0		µg/L	5	4/5/2007 9:44:00 AM
Toluene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detecte	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation	Client Sample ID: RW-2
Lab Order: 0704031	Tag Number:
Project: Semi-Annual	Collection Date: 4/3/2007 10:05:00 AM
Lab ID: 0704031-11A	Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
trans-1,2-Dichloroethene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
trans-1,3-Dichloropropene	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Trichloroethene	210	5.0		µg/L	5	4/5/2007 9:44:00 AM
Trichlorofluoromethane	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Vinyl acetate	U	5.0		µg/L	5	4/5/2007 9:44:00 AM
Vinyl chloride	40	5.0		µg/L	5	4/5/2007 9:44:00 AM
Surr: 4-Bromofluorobenzene	98.4	54-134		%REC	5	4/5/2007 9:44:00 AM
Surr: Dibromofluoromethane	101	52-132		%REC	5	4/5/2007 9:44:00 AM
Surr: Toluene-d8	96.9	51-127		%REC	5	4/5/2007 9:44:00 AM

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	S Spike Recovery outside accepted recovery limits
	U Indicates the compound was analyzed for but not detected	X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-12A

Client Sample ID: RW-3
Tag Number:
Collection Date: 4/3/2007 1:15:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,1,1-Trichloroethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,1,2-Trichloroethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,1-Dichloroethane	30	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,1-Dichloroethene	2.1	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,1-Dichloropropene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2,3-Trichloropropane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2-Dibromoethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2-Dichloroethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,2-Dichloropropane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,3-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,3-dichloropropane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
1,4-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
2,2-Dichloropropane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
2-Butanone	U	3.0		µg/L	1	4/5/2007 10:23:00 AM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
2-Chlorotoluene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
2-Hexanone	U	2.0		µg/L	1	4/5/2007 10:23:00 AM
2-Propanol	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
4-Chlorotoluene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
4-isopropyltoluene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
4-Methyl-2-pentanone	U	2.0		µg/L	1	4/5/2007 10:23:00 AM
Acetone	U	2.0		µg/L	1	4/5/2007 10:23:00 AM
Acrolein	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Acrylonitrile	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Benzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Bromobenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Bromochloromethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Bromodichloromethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Bromoform	U	1.0		µg/L	1	4/5/2007 10:23:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-12A

Client Sample ID: RW-3
Tag Number:
Collection Date: 4/3/2007 1:15:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B			Analyst: MB	
Bromomethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Carbon disulfide	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Carbon tetrachloride	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Chlorobenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Chlorodifluoromethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Chloroethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Chloroform	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Chloromethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
cis-1,2-Dichloroethene	280	1.0		µg/L	1	4/5/2007 10:23:00 AM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Dibromochloromethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Dibromomethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Dichlorodifluoromethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Diisopropyl ether	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Ethanol	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Ethyl acetate	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Ethylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Freon-114	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Hexachlorobutadiene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Isopropyl acetate	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Isopropylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
m,p-Xylene	U	2.0		µg/L	1	4/5/2007 10:23:00 AM
Methyl tert-butyl ether	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Methylene chloride	5.4	1.0	B	µg/L	1	4/5/2007 10:23:00 AM
n-Amyl acetate	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Naphthalene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
n-Butyl acetate	U	2.0		µg/L	1	4/5/2007 10:23:00 AM
n-Butylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
n-Propyl acetate	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
n-Propylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
o-Xylene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
p-Diethylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
p-Ethyltoluene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
sec-Butylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Styrene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
t-Butyl alcohol	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
tert-Butylbenzene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Tetrachloroethene	19	1.0		µg/L	1	4/5/2007 10:23:00 AM
Toluene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	RW-3
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 1:15:00 PM
Lab ID:	0704031-12A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
trans-1,2-Dichloroethene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Trichloroethene	92	1.0		µg/L	1	4/5/2007 10:23:00 AM
Trichlorofluoromethane	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Vinyl acetate	U	1.0		µg/L	1	4/5/2007 10:23:00 AM
Vinyl chloride	6.0	1.0		µg/L	1	4/5/2007 10:23:00 AM
Surr: 4-Bromofluorobenzene	101	54-134		%REC	1	4/5/2007 10:23:00 AM
Surr: Dibromofluoromethane	99.4	52-132		%REC	1	4/5/2007 10:23:00 AM
Surr: Toluene-d8	99.4	51-127		%REC	1	4/5/2007 10:23:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation	Client Sample ID: MW-8
Lab Order: 0704031	Tag Number:
Project: Semi-Annual	Collection Date: 4/3/2007 1:00:00 PM
Lab ID: 0704031-13A	Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	0.0766	0.0200		mg/L	1	4/6/2007 10:53:25 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,1,1-Trichloroethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,1,2-Trichloroethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,1-Dichloroethane	5.7	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,1-Dichloroethene	0.86	1.0	J	µg/L	1	4/5/2007 11:11:00 AM
1,1-Dichloropropene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2,3-Trichloropropane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2-Dibromoethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2-Dichloroethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,2-Dichloropropane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,3-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,3-dichloropropane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
1,4-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
2,2-Dichloropropane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
2-Butanone	U	3.0		µg/L	1	4/5/2007 11:11:00 AM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
2-Chlorotoluene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
2-Hexanone	U	2.0		µg/L	1	4/5/2007 11:11:00 AM
2-Propanol	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
4-Chlorotoluene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
4-Isopropyltoluene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
4-Methyl-2-pentanone	U	2.0		µg/L	1	4/5/2007 11:11:00 AM
Acetone	U	2.0		µg/L	1	4/5/2007 11:11:00 AM
Acrolein	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Acrylonitrile	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Benzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Bromobenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Bromochloromethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation	Client Sample ID: MW-8
Lab Order: 0704031	Tag Number:
Project: Semi-Annual	Collection Date: 4/3/2007 1:00:00 PM
Lab ID: 0704031-13A	Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
Bromodichloromethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Bromoform	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Bromomethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Carbon disulfide	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Carbon tetrachloride	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Chlorobenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Chlorodifluoromethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Chloroethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Chloroform	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Chloromethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
cis-1,2-Dichloroethene	45	1.0		µg/L	1	4/5/2007 11:11:00 AM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Dibromochloromethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Dibromomethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Dichlorodifluoromethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Diisopropyl ether	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Ethanol	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Ethyl acetate	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Ethylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Freon-114	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Hexachlorobutadiene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Isopropyl acetate	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Isopropylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
m,p-Xylene	U	2.0		µg/L	1	4/5/2007 11:11:00 AM
Methyl tert-butyl ether	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Methylene chloride	5.6	1.0	B	µg/L	1	4/5/2007 11:11:00 AM
n-Amyl acetate	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Naphthalene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
n-Butyl acetate	U	2.0		µg/L	1	4/5/2007 11:11:00 AM
n-Butylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
n-Propyl acetate	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
n-Propylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
o-Xylene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
p-Diethylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
p-Ethyltoluene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
sec-Butylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Styrene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
t-Butyl alcohol	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
tert-Butylbenzene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	MW-8
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 1:00:00 PM
Lab ID:	0704031-13A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
Tetrachloroethene	3.8	1.0		µg/L	1	4/5/2007 11:11:00 AM
Toluene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Trichloroethene	31	1.0		µg/L	1	4/5/2007 11:11:00 AM
Trichlorofluoromethane	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Vinyl acetate	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Vinyl chloride	U	1.0		µg/L	1	4/5/2007 11:11:00 AM
Surr: 4-Bromofluorobenzene	98.5	54-134		%REC	1	4/5/2007 11:11:00 AM
Surr: Dibromofluoromethane	98.7	52-132		%REC	1	4/5/2007 11:11:00 AM
Surr: Toluene-d8	94.0	51-127		%REC	1	4/5/2007 11:11:00 AM
NITRATE AS N		E353.2				Analyst: WN
Nitrate	7.70	1.00		mg/L	10	4/5/2007
SULFATE		E375.4				Analyst: VP
Sulfate	20.4	1.00		mg/L	1	4/6/2007

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	II	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-14A

Client Sample ID: MW-12
Tag Number:
Collection Date: 4/3/2007 2:40:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		E200.7		SW3010A		Analyst: JP
Iron	12.7	0.0200		mg/L	1	4/6/2007 10:55:38 AM
VOLATILE SW-846 METHOD 8260		SW8260B				Analyst: MB
1,1,1,2-Tetrachloroethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,1,1-Trichloroethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,1,2,2-Tetrachloroethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,1,2-Trichloroethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,1-Dichloroethane	110	10		µg/L	10	4/5/2007 11:14:00 PM
1,1-Dichloroethene	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,1-Dichloropropene	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2,3-Trichlorobenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2,3-Trichloropropane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2,4,5-Tetramethylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2,4-Trichlorobenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2,4-Trimethylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2-Dibromo-3-chloropropane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2-Dibromoethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2-Dichlorobenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2-Dichloroethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,2-Dichloropropane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,3,5-Trimethylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,3-Dichlorobenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,3-dichloropropane	U	10		µg/L	10	4/5/2007 11:14:00 PM
1,4-Dichlorobenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
2,2-Dichloropropane	U	10		µg/L	10	4/5/2007 11:14:00 PM
2-Butanone	U	30		µg/L	10	4/5/2007 11:14:00 PM
2-Chloroethyl vinyl ether	U	10		µg/L	10	4/5/2007 11:14:00 PM
2-Chlorotoluene	1100	10		µg/L	10	4/5/2007 11:14:00 PM
2-Hexanone	U	20		µg/L	10	4/5/2007 11:14:00 PM
2-Propanol	U	10		µg/L	10	4/5/2007 11:14:00 PM
4-Chlorotoluene	U	10		µg/L	10	4/5/2007 11:14:00 PM
4-Isopropyltoluene	U	10		µg/L	10	4/5/2007 11:14:00 PM
4-Methyl-2-pentanone	U	20		µg/L	10	4/5/2007 11:14:00 PM
Acetone	63	20		µg/L	10	4/5/2007 11:14:00 PM
Acrolein	U	10		µg/L	10	4/5/2007 11:14:00 PM
Acrylonitrile	U	10		µg/L	10	4/5/2007 11:14:00 PM
Benzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Bromobenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Bromochloromethane	U	10		µg/L	10	4/5/2007 11:14:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	MW-12
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 2:40:00 PM
Lab ID:	0704031-14A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Bromodichloromethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
Bromoform	U	10		µg/L	10	4/5/2007 11:14:00 PM
Bromomethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
Carbon disulfide	U	10		µg/L	10	4/5/2007 11:14:00 PM
Carbon tetrachloride	U	10		µg/L	10	4/5/2007 11:14:00 PM
Chlorobenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Chlorodifluoromethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
Chloroethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
Chloroform	U	10		µg/L	10	4/5/2007 11:14:00 PM
Chloromethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
cis-1,2-Dichloroethene	62	10		µg/L	10	4/5/2007 11:14:00 PM
cis-1,3-Dichloropropene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Dibromochloromethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
Dibromomethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
Dichlorodifluoromethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
Diisopropyl ether	U	10		µg/L	10	4/5/2007 11:14:00 PM
Ethanol	U	10		µg/L	10	4/5/2007 11:14:00 PM
Ethyl acetate	U	10		µg/L	10	4/5/2007 11:14:00 PM
Ethylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Freon-114	U	10		µg/L	10	4/5/2007 11:14:00 PM
Hexachlorobutadiene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Isopropyl acetate	U	10		µg/L	10	4/5/2007 11:14:00 PM
Isopropylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
m,p-Xylene	U	20		µg/L	10	4/5/2007 11:14:00 PM
Methyl tert-butyl ether	U	10		µg/L	10	4/5/2007 11:14:00 PM
Methylene chloride	86	10		µg/L	10	4/5/2007 11:14:00 PM
n-Amyl acetate	U	10		µg/L	10	4/5/2007 11:14:00 PM
Naphthalene	U	10		µg/L	10	4/5/2007 11:14:00 PM
n-Butyl acetate	U	20		µg/L	10	4/5/2007 11:14:00 PM
n-Butylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
n-Propyl acetate	U	10		µg/L	10	4/5/2007 11:14:00 PM
n-Propylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
o-Xylene	U	10		µg/L	10	4/5/2007 11:14:00 PM
p-Diethylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
p-Ethyltoluene	U	10		µg/L	10	4/5/2007 11:14:00 PM
sec-Butylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Styrene	U	10		µg/L	10	4/5/2007 11:14:00 PM
t-Butyl alcohol	U	10		µg/L	10	4/5/2007 11:14:00 PM
tert-Butylbenzene	U	10		µg/L	10	4/5/2007 11:14:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	II	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	MW-12
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 2:40:00 PM
Lab ID:	0704031-14A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Tetrachloroethene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Toluene	U	10		µg/L	10	4/5/2007 11:14:00 PM
trans-1,2-Dichloroethene	U	10		µg/L	10	4/5/2007 11:14:00 PM
trans-1,3-Dichloropropene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Trichloroethene	U	10		µg/L	10	4/5/2007 11:14:00 PM
Trichlorofluoromethane	U	10		µg/L	10	4/5/2007 11:14:00 PM
Vinyl acetate	U	10		µg/L	10	4/5/2007 11:14:00 PM
Vinyl chloride	120	10		µg/L	10	4/5/2007 11:14:00 PM
Surr: 4-Bromofluorobenzene	99.0	54-134		%REC	10	4/5/2007 11:14:00 PM
Surr: Dibromofluoromethane	100	52-132		%REC	10	4/5/2007 11:14:00 PM
Surr: Toluene-d8	95.5	51-127		%REC	10	4/5/2007 11:14:00 PM
NITRATE AS N		E353.2		Analyst: WN		
Nitrate	0.0540	0.100	J	mg/L	1	4/5/2007
SULFATE		E375.4		Analyst: VP		
Sulfate	276	1.00		mg/L	1	4/6/2007

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	S Spike Recovery outside accepted recovery limits
	U Indicates the compound was analyzed for but not detected	X Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation
Lab Order: 0704031
Project: Semi-Annual
Lab ID: 0704031-15A

Client Sample ID: MW-45 [45A Site]
Tag Number:
Collection Date: 4/3/2007 12:50:00 PM
Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,1-Dichloroethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
2-Butanone	U	3.0		µg/L	1	4/5/2007 11:54:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
2-Chlorotoluene	0.84	1.0	J	µg/L	1	4/5/2007 11:54:00 PM
2-Hexanone	U	2.0		µg/L	1	4/5/2007 11:54:00 PM
2-Propanol	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	4/5/2007 11:54:00 PM
Acetone	U	2.0		µg/L	1	4/5/2007 11:54:00 PM
Acrolein	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Acrylonitrile	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Benzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Bromobenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Bromochloromethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Bromodichloromethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Bromoform	U	1.0		µg/L	1	4/5/2007 11:54:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT: Photocircuits Corporation	Client Sample ID: MW-45 [45A Site]
Lab Order: 0704031	Tag Number:
Project: Semi-Annual	Collection Date: 4/3/2007 12:50:00 PM
Lab ID: 0704031-15A	Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B			Analyst: MB	
Bromomethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Carbon disulfide	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Chlorobenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Chloroethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Chloroform	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Chloromethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
cis-1,2-Dichloroethene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Dibromochloromethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Dibromomethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Diisopropyl ether	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Ethanol	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Ethyl acetate	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Ethylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Freon-114	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Isopropyl acetate	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Isopropylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
m,p-Xylene	U	2.0		µg/L	1	4/5/2007 11:54:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Methylene chloride	5.0	1.0	B	µg/L	1	4/5/2007 11:54:00 PM
n-Amyl acetate	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Naphthalene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
n-Butyl acetate	U	2.0		µg/L	1	4/5/2007 11:54:00 PM
n-Butylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
n-Propyl acetate	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
n-Propylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
o-Xylene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Styrene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Tetrachloroethene	30	1.0		µg/L	1	4/5/2007 11:54:00 PM
Toluene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	MW-45 [45A Site]
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 12:50:00 PM
Lab ID:	0704031-15A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
trans-1,2-Dichloroethene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Trichloroethene	1.1	1.0		µg/L	1	4/5/2007 11:54:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Vinyl acetate	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Vinyl chloride	U	1.0		µg/L	1	4/5/2007 11:54:00 PM
Surr: 4-Bromofluorobenzene	103	54-134		%REC	1	4/5/2007 11:54:00 PM
Surr: Dibromofluoromethane	101	52-132		%REC	1	4/5/2007 11:54:00 PM
Surr: Toluene-d8	96.9	51-127		%REC	1	4/5/2007 11:54:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	MW-35 [45A Site]
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 2:00:00 PM
Lab ID:	0704031-16A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,1,1-Trichloroethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,1,2-Trichloroethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,1-Dichloroethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,1-Dichloroethene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,1-Dichloropropene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2,3-Trichloropropane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2-Dibromoethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2-Dichlorobenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2-Dichloroethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,2-Dichloropropane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,3-Dichlorobenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,3-dichloropropane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
1,4-Dichlorobenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
2,2-Dichloropropane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
2-Butanone	U	3.0		µg/L	1	4/6/2007 12:48:00 AM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
2-Chlorotoluene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
2-Hexanone	U	2.0		µg/L	1	4/6/2007 12:48:00 AM
2-Propanol	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
4-Chlorotoluene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
4-Isopropyltoluene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
4-Methyl-2-pentanone	U	2.0		µg/L	1	4/6/2007 12:48:00 AM
Acetone	U	2.0		µg/L	1	4/6/2007 12:48:00 AM
Acrolein	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Acrylonitrile	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Benzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Bromobenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Bromochloromethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Bromodichloromethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Bromoform	U	1.0		µg/L	1	4/6/2007 12:48:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	MW-35 [45A Site]
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 2:00:00 PM
Lab ID:	0704031-16A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Bromomethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Carbon disulfide	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Carbon tetrachloride	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Chlorobenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Chlorodifluoromethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Chloroethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Chloroform	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Chloromethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
cis-1,2-Dichloroethene	3.2	1.0		µg/L	1	4/6/2007 12:48:00 AM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Dibromochloromethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Dibromomethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Dichlorodifluoromethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Diisopropyl ether	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Ethanol	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Ethyl acetate	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Ethylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Freon-114	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Hexachlorobutadiene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Isopropyl acetate	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
isopropylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
m,p-Xylene	U	2.0		µg/L	1	4/6/2007 12:48:00 AM
Methyl tert-butyl ether	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Methylene chloride	4.8	1.0	B	µg/L	1	4/6/2007 12:48:00 AM
n-Amyl acetate	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Naphthalene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
n-Butyl acetate	U	2.0		µg/L	1	4/6/2007 12:48:00 AM
n-Butylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
n-Propyl acetate	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
n-Propylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
o-Xylene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
p-Diethylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
p-Ethyltoluene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
sec-Butylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Styrene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
t-Butyl alcohol	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
tert-Butylbenzene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Tetrachloroethene	12	1.0		µg/L	1	4/6/2007 12:48:00 AM
Toluene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detected	X	Value exceeds Maximum Contaminant Level

American Analytical Laboratories, LLC.

Date: 10-Apr-07

CLIENT:	Photocircuits Corporation	Client Sample ID:	MW-35 [45A Site]
Lab Order:	0704031	Tag Number:	
Project:	Semi-Annual	Collection Date:	4/3/2007 2:00:00 PM
Lab ID:	0704031-16A	Matrix:	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260						
		SW8260B				Analyst: MB
trans-1,2-Dichloroethene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Trichloroethene	230	1.0		µg/L	1	4/6/2007 12:48:00 AM
Trichlorofluoromethane	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Vinyl acetate	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Vinyl chloride	U	1.0		µg/L	1	4/6/2007 12:48:00 AM
Surr: 4-Bromofluorobenzene	104	54-134		%REC	1	4/6/2007 12:48:00 AM
Surr: Dibromofluoromethane	107	52-132		%REC	1	4/6/2007 12:48:00 AM
Surr: Toluene-d8	100	51-127		%REC	1	4/6/2007 12:48:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits
	U	Indicates the compound was analyzed for but not detecte	X	Value exceeds Maximum Contaminant Level

EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271390.01

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: AAL #0704031-01A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:04/02/07 RECEIVED:04/04/07

TIME COL'D:1215

MATRIX:Liquid SAMPLE:

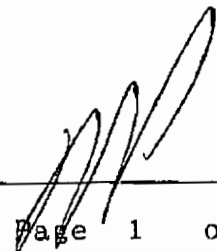
ANALYTICAL PARAMETERS	UNITS	RESULT	FLAG	DATE OF ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	25		04/10/07	1	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271390.02

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: AAL #0704031-02A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:04/02/07 RECEIVED:04/04/07

TIME COL'D:1205

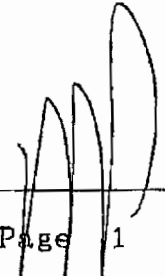
MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS	UNITS	RESULT	DATE OF ANALYSIS	FLAG	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	34	04/10/07	2		EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR _____


EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271390.03

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: AAL #0704031-03A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:04/02/07 RECEIVED:04/04/07

TIME COL'D:1235

MATRIX:Liquid SAMPLE:

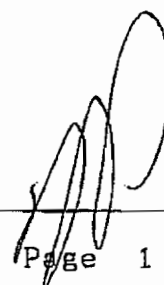
ANALYTICAL PARAMETERS	UNITS	RESULT	FLAG	DATE OF ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	22		04/10/07	2	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271390.04

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: AAL #0704031-04A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:04/02/07 RECEIVED:04/04/07

TIME COL'D:1255

MATRIX:Liquid SAMPLE:

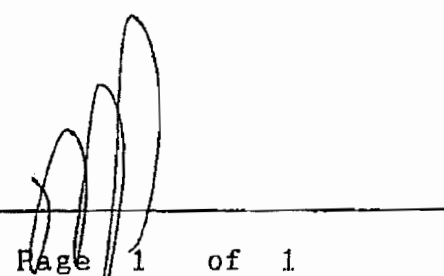
ANALYTICAL PARAMETERS	UNITS	RESULT	FLAG	DATE OF ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	83		04/10/07	10	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271390.05

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: AAL #0704031-05A

SOURCE OF SAMPLE:

COLLECTED BY: Client DATE COL'D:04/02/07 RECEIVED:04/04/07
TIME COL'D:1320

MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS	UNITS	RESULT	DATE OF ANALYSIS	FLAG	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	27	04/10/07	2		EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271390.06

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PQ#:

SOURCE OF SAMPLE: AAL #0704031-06A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:04/02/07 RECEIVED:04/04/07

TIME COL'D:1340

MATRIX:Liquid SAMPLE:

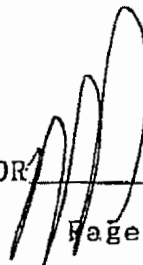
ANALYTICAL PARAMETERS	UNITS	RESULT	DATE OF ANALYSIS	FLAG	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	53	04/10/07		5	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271390.07

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: AAL #0704031-07A

SOURCE OF SAMPLE:

COLLECTED BY: Client DATE COL'D:04/02/07 RECEIVED:04/04/07
TIME COL'D:1640

MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS
Tot Organic Carbon

UNITS RESULT
mg/L 6.7

DATE OF ANALYSIS LRL
04/10/07 1

ANALYTICAL METHOD
EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271390.08

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: AAL #0704031-08A

SOURCE OF SAMPLE:

COLLECTED BY: Client DATE COL'D:04/02/07 RECEIVED:04/04/07

MATRIX:Liquid SAMPLE:

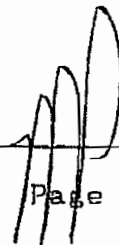
ANALYTICAL PARAMETERS	UNITS RESULT	DATE OF ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L 620	04/10/07	50	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271391.01

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: AAL #0704031-13A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:04/03/07 RECEIVED:04/04/07

TIME COL'D:1300

MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS	UNITS	RESULT	FLAG	DATE OF ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	< 1		04/10/07	1	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



04/10/2007 15:27

6314225770

ECOTESTLABS

PAGE 13/13

EcoTest Laboratories Inc
377 Sheffield Ave
North Babylon, NY 11703
631 422-5777

LAB NO.271391.02

04/10/07

American Analytical Laboratories
56 Toledo Street
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: AAL #0704031-14A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:04/03/07 RECEIVED:04/04/07

TIME COL'D:1440

MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS
Tot Organic Carbon

UNITS RESULT
mg/L 28

DATE OF ANALYSIS LRL
04/10/07 1

ANALYTICAL METHOD
EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



rn = 8054

NYSDOH ID # 10320



Photocircuits Corporation
31 Sea Cliff Avenue
Glen Cove, NY 11542

Date: April 27, 2007

Light Hydrocarbon Gases Analyses

Client: Photocircuits Corporation
31 Sea Cliff Avenue
Glen Cove, NY 11542

Well: MW-14
Date Sampled: 4/2/07
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	13000	µg/L	E
Acetylene	1.2	<1.1	µg/L	U
Ethene	1.3	35	µg/L	
Ethane	1.3	14	µg/L	

Well: SMP-1
Date Sampled: 4/2/07
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	17000	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	14	µg/L	
Ethane	1.3	<1.3	µg/L	U

Well: DMP-1
Date Sampled: 4/2/07
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	12000	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	12	µg/L	
Ethane	1.3	<1.3	µg/L	U

Well: SMP-3
 Date Sampled: 4/2/07
 Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	6400	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	19	µg/L	
Ethane	1.3	5.6	µg/L	

Well: DMP-3
 Date Sampled: 4/2/07
 Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	6400	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	140	µg/L	
Ethane	1.3	11	µg/L	

Well: SMP-4
 Date Sampled: 4/2/07
 Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	10000	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	7.3	µg/L	
Ethane	1.3	<1.3	µg/L	U

Well: DMP-4
 Date Sampled: 4/2/07
 Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	12000	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	52	µg/L	
Ethane	1.3	5.1	µg/L	

Well: MW-8
 Date Sampled: 4/3/07
 Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	<0.7	µg/L	U
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	<1.3	µg/L	U
Ethane	1.3	<1.3	µg/L	U

Well: MW-12
Date Sampled: 4/3/07
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	2900	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	35	µg/L	
Ethane	1.3	22	µg/L	

Well: MW-13
Date Sampled: 4/2/07
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	7600	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	4.5	µg/L	
Ethane	1.3	6.2	µg/L	

Qualifiers:

- E Compound concentration estimated; above method calibration limits
- U Compound not detected
- J Compound concentration estimated; compound detected below calibration limits

Analyses were conducted according to a modification of EPA SW 846 Method 8021B by heating the samples in a Tekmar 7000/7050 Headspace autosampler for ten minutes and transferring a portion of the headspace to a Hewlett Packard 5890 Series II gas chromatograph equipped with a splitter going into two columns; a 30 m Supelco VOCOL 0.32 µM capillary column to separate and quantify the chlorinated compounds using an Electrolytic Conductivity Detector; and a 30 m Supelco PLOT 1006 0.32 µm capillary column to separate and quantify the light hydrocarbon gases (methane, acetylene, ethene, and ethane) using a flame ionization detector.

TERRA SYSTEMS, INC.

Michael D Lee, Ph.D.

Michael D. Lee, Ph.D.
Laboratory Manager

cc: Andy Barber, Barton and Loguidice



STATUS REPORT

APRIL 2007

**PHOTOCIRCUITS CORPORATION
ACCELERATED ANAEROBIC BIOREMEDIATION PROJECT**

PREPARED FOR:

**PHOTOCIRCUITS CORPORATION
31 SEA CLIFF AVENUE
GLEN COVE, NY 11542**

PREPARED BY:

**TERRA SYSTEMS, INC.
1035 PHILADELPHIA PIKE
SUITE E
WILMINGTON DE 19809**

MAY 17, 2007

TABLE OF CONTENTS

TABLE OF CONTENTS	1
1.0 EXECUTIVE SUMMARY	1
3.0 BACKGROUND	4
3.1 SITE GEOLOGY/HYDROLOGY.....	4
3.2 NATURE AND EXTENT OF CONTAMINATION	4
3.3 RATIONALE FOR USE OF TECHNOLOGY	4
3.4 TECHNOLOGY DESCRIPTION	5
4.1 STUDY AREA	7
4.2 TECHNICAL CHALLENGES.....	7
4.3 KEY DESIGN CRITERIA	8
4.4 TREATMENT SYSTEM SCHEMATIC AND OPERATION	8
4.5 OPERATING PARAMETERS	9
5.0 RESULTS	10
5.1 PERFORMANCE EVALUATION CRITERIA	10
5.2 ORGANIZATION OF DATA.....	10
5.3 PROJECT TO DATE RESULTS	11
5.3.1 Chlorinated Ethene Results.....	11
5.3.2 Chlorinated Ethane Results.....	13
5.3.3 Other Organic Compounds Results.....	14
5.3.4 Sum of VOAs	15
5.3.5 Substrate Distribution.....	15
2.0.0 Electron Acceptor Results.....	16
3.0.0 Field Parameters.....	16
6.0 DISCUSSION	18
7.0 CONCLUSIONS	20
8.0 REFERENCES	21

FIGURES

Figure 1. Site Map

Figure 2. Treatment Cell

TABLES

Table 1. Photocircuits Anaerobic Treatment Cell Analytical Summary

Table 2. Photocircuits Anaerobic Treatment Cell Chlorinated Solvents in Micromolar Concentrations

Table 3. Photocircuits Anaerobic Treatment Cell Field Data

Table 4. Photocircuits Anaerobic Treatment Cell Percent Change Between 9/1/00 and 1/8/02 or 4/2/07

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

ABBREVIATIONS

IDCA	1,1-Dichloroethane
IDCE	1,1-Dichloroethene or 1,1-Dichloroethylene or Vinylidene Chloride
ITCA	1,1,1-Trichloroethane
bgs	Below Ground Surface
CA	Chloroethane
cDCE	cis-1,2-Dichloroethene or cis-1,2-chloroethylene
msl	mean sea level
MTBE	Methyl Tert Butyl Ether
µg/L	Microgram per Liter
µM	Micromole per Liter
PCE	Tetrachloroethene or Perchloroethylene
SRS™	Slow Release Substrate
TCE	Trichloroethene or Trichloroethylene
tDCE	trans-1,2-Dichloroethene or trans-1,2-Dichloroethylene
TOC	Total Organic Carbon
TSI	Terra Systems, Inc.
VC	Vinyl Chloride
VOC	Volatile Organic Carbon

1.0 EXECUTIVE SUMMARY

In August 2000, Photocircuits Corporation initiated a pilot study at its 31 Sea Cliff Ave. property to treat chlorinated volatile organic compounds (VOC) using in situ anaerobic bioremediation. The site is characterized by VOC contamination of a sandy, silt, and gravel aquifer. Monitoring data indicate that some biodegradation of these contaminants was occurring at the site prior to the start of the pilot study. The two primary objectives of this pilot study are to 1) evaluate the use of substrate injection to enhance in situ anaerobic biological degradation of chlorinated VOCs in the study area and 2) obtain operating and performance data to optimize the design and operation of a full-scale system. During the operational period of this pilot study, there is no emphasis on reducing any contaminants to a specific regulatory level.

The study area, which encompasses a triangular area roughly 92 feet wide, 157 feet long, and 60 feet deep, underlies the former drum storage area of the Photocircuits Corporation facility. Prior to the start of the pilot test, total chlorinated contaminant concentrations in wells within the pilot area ranged from 457 to 539,000 µg/L. The initial pilot bioremediation system consisted of six injection points in a line spaced about 15 to 20 feet apart. A slow release substrate (SRS™) containing edible soybean oil was designed to provide a slow release food grade carbon source over a period in excess of twelve months. A total of 3,600 gallons of the soybean oil emulsion was injected. The substrate concentrations were selected based on previous experience.

An additional 5,722 gallons of the emulsified substrate was injected in months 17 and 19 (February and April 2002) at twelve injection points in a full-scale treatment cell. VOC and substrate concentrations have been monitored twenty times over a seventy-nine month period at eight wells spaced throughout the treatment area. VOC and substrate concentrations have also been monitored at ten wells downgradient of the treatment area to determine if the substrate has migrated outside of the area and if the substrate amendment has affected these wells.

The system has been operating since August 31, 2000. Substrate monitoring data after the first injection indicated that substrate was delivered throughout the treatment cell with the highest substrate levels found in well MW-14. In the initial injection event in August 2000, the emulsion moved into this well from several of the injection points and displaced much of the contaminated groundwater within this well. Well MW-7 has contained the emulsion since April 2002 and has not been sampled. Contaminant levels had increased in MW-7 between August 2000 and January 2002 when the last sample was collected from this well. An increase in total VOCs has also been observed in well MW-14 since the first injection of substrate in August 2000. Desorption of contaminants adsorbed to the soil due to enhanced biological activity may be contributing to the increased contaminant concentrations in MW-14 and MW-7. Contaminants that partitioned into the injected oil may also be released. Where substrate levels were above 50 mg/L, significant declines in total VOC concentrations (90-98%) were generally observed. Wells MW-14, MW-7 (through 1/8/02), and DMP-4 have shown increased total volatiles concentrations since September 2000. The average total contaminant concentrations within the treatment cell (excluding MW-7) have fallen by as much as 84.1% since September 2000. The average total volatile percent removal was 79.8% in April 2007. The substrate reinjection in February and April 2002 increased the TOC concentrations in all wells within the treatment cell. In April 2007, TOC levels ranged from 22 mg/L in DMP-3 to 620 mg/L in MW-14 with an

average of 108 mg/L in the seven wells sampled within the treatment cell. TOC levels in four of the seven wells were above the target level of 50 mg/L. The concentrations of TOC have dropped considerably in wells SMP-1, DMP-1, SMP-3, DMP-3, and SMP-4 since the last injection event in 2002. The concentrations of sulfate, a competing electron acceptor were higher in wells SMP-1, DMP-3, and SMP-4 in the April 2007 sampling event than the previous event in November 2006.

The average percent removal of total volatiles increased from 31.9% in July 2005 to 79.8% in April 2007 largely as a result of decreased concentrations of 1TCA and 1DCA in SMP-3 and DMP-3. 1TCA concentrations decreased in SMP-3 from 51,000 to 6,900 µg/L and in DMP-3 from 40,000 to 6,400 µg/L over this period. The 1DCA concentrations in SMP-3 decreased from 28,000 to 700 µg/L and in DMP-3 from 44,000 to 14,000 µg/L. The CA concentrations in these wells decreased as reductive dechlorination became limited due to availability of substrate. In April 2007, the concentrations of TOC were 83 mg/L in SMP-3 and 22 mg/L in DMP-3. There might have been a release of the parent compound 1TCA adsorbed into the oil or undegraded 1TCA from an upgradient location that was not adequately treated before it reached wells SMP-3 and DMP-3.

Injection of additional substrate is recommended to remove the competing electron acceptors and promote further dechlorination.

2.0 INTRODUCTION

The enclosed report describes the field study of *in situ* anaerobic bioremediation of a chlorinated solvent plume at the Photocircuits Corporation's 31 Sea Cliff Avenue, Glen Cove, NY facility. The study, which was initiated on August 31, 2000, has the following objectives:

- Determine if the addition of a food grade carbon source will enhance the extent and rate of chlorinated solvent biodegradation at the site.
- Determine the rate of chlorinated solvent biodegradation to estimate the time frame required for contaminant removal.
- Determine if the food grade carbon source can be adequately distributed in the formation such that the microorganisms can utilize it.
- Determine what role bioremediation technology has in the overall remediation strategy for the site.

3.0 BACKGROUND

The Photocircuits Corporation's 31 Sea Cliff Avenue facility, Glen Cove, New York is located on the north shore of Long Island. The plant site is bordered on the north by a light industrial area, to the south and east are arterial roads, and to the west by railroad tracks. The site is generally flat and is covered by manufacturing buildings and parking lots.

3.1 Site Geology/Hydrology

Based on analysis of soil borings and details of well construction at the Photocircuits site, the surficial deposit below the facility is primarily composed of interbedded sand, silt, gravel, and clay layers.

3.2 Nature and Extent of Contamination

The groundwater at the facility has been impacted by chlorinated ethene and chlorinated ethane compounds from various sources. Prior to the start of the pilot test, total volatile organic contaminant concentrations (TVOC) in groundwater ranged from 457 to 539,000 µg/L. Generally, the contamination extends to approximately 90 below ground surface (bgs) with the highest concentrations in the 20 to 50 ft. bgs zone.

3.3 Rationale for Use of Technology

As part of the technology review program, Photocircuits Corporation engaged Terra Systems, Inc. (TSI) to conduct an anaerobic bioremediation field pilot study at the facility. The study, which encompasses a triangular area roughly 92 feet wide and 157 long that had been used for drum storage, 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 and full-scale implementation. Beginning in March 2001, groundwater samples were also collected from 4 additional wells (MW-8, MW-9, MW-12, and MW-13) to determine if any of the injected substrate had migrated away from the study area. Wells MW-10 and MW-11 were monitored in January 2002, January 2003, and June 2004. The locations of these wells are shown in Figure 1. It should be noted that these wells are not expected to be impacted by the bioremediation study. Recovery wells RW-1, RW-2, RW-3, and RW-4 were installed in 2003 and have been sampled since December 2003. Well RW-2 was not sampled in September 2004 because of the accumulation of material in the pump discharge line. Well RW-4 was not sampled in April 2007.

Ground surface in the vicinity of the study area is about 60 feet above mean sea level (msl). In the treatment area, wells are screened between 10 and 52 feet msl. Downgradient wells MW-8, MW-10, and MW-11 are deep monitoring wells and wells MW-9, MW-12, and MW-13 are shallow wells. The screen intervals for the wells are shown below:

- Well MW-14 10 to 20 feet msl
- MW-7 37 to 52 feet msl
- SMP-1 50 to 52 feet msl

- SMP-3 45 to 47 feet msl
- SMP-4 45 to 47 feet msl
- DMP-1 40 to 42 feet msl
- DMP-3 35 to 37 feet msl,
- DMP-4 38 to 40 feet msl
- MW-8 -111 and -96 feet msl
- MW-9 31 to 46 feet msl
- MW-10 -72 to - 57 feet msl,
- MW-11 -112 to -97 feet msls
- MW-12 9 to 19 feet msl, and
- MW-13 11 to 21 feet msl.

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), trans-1,2-dichloroethene (tDCE), vinyl chloride (VC), and ethene. Acetylene can be produced by the abiotic reaction of PCE or TCE with ferrous sulfide (Butler and Hayes 2000). 1,1,1-Trichloroethane (1TCA) breaks down to 1,1-dichloroethene (1DCE), 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. Based on a review of the site historical data, it appears that the biological degradation process is limited by the availability of organic carbon.

3.4 Technology Description

Anaerobic bioremediation, also referred to as reductive dechlorination, of chlorinated solvents is a well documented process that converts chlorinated ethenes and ethanes to innocuous gases.

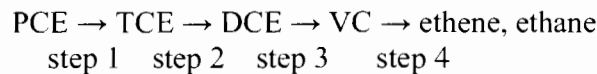
The following technology description is from a report entitled “Cost and Performance Report – In Situ Anaerobic Bioremediation Pinellas Northeast Site Largo, Florida” prepared for the U.S. Department of Energy (1998) by Sandia National Laboratories and Hazardous Waste Remedial Actions Program.

Bacteria metabolize soluble organic and inorganic compounds to provide energy for the growth and maintenance of bacterial cells. The complex organic molecules that bacteria consume are converted to new cells and various simpler compounds, such as carbon dioxide, that are released back into the environment. This process is referred to as biodegradation. Biodegradation has been used very cost effectively for more than a century in public and industrial wastewater treatment systems. Since bacteria occur naturally in both soil and ground water environments, bioremediation technologies attempt to stimulate the activity of these naturally occurring (or introduced bacteria) to degrade contaminants in a cost-effective manner. Bioremediation is being considered more often as the processes that control the biological degradation of contaminants in soil and ground water become better understood.

In order to produce new bacterial cells, bacteria require carbon, nitrogen, phosphorus, and energy sources, as well as a number of trace minerals. Electrons are released by the biochemical reactions that metabolize complex organic compounds for energy. Biological systems capture this biochemical energy through a series of electron transfer (redox) reactions. The bacteria that

are most commonly used in bioremediation systems use organic compounds as their source of carbon and energy; these carbon compounds are referred to as electron donors. Bacterial respiration requires that some chemical compound is available to act as a terminal electron acceptor. Common electron acceptors used by bacteria include oxygen, nitrate, sulfate, Fe^{3+} , and carbon dioxide.

Recently, a class of anaerobic bacteria has been identified that uses halogenated organic compounds as their electron acceptors. The chlorinated VOCs present in the soil and ground water at the Northeast site are among the halogenated organic compounds that can be used in this manner. Halogenated compounds have a high oxidation state; and when a halogen (e.g. chlorine) is chemically replaced by hydrogen, the oxidation state of the chemical is reduced. This process is referred to as reductive dehalogenation, and it forms the basis of the anaerobic process used by the in situ bacteria at the Photocircuits site. Under anaerobic conditions, chlorinated compounds can be degraded via reductive dehalogenation reactions to successively lower chlorinated degradation products, and finally to compounds of significantly lower toxicity. This process is illustrated for PCE below.



Biological activity is frequently limited by the availability of a single growth factor (e.g. electron acceptor, electron donor, nitrogen, etc.) and supplying the proper growth factor can often stimulate bacterial growth and biodegradation rates. For in situ bioremediation applications, nutrients or electron acceptors are often injected into the contaminated area to enhance the existing microbial degradation processes. Effectively delivering nutrients requires that factors such as site permeability and geochemistry be considered. Each class of contaminant varies in its susceptibility to biodegradation and factors such as aquifer oxidation-reduction potential, microbial ecology, and contaminant toxicity will affect the success of bioremediation at a site. The effective application of in situ bioremediation therefore depends upon careful consideration of the geologic and hydrologic properties at the site and on the type and concentration of contaminants to be treated.

Evaluations of the monitoring data from the Photocircuits site suggested that microbial dechlorination is occurring naturally. cDCE and VC are degradation products of TCE that were measured in high concentrations, but were not contaminants originally disposed of at the site, which suggests that a population of dechlorinating microorganisms is relatively active at Photocircuits

The report continues on to outline the technology advantages and disadvantages which are listed below:

Technology Advantages

- Contaminants are treated in situ with little waste generation
- Contaminant degradation can be relatively fast
- Bioremediation is capable of reducing contaminants to very low levels

- The process stimulates a microbial population that can continue to feed off the dissolved phase of a continuing source after nutrient injection ceases, and
- Often provides a low overall remediation cost relative to other technologies.

Technology Disadvantages

- Contaminant degradation enhancement is dependent on adequate nutrient delivery to all areas of contamination before the nutrients are directly metabolized, which often is primarily a function of site hydrogeology and the appropriate mixing of nutrients, contaminants, and active microbes,
- Site conditions (e.g. soil and ground water chemistry, reductive processes, etc.) must be conducive to the stimulation of biological activity to be effective,
- Bioremediation will not directly degrade contaminants occurring in an immiscible phase,
- High concentrations of contaminants often are toxic to microorganisms,
- Bioremediation may be difficult to optimize at sites with multiple contaminants of concern,
- Incomplete biodegradation of contaminants can lead to the generation of degradation products that are just as toxic or even more so than the parent contaminants, and
- Regulatory concerns over chemical injections into aquifers.

4.1 Study Area

The study area encompasses a triangular area roughly 92 feet by 157 feet with a contaminated interval of 50 feet (from the water table at 10 feet to 60 feet) underlies the former drum storage area of the Photocircuits Corporation 31 Sea Cliff Ave, Glen Cove, NY facility. 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 enhanced anaerobic bioremediation treatment. Beginning in March 2001 groundwater samples were also collected from four additional wells (MW-8, MW-9, MW-12, and MW-13) to determine if the injected substrate had migrated away from the study area. Wells MW-10 and MW-11 were sampled in January 2002, January 2003, and June 2004. It should be noted that the downgradient wells are not expected to be impacted by the bioremediation project. Recovery wells RW-1, RW-2, RW-3, and RW-4 were first monitored in December 2003.

4.2 Technical Challenges

The key technical challenges for this study are:

- ability to move a carbon source throughout the contaminated area;
- estimation of quantity of chlorinated compounds
- determination of minimum level of TOC required to optimize reductive dechlorination

4.3 Key Design Criteria

The in situ anaerobic bioremediation pilot system was designed for two main objectives;

- develop a nutrient delivery system capable of providing a mixture of nutrients to the subsurface within the heterogeneous aquifer, such that the nutrients will be delivered to all levels in the treatment area within an approximately 24 month operating period, and
- deliver a sufficient quantity of substrate to the treatment area to last for approximately 24 months.

4.4 Treatment System Schematic and Operation

The test area was injected with emulsified soybean oil in August 29 to September 1, 2000. The key objective 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. The soybean oil is broken down into smaller organic molecules and hydrogen that are then used by the dechlorinating bacteria. In the second injection event, soybean oil, a surfactant mix, a quick release substrate package, sodium bromide (a tracer), and activated carbon-treated water was used to prepare an emulsion.

Figure 2 is a schematic of the anaerobic biotreatment system showing the monitoring wells and the injection locations within the treatment cell. Injection points 1 to 7 were used in the first injection event. In this injection event, the nutrients were distributed throughout the vertical extent of the treatment area by a Geoprobe® rig at the beginning of the pilot. The Geoprobe® pushed a drivepoint to about 50 feet bgs. The drill rod was pulled back two feet to inject the fluids under pressure with a Rupe pump. The rod was then withdrawn four feet and additional fluid was injected. This process continued until about 22 ft bgs. Approximately 3,500 gallons of soybean oil emulsion containing soybean oil, soybean lecithin, and tap water (treated to remove chlorine) was injected into five points. Forty gallons of soybean oil was injected at an additional point. About 4,530 pounds of soybean oil and lecithin was injected. In addition to pressure injection of the emulsion followed by injection of chase water to disperse the nutrients, natural groundwater flow has dispersed the substrate.

During the period of February 25, 2002 to March 3, 2002, Terra Systems, Inc. constructed and utilized a low pressure injection system to inject substrate into the treatment cell with twelve injection wells (injection points 8-19). The injection system consisted of 7 one-inch wells installed to 60 ft. bgs and 5 one-inch wells installed to 55 ft. bgs. Eight of the wells were spaced 7.5 feet apart in a line. Two additional wells were placed on either side of the line. All of the wells had 20 ft. of PVC blank riser and 40 and 35 ft. of PVC screen (0.02 slot) respectively. The wells were installed using the Geoprobe™ direct-push method. Approximately 5,777 gallons of the emulsion was prepared and injected in February and April 2002. A total of 5,777 gallons of the emulsion containing 9,588 pounds of the soybean oil and surfactant mix, 94 pounds of a quick release substrate package, and 5.9 pounds of sodium bromide was injected.

4.5 Operating Parameters

The major operating parameters needed to assess the performance and cost of the bioremediation system were considered to be substrate concentrations and substrate longevity.

5.0 RESULTS

The bioremediation study at the Photocircuits Corporation site is being conducted to accelerate the degradation of the chlorinated contaminants of concern.

5.1 Performance Evaluation Criteria

The performance criteria considered in evaluating this in situ anaerobic bioremediation system included:

- Substrate transport and utilization in the remediation study area,
- Contaminant degradation rates and the reduction in mass of the contaminants,
- Fate of chlorinated solvent degradation compounds, and
- Levels to which contaminants can be reduced.

The evaluation data were collected by a monitoring program of nineteen field sampling events over a 79 month period.

5.2 Organization of Data

The analytical data from the treatment cell collected from each of the eighteen sampling events 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, tDCE, VC, and ethene. Similarly one unit of 1TCA is equivalent to one unit of 1DCE, 1DCA, CA, or ethane.
- Table 3 presents the field data collected in January, April, June, and October 2002; January, April, August, and December 2003; March, June, September, and December 2004; November 2006; and April 2007.
- Table 4 summarizes the changes between the samples collected within the treatment cell immediately after the oil emulsion injection and the samples collected seventy-nine months later. For wells MW-14 and MW-7, samples could not be collected in April, June, or October 2002 because of the accumulation of emulsion. Well MW-14 has been sampled since January 2003. MW-7 could not be sampled at any of these time points because of the presence of the emulsion. 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 emulsion injection or in the samples

collected after fifty-nine 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. For the downgradient wells, Table 4 summarizes the percent changes between the sample collected on 3/28/01 and the samples collected on 4/2/07 for wells MW-8, MW-12, and MW-13, for well MW-9 between 3/28/01 and 6/22/04, and between 1/22/02 and 6/22/04 for wells MW-10 and MW-11.

- Table 5 summarizes the changes in the chloroethenes, chloroethanes, electron acceptors, and electron donor for all wells from the beginning of the project in August-September 2000 to January 2002 or April 2007.

5.3 Project To Date Results

The following table summarizes the status of the key performance measures for this project as of April 2007. Details are described in subsequent sections..

Performance Measures	Values/Results
Treatment Volume: Soil	Approximately 92' X 157' X 60', 866,640 ft ³
Ground Water Treated:	Approximately 1,620,617 gallons
System substrate transport effectiveness:	Demonstrated distribution throughout treatment area
Substrate effectiveness:	Enhanced dechlorination
Substrate viability	Lasted for more than four years
Reduction of total contaminants of concern:	Achieved reductions of 17% to 95% except in MW-14, MW-7 (through 1/8/02), and DMP-4
Chlorinated solvent degradation product production	General decline in all contaminants with some temporary increases in degradation products, followed by reduction of the degradation products themselves by biological degradation
Waste generated	None

5.3.1 Chlorinated Ethene Results

In the monitoring wells within the treatment cell, cis-1,2-DCE, VC, and ethene were initially the predominant chlorinated ethenes with little of the parent compounds, PCE or TCE, being detected. Trans-1,2-DCE is a minor product, present at 1.1% or less of the total chlorinated ethenes. Chlorinated ethenes concentrations greater than 1,000 µg/L were initially only detected in SMP-1 and DMP-3.

Between November 2006 and April 2007, the parent compounds PCE and TCE and the intermediate daughter products cDCE, tDCE, and VC declined in well DMP-3. On a micromolar basis, VC was the dominant chlorinated ethene detected in well DMP-3 and DMP-4 in April 2007. Ethene was the dominant chlorinated ethene in April 2007 in wells MW-14, SMP-1,

DMP-1, SMP-3, and SMP-4. Well SMP-4 did not contain detectable concentrations of PCE, TCE, cDCE, tDCE, or VC in April 2007.

As previously discussed, the goal of the process is to convert PCE into ethene because the ethene is considered to be environmentally acceptable. Ethene has not been associated with long-term toxicological problems and is a natural occurring plant hormone (Sims et al 1991). Unfortunately, given the field conditions, it is difficult to conduct a material balance. Ethene may be converted to carbon dioxide, ethane, or another product. Ethene may also 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.

Ethene had been the predominant chlorinated ethene in wells MW-14, MW-7 (through 1/8/02), SMP-1, DMP-1, SMP-3, DMP-3, SMP-4, and DMP-4. In the more recent sampling events, VC, cDCE, and the parent compounds PCE and TCE have increased in several wells. The continued presence of ethene in all of the wells in the treatment area shows that complete dechlorination of the chlorinated ethenes is occurring. Low levels of acetylene, an abiotic degradation product from the reaction of PCE or TCE with ferrous sulfide and ferrous disulfide, have been detected in wells MW-14, SMP-1, and SMP-3.

The addition of soybean oil emulsion has resulted in lower concentrations of PCE, TCE, cDCE, tDCE, and VC in treatment area wells MW-14, SMP-1, DMP-1, SMP-3, DMP-3, SMP-4, and DMP-4. The most dramatic change was observed in well SMP-1 where cDCE concentrations declined from 24,900 µg/L in August 2000 to <2.0 µg/L in April 2007.

In the downgradient monitoring wells sampled since March 2001, wells MW-8, MW-10, MW-11, MW-12, and MW-13 had parent compounds PCE and/or TCE. Concentrations greater than 1,000 µg/L of chlorinated ethenes were only detected in MW-12. Total chlorinated ethenes have subsequently been greater than 1,000 µg/L in MW-13. Since March 2001, six months after the first substrate injection, TCE, cDCE, tDCE, and VC concentrations had declined in MW-12, but then cDCE, VC, and ethene concentrations rebounded between July 2005 and November 2006. The concentrations of these compounds fell between November 2006 and April 2007. The first emulsion injection appeared to have had an effect on MW-12 based upon the increases in ethene, methane, and TOC. The availability of substrate (<0.51 to 124 mg/L TOC) may be limiting the extent of dechlorination at this well. Ethene has only been detected at low levels in the other downgradient wells. The very low levels of TCE and cDCE found in MW-8 had dissipated from April 2002 to January 2003, but were detected again in from April 2003 through April 2007. Higher levels of PCE, TCE, and cDCE have been found in the recent sampling events for MW-8. Little change in the concentrations of PCE, TCE, cDCE, or VC was noted in the deep well MW-10 between 1/22/02 and 6/22/04. Low levels of TCE and cDCE appeared in the deep well MW-11 in January 2003 and persisted through June 2004. PCE and TCE concentrations have increased in MW-13, but ethene has only been detected at low concentrations of 5.8 µg/L or less in this well. Although the area around MW-13 appeared to be substrate-limited from March 2001 until November 2002, the availability of substrate increased to between 24 and 39 mg/L from January through August 2003. In March and June 2004, TOC was found at 47 to 49 mg/L compared to < 0.51 mg/L in December 2003 and PCE, TCE, cDCE, and VC decreased over the

levels seen in December 2003. In September 2004 to April 2007, there was only 6.0 to 9.0 mg/L of TOC in MW-13 and the PCE, TCE, and cDCE concentrations have increased substantially.

In December 2003 and March, June, September, December 2004, July 2005, November 2006, and April 2007, the new recovery wells contained a mix of PCE, TCE, cDCE, tDCE, and VC with cDCE being the dominant compound. Ethene and ethane were not analyzed in these wells. Since December 2003, the total chlorinated ethenes have increased by 453% for RW-1, and 36% for RW-4 (through November 2006), but decreased by 10% for RW-2 and 63% for RW-3.

5.3.2 Chlorinated Ethane Results

The analytical data provides evidence for biodegradation of the chlorinated ethanes. Wells DMP-1, SMP-3, DMP-3, and SMP-4 had the highest concentrations of total chlorinated ethanes in September 2000 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.

Well SMP-3 has shown a 96% (178,000 µg/L to 6,000 µg/L) reduction in the 1TCA concentrations. 1TCA levels in well SMP-4 have dropped by >99.97 percent. 1DCA concentrations have dropped in SMP-3 (98%), and SMP-4 (99.8%). However, increased 1DCA concentrations have been noted in MW-14, MW-7 (through 1/8/02), SMP-1, DMP-1, DMP-3, and DMP-4 as a result of the dechlorination of 1TCA. Large reductions in the 1DCE concentrations have been observed in well SMP-4 (>99.0%), but 1DCE increased in MW-14, DMP-1, and DMP-3. 1DCE was not detected in August 2000 or April 2007 in DMP-4. CA concentrations have declined by 93% in DMP-1, 29% in DMP-3, and 70% in SMP-4, but increased in other treatment cell wells excluding SMP-3 where it was not detected in November 2000.

Well SMP-4 has shown decreases in the 1TCA, 1DCA, CA, and ethane concentrations over the seventy-nine months following the first injection of the oil emulsion. There was a rebound in concentrations of these compounds between December 2000 and January 2002 in SMP-4. When substrate levels were elevated after the second application of SRS™, the 1TCA and 1DCA concentrations dropped and have remained lower than the initial levels. In April 2007, concentrations of total chlorinated ethanes (1TCA, 1DCA, 2DCA, 1DCE, and CA) were higher than initial levels were observed in wells MW-14, MW-7 (through 1/8/02), SMP-1, DMP-1, and DMP-4. Further degradation products CA and ethane levels are elevated in wells MW-14, MW-7, SMP-1, SMP-4, and DMP-4. Chloroethane can be biodegraded under aerobic and methanogenic conditions (Lee and Davis 2000).

Concentrations of 1TCA, 1DCA, and/or CA rebounded between December 2003 and April 2007 in wells MW-14, SMP-1, DMP-1, SMP-3, DMP-3, and DMP-4. There appeared to be some TOC (20-990 mg/L), but sulfate levels increased in wells SMP-1, DMP-1, SMP-3, and DMP-3 during this period. The increase in sulfate indicates a substrate availability limitation. 1TCA, 1DCA, and CA concentrations increased substantially in well DMP-3 between June 2004 and July 2005. Concentrations of the all chlorinated ethanes declined in DMP-3 between July 2005

and April 2007. ITCA may have been released from the soybean oil or untreated ITCA may have been released from an upgradient location.

Relatively low levels of ITCA and daughter products have been found in downgradient monitoring wells MW-12 and MW-13. Little of the chlorinated ethanes have been found in MW-8 or MW-9. In the deep well MW-10, concentrations of 1DCA, 2DCA, 1DCE were relatively stable between January 2002 and June 2004, and CA was detected. A low level of 1DCA was detected in MW-11 in January 2003, but not in the subsequent sample in June 2004. 1DCA concentrations have increased in MW-8 and MW-12 between July 2001 and April 2007.

The new recovery wells have relatively low levels of ITCA with the highest concentration found in RW-1. 1DCA is the predominant chlorinated ethane with lower levels of 1DCE, traces of 2DCA, but little chloroethane except in RW-1. Between September 2004 and April 2007, concentrations of total chlorinated ethanes have increased in only one of the four recovery wells (RW-1).

5.3.3 Other Organic Compounds Results

Several other organic compounds were detected in the groundwater including acetone, methylene chloride, 2-butanone, toluene, benzene, p-ethyltoluene, 1,3,5-trimethylbenzene, 2-chlorotoluene, 4-chlorotoluene, 1,2,4-trimethylbenzene, naphthalene, o-xylene, n-propylbenzene, and methyl tert butyl ether (MTBE). Over the seventy-nine months of the project operation to date, acetone concentrations decreased by 91% in DMP-1 and 80% in MW-14, but increased in wells SMP-1, SMP-4. Methylene chloride concentrations have decreased in wells MW-7 (through 1/8/02), SMP-1, DMP-1, SMP-3, DMP-3, and SMP-4, with declines by as much as 99 percent in SMP-4, 96% in SMP-1, 95% in SMP-3, 69% in DMP-3, 47% in DMP-3, and 38% in MW-7 (through 1/8/02); increased methylene chloride concentrations have been observed in MW-14 and DMP-4. Methylene chloride can also be anaerobically degraded. Toluene concentrations have declined in six of the eight wells in the project area. Although 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 by 98% in SMP-4, 83% in DMP-4, <82% in SMP-1, <29% in DMP-3, and 24% in DMP-1, but increased in MW-7 (through 1/8/02). 2-Chlorotoluene may be biodegraded to toluene and potentially further under anaerobic conditions. MTBE was first detected at 9.0 µg/L in SMP-3 in July 2001. MTBE was found at levels up to 125 µg/L in DMP-3, SMP-1, SMP-3, and DMP-4 in January 2002. We are speculating that the MTBE plume is from an off-site source since it was not used on the Photocircuits site. MTBE has not been detected in any monitoring well since July 2002. The MTBE appears to have flushed through the system. In April 2007, other potential components of gasoline or other petroleum fuels including benzene, toluene, o-xylene, 1,2,4-trimethyl benzene, 1,3,5-trimethyl benzene, and/or naphthalene were detected in wells MW-14, SMP-1, DMP-1, SMP-3, DMP-3, SMP-4, DMP-4, MW-13, and RW-1, but not wells MW-8, MW-12, RW-2, RW-3, or RW-4 (November 2006).

Few of the contaminants other than the chlorinated ethenes, chlorinated ethanes, and fuel aromatics were found in the downgradient wells. 2-Chlorotoluene concentrations have increased by 180% in MW-12 between 3/28/01 and 4/2/07 and also have increased in RW-1. 4-Chlorotoluene has been found in MW-12.

In December 2003 through April 2007, the recovery wells contained the following compounds: PCE, TCE, cDCE, VC, ITCA, IDCA, IDCE, CA, methylene chloride, toluene, and 2-chlorotoluene.

5.3.4 Sum of VOAs

The sum of the concentrations of all of the contaminants in each well was calculated excluding the final degradation endproduct gases: acetylene, ethene, and ethane. The sum of the VOAs has declined by up to 96% in SMP-3 with large decreases in SMP-4 (95%), SMP-1 (88%), DMP-1 (30%), and DMP-3 (17%). The sum of VOAs has increased by 1,805% in MW-14 as the contaminated groundwater displaced during injection came back into the well and potentially as VOCs adsorbed into the oil were released. Increases in the sum of VOAs were also observed to a lesser degree in MW-7 (33 through 1/8/02) and DMP-4 (125%). The overall average of the sum of the volatiles has declined by 79.8% over the course of the pilot and full scale /implementation. This average includes the seven wells sampled on 4/2/07 and the well (MW-7) last sampled on 1/8/02. The average percent removal was lower in April 2007 than in the previous sampling round in November 2006 as total volatiles increased in MW-14, SMP-1, and DMP-1.

Since 3/28/01, the total volatiles in the downgradient wells outside of the influence of the substrate injection have fallen in MW-10 (43%), MW-11 (<73%), and MW-12 (28%), but increased in MW-8 (4,750%) and MW-13 (273%) and have remained non-detect in MW-9. The highest concentrations of total VOAs in the recovery wells in the first round of samples in December 2003 were found in well RW-1 (3,680 µg/L) followed by RW-2 (1,693 µg/L), RW-3 (1,237 µg/L), and RW-4 (649 µg/L). The total volatiles through April 2007 have increased by 561% in RW-2 and 40% in RW-4 (through 11/7/07), but decreased in RW-2 (26%) and RW-3 (65%).

5.3.5 Substrate Distribution

The total organic carbon concentrations in April 2007 within the treatment cell ranged from 22 mg/L in DMP-3 to 620 mg/L in MW-14. Well MW-7 contained the emulsion in April 2007 and was not sampled. It presumably contains very high levels of TOC. TOC levels were below the target level of 50 mg/L in wells SMP-1, DMP-1, DMP-3, SMP-4, and DMP-4 in April 2007. A substrate level of 50 mg/L TOC should provide sufficient carbon to support dechlorination and other electron accepting processes such as methanogenesis and sulfate-reduction.

The soybean oil is degraded from long chain fatty acids such as palmitic, stearic, linoleic, and linolenic acids to shorter fatty acids including proprionic, butyric, formic, and acetic acids. As the fatty acids are broken down, hydrogen and acetic acid are released. The hydrogen is used for reductive dechlorination and other electron accepting processes including nitrate-reduction, sulfate-reduction, iron-reduction, and methane formation. While there appears to be plenty of TOC available within the treatment cell, it may not be in a form that supports rapid dechlorination and the removal of the competing electron acceptors. TSI recommends that samples be collected and analyzed for volatile fatty acids from MW-14 and SMP-3 which have high levels of TOC and sulfate. Additional substrate injection will most likely be required to overcome this potential limitation.

The substrate injections have previously impacted TOC levels only in wells MW-12 and MW-13 of the downgradient wells. Downgradient wells MW-8, MW-9, MW-10, MW-11, MW-12, and MW-13 now appear to be substrate-limited. Based upon the limited reduction dechlorination of chlorinated ethenes and ethanes, the recovery wells RW-1, RW-2, RW-3, and RW-4 also appear to be in areas that are substrate-limited.

5.3.5 Electron Acceptor Results

As the microbes break down the emulsion, nitrate and sulfate would be depleted and the concentrations of iron and methane would increase. Nitrate-nitrogen was detected in April 2007 in the treatment cell at concentrations between 0.085 and 2.03 mg/L and is a minor electron acceptor. Nitrate was detected in downgradient wells MW-8 and MW-13 in April 2007 at concentrations of 0.054 (MW-12) to 7.7 mg/L (MW-8). The predominant electron acceptor in the groundwater within the treatment cell in April 2007 was sulfate with concentrations that ranged from 17 mg/L in MW-14 to 911 mg/L in DMP-1. Sulfate concentrations have declined from the initial concentrations in September 2000 in wells MW-14 (99.7%), DMP-1 (96.9% from 29,600 to 911 mg/L), SMP-4 (99.9%), SMP-3 (31%), and DMP-4 (26%) as would be expected with consumption of the oil emulsion. Sulfate levels increased in MW-7 (through 1/8/02), SMP-1 (87%), and DMP-3 (451%). The average sulfate concentration in the cell has declined by 91%. However, sulfate levels increased in wells SMP-1, DMP-3, SMP-4, and DMP-4 between November 2006 and April 2007. Total iron concentrations within the treatment cell in April 2007 ranged from 11 mg/L in SMP-3 to 28.9 mg/L in SMP-1, which indicated that iron is also an important electron acceptor. Over the seventy-nine month project, total iron concentrations have decreased in six of the eight wells in the study 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 in April 2007, methanogenic conditions (>1,000 µg/L methane) were detected in all test cell wells. Methane concentrations have increased in the downgradient monitoring wells MW-12 and MW-13 in the project area between September 2000 and April 2007.

Well MW-8 is under aerobic conditions based upon the presence of dissolved oxygen, nitrate, and sulfate, and the low levels of iron and methane. This well is largely uncontaminated. While MW-9 has little organic contamination, it appears to have been impacted by the biodegradation processes upgradient as it has elevated iron and methane levels and decreased sulfate levels. No electron acceptor data was available for wells MW-10, MW-11, and the new recovery wells. Wells MW-12 and MW-13 are under sulfate to methanogenic conditions based upon the elevated sulfate and methane levels.

5.3.6 Field Parameters

Field parameters including water level, pH, temperature, specific conductivity, redox potential, dissolved oxygen, and bromide (a tracer added with the emulsion) were collected since January 2002 for wells SMP-1, DMP-1, SMP-3, DMP-3, SMP-4, and DMP-4. Field parameters were collected for downgradient wells MW-8, MW-9, MW-12, and MW-13 since the April 2002 sampling event. The water levels ranged between 6.42 feet (SMP-1) to 7.96 feet (MW-8) below the top of the casing for wells in January 2002.

The pH was generally neutral, between 6.3 and 7.8. Well SMP-3 had an elevated pH reading, 8.7-9.9 from 1/02 to 1/03, but declined to between 6.4 and 7.6 from January 2003 to April 2007. The pH dropped to slightly acidic conditions of 5.3-6.5 in SMP-4 from 7/02 to 9/04. Downgradient wells MW-12 and MW-13 were slightly acidic to neutral, 6.2 to 7.3. The pH in the downgradient well MW-8 ranged from slightly acidic, 6.4 to slightly basic, 8.7.

Groundwater temperatures ranged between 10.3 to 25.9 °C. In general, the specific conductivity of the groundwater within the treatment cell was high, between 6 and 5,890 umhos/cm. Downgradient wells MW-8 and MW-9 had lower specific conductivity readings of 120 to 493 µmhos/cm. Downgradient wells MW-12 and MW-13 had higher specific conductivity levels than MW-8 and MW-9.

Negative redox potentials of -137 (SMP-4) to -17 mV (SMP-3) were found in the wells within the treatment cell in April 2007. Downgradient wells MW-8 and MW-13 had positive redox potentials in April 2007.

Dissolved oxygen readings ranged from 0.1 to 9.1 mg/L in April 2007. The high dissolved oxygen levels found in SMP-1, DMP-1, SMP-3, DMP-3, SMP-4, and DMP-4 are not consistent with the low redox potentials and anaerobic conditions found in these wells.

Bromide was injected with the emulsion. Wells SMP-1, DMP-1, SMP-3, DMP-3, SMP-4, and DMP-4 had bromide levels of greater than 10 mg/L in June 2002. These wells generally had elevated TOC levels. Bromide levels increased between April and June 2002 in all monitoring wells within the cell except DMP-4. The highest bromide levels were in wells DMP-1, DMP-3, and SMP-4. Wells DMP-3 and SMP-4 had high TOC concentrations. Bromide was not measured after July 2002.

6.0 DISCUSSION

Previous studies have demonstrated the anaerobic dechlorination of PCE using aquifer solids and water in the laboratory (Parsons et al. 1985, Scholz-Muramatsu et al. 1995, and DiStefano et al. 1991). Previous field studies have also demonstrated the anaerobic dechlorination of PCE (Beeman et al. 1994, Ellis et al. 2000). Therefore, microbial reductive dehalogenation is a potential remedial mechanism for halogenated compounds in groundwater aquifers.

The objective of the technology is to convert PCE and 1TCA into ethene and ethane. The produced ethene is considered to be environmentally acceptable, because ethene has not been associated with long-term toxicological problems and is a natural occurring plant hormone (Sims et al. 1991). Furthermore, ethene is known to further biodegrade to carbon dioxide under aerobic environmental conditions (Beeman et al 1994).

VC has been thought to persist in anaerobic environments and to be more toxic to bacteria than the parent compounds (Barrio-Lage et al. 1991). However, subsequent work has clearly established that VC is biodegraded to ethene and ethane. The pattern of increase and disappearance of cDCE and VC is suggestive of microbial succession.

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 treatment cell 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

During the treatment period of 79 months, we have successfully demonstrated that the addition of a food grade carbon source will enhance the extent and rate of chlorinated solvent biodegradation at this site as indicated by the following observations:

- Total contaminant concentrations have decreased by an average 79.8%.
- The average concentrations of the parent compound 1,1,1-trichloroethane has decreased by 89%.
- Ethene was the dominant chlorinated ethene in wells MW-14, SMP-1, DMP-1, SMP-3, and SMP-4 in April 2007.
- Three monitoring wells (MW-7, MW-14, and DMP-4) have shown increased total volatile concentrations since September 1, 2000 by 33 to 1,805%. Well MW-7 could not be sampled since January 2002 due to the presence of emulsion and the percent change calculations are from September 2000 to January 2002. However, when viewed over the last 13 years, the total VOC concentrations in MW-7 have decreased 96%. From 11/99 to 4/07, total VOC concentrations decreased by 77% in MW-14. Since first monitored in May 1999, well DMP-

3 has shown a decrease in total volatiles from 60,390 to 26,654 µg/L primarily due to decrease in 1TCA and 1DCA concentrations.

This project was originally undertaken for the purpose of degrading the contaminant source, and it has been successful in that regard. We are now turning our attention to the degradation of the residual 10-20% of the contaminant mass. We anticipate that the rate of degradation (as a percentage of the total) will slow somewhat as contaminant concentrations continue to drop through the part per billion (ppb) range due to natural processes such as molecular diffusion. However, as long as substrate is available at the necessary levels and subsurface conditions are not materially altered, contaminant degradation will continue until the contaminants are consumed. Injection of additional substrate is recommended.

7.0 CONCLUSIONS

Although the study is an on-going program, there is now sufficient data to facilitate a comparison of the project to date results with the project's objectives. The following summary presents the project objectives in bold with the results.

Determine if the addition of a food grade carbon source will enhance the extent and rate of chlorinated solvent biodegradation at the site.

The overall average of the sum of the volatiles has declined by 80% over the course of 79 months. Increases in intermediate and final daughter products from the chlorinated ethenes and ethanes have been observed in all of the primary monitoring wells.

Determine if the food grade carbon source can be adequately distributed in the formation such that the microorganisms can utilize it.

TOC levels in excess of 50 mg/L were established in all eight of the primary monitoring wells in the study area. The TOC levels after system start up ranged from 39 mg/L to 23,500 mg/L. TOC levels declined from the beginning of the treatment in most wells as the emulsified oil was utilized. TOC levels rose in all wells in the treatment cell after the second injection of the emulsion and ranged from 132 to 1,360 mg/L in August 2003. Another injection of the emulsified soybean oil is recommended to promote more complete dechlorination and to consume the competing electron acceptors. Although it is not possible to do a mass balance because of site conditions, evidence of primary contaminant reduction combined with increases in intermediate and final daughter products strongly suggests that the TOC decreases are a result of biological utilization.

Determine what role bioremediation has in the overall remediation strategy for the site.

Based on the results to date, it appears that bioremediation can cost effectively destroy the contaminants in an acceptable time frame. As a consequence, it appears that bioremediation will be the primary treatment technology for contaminant destruction at this site.

8.0 REFERENCES

- Barrio-Lage, G. A., F. Z. Parsons, R. M. Narbaitz, P. A. Lorenzo, and H. E. Archer. 1990. Enhanced anaerobic biodegradation of vinyl chloride in ground water. *Environ. Toxicol. Chem.* 9:403-415.
- Beeman, R. E., S. H. Shoemaker, J. E. Howell, E. A. Salazar, and J. R. Buttram. 1994. A field evaluation of in situ microbial reductive dehalogenation by the biotransformation of chlorinated ethenes. In R. E. Hinchee, A. Leeson, L. Semprini, and S. K. Ong, ed., *Bioremediation of Chlorinated and Polycyclic Aromatic Hydrocarbon Compounds*, Lewis Publishers, Boca Raton, FL. pp. 14-27.
- Butler, E. C. and K. F. Hayes. 2000. Kinetics of the transformation of halogenated aliphatic compounds by iron sulfide. *Environ. Sci. Technol.* 34(3):422-429.
- DiStefano, T. D., J. M. Gossett, and S. H. Zinder. 1991. Reductive dehalogenation of high concentrations of tetrachloroethene to ethene by an anaerobic enrichment culture in the absence of methanogenesis. *Appl. Environ. Microbiol.* 57(8):2287-2292.
- Ellis, D. E., E. J. Lutz, J. M. Odom, R. J. Buchanan, M. D. Lee, C. L. Bartlett, M. R. Harkness, K. A. DeWeerd. 2000. Bioaugmentation for accelerated in situ anaerobic bioremediation. *Environmental Science and Technology*34(11):2254-2260.
- Lee, M. D. and J. W. Davis. 2000. Natural remediation of chlorinated organic compounds. In Swindoll, M., R. G. Stahl, Jr. and S. J. Eells, editors. *Natural Remediation of Environmental Contaminants: Its Role in Ecological Risk Assessment and Risk Management*. SETAC Press, Pensacola FL. p. 199-245.
- Parsons, F., G. B. Lage, and R. Rice. 1985. Biotransformation of chlorinated organic solvents in static microcosms. *Environ. Toxicol. Chem.* 4:739-742.
- Scholz-Muramatsu, A. Neumann, M. Meßmer, E. Moore, and G. Diekert. 1995. Isolation and characterization of *Dehalospirillum multivorans* gen., sp. Nov., a tetrachloroethene-utilizing, strictly anaerobic bacterium. *Arch. Microbiol.* 163:48-56.
- Sims, J. L., J. M. Suflita, and H. R. Russell. 1991. *Reductive Dehalogenation of Organic Contaminants in Soils and Ground Water*. EPA/540/4-90/054. Superfund Technology Support Center for Ground Water, U. S. EPA, Ada, OK.
- U.S. Department of Energy. 1998. Cost and Performance Report – In Situ Anaerobic Bioremediation, Pinellas Northeast Site, Largo, Florida. Innovative Treatment Remediation Demonstration. April 1998. Sandia National Laboratories, Albuquerque, NW and Hazardous Waste Remedial Actions Program, Oak Ridge, TN. 33 p.

FIGURES

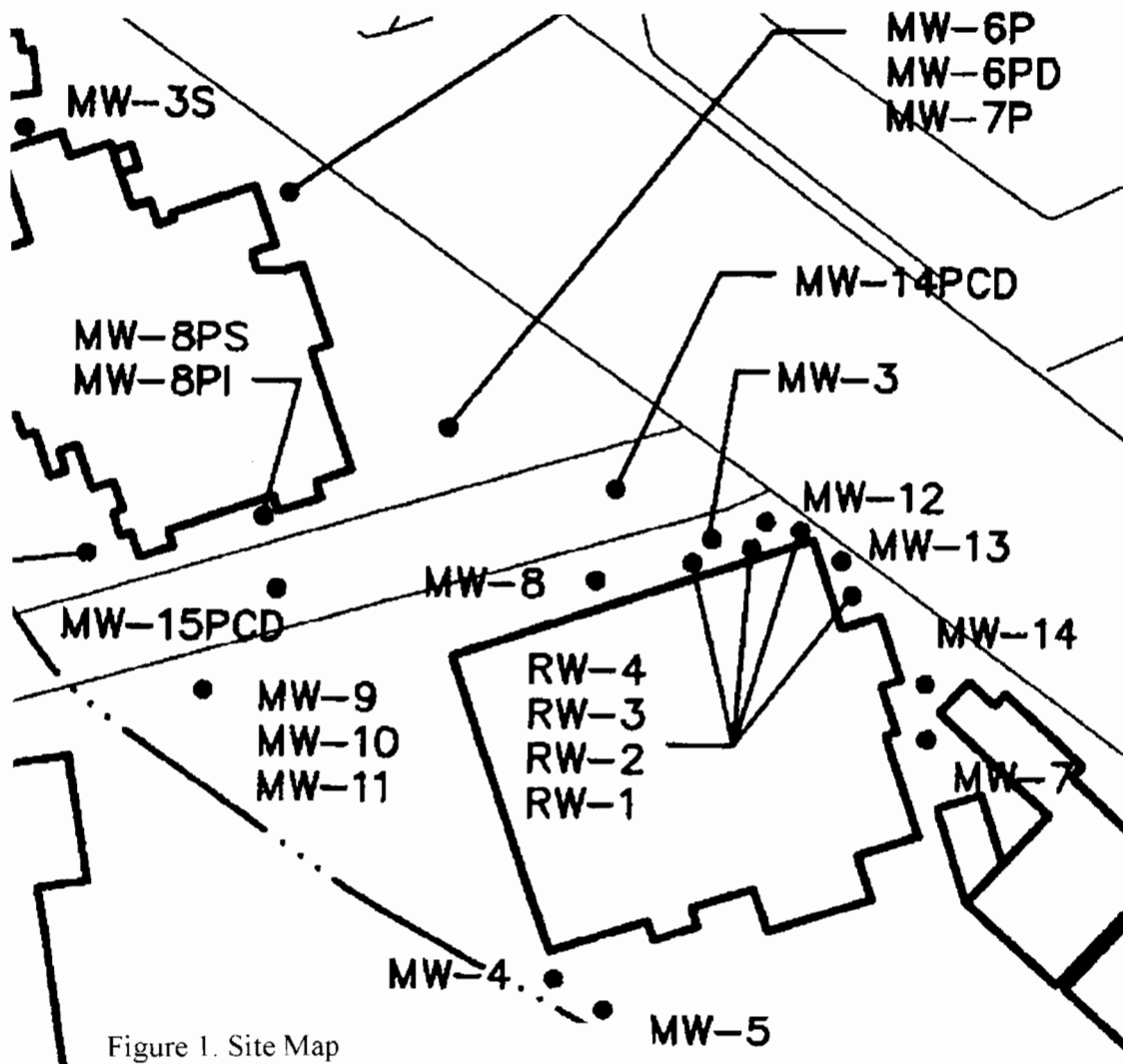


Figure 1. Site Map

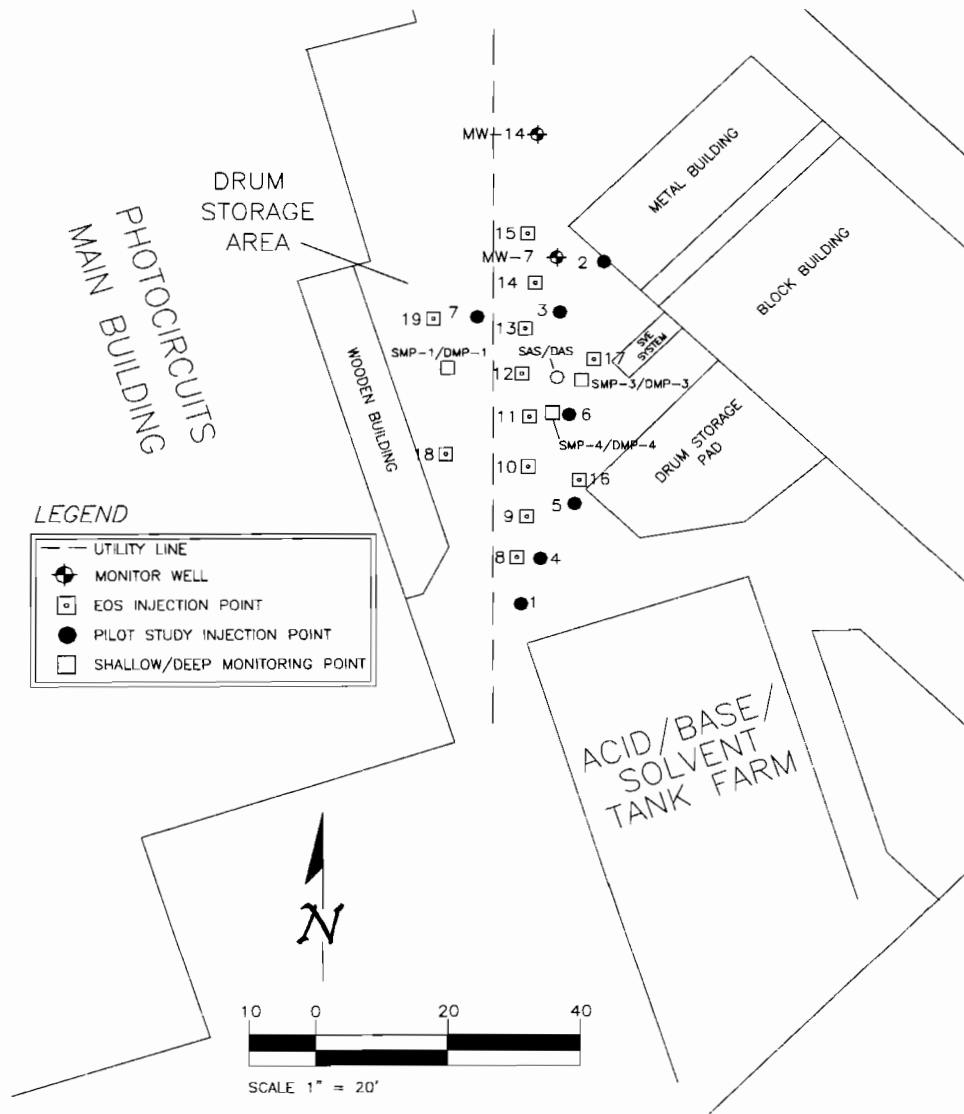


Figure 2. Treatment Cell

TABLES

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	MW-14									
	Date	8/31/2000	10/19/2000	12/20/2000	3/28/2001	7/11/2001	1/8/2002	1/14/2003	4/28/2003	8/5/2003
Days		0	49	111	209	314	495	866	970	1069
Tetrachloroethene	µg/L	-1.4	-0.40	-0.40	-5.5	-4.0	-2.4	-31	-38	-3.8
Trichloroethene	µg/L	0.85	1.35	0.85	10	3.4	3.4	23	21	2.1
cis-1,2-Dichloroethene	µg/L	-0.95	-1.7	-0.95	-15	-2.8	-3.6	-21	-16	-8.48
trans-1,2-Dichloroethene	µg/L	-1.35	-1.40	-1.35	-11	-2.8	-5.8	-23	-22	-2.20
Vinyl Chloride	µg/L	-1.75	10.6	-1.75	114	145	173	-25.5	342	139
Ethene	µg/L	43	47	60	65	130	90	68	68	34
Acetylene	µg/L						5.7		1.2	1.2
1,1,1-Trichloroethane	µg/L	14.4	-1.7	8.9	994	2040	1520	1020	1630	507
1,1-Dichloroethane	µg/L	126	216	293	9230	18800	14100	8580	8860	9580
1,2-Dichloroethane	µg/L	0.80	0.95	0.80	10	34.2	3.2	-11.5	-17	-1.70
1,1-Dichloroethene	µg/L	-1.05	6.3	-1.05	-443	751	542	323	296	90.8
Chloroethane	µg/L	15.6	1.25	-1.65	132	298	501	848	1290	2160
Ethane	µg/L	52	69	48	34	66	49		18	10
Acetone	µg/L	97.8	170	126	74	551	986	566	912	754
Methylene Chloride	µg/L	15.1	1.50	-1.0	220	156	134	31.5	15	52.9
2-Butanone	µg/L	124	75.3	-5.1	-125	863	344	826	-164	-9.7
Toluene	µg/L	3.0	-0.80	0.80	7.5	32.4	25	-19	-20	2.00
Benzene	µg/L	-0.70	-0.70	-0.70	-5	-2.6	-3.4	-20	-21	-2.1
p-Ethyltoluene	µg/L	1.2	1.05	1.2	8	4.4	4.8	31	-15	1.5
1,3,5-Trimethylbenzene	µg/L	0.60	-1.50	-0.60	17	-2.2	2.4	-28.5	-17	1.70
2-Chlorotoluene	µg/L	0.85	-1.35	0.85	10.5	3.2	-4.2	19	-15	1.50
1,2,4-Trimethylbenzene	µg/L	-0.65	-1.25	-0.65	-11	-4.4	-2.6	-30	-15	-1.50
Naphthalene	µg/L	1.35	0.90	-1.35	9.5	-8.2	5.4	47	40	-4.00
o-Xylene	µg/L	0.40	1.35	0.40	8	3.2	3.2	16.5	-12	1.20
n-Propylbenzene	µg/L	-0.70	-1.40	-0.70	-10.5	-6.2	-2.8	-31	-16	-1.6
Methyl T-Butyl Ether	µg/L	-1.25	-1.15	-1.25	-14	-1.6	-3.6	-29	5.3	-0.53
Sum VOCs (w/o Gases)	µg/L	396	478	428	11133	23671	18325	10771	13330	14089
Methane	µg/L	44	58	380	1800	6400	8050		10600	6260
Iron, Total	mg/L	55.2	13.2	69	197	188	279	186	219	186
Sulfate	mg/L	5470	779	32.6	307	1270	441	597	341	87.5
Nitrate-Nitrogen	mg/L	0.15	0.17	0.17	-0.025	-0.0015	-0.13	0.025	-0.025	0.080
Total Organic Carbon	mg/L	23500	868	1990	2590	3530	2630	1900	2650	1360

Well	MW-14									
	Date	12/16/2003	3/16/2004	6/22/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	4/2/2007	
Days		1202	1293	1391	1488	1566	1784	2259	2259	
Tetrachloroethene	µg/L	3.9	5.3	2.5	10	11	20	20	20	9.3
Trichloroethene	µg/L	5.8	9.1	8.3	10	24	20	20	20	38
cis-1,2-Dichloroethene	µg/L	32	57	73	81	220	-20	-20	-20	23
trans-1,2-Dichloroethene	µg/L	1.0	1.6	2.5	10	1.0	20	20	20	-10
Vinyl Chloride	µg/L	810	280	360	470	1100	-20	20	72	
Ethene	µg/L	55	31	42	49	58	17	25	35	
Acetylene	µg/L	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	
1,1,1-Trichloroethane	µg/L	1200	1100	1000	1200	2800	960	650	1200	
1,1-Dichloroethane	µg/L	6100	6700	7800	7100	14000	7800	2500	4400	
1,2-Dichloroethane	µg/L	40	29	25	10	50	20	20	20	-10
1,1-Dichloroethene	µg/L	820	320	280	270	330	110	29	64	
Chloroethane	µg/L	1400	1400	3700	5000	6000	2700	580	1600	
Ethane	µg/L	14	11	8.7	14	14	7.2	3.9	14	
Acetone	µg/L	10000	-1.0	1800	1200	2800	1600	20	-20	
Methylene Chloride	µg/L	130	77	64	120	120	270	510	100	
2-Butanone	µg/L	1500	800	700	790	2900	-20	-20	-30	
Toluene	µg/L	35	28	32	28	97	41	20	34	
Benzene	µg/L	1.0	1.0	1.4	10	4.7	20	-20	-10	
p-Ethyltoluene	µg/L	1.0	1.0	-1.0	10	-1.0	20	-20	-10	
1,3,5-Trimethylbenzene	µg/L	130	-1.0	-1.0	10	-1.0	20	-20	-10	
2-Chlorotoluene	µg/L	-1.0	-1.0	1.0	10	2.6	20	20	-10	
1,2,4-Trimethylbenzene	µg/L	-1.0	-1.0	1.0	10	1.0	20	-20	10	
Naphthalene	µg/L	1.0	1.0	-1.0	10	1.0	20	-20	10	
o-Xylene	µg/L	-1.0	-1.0	-1.0	10	-1.0	-20	-20	10	
n-Propylbenzene	µg/L	1.0	1.0	1.0	10	-1.0	20	20	-10	
Methyl T-Butyl Ether	µg/L	-1.0	-1.0	1.0	10	1.0	20	20	-10	
Sum VOCs (w/o Gases)	µg/L	22227	10807	15849	16259	30459	13481	4220	7540	
Methane	µg/L	8460	3600	6450	7500	14900	8420	11000	3000	
Iron, Total	mg/L	168	46.8	96.8	71.7	52.1	24.5	18.4	27.7	
Sulfate	mg/L	238	558	645	329	249	185	29.8	17.4	
Nitrate-Nitrogen	mg/L	0.100	0.100	4.08	0.205	0.0506	0.208	-0.10	0.262	
Total Organic Carbon	mg/L	0.51	196	1420	1470	1320	950	750	620	

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	MW-7	Date					
		8/31/2000	10/19/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002
Date		0	49	111	208	314	495
Days							
Tetrachloroethene	µg/L	0.40	0.56	0.40	2.2	0.20	0.12
Trichloroethene	µg/L	0.85	19.3	0.85	4	16	2.7
cis-1,2-Dichloroethene	µg/L	47.3	283	355	149	187	8.3
trans-1,2-Dichloroethene	µg/L	1.35	0.56	1.35	4.4	2.6	2.1
Vinyl Chloride	µg/L	39.3	67.1	159	60	63.9	10.5
Ethene	µg/L	63	170	110	33	94	110
Acetylene	µg/L						-1.2
1,1,1-Trichloroethane	µg/L	0.55	0.62	0.55	4	0.16	0.14
1,1-Dichloroethane	µg/L	122	214	268	135	207	193
1,2-Dichloroethane	µg/L	0.80	0.38	0.80	4	0.13	3.7
1,1-Dichloroethene	µg/L	1.05	0.96	1.05	3.6	1.9	0.22
Chloroethane	µg/L	258	181	201	160	262	390
Ethane	µg/L	6	130	81	34	71	68
Acetone	µg/L	9.45	52.2	9.45	29.6	18.5	2.3
Methylene Chloride	µg/L	12.8	6.0	1	51.6	3.9	8.0
2-Butanone	µg/L	5.1	1.64	5.1	50	6.25	17.2
Toluene	µg/L	6.2	8.4	8.3	3	8.6	0.95
Benzene	µg/L	4.0	3.5	0.7	2	2.8	6.5
p-1,4-Dibromobenzene	µg/L	-1.2	-0.68	-1.2	-3.2	-0.22	-0.24
1,3,5-Trimethylbenzene	µg/L	-0.60	-0.60	-0.6	-6.8	-0.11	0.12
2-Chlorotoluene	µg/L	0.85	5.2	0.85	4.2	6.3	8.4
1,2,4-Trimethylbenzene	µg/L	0.65	0.50	0.65	4.4	1.2	0.93
Naphthalene	µg/L	1.35	0.36	1.35	3.8	1.2	0.27
o-Xylene	µg/L	0.40	0.54	0.4	3.2	1.1	0.16
n-Propylbenzene	µg/L	0.70	0.56	0.7	4.2	0.31	0.14
Methyl 1-Butyl Ether	µg/L	1.25	0.46	1.25	5.6	0.080	0.18
Sum VOAs (w/o Gases)	µg/L	490	840	971	556	791	652
Methane	µg/L	660	1900	760	1050	5930	5050
Iron, Total	mg/L	2.22	1.84	3.93	6.72	8.78	13.1
Sulfate	mg/L	104	117	264	203	68.9	949
Nitrate-Nitrogen	mg/L		0.015	0.023	0.029	0.017	0.085
Total Organic Carbon	mg/L	38.8	53.1	60	72.9	58.5	1.67

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	SMP-1											
	Date	8/31/2000	10/18/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/28/2002	10/2/2002	1/13/2003	4/28/2003
Days		0	48	111	208	314	495	579	663	762	865	970
Tetrachloroethene	µg/L	<16	<0.40	<22	<5.5	<2.0	<6.0	<12	<5.5	<22	<2.48	<0.76
Trichloroethene	µg/L	<34	79	860	1530	25.3	4410	26000	41	<0.72	<1.84	0.42
cis-1,2-Dichloroethene	µg/L	24900	37500	30100	0.27	12300	18000	42500	25700	680	<1.68	<0.32
trans-1,2-Dichloroethene	µg/L	<54	69.9	<40	132	34.5	68.5	376	15.5	<0.62	<1.84	0.44
Vinyl Chloride	µg/L	4710	5990	5090	4770	4230	3490	1780	8920	2540	<2.04	<0.56
Ethene	µg/L	930	2400	1140	900	1890	650	800	1820	3710	1180	800
Acetylene	µg/L						11	7.4	1.2	<2.2	<2.2	<5.5
1,1,1-Trichloroethane	µg/L	22	0.55	34	356	158	7.0	<11	<13	<0.52	<1.4	<0.44
1,1-Dichloroethane	µg/L	506	486	628	708	536	456	366	295	197	29.5	26.3
1,2-Dichloroethane	µg/L	<32	0.80	17	<10	<1.3	<8.0	11.5	<0.46	<0.92	0.34	0.34
1,1-Dichloroethene	µg/L	42	64.3	<27	184	55.1	143	296	50.5	0.54	2.52	0.46
Chloroethane	µg/L	<72	71.6	<53	<15	<1.8	<33.5	<30.5	12.0	37.6	38.7	241
Ethane	µg/L	<6	<6	<25	<25	<25	<12	1.3	3.6	4.8	1.8	<6.0
Acetone	µg/L	<378	<9.45	<166	<74	<14.4	115	<156	<56.5	<2.26	<45.3	101
Methylene Chloride	µg/L	482	43.1	56	20.5	11.9	18.5	27	10.5	0.42	2.52	2.75
2-Butanone	µg/L	<204	<5.1	<68	125	62.5	860	250	190	7.6	66.1	<5.28
Toluene	µg/L	32	61.1	<19	126	51.4	55	194	114	58.5	25.7	48.9
Benzene	µg/L	<28	4.40	<34	<5	<1.3	<8.5	<8	<10.5	94	22.8	24.4
p-Ethyltoluene	µg/L	48	1.2	20	8	11.3	12	12	8.0	0.32	<2.48	<0.30
1,3,5-Trimethylbenzene	µg/L	<24	<0.60	<20	<17	1.1	6.0	<10	<10	0.4	2.28	0.34
2-Chlorotoluene	µg/L	<34	16.3	<25	10.5	47.3	10.5	<13.5	<12.5	17.8	<1.52	10.1
1,2,4-Trimethylbenzene	µg/L	<26	<0.65	<20.65	<11	15.7	<6.5	<8.5	<8.5	<0.34	2.4	<0.30
Naphthalene	µg/L	<54	<1.35	<16	<9.5	21.2	<13.5	7	14.5	0.58	3.76	0.80
o-Xylene	µg/L	16	<0.40	18	<8	11.4	<8.0	10	12.5	5.7	1.32	<0.24
n-Propylbenzene	µg/L	28	0.70	<17	<10.5	3.1	7.0	10.5	8.0	<0.32	2.48	<0.32
Methyl T-Butyl Ether	µg/L	<50	<1.25	<25	<14	<0.80	117	<17	<17	<0.36	<2.32	<0.11
Sum VOAs (w/o Gases)	µg/L	30598	44386	36678	7806	17509	26740	72112	35121	5631	117	454
Methane	µg/L	3400	6200	2500	2060	3400	1100	2110	1890	2570	3680	5290
Iron, Total	mg/L	19.8	11.6	15.1	11.1	29.9	16.4	18.3	11.2	12.2	13	42.2
Sulfate	mg/L	256	360	443	813	905	732	513	143	154	60.4	25.2
Nitrate-Nitrogen	mg/L		0.054	0.071	12.3	0.016	<0.13	0.046	<0.025	<0.025	0.084	0.11
Total Organic Carbon	mg/L	91.7	83.4	88	89.7	45.9	23.8	63.1	125	139	186	1280

Well	SMP-1										
	Date	8/31/2000	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007
Days		0	1068	1202	1292	1390	1488	1565	1784	2258	2405
Tetrachloroethene	µg/L	<16	<3.80	<1.0	<1.0	1.0	<2.0	1.0	<1.0	1.0	<1.0
Trichloroethene	µg/L	<34	<2.10	<1.0	<1.0	1.0	<2.0	1.0	1.0	1.2	2.1
cis-1,2-Dichloroethene	µg/L	24900	1.60	5.4	<1.0	1.8	<2.0	<1.0	<1.0	2.8	<2.0
trans-1,2-Dichloroethene	µg/L	54	2.20	1.0	1.0	0.9	2.0	1.0	<1.0	1.0	<2.0
Vinyl Chloride	µg/L	4710	<2.80	40	<1.0	1.4	2.0	1.0	1.4	35	10
Ethene	µg/L	930	190	44	49	84	100	30	17	17	14
Acetylene	µg/L		<2.2	1.2	<1.2	<1.2	<1.2	<1.2	1.2	1.2	<1.2
1,1,1-Trichloroethane	µg/L	22	2.20	<1.0	1.0	1.0	2.0	<1.0	1.0	93	880
1,1-Dichloroethane	µg/L	506	<2.20	42	37	37	83	150	620	1100	570
1,2-Dichloroethane	µg/L	32	<1.70	1.0	1.0	<1.0	<2.0	1.0	1.0	1.0	<2.0
1,1-Dichloroethene	µg/L	<42	<2.30	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	5.8	9.6
Chloroethane	µg/L	72	261	680	280	1200	1100	760	740	1000	640
Ethane	µg/L	6	<2.4	1.3	1.3	1.3	3.3	<1.3	1.3	1.3	1.3
Acetone	µg/L	<378	14.1	<1.0	1.0	1.0	2.0	1.0	1.0	1.0	1500
Methylene Chloride	µg/L	482	<1.50	<1.0	<1.0	3.2	9.2	1.0	18	5.2	19
2-Butanone	µg/L	<204	<16.4	<1.0	<1.0	<1.0	2.0	1.0	<1.0	<1.0	<6.0
Toluene	µg/L	32	18.4	22	16	17	20	4.4	5.4	11	4.3
Benzene	µg/L	28	<2.10	1.2	2.2	1.4	<2.0	1.0	1.0	1.0	<2.0
p-Ethyltoluene	µg/L	48	<1.50	1.0	1.0	1.0	2.0	<1.0	<1.0	1.0	<2.0
1,3,5-Trimethylbenzene	µg/L	<24	<1.70	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<2.0
2-Chlorotoluene	µg/L	<34	1.50	4.3	5.0	5.8	10	4.3	7.7	5.8	6
1,2,4-Trimethylbenzene	µg/L	26	1.50	1.0	<1.0	<1.0	<2.0	1.0	1.0	<1.0	<2.0
Naphthalene	µg/L	54	4.00	1.9	1.0	1.9	<2.0	1.9	1.9	1.9	2.0
o-Xylene	µg/L	<16	<1.20	1.9	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.0
n-Propylbenzene	µg/L	<28	1.80	1.0	<1.0	1.0	2.0	1.0	1.0	1.0	<2.0
Methyl T-Butyl Ether	µg/L	50	0.053	1.0	1.0	<1.0	2.0	1.0	1.0	1.0	<2.0
Sum VOAs (w/o Gases)	µg/L	30598	279	794	340	1269	1222	919	1525	2240	3641
Methane	µg/L	3400	4810	6370	16000	11000	10500	12400	640	9300	17000
Iron, Total	mg/L	19.8	27.6	21.7	1.61	28.8	33.5	39.2	34.2	25.8	28.9
Sulfate	mg/L	256	8.5	30	132	12.8	81.2	138	487	370	441
Nitrate-Nitrogen	mg/L		0.084	0.100	0.100	6.48	0.0595	0.0221	0.0805	0.10	0.422
Total Organic Carbon	mg/L	91.7	168	50.5	49.4	398	64.5	61.8	53	58	34

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	DMP-1											
		8-31-2000	10-18-2000	12-20-2000	3-27-2001	7-11-2001	1-8-2002	4-2-2002	6-25-2002	10-2-2002	1-13-2003	4-28-2003
Date												
Days		0	48	111	208	314	495	579	663	762	865	970
Tetrachloroethene	µg/L	-0.40	-0.080	-0.40	-5.5	-1.0	-0.60	-0.48	-1.1	-0.11	-3.1	-0.76
Trichloroethene	µg/L	-0.85	-0.17	0.85	10	-4.5	0.85	29.3	10.5	1.6	2.3	5.53
cis-1,2-Dichloroethene	µg/L	50.4	1.70	17.4	73.5	38.4	-0.90	44.3	62.1	127	1610	1100
trans-1,2-Dichloroethene	µg/L	-1.35	-0.27	-1.35	11	30.70	1.4	3.9	2.8	4.2	2.3	5.75
Vinyl Chloride	µg/L	188	3.5	40	125	42.7	4.25	62	25.4	180	1780	1020
Ethene	µg/L	560	1080	920	690	110	93	160	210	430	1080	900
Acetylene	µg/L						-1.2	1.2	1.2	1.2	1.2	2.2
1,1,1-Trichloroethane	µg/L	-0.55	-0.11	0.55	193	28.1	0.70	-0.44	0.99	0.26	-1.75	-0.44
1,1-Dichloroethane	µg/L	91.8	17.6	357	1130	1320	423	240	412	414	486	401
1,2-Dichloroethane	µg/L	0.80	0.16	0.80	10	14.9	0.80	0.46	2.9	2.3	-1.15	0.34
1,1-Dichloroethene	µg/L	1.05	0.21	1.05	9	0.70	1.10	0.6	0.27	0.27	-3.15	4.7
Chloroethane	µg/L	3290	43.4	232	159	193	9.7	69.7	36.9	15.5	2.45	34.7
Ethane	µg/L	-6	-6	50	100	-50	0.8	1.3	1.8	1.7	1.6	24
Acetone	µg/L	8670	139	557	74	1150	11.5	-6.24	48.8	46.8	-56.6	86
Methylene Chloride	µg/L	68.3	1.40	22.4	191	32.8	0.85	1.08	1.7	1.8	3.15	4.87
2-Butanone	µg/L	-5.1	1.02	5.1	-125	-31.3	86	10	3.8	3.8	-82.7	3.28
Toluene	µg/L	36.5	2.80	24.1	40.5	9.1	0.70	2.2	5.8	7.2	14.4	14.3
Benzene	µg/L	-0.70	-0.14	5.5	-5	-30.65	-0.85	-0.32	-0.21	4.8	9.8	214
p-Ethyltoluene	µg/L	2.9	0.24	-1.2	8	-1.1	1.2	0.4	0.4	1.7	3.1	0.30
1,3,5-Trimethylbenzene	µg/L	2.8	0.12	0.60	17	0.55	0.60	-0.4	1.3	1.6	2.85	0.34
2-Chlorotoluene	µg/L	23.7	0.17	18.2	10.5	33.7	79.7	57.6	30.1	27.8	36.2	31.9
1,2,4-Trimethylbenzene	µg/L	8.4	0.77	8.4	-11	4.8	4.7	3.4	3.2	4.0	3.0	3.02
Naphthalene	µg/L	3.1	0.27	1.35	9.5	-2.05	-1.35	0.28	0.29	1.6	4.7	4.18
o-Xylene	µg/L	0.40	-0.080	0.40	-8	-0.80	0.80	0.4	0.82	1.1	-1.65	2.97
n-Propylbenzene	µg/L	0.70	0.14	16.9	10.5	1.55	0.70	0.42	-0.16	0.16	-3.1	0.32
Methyl T-Butyl Ether	µg/L	-1.25	0.25	-1.25	-14	-30.40	-0.90	-0.68	-0.18	0.18	-2.9	0.11
Sum VOAs (w/o Gases)	µg/L	12436	210	1304	1912	2872	604	512	648	886	4025	2933
Methane	µg/L	8200	23000	10300	4600	730	330	160	520	230	3520	15900
Iron, Total	mg/L	88.5	4.45	3.1	21.7	8.65	15.9	4.11	6.8	4.2	2.88	13.1
Sulfate	mg/L	29600	37.7	179	715	1420	1200	2070	590	1040	1020	523
Nitrate-Nitrogen	mg/L	0.20	0.024	0.05	0.019	-0.13	-0.025	0.004	0.027	0.16	0.088	
Total Organic Carbon	mg/L	299	224	137	132	54.5	8.14	41.1	24.3	58.7	101	284

Well	DMP-1											
		8-4-2004	12-16-2003	3-15-2004	6-21-2004	9-27-2004	12-13-2004	7-20-2005	11-6-2006	4-2-2007		
Date												
Days		1968	1202	1292	1390	1488	1565	1784	2258	2405		
Tetrachloroethene	µg/L	1.90	1.0	-1.0	-1.0	1.0	1.0	2.0	2.4	5.7		
Trichloroethene	µg/L	1.05	1.0	-1.0	1.0	1.0	1.0	2.0	2.0	2.1		
cis-1,2-Dichloroethene	µg/L	42.8	53	5.7	100	-1.0	-1.0	-2.0	-2.0	2.0		
trans-1,2-Dichloroethene	µg/L	1.10	5.2	2.4	2.4	1.0	1.0	2.0	2.0	2.0		
Vinyl Chloride	µg/L	75.8	260	17	63	4.1	6.2	25	26	25		
Ethene	µg/L	320	166	68	37	100	52	14	12	12		
Acetylene	µg/L	2.2	-1.2	-1.2	-1.2	-1.2	1.2	-1.2	1.2	-1.2		
1,1,1-Trichloroethane	µg/L	1.10	-1.0	1.0	1.0	-1.0	-1.0	81	91	6700		
1,1-Dichloroethane	µg/L	162	320	280	320	130	190	1400	850	820		
1,2-Dichloroethane	µg/L	0.85	-1.0	1.0	1.0	-1.0	1.0	-2.0	2.0	2.0		
1,1-Dichloroethene	µg/L	-1.15	-1.0	-1.0	1.7	-1.0	1.0	1.6	44	97		
Chloroethane	µg/L	1100	530	610	570	2100	990	840	150	230		
Ethane	µg/L	6.1	10	9.8	5.7	6.1	3.8	-1.3	-1.3	1.3		
Acetone	µg/L	7.05	1.0	-1.0	45	-1.0	1.0	2.0	220	760		
Methylene Chloride	µg/L	-0.75	8.9	6.9	5.6	16	6.6	34	39	21		
2-Butanone	µg/L	-8.20	67	31	7.9	-1.0	-1.0	-2.0	-2.0	-6.0		
Toluene	µg/L	14.2	19	8.2	5	8.2	5.2	8.6	76	24		
Benzene	µg/L	40.4	58	9.7	3.7	3.2	1.0	2.0	-2.0	-2.0		
p-Ethyltoluene	µg/L	0.75	-1.0	1.0	1.0	1.0	1.0	-2.0	-2.0	-2.0		
1,3,5-Trimethylbenzene	µg/L	-0.85	1.5	1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0		
2-Chlorotoluene	µg/L	29.1	43	37	40	30	24	20	15	18		
1,2,4-Trimethylbenzene	µg/L	-0.75	1.7	1.0	1	3.8	1.0	2.0	-2.0	2.0		
Naphthalene	µg/L	2.00	1.0	-1.0	2.1	1.0	1.0	2.0	2.0	2.0		
o-Xylene	µg/L	-0.60	1.5	1.0	1.2	-1.0	-1.0	-2.0	-2.0	2.0		
n-Propylbenzene	µg/L	25.2	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0		
Methyl T-Butyl Ether	µg/L	0.26	1.0	1.0	1.0	1.0	1.0	2.0	2.0	-2.0		
Sum VOAs (w/o Gases)	µg/L	1490	1368	1010	1169	2295	1222	2425	1493	5703		
Methane	µg/L	24300	23700	9000	14500	24200	21500	9220	9700	12600		
Iron, Total	mg/L	22.7	3.09	2.0	2.5	5.82	7.1	8.56	7.5	6.43		
Sulfate	mg/L	138	226	595	1870	744	850	1040	1230	911		
Nitrate-Nitrogen	mg/L	0.026	0.087	0.49	0.326	0.100	0.0131	0.10	0.10	0.10		
Total Organic Carbon	mg/L	151	74.8	195	184	37.6	25.3	20	33	25		

Table 1. Photoircuits Anaerobic Pilot Analytical Summary

Well	SMP-3											
Date	9/1 2000	10/19/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	
Days	0	49	111	208	314	495	579	662	761	864	969	
Tetrachloroethene	mg/L	-80	-80	-8	13.7	12.2	6.0	-24	-5.5	9.6	-6.2	-3.8
Trichloroethene	µg/L	-170	-170	-17	-0.2	-1.7	-8.5	-34	-18	2.6	-4.6	-2.10
cis-1,2-Dichloroethene	µg/L	-190	-190	-19	2.3	16.4	-9.0	-36	-12	7.5	-4.2	-1.6
trans-1,2-Dichloroethene	µg/L	270	-270	27	0.22	-1.4	14	-56	15.5	0.7	4.6	2.2
Vinyl Chloride	µg/L	-350	350	-35	38.8	98.8	-42.5	-170	118	105	-5.1	73.9
Ethene	µg/L	84	98	39	18	110	180	220	260	130	96	94
Acetylene	µg/L						2.1	5.4	2.2	6.3	-1.2	-1.2
1,1,1-Trichloroethane	µg/L	178000	235000	32600	33700	13100	14500	7610	8070	5660	5780	4510
1,1-Dichloroethane	µg/L	38200	47800	4770	0.5	17600	8860	20500	10800	7620	7160	5830
1,2-Dichloroethane	µg/L	-160	-160	-16	6	20.6	8.0	32	-11.5	5.3	-2.3	-1.70
1,1,1-Dichloroethene	µg/L	-210	-210	-21	-0.27	164	146	-44	112	337	312	239
Chloroethane	µg/L	330	-330	33	76.6	411	346	134	354	509	519	1220
Ethane	µg/L	39	45	41	23	29	17	36	33	11	11	7.5
Acetone	µg/L	1890	1890	-189	3690	536	115	460	56.5	70.3	113	256
Methylene Chloride	µg/L	2400	-200	-20	14.6	122	89	152	-10.5	24.7	-6.3	13.6
2-Butanone	µg/L	-1020	1020	-102	2.5	62.5	860	3440	190	3.8	165	16.4
Toluene	µg/L	160	-160	-16	31.7	96.5	54.5	28	76	53.8	33.2	32.2
Benzene	µg/L	-140	140	14	-0.1	20.6	8.5	34	10.5	2.6	4.0	-2.10
p-Ethyltoluene	µg/L	-240	-240	-24	-0.16	-2.2	-12	-48	-8.0	-0.16	-6.2	-1.50
1,3,5-Trimethylbenzene	µg/L	-120	-120	-12	0.63	-1.1	6.0	-24	-10	-0.2	-5.7	-1.70
2-Chlorotoluene	µg/L	170	-170	17	5.1	1.6	10.5	-42	12.5	21.8	3.8	1.50
1,2,4-Trimethylbenzene	µg/L	-130	-130	13	0.22	-2.2	6.5	-26	8.5	1.6	-6.0	1.50
Naphthalene	µg/L	-270	-270	-27	-0.19	4.1	-13.5	54	14.5	1.1	-9.4	-4.00
o-Xylene	µg/L	-80	-80	-8	0	-1.4	-8.9	-32	-12.5	0.82	-3.3	-1.2
n-Propylbenzene	µg/L	-140	140	14	0.21	3.1	7.0	28	-8.0	0.16	6.2	1.60
Methyl T-Butyl Ether	µg/L	250	250	-25	0.28	9.0	11.7	36	9.0	0.18	5.8	0.53
Sum VOAs (w/o Gases)	µg/L	218600	282800	37370	37579	32207	24113	28262	19530	14434	13804	12175
Methane	µg/L	100	140	44	36	500	1020	2000	5300	740	19500	16000
Iron, Total	mg/L	50.6	5.91	69.6	3.92	32.5	5.39	8.46	4.63	10.1	55.3	9
Sulfate	mg/L	286	392	154	53.7	1050	1640	3640	119	558	14.1	75.2
Nitrate-Nitrogen	mg/L		0.015	0.53	0.037	0.015	0.13	0.009	0.017	0.025	0.19	0.076
Total Organic Carbon	mg/L	294	432	22.7	48.1	176	34.4	1600	173	40.3	39.1	184

Well	SMP-3											
Date	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007			
Days	1067	1201	1294	1389	1487	1564	1783	2257	2404			
Tetrachloroethene	mg/L	-3.80	-1.0	5.8	13	-10	2.3	24	-20	-10		
Trichloroethene	µg/L	2.10	-1.0	2.3	4.5	10	1.0	-20	20	-10		
cis-1,2-Dichloroethene	µg/L	1.60	2.5	1.8	3.6	10	1.0	20	-20	10		
trans-1,2-Dichloroethene	µg/L	-2.20	1.0	-1.0	-1.0	-10	1.0	-20	-20	-10		
Vinyl Chloride	µg/L	22.9	190	110	340	290	120	310	51	14		
Ethane	µg/L	140	92	51	210	24	71	74	20	19		
Acetylene	µg/L	1.2	-1.2	1.2	-1.2		-1.2	1.2	1.2	1.2		
1,1,1-Trichloroethane	µg/L	372	2300	5500	1100	1200	620	51000	920	6900		
1,1-Dichloroethane	µg/L	14600	19000	11000	7100	11000	11000	28000	5800	760		
1,2-Dichloroethane	µg/L	1.70	7.6	4.4	1.0	10	2.4	20	20	10		
1,1,1-Dichloroethene	µg/L	38.9	50	120	540	330	92	740	320	94		
Chloroethane	µg/L	9290	4600	1700	5700	6400	5600	1900	110	49		
Ethane	µg/L	8.3	9.2	8.2	9.3	-1.3	4.6	6.2	-1.3	5.6		
Acetone	µg/L	14.1	1.0	1.0	460	10	130	-20	1500	360		
Methylene Chloride	µg/L	8.13	24	14	13.0	88	11	220	420	110		
2-Butanone	µg/L	16.4	270	110	61	10	8.7	20	-20	30		
Toluene	µg/L	41.1	160	110	100	140	43	230	-20	8.5		
Benzene	µg/L	-2.10	4.9	2.6	2.3	-10	1.0	-20	-20	-10		
p-Ethyltoluene	µg/L	1.50	1.0	1.0	1.0	10	1.0	20	20	10		
1,3,5-Trimethylbenzene	µg/L	1.70	1.0	1.0	-1.0	-10	1.0	20	20	-10		
2-Chlorotoluene	µg/L	-1.50	28	20	16	20	4.6	21	-20	-10		
1,2,4-Trimethylbenzene	µg/L	1.50	-1.0	-1.0	-1.0	-10	-1.0	20	-20	-10		
Naphthalene	µg/L	4.00	1.0	1.0	1.0	10	1.0	20	20	10		
o-Xylene	µg/L	-1.20	-1.0	0.9	1.4	-10	1.0	-20	20	12		
n-Propylbenzene	µg/L	1.60	1.0	-1.0	1.0	-10	-1.0	-20	20	10		
Methyl T-Butyl Ether	µg/L	0.53	-1.0	1.0	-1.0	10	1.0	-20	-20	-10		
Sum VOAs (w/o Gases)	µg/L	24773	26637	18702	15455	19468	17712	82445	8921	8278		
Methane	µg/L	11600	20900	17000	16000	2820	13500	13200	4300	6400		
Iron, Total	mg/L	13.4	8.93	1.68	130.0	28.2	24.4	36.8	10.9	11		
Sulfate	mg/L	85.6	377	642	2570	239	124	371	472	198		
Nitrate-Nitrogen	mg/L	0.055	0.100	0.33	8.73	0.0611	0.0302	0.0975	0.10	0.423		
Total Organic Carbon	mg/L	168	-0.51	137	58.5	101	49.5	93	49	83		

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well		DMP-3										
Date		9-1-2000	10-19-2000	12-20-2000	3-27-2001	7-11-2001	1-8-2002	4-2-2002	6-28-2002	10-2-2002	1-13-2003	4-28-2003
Days		0	49	111	208	314	495	579	662	761	864	969
Tetrachloroethene	µg/L	-16	60.5	-4.0	-1.1	72.3	34	-12	-2.2	-0.11	-31	21.5
Trichloroethene	µg/L	-34	-13.5	-8.5	2	8.6	8.5	8	-7.2	0.36	-23	-4.20
cis-1,2-Dichloroethene	µg/L	-38	-17	-9.5	-3	14.9	9.9	-10.5	-4.8	1.6	21	42.7
trans-1,2-Dichloroethene	µg/L	-54	-14	13.5	-2.2	-1.4	-14	10	6.2	1.3	-23	-4.40
Vinyl Chloride	µg/L	1040	928	818	145	785	634	397	113	61.2	-25.5	146
Ethene	µg/L	430	450	310	290	490	360	220	620	580	970	340
Acetylene	µg/L						-1.2	1.2	-1.2	-1.2	-1.2	-2.2
1,1,1-Trichloroethane	µg/L	19700	14300	23400	793	24000	19500	11600	1350	234	5970	1510
1,1-Dichloroethane	µg/L	5230	4860	4200	764	3250	2260	3770	2410	3980	10800	8520
1,2-Dichloroethane	µg/L	32	9.5	8.0	2	25.4	8.0	11.5	36.6	29.5	-11.5	3.4
1,1-Dichloroethene	µg/L	156	24	10.5	1.8	168	-11	-15	17.4	5.6	-31.5	36.2
Chloroethane	µg/L	5370	6970	3760	729	6630	2260	1900	10100	8640	9050	1600
Ethane	µg/L	5.7	9.4	44	12	8.2	8.6	16	31	26	35	17
Acetone	µg/L	-378	-65	-94.5	-14.8	-14.4	-115	-156	945	121	-566	173
Methylene Chloride	µg/L	436	149	10	31.8	58.7	18.5	27	91.8	62	31.5	34.7
2-Butanone	µg/L	204	41	-51	-25	-62.5	-860	250	-76	-3.8	-826	32.8
Toluene	µg/L	232	134	103	15.7	140	108	84	85.6	30.5	56.5	22.5
Benzene	µg/L	-28	-7.0	-7.0	-1	-1.3	-8.5	-8	-4.2	-0.21	-20	-4.2
p-Ethyltoluene	µg/L	48	-17	12	1.6	9.9	12	-12	3.2	0.16	31	3.0
1,3,5-Trimethylbenzene	µg/L	24	15	-6	-3.4	-1.1	6.0	10	4.0	1.5	-28.5	3.40
2-Chlorotoluene	µg/L	-34	-13.5	8.2	2.1	51.5	-10.5	-13.5	5.0	18.7	19	3.00
1,2,4-Trimethylbenzene	µg/L	-26	-12.5	-6.5	-2.2	17	-6.5	-8.5	-3.4	4.5	-30	-3.00
Naphthalene	µg/L	-54	-9.0	-13.5	1.9	-4.1	-13.5	7	5.8	1.9	47	-8.0
o-Xylene	µg/L	16	13.5	4.0	1.6	-1.6	8.0	-10	-5.0	1.8	-16.5	2.40
n-Propylbenzene	µg/L	28	-14.0	-7.0	-2.1	3.1	-7.0	-10.5	-3.2	0.16	-31	3.20
Methyl T-Butyl Ether	µg/L	-50	-11.5	-12.5	-2.8	-0.80	125	-17	26.6	-0.18	-29	-1.06
Sum VOAs (w/o Gases)	µg/L	32164	27402	32281	2479	35231	24941	17751	15176	13195	25877	11907
Methane	µg/L	390	890	800	950	870	1400	3850	11100	3100	10700	5280
Iron, Total	mg/L	60.4	66.8	74.3	20.8	77.5	39.0	35.8	114	38.8	11.9	3.7
Sulfate	mg/L	124	186	137	94.6	173	188	127	185	1200	486	1290
Nitrate-Nitrogen	mg/L	0.93	0.35	0.35	0.073	0.0030	-0.13	0.029	-0.025	-0.025	1.17	0.051
Total Organic Carbon	mg/L	98.2	88.6	104	27.8	51.8	29.6	102	349	201	516	166

Well		DMP-3										
Date		8-4-2003	12-16-2003	3-15-2004	6-21-2004	9-27-2004	12-13-2004	7-20-2005	11-6-2006	4-2-2007		
Days		1067	1201	1291	1389	1487	1564	1783	2257	2404		
Tetrachloroethene	µg/L	-19.0	-1.0	29	6.8	-20	6.6	-50	16	-20		
Trichloroethene	µg/L	-10.5	1.0	8.7	2.2	20	2.2	-50	4.2	20		
cis-1,2-Dichloroethene	µg/L	-8.00	-1.0	9.3	2.8	-20	3	-50	9.4	-20		
trans-1,2-Dichloroethene	µg/L	11.0	3.1	4.6	2.6	-20	1.0	50	-1.0	20		
Vinyl Chloride	µg/L	342	520	250	180	1500	120	1200	400	470		
Ethene	µg/L	490	447	900	450	620	1600	280	140	140		
Acetylene	µg/L	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2		
1,1,1-Trichloroethane	µg/L	3610	540	14000	10000	6600	11000	40000	12000	6400		
1,1-Dichloroethane	µg/L	10200	5100	12000	14000	26000	21000	44000	11000	14000		
1,2-Dichloroethane	µg/L	8.50	24	74	17	110	89	50	12	20		
1,1-Dichloroethene	µg/L	65.1	18	230	140	-20	110	-50	209	1400		
Chloroethane	µg/L	8180	3900	5200	4100	18000	41000	11000	4800	3800		
Ethane	µg/L	11	10	34	18	12	29	18	13	-1.3		
Acetone	µg/L	-70.5	1.0	310	140	-20	1.0	50	36	230		
Methylene Chloride	µg/L	-7.50	47	85	28	250	89	620	14	230		
2-Butanone	µg/L	-82.0	-1.0	-94	140	-20	260	-50	100	-70		
Toluene	µg/L	80.8	160	160	44	250	170	210	86	100		
Benzene	µg/L	10.5	-1.0	4.0	2.3	-20	4.7	50	1.1	-20		
p-Ethyltoluene	µg/L	7.50	-1.0	1.0	0.9	20	1.0	-50	1.0	20		
1,3,5-Trimethylbenzene	µg/L	-8.50	4.8	3.7	-1.0	-20	2	-50	-1.0	-20		
2-Chlorotoluene	µg/L	-7.50	46	40	11	45	44	-50	28	24		
1,2,4-Trimethylbenzene	µg/L	7.50	3.8	3.6	1.0	-20	9.5	50	2.9	20		
Naphthalene	µg/L	20.0	1.0	2.5	2.6	20	2.4	50	1.0	-20		
o-Xylene	µg/L	-6.00	5.7	3.7	1	-20	3	-50	3.3	-20		
n-Propylbenzene	µg/L	8.00	1.0	1.0	-1.0	20	1.2	50	1.0	20		
Methyl T-Butyl Ether	µg/L	2.65	1.0	1.0	1.0	20	1.0	50	-1.0	20		
Sum VOAs (w/o Gases)	µg/L	22478	10372	32513	28821	52755	73917	97030	28711	26654		
Methane	µg/L	11300	16900	11000	11000	18400	9680	6910	8600	6400		
Iron, Total	mg/L	4.0	7.29	2.71	2.39	3.86	7.53	3.53	2.39	16.9		
Sulfate	mg/L	519	30	1040	1060	4.88	108	484	504	683		
Nitrate-Nitrogen	mg/L	0.15	-0.10	0.24	0.10	0.10	0.10	0.10	-0.10	0.324		
Total Organic Carbon	mg/L	132	18.9	230	243	45.4	46.3	35	24	22		

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	SMP-4										
	Date	9/1/2000	10/19/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003
	Days	0	48	119	207	313	494	662	761	864	969
Tetrachloroethene	µg/L	13.2	-5.6	-0.80	-5.5	9.3	32	70.2	37.5	-31	102
Trichloroethene	µg/L	0.85	5.4	1.7	-10	1.7	-3.4	6.5	-0.36	23	9.8
cis-1,2-Dichloroethene	µg/L	143	6.8	-1.9	-13	10.8	-3.6	30	27.2	-21	31
trans-1,2-Dichloroethene	µg/L	-1.35	-5.6	-2.7	-11	-1.4	-5.6	0.62	-0.31	-23	-1.10
Vinyl Chloride	µg/L	175	34.6	37.6	72.5	111	126	4.9	2.1	-25.5	10.1
Ethene	µg/L	220	190	220	170	160	340	87	29	28	82
Acetylene	µg/L						-1.2	1.2	-1.2	1.2	1.2
1,1,1-Trichloroethane	µg/L	3150	246	997	3100	2610	2700	23	11.5	-17.5	8.54
1,1-Dichloroethane	µg/L	4070	1740	1180	2250	3270	2890	135	149	184	80.4
1,2-Dichloroethane	µg/L	26.2	-3.8	1.6	3.0	19.7	-3.2	0.46	3.0	11.5	0.85
1,1-Dichloroethene	µg/L	105	-9.6	2.1	-9	48.2	130	0.54	0.27	31.5	1.15
Chloroethane	µg/L	1220	827	3000	1590	945	776	147	459	1060	1010
Ethane	µg/L	-6	-6	39	-10	-10	2.4	12	2.7	3.1	4
Acetone	µg/L	-9.4	-26	-18.9	-74	-14.4	-46	365	421	1650	433
Methylene Chloride	µg/L	295	123	2	278	127	66.8	7.5	8.8	31.5	9.85
2-Butanone	µg/L	5.1	16.4	-19.2	125	62.5	-344	7.6	137	-826	8.20
Toluene	µg/L	116	37.6	25.5	-7.5	48.2	69.6	0.40	0.96	19	1.00
Benzene	µg/L	-0.70	-2.8	-1.4	-5	-1.3	-3.4	-0.42	-0.21	-20	-1.05
p-Ethyltoluene	µg/L	4.8	6.8	2.4	8	2.2	4.8	0.32	-0.16	31	-0.75
1,3,5-Trimethylbenzene	µg/L	3.2	6.0	-1.2	17	-1.1	2.4	-0.40	-0.2	28.5	-0.85
2-Chlorotoluene	µg/L	45.5	-5.4	-1.7	10.5	21.4	-4.2	-0.50	0.25	-19	0.75
1,2,4-Trimethylbenzene	µg/L	8.6	-5.9	-1.3	-1.1	-2.2	-2.6	-0.34	-0.17	-30	-0.75
Naphthalene	µg/L	1.35	3.6	2.7	-9.5	-4.1	5.4	-0.58	-0.29	47	-2.00
o-Xylene	µg/L	0.40	5.4	0.8	8	1.6	-3.2	0.50	-0.25	16.5	-0.60
m-Propylbenzene	µg/L	-0.70	5.6	-1.4	-10.5	3.1	2.8	-0.32	-0.16	-31	-0.80
Methyl T-Butyl Ether	µg/L	-1.25	-4.6	-2.5	-14	-0.80	-3.6	-0.36	-0.18	-29	-0.26
Sum VOAs (w/o Gases)	µg/L	9376	3008	5240	7271	7221	6790	790	1257	2894	1695
Methane	µg/L	450	470	1100	3650	1800	2600	4120	3300	14600	23300
Iron, Total	mg/L	76.2	38.9	47.1	54.5	41.2	17.8	1010	1110	541	209
Sulfate	mg/L	933	470	435	1700	1910	1630	119	73.1	5.24	119
Nitrate-Nitrogen	mg/L		-0.015	0.31	0.19	0.037	-0.13	-0.025	-0.025	0.99	0.05
Total Organic Carbon	mg/L	73.6	60.4	-0.94	34.6	46.5	31.0	3440	3680	1900	1160

Well	SMP-4									
	Date	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007
	Days	1067	1201	1291	1389	1487	1564	1783	2257	2404
Tetrachloroethene	µg/L	65.6	180	48	27	9.3	10	2.2	-1.0	-1.0
Trichloroethene	µg/L	2.10	13	3.8	4.3	1.0	1.1	1.0	-1.0	1.0
cis-1,2-Dichloroethene	µg/L	33.7	180	48	290	180	55	13	-1.0	-1.0
trans-1,2-Dichloroethene	µg/L	2.20	1.0	-1.0	1.0	-1.0	1.0	1.0	1.0	1.0
Vinyl Chloride	µg/L	-2.80	78	19	29	17	1.0	-1.0	1.0	1.0
Ethene	µg/L	17	24	3.6	23	32	17	18	8.3	7.3
Acetylene	µg/L	-12.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
1,1,1-Trichloroethane	µg/L	2.20	4.2	4.6	1.0	1.0	1.0	140	1.0	1.0
1,1-Dichloroethane	µg/L	54.3	110	22	13	1.0	1.0	100	1.0	10
1,2-Dichloroethane	µg/L	-1.70	1.0	-1.0	1.0	-1.0	-1.0	1.0	1.0	-1.0
1,1-Dichloroethene	µg/L	-2.30	-1.0	1.0	1.0	-1.0	-1.0	-1.0	1.0	-1.0
Chloroethane	µg/L	1290	740	94	270	340	-1.0	2300	1600	370
Ethane	µg/L	1.3	2.9	1.3	1.3	1.3	1.3	1.3	7.7	-1.3
Acetone	µg/L	613	1200	1200	360	220	1.0	180	-1.0	64
Methylene Chloride	µg/L	-1.50	17	-1.0	-1.0	-1.0	-1.0	6.1	3.6	4.4
2-Butanone	µg/L	-16.4	-230	22	17	36	82	1.0	-1.0	-3.0
Toluene	µg/L	2.00	9.0	3.3	3.6	4.0	3.7	22.0	44	5.1
Benzene	µg/L	-2.10	-1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0
p-Ethyltoluene	µg/L	1.50	-1.0	1.0	1.0	-1.0	-1.0	1.0	-1.0	1.0
1,3,5-Trimethylbenzene	µg/L	-1.70	-1.0	-1.0	-1.0	-1.0	-1.0	1.0	-1.0	1.0
2-Chlorotoluene	µg/L	-1.50	2.0	1.0	1.2	1.0	1.2	1.0	1.7	1.0
1,2,4-Trimethylbenzene	µg/L	-1.50	-1.0	1.0	1.0	-1.0	-1.0	1.0	1.1	1.3
Naphthalene	µg/L	-4.00	1.0	-1.0	1.0	1.0	1.0	1.0	-1.0	-1.0
o-Xylene	µg/L	-1.20	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
m-Propylbenzene	µg/L	1.60	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Methyl T-Butyl Ether	µg/L	-0.53	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	1.0
Sum VOAs (w/o Gases)	µg/L	2057	2763	1465	1015	806	173	2763	1650	455
Methane	µg/L	12800	16600	710	15000	17800	15400	11000	5200	10000
Iron, Total	mg/L	214	176	723	574	493	309	65.9	82.3	15.4
Sulfate	mg/L	59.1	178	216	1.0	1.00	1.5	1.0	53.7	87.3
Nitrate-Nitrogen	mg/L	0.33	-0.100	0.26	0.949	0.186	0.156	0.494	0.10	1.46
Total Organic Carbon	mg/L	837	0.51	58.6	341	165	194	120	160	53

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	DMP-4											
	Date	9/1/2000	10/19/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003
Days	0	48	110	207	313	494	578	662	761	864	969	
Tetrachloroethene	µg/L	-0.40	-0.080	-0.080	-0.11	-2.0	-1.2	-0.48	-0.55	-0.11	<31	-19.0
Trichloroethene	µg/L	0.85	-1.70	0.17	0.20	-1.7	-1.7	0.32	-1.8	0.36	-23	10.5
cis-1,2-Dichloroethene	µg/L	-0.95	-1.90	-0.19	0.30	-1.4	1.8	-0.42	-1.2	-0.24	-21	8.00
trans-1,2-Dichloroethene	µg/L	-1.35	-2.70	-0.27	3.4	-1.4	-2.8	0.40	-1.55	1.9	-23	-14.0
Vinyl Chloride	µg/L	-1.75	-3.50	-0.35	2.9	-0.70	-8.5	0.20	1.15	5.4	-25.5	-11.0
Ethene	µg/L	250	260	220	160	-6	230	150	200	140	89	170
Acetylene	µg/L						-1.2	-1.2	1.2	-1.2	1.2	-1.2
1,1,1-Trichloroethane	µg/L	56.3	130	0.11	15.3	18.4	-1.4	0.44	1.3	-0.26	-17.5	11.0
1,1-Dichloroethane	µg/L	29.7	20.1	-0.14	50.1	30.0	16.3	38.6	78.1	78.2	-21.5	92.5
1,2-Dichloroethane	µg/L	-0.80	-1.60	0.16	8.7	-1.3	1.6	0.46	6.5	10.3	11.5	-8.50
1,1-Dichloroethene	µg/L	-1.05	2.10	0.21	-0.18	1.4	2.2	-0.6	1.35	0.27	31.5	11.5
Chloroethane	µg/L	2420	2580	3300	3680	2680	1210	1260	1330	3240	3510	5460
Ethane	µg/L	-6	-6	37	-6	-6	2.4	-1.3	4.7	1.1	2.3	4.4
Acetone	µg/L	-9.45	-18.9	-1.89	58.4	-14.4	-23	6.24	-5.65	-1.13	-5.66	-70.5
Methylene Chloride	µg/L	22.8	16.6	3.9	19.8	20.8	8.4	12.2	22.2	26.9	31.5	7.5
2-Butanone	µg/L	5.1	10.2	-1.02	2.5	-62.5	172	19	19	3.8	82.6	82.0
Toluene	µg/L	11	7.5	3.1	6.1	1.4	6.9	10.2	7.3	20.2	19	-10.0
Benzene	µg/L	-0.70	-1.40	-0.14	0.10	-1.3	-1.7	-0.321	-1.05	-0.21	-20	-10.5
p-Ethyltoluene	µg/L	3.7	-2.40	0.24	1.2	-2.2	2.4	0.48	-0.80	2.9	31	7.50
1,3,5-Trimethylbenzene	µg/L	9.2	1.20	2.5	3.4	-1.1	1.2	6.9	31.0	2.9	-28.5	-8.50
2-Chlorotoluene	µg/L	64.5	44.5	17.1	31.6	31.9	34.2	40.2	21.1	27.2	19	-7.50
1,2,4-Trimethylbenzene	µg/L	18.3	15.9	5.3	-0.22	9.2	9.0	13.5	5.3	6.4	30	-7.50
Naphthalene	µg/L	4.3	2.70	0.27	1.6	-4.1	2.7	0.28	1.45	1.8	47	20.0
o-Xylene	µg/L	4.8	-0.80	-0.008	5.0	1.6	-1.6	3.6	-1.25	2.6	16.5	6.00
n-Propylbenzene	µg/L	44.3	1.40	0.14	-0.21	3.1	1.4	0.42	-0.80	0.26	31	8.00
Methyl t-Butyl Ether	µg/L	1.25	-2.4	-0.25	-0.28	-0.80	21.9	-0.68	-0.90	-0.38	-29	-2.65
Sum VOAs (w/o Gases)	µg/L	2689	2815	3332	3888	2790	1307	1385	1471	3427	3510	5553
Methane	µg/L	180	210	190	300	-6	250	240	2480	8600	21500	22300
Iron, Total	mg/L	48.2	39.2	42.5	85.4	116	31.6	29.1	44.1	15.8	56.8	62.1
Sulfate	mg/L	133	171	98.5	209	323	146	176	249	225	3.77	222
Nitrate-Nitrogen	mg/L		0.22	0.31	0.17	-0.015	-0.13	0.051	-0.025	-0.025	-0.025	0.18
Total Organic Carbon	mg/L	43.7	52.4	50.9	34.6	35.7	7.1	71.7	161	78.3	291	306

Well	DMP-4									
	Date	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007
Days	1067	1201	1291	1389	1487	1564	1783	2257	2404	
Tetrachloroethene	µg/L	-3.80	1.0	-1.0	-1.0	-5.0	-1.0	1.0	5.0	
Trichloroethene	µg/L	2.10	-1.0	-1.0	1.0	5.0	-1.0	-1.0	5.0	
cis-1,2-Dichloroethene	µg/L	-1.60	-1.0	-1.0	-1.0	-5.0	-1.0	-1.0	-5.0	
trans-1,2-Dichloroethene	µg/L	-2.20	1.0	1.5	1.6	5.0	1.0	1.0	5.0	
Vinyl Chloride	µg/L	-2.80	1.0	1.0	1.0	-5.0	1.0	1.0	2.8	
Ethene	µg/L	81	33	53	74	51	60	150	91	
Acetylene	µg/L	1.2	-1.2	-1.2	1.2	-1.2	-1.2	1.2	-1.2	
1,1,1-Trichloroethane	µg/L	-2.20	1.0	1.0	-1.0	5.0	1.0	96	1.0	
1,1-Dichloroethane	µg/L	2.20	1.0	1.8	2.9	5.0	1.0	400	290	
1,2-Dichloroethane	µg/L	1.70	-1.0	3.3	5.3	-5.0	3.4	28	38	
1,1-Dichloroethene	µg/L	-2.30	-1.0	-1.0	-1.0	-5.0	-1.0	-1.0	-1.0	
Chloroethane	µg/L	3560	510	1800	4300	2500	1.0	7900	3000	
Ethane	µg/L	2.9	1.3	-1.3	4.8	3.9	1.3	3.9	6.6	
Acetone	µg/L	-14.1	1.0	1.0	-1.0	5.0	1.0	1.0	1.0	
Methylene Chloride	µg/L	10.2	4.3	9.8	-1.0	32	<1.0	40	25	
2-Butanone	µg/L	-16.4	-1.0	36	11	-5.0	30	7.1	-1.0	
Toluene	µg/L	10.7	16	17	24	40	26	55.0	20	
Benzene	µg/L	2.10	-1.0	-1.0	1.3	5.0	1.0	2	1.0	
p-Ethyltoluene	µg/L	-1.50	1.0	1.7	2.4	-5.0	1.9	-1.0	2.2	
1,3,5-Trimethylbenzene	µg/L	-1.50	2.4	1.6	-1.0	5.0	1.9	3.3	2.1	
2-Chlorotoluene	µg/L	1.50	25	23	27	36	22	35.0	28	
1,2,4-Trimethylbenzene	µg/L	1.50	2.3	1.7	3	-5.0	5.4	9	5.8	
Naphthalene	µg/L	4.00	1.0	1.0	1.6	-5.0	1.0	1.0	1.0	
o-Xylene	µg/L	-1.20	-1.0	2.0	2.3	-5.0	1.8	-1.0	2.9	
n-Propylbenzene	µg/L	19.4	-1.0	-1.0	-1.0	-5.0	1.0	1.0	1.0	
Methyl t-Butyl Ether	µg/L	0.53	-1.0	-1.0	-1.0	-5.0	1.0	-5.0	1.0	
Sum VOAs (w/o Gases)	µg/L	3600	560	1899	4382	2608	92	8651.3	9417	
Methane	µg/L	19700	26000	28000	22000	22700	22700	21300	11000	
Iron, Total	mg/L	114	66.3	3.27	25.8	66.4	54.4	70.9	36	
Sulfate	mg/L	59.1	57.0	91.0	2.0	-1.00	1.2	-1.0	63.3	
Nitrate-Nitrogen	mg/L	0.17	0.08	0.16	0.214	0.0655	0.0528	0.0764	0.10	
Total Organic Carbon	mg/L	295	0.51	48.8	342	99.5	73.4	140	110	

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	Date	MW-8								
		3/28/2001	7/12/2001	1/8/2002	4/3/2002	6/26/2002	10/3/2002	1/15/2003	4/28/2003	8/5/2003
Days		0	314	494	579	663	554	658	761	860
Tetrachloroethene	µg/L	-0.11	-0.20	-0.12	-0.24	-0.22	-0.11	-0.62	-0.76	-0.38
Trichloroethene	µg/L	1.8	1.7	-0.97	-0.16	0.72	-0.36	0.46	1.91	4.22
cis-1,2-Dichloroethene	µg/L	-0.30	1.2	0.18	-0.21	-0.48	-0.24	-0.42	3.99	15.4
trans-1,2-Dichloroethene	µg/L	-0.22	0.14	-0.28	-0.20	0.62	-0.23	-0.46	-0.44	0.22
Vinyl Chloride	µg/L	-0.25	-0.070	-0.85	-0.10	-0.46	-1.3	0.51	-0.56	-0.28
Ethene	µg/L	6	6	-1.3	1.3	1.2	1.2	4.6	-1.3	7.1
Acetylene	µg/L			-1.2	-1.2	-1.2	-0.26	1.2	1.2	1.2
1,1,1-Trichloroethane	µg/L	-0.20	0.16	-0.14	0.22	-0.52	0.3	-0.35	0.44	0.22
1,1-Dichloroethane	µg/L	-0.14	-0.12	-0.25	-0.22	-0.60	-0.31	-0.43	-0.44	-0.22
1,2-Dichloroethane	µg/L	0.20	-0.13	0.16	0.23	0.46	0.23	0.23	0.34	0.17
1,1-Dichloroethene	µg/L	0.18	-0.14	0.22	0.30	0.54	0.27	0.63	0.46	0.23
Chloroethane	µg/L	-0.30	0.18	0.67	-0.61	-0.48	3.7	0.49	0.88	0.44
Ethane	µg/L	-6	-6	-1.3	-1.3	-1.3	1.3	-1.3	-1.3	-1.3
Acetone	µg/L	-1.48	-1.44	-2.3	3.12	-2.26	-1.13	-1.13	-2.82	-1.41
Methylene Chloride	µg/L	0.41	0.15	-0.37	0.54	0.42	0.21	0.63	0.30	0.15
2-Butanone	µg/L	-2.5	6.25	17.2	5.0	-7.6	-3.8	16.5	-3.28	-1.64
Toluene	µg/L	0.15	0.14	0.14	0.14	0.40	-0.2	0.38	0.40	0.20
Benzene	µg/L	-0.10	-0.13	-0.17	-0.16	-0.42	-0.21	-0.4	-0.42	-0.41
p-Ethyltoluene	µg/L	-0.16	0.22	-0.24	-0.24	0.32	0.16	-0.62	0.30	0.15
1,3,5-Trimethylbenzene	µg/L	-0.34	0.11	0.12	-0.20	-0.40	-0.2	-0.57	-0.34	-0.17
2-Chlorotoluene	µg/L	0.21	-0.16	-0.21	-0.27	0.50	0.25	0.38	-0.30	0.15
4-Chlorotoluene	µg/L									
1,2,4-Trimethylbenzene	µg/L	0.22	-0.22	0.13	-0.26	0.34	0.17	0.60	0.30	0.15
Naphthalene	µg/L	-0.19	-0.41	0.27	-0.14	0.58	0.29	0.94	0.30	-0.40
o-Xylene	µg/L	0.16	-0.16	0.16	-0.20	0.50	0.25	-0.33	0.24	-0.12
n-Propylbenzene	µg/L	-0.21	-0.31	-0.14	-0.21	0.32	-0.16	-0.62	-0.32	-0.16
Methyl t-Butyl Ether	µg/L	0.28	0.080	0.18	-0.34	-0.36	0.18	0.58	0.11	0.053
Sum VOAs (w/o Gases)	µg/L	1.8	2.9	1.0	0.0	0.0	3.7	0	5.9	19.6
Methane	µg/L	6	61	9.1	0.7	20	3.1	76.0	2.1	30
Iron, Total	mg/L	0.023	0.088	-0.096	-0.096	0.013	0.23	0.069	0.061	0.036
Sulfate	mg/L	22.6	23.4	27.4	23.2	143	3.46	32.5	28.1	58.6
Nitrate-Nitrogen	mg/L	6.1	5.63	6.93	6.66	6.67	5.67	6.28	6.14	5.76
Total Organic Carbon	mg/L	4.97	-0.94	0.94	1.41	6.6	4.7	33.4	6.58	4.69

Well	Date	MW-8							
		12/16/2003	3/16/2004	6/22/2004	9/27/2004	12/13/2004	7/20/2005	11/7/2006	4/3/2007
Days		993	1064	1182	1279	1356	1575	2050	2197
Tetrachloroethene	µg/L	3.2	-1.0	1.1	8.3	9.2	3.1	2.8	3.8
Trichloroethene	µg/L	39	9.3	22	90	41	30	30	31
cis-1,2-Dichloroethene	µg/L	140	40	65	180	53	130	44	45
trans-1,2-Dichloroethene	µg/L	1.0	-1.0	1.0	1.0	1.0	1.0	1.0	<1.0
Vinyl Chloride	µg/L	-1.0	1.0	-1.0	-1.0	1.0	-1.0	1.0	-1.0
Ethane	µg/L	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	4.0	-1.3
Acetylene	µg/L	1.2	-1.2	-1.2	-1.2	1.2	1.2	-1.2	-1.2
1,1,1-Trichloroethane	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0
1,1-Dichloroethane	µg/L	1.7	4.4	8.1	28	8.4	20	4.8	5.7
1,2-Dichloroethane	µg/L	-1.0	-1.0	1.0	-1.0	-1.0	1.0	-1.0	-1.0
1,1-Dichloroethene	µg/L	1.0	1.0	1.0	3.7	-1.0	1.0	1.0	0.86
Chloroethane	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0
Ethane	µg/L	-1.3	-1.3	-1.3	1.3	-1.3	1.3	-1.3	-1.3
Acetone	µg/L	1.0	1.0	-1.0	-1.0	-1.0	-1.0	-1.0	2.0
Methylene Chloride	µg/L	-1.0	4.3	-1.0	-1.0	-1.0	7.3	5.7	5.6
2-Butanone	µg/L	-1.0	1.0	1.0	1.0	1.0	1.0	1.0	-3.0
Toluene	µg/L	1.0	1.0	-1.0	-1.0	1.0	1.0	1.0	-1.0
Benzene	µg/L	-1.0	1.0	1.0	1.0	1.0	1.0	1.0	-1.0
p-Ethyltoluene	µg/L	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	1.0
1,3,5-Trimethylbenzene	µg/L	-1.0	-1.0	1.0	1.0	-1.0	-1.0	1.0	1.0
2-Chlorotoluene	µg/L	1.0	-1.0	1.0	1.0	-1.0	1.0	1.0	-1.0
4-Chlorotoluene	µg/L								-1.0
1,2,4-Trimethylbenzene	µg/L	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	1.0
Naphthalene	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
o-Xylene	µg/L	1.0	1.0	1.0	1.0	1.0	-1.0	1.0	-1.0
n-Propylbenzene	µg/L	1.0	1.0	1.0	1.0	-1.0	-1.0	1.0	-1.0
Methyl t-Butyl Ether	µg/L	-1.0	1.0	-1.0	1.0	-1.0	-1.0	1.0	1.0
Sum VOAs (w/o Gases)	µg/L	199.2	58.6	96.2	310.0	111.6	190.4	87.3	87.3
Methane	µg/L	21	25	6.9	50	15	5.3	0.7	-0.7
Iron, Total	mg/L	0.0681	0.0681	0.191	0.060	0.0352	0.0626	0.115	0.0766
Sulfate	mg/L	23.0	58.0	361.0	48.6	28.9	44.4	15.8	20.4
Nitrate-Nitrogen	mg/L	5.99	23.8	14.7	2.12	1.75	2.57	6.76	7.7
Total Organic Carbon	mg/L	-0.51	11.1	13.6	2.71	-1.0	1.0	1.6	-1.0

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	MW-9				MW-10				MW-11			
	Date	3/28/2001	7/12/2001	1/8/2002	1/14/2003	6/22/2004	1/22/2002	1/14/2003	6/22/2004	1/22/2002	1/14/2003	6/22/2004
Days	0	314	494	657	1182	0	357	882	0	357	525	
Tetrachloroethene	µg/L	0.11	-0.20	-0.24	0.62	1.0	2.3	0.62	2.8	0.12	0.62	1.0
Trichloroethene	µg/L	-0.20	-0.17	0.16	-0.46	-1.0	6.7	4.7	3.1	-0.17	9.9	2.3
cis-1,2-Dichloroethene	µg/L	-0.30	-0.14	-0.21	0.42	-1.0	2.31	2.44	100	-0.18	18.1	4.4
trans-1,2-Dichloroethene	µg/L	-0.22	-0.14	0.20	-0.46	-1.0	-0.20	0.46	1.0	-0.28	0.46	1.0
Vinyl Chloride	µg/L	-0.25	0.070	0.10	-0.51	-1.0	2.7	0.51	1.0	0.55	0.51	1.0
Ethene	µg/L	6	6									
Acetylene	µg/L											
1,1,1-Trichloroethane	µg/L	-0.20	0.16	0.22	0.35	1.0	0.22	0.35	1.0	0.14	0.35	1.0
1,1-Dichloroethane	µg/L	0.14	-0.12	0.22	0.43	-1.0	206	190	130	-0.25	6.3	-1.0
1,2-Dichloroethane	µg/L	0.20	-0.13	-0.23	0.23	1.0	5	5.8	1.4	0.16	0.23	1.0
1,1-Dichloroethene	µg/l	-0.18	-0.14	-0.30	0.63	-1.0	50.3	40.8	30	-0.25	0.63	-1.0
Chloroethane	µg/L	0.3	0.18	0.61	0.49	1.0	0.49	13.5	15	0.67	0.49	-1.0
Ethane	µg/l	6	6									
Acetone	µg/L	1.48	-1.44	3.12	-11.3	1.0	3.12	11.3	1.0	2.3	11.3	1.0
Methylene Chloride	µg/L	-0.41	-0.15	-0.54	-0.63	-1.0	0.54	0.63	1.4	-0.37	0.63	-1.0
2-Butanone	µg/L	2.5	6.25	5.0	16.5	1.0	5.0	16.5	1.0	17.2	16.5	1.0
Toluene	µg/L	0.15	0.14	0.14	0.38	-1.0	0.14	-0.38	1.0	-0.14	0.38	1.0
Benzene	µg/L	0.10	-0.13	0.16	0.4	1.0	0.16	0.4	1.0	0.17	0.4	-1.0
p-Ethyltoluene	µg/l	0.16	-0.22	0.24	-0.62	-1.0	0.24	0.62	1.0	-0.24	-0.62	-1.0
1,3,5-Trimethylbenzene	µg/L	-0.34	-0.11	-0.20	-0.57	-1.0	-0.20	-0.57	1.0	-0.12	-0.57	-1.0
2-Chlorotoluene	µg/L	0.21	0.16	0.27	0.38	-1.0	0.27	0.38	1.0	-0.21	-0.38	1.0
4-Chlorotoluene	µg/L							1.0				
1,2,4-Trimethylbenzene	µg/L	0.22	0.22	0.17	0.60	1.0	0.17	0.60	1.0	0.13	0.60	-1.0
Naphthalene	µg/l	-0.19	-0.41	-0.14	-0.94	-1.0	-0.14	0.94	1.0	0.27	-0.94	1.0
o-Xylene	µg/l	0.16	-0.16	0.20	0.33	1.0	0.20	0.33	-1.0	0.16	0.33	1.0
m-Propylbenzene	µg/L	0.21	-0.31	0.21	0.62	1.0	0.21	0.62	1.0	0.14	0.62	-1.0
Methyl-t-Butyl Ether	µg/L	0.28	0.080	0.34	0.58	1.0	0.34	0.58	1.0	0.18	0.58	-1.0
Sum VOAs (w/o Gases)	µg/L	9.0	0.0	0.0	0	0	504	498.8	284.9	0	14.3	6.7
Methane	µg/L	300	940									
Iron, Total	mg/l	10.4	21.9									
Sulfate	mg/L	4.43	23.1									
Nitrate-Nitrogen	mg/L	-0.025	-0.015									
Total Organic Carbon	mg/L	7.98	6.79									

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	MW-12									
Date	3/28/2001	7/12/2001	1/9/2002	4/3/2002	6/26/2002	10/3/2002	1/15/2003	4/28/2003	8/5/2003	
Days	0	106	287	371	455	554	658	761	860	
Tetrachloroethene	µg/L	0.11	0.20	-0.24	2.4	-1.1	0.55	-0.62	-0.76	-0.38
Trichloroethene	µg/L	122	0.93	16.5	31	67.8	82.5	48.7	104	38.1
cis-1,2-Dichloroethene	µg/L	1280	18.2	410	503	467	488	311	369	223
trans-1,2-Dichloroethene	µg/L	7.3	0.14	5.6	2.0	-2.1	1.55	0.46	3.84	1.70
Vinyl Chloride	µg/L	244	5.7	298	533	151	83.1	48.8	75.3	29.7
Ethene	µg/L	6.7	69	180	130	190	17	1.3	16	17
Acetylene	µg/L				-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
1,1,1-Trichloroethane	µg/L	-0.20	0.16	-0.22	2.2	-2.6	1.3	0.35	0.44	-0.22
1,1-Dichloroethane	µg/L	72.2	3.7	329	684	345	94.2	38.6	38.6	107
1,2-Dichloroethane	µg/L	-2.9	0.13	1.4	2.3	-2.3	11.15	0.23	0.34	-0.17
1,1-Dichloroethene	µg/L	8.4	-0.14	2.3	-3	-2.7	-1.35	-0.63	2.59	6.99
Chloroethane	µg/L	-0.30	0.18	6.1	6.1	2.4	1.2	-0.49	0.88	0.91
Ethane	µg/L	6	13	22	11	18	0.8	-1.3	2.9	4.8
Acetone	µg/L	-1.48	1.44	-3.12	-5.12	-1.9	5.65	11.3	2.82	-1.41
Methylene Chloride	µg/L	-0.41	-0.15	-0.54	-5.4	-2.1	-1.05	-0.63	-0.30	-0.15
2-Butanone	µg/L	-2.5	6.25	5.0	-5.0	-38	-19	-16.5	3.28	-1.64
Toluene	µg/L	0.97	0.14	5.6	11.4	2.0	1.0	0.38	0.40	0.20
Benzene	µg/L	5.3	0.13	5.4	-1.6	-2.1	1.08	0.4	2.04	1.39
p-Ethyltoluene	µg/L	-0.16	-0.22	-0.24	-2.4	-1.6	-0.8	-0.62	-0.30	-0.15
1,3,5-Trimethylbenzene	µg/L	-0.34	-0.11	-0.20	-2.0	-2.0	-1	-0.37	-0.34	-0.17
2-Chlorotoluene	µg/L	393	26.9	2690	3660	1940	554	68	145	419
4-Chlorotoluene	µg/L	14.5	-0.17	82.8	139	147	1.1	-0.55	5.95	6.40
1,2,4-Trimethylbenzene	µg/L	0.22	0.22	0.17	1.7	1.7	0.85	0.60	-0.30	-0.15
Naphthalene	µg/L	-0.19	-0.41	-0.14	-1.4	-2.0	-1.45	0.94	-0.80	-0.40
o-Xylene	µg/L	-0.16	0.16	2.3	2.0	2.5	1.25	0.33	-0.24	0.12
n-Propylbenzene	µg/L	-0.21	0.31	-0.21	-2.1	-1.6	0.8	-0.62	105	355
Methyl t-Butyl Ether	µg/L	0.28	0.080	0.34	-3.4	-1.8	0.9	0.58	0.11	0.053
Sum VOCs (w/o Gases)	µg/L	2151	55	4875	5361	3118	1302	515.1	854	1189
Methane	µg/L	420	1800	2170	1670	3470	310	33	620	750
Iron, Total	mg/L	7.29	55.6	61.0	934	46.7	37.1	13.2	42.1	27.9
Sulfate	mg/L	417	824	418	1160	100	407	236	244	440
Nitrate-Nitrogen	mg/L	-0.025	0.070	0.005	0.099	-0.025	0.031	0.026	0.30	0.085
Total Organic Carbon	mg/L	33.3	36.6	0.94	72.6	-0.51	29.4	43.6	59.2	59.8

Well	MW-12								
Date	12/16/2003	3/16/2004	6/22/2004	9/25/2004	12/13/2004	7/20/2005	11/7/2006	4/3/2007	
Days	993	1084	1182	1279	1356	1575	2050	2197	
Tetrachloroethene	µg/L	-1.0	1.0	-1.0	1.0	1.0	-5.0	5.0	-10
Trichloroethene	µg/L	57	16	13	23	20	5.0	5.0	10
cis-1,2-Dichloroethene	µg/L	230	99	83	210	190	-5.0	240	62
trans-1,2-Dichloroethene	µg/L	3.3	1.4	-1.0	-1.0	-1.0	-5.0	-5.0	-10
Vinyl Chloride	µg/L	45	25	24	64	83	20	280	120
Ethene	µg/L	4.3	4.7	3.7	5.7	12	17	220	35
Acetylene	µg/L	-1.2	1.2	1.2	1.2	-1.2	1.2	-1.2	1.2
1,1,1-Trichloroethane	µg/L	-1.0	-1.0	-1.0	-1.0	-1.0	-5.0	-5.0	-10
1,1-Dichloroethane	µg/L	190	140	130	150	650	340	250	110
1,2-Dichloroethane	µg/L	1.0	1.0	-1.0	-1.0	1.0	5.0	5.0	10
1,1-Dichloroethene	µg/L	2.5	1.0	-1.0	1.0	-1.0	-5.0	5.0	10
Chloroethane	µg/L	1.0	-1.0	-1.0	1.0	94	-5.0	-5.0	-10
Ethane	µg/L	4.3	5.7	7.1	12	7.6	11	37	22
Acetone	µg/L	-1.0	1.0	-1.0	1.0	1.0	-5.0	5.0	63
Methylene Chloride	µg/L	1.0	4.9	1.0	-1.0	-1.0	48	110	86
2-Butanone	µg/L	-1.0	-1.0	-1.0	-1.0	1.0	-5.0	-5.0	-10
Toluene	µg/L	-1.0	1.4	-1.0	-1.0	1.1	7.4	14	10
Benzene	µg/L	1.9	1.5	1.3	2	8.9	5.0	-5.0	10
p-Ethyltoluene	µg/L	1.0	1.0	1.0	1.0	-1.0	5.0	5.0	-10
1,3,5-Trimethylbenzene	µg/L	-1.0	-1.0	1.0	-1.0	-1.0	5.0	-5.0	-10
2-Chlorotoluene	µg/L	300	520	410	560	1900	1700	4400	1100
4-Chlorotoluene	µg/L	370	-1.0	1.0	1.0	58	5.0	220	-10
1,2,4-Trimethylbenzene	µg/L	1.0	1.0	1.0	1.0	1.0	5.0	5.0	-10
Naphthalene	µg/L	1.0	1.0	1.0	-1.0	-1.0	-5.0	5.0	10
o-Xylene	µg/L	1.0	-1.0	1.0	-1.0	2.8	-5.0	5.0	-10
n-Propylbenzene	µg/L	-1.0	1.0	1.0	1.0	1.0	5.0	5.0	10
Methyl t-Butyl Ether	µg/L	1.0	1.0	1.0	1.0	-1.0	5.0	5.0	10
Sum VOCs (w/o Gases)	µg/L	1200	809	661	1009	3018	2115	5514	1541
Methane	µg/L	337	520	630	1600	940	1610	4900	2900
Iron, Total	mg/L	16.7	4.87	21.1	22.8	31.6	36.1	16.7	12.7
Sulfate	mg/L	312	312	771	535	364	491	246	276
Nitrate-Nitrogen	mg/L	0.098	0.098	0.511	0.451	0.0176	0.348	0.10	0.054
Total Organic Carbon	mg/L	-0.51	-0.1	1.24	25.4	28.2	31	34	28

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	MW-13									
Date	3/28/2001	7/12/2001	1/10/2002	4/3/2002	6/26/2002	10/3/2002	1/14/2003	4/29/2003	8/5/2003	
Days	0	106	288	371	455	554	0	762	860	
Tetrachloroethene	µg/L	82.8	120	216	227	16.2	80.5	69	13	19.9
Trichloroethene	µg/L	85.9	114	216	132	13.9	77.2	69.8	12.1	21.0
cis-1,2-Dichloroethene	µg/L	784	897	1950	988	69.6	501	697	135	326
trans-1,2-Dichloroethene	µg/L	3.6	4.7	11.9	8.0	0.31	3.0	0.46	0.44	0.22
Vinyl Chloride	µg/L	38.6	58.6	112	74	4.6	26.2	16.3	2.60	7.18
Ethene	µg/L	<6	<6	1.6	<1.3	1.1	<1.3	<1.3	4.5	5.8
Acetylene	µg/L			<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,1,1-Trichloroethane	µg/L	40	36.7	32.2	19.7	1.2	4.3	3.9	0.44	1.09
1,1-Dichloroethane	µg/L	323	351	476	305	17	96.8	95.1	8.85	31.1
1,2-Dichloroethane	µg/L	2.6	2.3	2.8	0.23	0.23	0.23	0.23	<0.34	0.17
1,1-Dichloroethene	µg/L	60.6	60.4	75.3	45.6	2.8	13.3	10.3	<0.46	3.81
Chloroethane	µg/L	0.30	0.18	0.61	0.61	0.24	0.24	0.49	0.88	0.44
Ethane	µg/L	5.8	6.7	23	8.7	2.7	1.8	<1.3	1.3	1.3
Acetone	µg/L	1.48	1.44	18.7	3.12	<1.13	<1.13	<1.13	22.4	1.41
Methylene Chloride	µg/L	<0.41	<0.15	<0.54	<0.54	<0.21	<0.21	<0.63	1.88	<0.15
2-Butanone	µg/L	2.5	6.25	<5.0	<5.0	<3.8	<3.8	16.5	3.28	1.64
Toluene	µg/L	0.15	0.14	0.14	0.14	<0.20	<0.20	0.38	<0.40	<0.20
Benzene	µg/L	7.1	7.1	8.0	4.7	0.21	2.0	2.1	0.42	0.21
p-Ethyltoluene	µg/L	<0.16	<0.22	<0.24	<0.24	<0.16	<0.16	<0.62	<0.30	<0.15
1,3,5-Trimethylbenzene	µg/L	<0.34	<0.11	<0.20	<0.20	<0.20	<0.20	<0.57	0.34	<0.17
2-Chlorotoluene	µg/L	16.3	43.2	76.4	27.8	2.5	10.2	4.6	3.52	4.96
1,2,4-Trimethylbenzene	µg/L	0.22	0.22	0.17	0.17	<0.17	<0.17	<0.60	<0.30	0.15
Naphthalene	µg/L	0.19	0.41	0.14	0.14	<0.29	<0.29	<0.94	<0.80	<0.40
o-Xylene	µg/L	<0.16	<0.16	<0.20	<0.20	<0.25	<0.25	<0.33	<0.24	<0.12
n-Propylbenzene	µg/L	0.21	0.31	0.21	0.21	0.25	0.16	<0.62	2.70	4.30
Methyl-t-Butyl Ether	µg/L	0.28	<0.80	0.34	0.34	<0.18	0.18	<0.58	<0.11	0.053
Sum VOAs (w/o Gases)	µg/L	1445	1695	3196	1830	128	815	968.3	202.1	419.3
Methane	µg/L	12	21	250	110	140	920	1640	1650	820
Iron, Total	mg/L	0.54	0.48	0.93	0.76	0.27	5.04	2.31	6.11	2.74
Sulfate	mg/L	597	579	648	366	22.7	377	365	442	419
Nitrate-Nitrogen	mg/L	3.95	4.68	3.54	4.84	2.15	3.42	3.73	0.57	2.16
Total Organic Carbon	mg/L	9.52	13.3	<0.94	15.4	0.51	6.0	29.8	38.9	24.1

Well	MW-13									
Date	12/17/2003	3/16/2004	6/22/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	4/2/2007		
Days	994	1084	1182	1279	1357	1575	2050	2196		
Tetrachloroethene	µg/L	770	580	410	640	9.5	150	570		580
Trichloroethene	µg/L	580	460	630	1100	29	1300	1700		3300
cis-1,2-Dichloroethene	µg/L	2000	990	960	1300	72	620	550		720
trans-1,2-Dichloroethene	µg/L	21	13	10	<2.0	<1.0	<1.0	2.9		<5.0
Vinyl Chloride	µg/L	300	110	120	150	<1.0	24	25		90
Ethene	µg/L	<1.3	1.3	<1.3	3.1	1.3	1.3	0.3		4.5
Acetylene	µg/L	<1.2	1.2	<1.2	<1.2	<1.2	1.2	<1.2		1.2
1,1,1-Trichloroethane	µg/L	57	24	60	96	14	76	46		130
1,1-Dichloroethane	µg/L	770	590	440	520	8.3	340	170		320
1,2-Dichloroethane	µg/L	1.0	2.2	1.0	2.0	1.0	1.0	1.0		5.0
1,1-Dichloroethene	µg/L	210	70	120	160	1.0	85	54		150
Chloroethane	µg/L	1.0	<1.0	1.0	2.0	1.0	25	<1.0		33
Ethane	µg/L	20	10	12	9.9	<1.3	<1.3	3.2		6.2
Acetone	µg/L	1.0	1.0	1.0	2.0	1.0	1.0	1.0		10
Methylene Chloride	µg/L	1.0	4.0	1.4	2.0	1.0	5.8	11		51
2-Butanone	µg/L	1.0	<1.0	<1.0	2.0	1.0	1.0	<1.0		15
Toluene	µg/L	<1.0	<1.0	<1.0	<2.0	<1.0	1.0	<1.0		<5.0
Benzene	µg/L	16	12	11	34	<1.0	6.1	2.4		5.2
p-Ethyltoluene	µg/L	1.0	1.0	1.0	2.0	1.0	1.0	1.0		5.0
1,3,5-Trimethylbenzene	µg/L	<1.0	1.0	1.0	2.0	1.0	1.0	1.0		5.0
2-Chlorotoluene	µg/L	17	19	14	24	4.4	6.5	4.2		12
1,2,4-Trimethylbenzene	µg/L	<1.0	<1.0	<1.0	<2.0	3.0	<1.0	<1.0		<5.0
Naphthalene	µg/L	<1.0	<1.0	1.0	2.0	1.0	1.0	1.0		5.0
o-Xylene	µg/L	<1.0	1.0	<1.0	2.0	1.0	1.0	1.0		5.0
n-Propylbenzene	µg/L	<1.0	1.0	1.0	2.0	1.0	1.0	<1.0		5.0
Methyl-t-Butyl Ether	µg/L	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		5.0
Sum VOAs (w/o Gases)	µg/L	4741.0	2674.2	2776.4	4004.0	137.2	2638.4	2938.5		5391.2
Methane	µg/L	9740	3300	8600	11200	51	350	8500		7600
Iron, Total	mg/L	4.31	0.292	0.408	0.945	0.736	0.35	0.217		0.499
Sulfate	mg/L	403	746	789	562	168	362	334		259
Nitrate-Nitrogen	mg/L	2.03	0.805	0.268	0.0264	1.68	0.0453	2.06		0.0644
Total Organic Carbon	mg/L	<0.51	48.6	47.4	5.98	7.0	7.0	6.0		6.7

Table 1. Photoircuits Anaerobic Pilot Analytical Summary

Well		RW-1							
Date		12/17/2003	3/15/2004	6/23/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	4/3/2007
Days		0	89	189	285	363	581	1,056	1,203
Tetrachloroethene	µg/L	130	130	11	170	1100	430	310	860
Trichloroethene	µg/L	240	450	15	190	19000	2500	310	11000
cis-1,2-Dichloroethene	µg/L	2800	770	22	190	18000	6300	220	9400
trans-1,2-Dichloroethene	µg/L	12	4.2	<1.0	<1.0	1.0	<25	<25	<20
Vinyl Chloride	µg/L	280	100	1.5	28	900	220	<25	850
1,1,1-Trichloroethane	µg/L	28	18	<1.0	11	310	74	25	130
1,1-Dichloroethane	µg/L	73	36	1.0	14	620	450	25	680
1,2-Dichloroethane	µg/L	1.0	<1.0	<1.0	<1.0	<1.0	25	25	<20
1,1-Dichloroethene	µg/L	68	21	3.3	6.9	430	<25	<25	200
Chloroethane	µg/L	16	5.0	<1.0	1.0	190	25	25	140
Acetone	µg/L	1.0	1.0	1.0	1.0	1.0	<25	25	180
Methylene Chloride	µg/L	<1.0	4.4	1.1	<1.0	15	280	600	190
2-Butanone	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<25	<60
Toluene	µg/L	6.4	4.0	<1.0	<1.0	490	<25	<25	24
Benzene	µg/L	1.1	1.0	1.0	<1.0	21	25	<25	20
p-Ethyltoluene	µg/L	1.0	1.0	<1.0	<1.0	<1.0	25	25	<20
1,3,5-Trimethylbenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<25	20
2-Chlorotoluene	µg/L	20	13	1.3	23	270	<25	<25	680
4-Chlorotoluene	µg/L	<1.0	1.0	1.0	1.0	11	<25	25	<20
1,2,4-Trimethylbenzene	µg/L	<1.0	<1.0	1.0	<1.0	<1.0	<25	25	<20
Naphthalene	µg/L	<1.0	<1.0	<1.0	1.0	<1.0	<25	25	<20
o-Xylene	µg/L	<1.0	<1.0	<1.0	<1.0	1.5	<25	<25	<20
n-Propylbenzene	µg/L	1.0	1.0	1.0	1.0	<1.0	<25	25	<20
Methyl t-Butyl Ether	µg/L	1.0	1.0	<1.0	1.0	1.0	<25	<25	20
Chloroform	µg/L	5.3	3.4	<1.0	4.3	<1.0	<25	<25	<20
Chlorodifluoromethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<25	<20
1,1,2-Trichloroethane	µg/L	1.0	1.0	1.0	1.0	50	<25	<25	20
Sum VOAs (w/o Gases)	µg/L	3680	1559	55	637	41359	10554	1440	24334

Well		RW-2						
Date		12/17/2003	3/15/2004	6/22/2004	12/14/2004	7/20/2005	11/7/2006	4/3/2007
Days		0	89	188	363	581	1,056	1,203
Tetrachloroethene	µg/L	14	99	22	110	15	29	34
Trichloroethene	µg/L	140	910	290	840	130	260	210
cis-1,2-Dichloroethene	µg/L	710	770	660	2100	740	1100	620
trans-1,2-Dichloroethene	µg/L	4.4	10	4.5	1.0	5.0	<5.0	5.0
Vinyl Chloride	µg/L	82	85	140	570	39	180	40
1,1,1-Trichloroethane	µg/L	<1.0	1.0	1.0	1.0	<5.0	<5.0	5.0
1,1-Dichloroethane	µg/L	120	130	74	390	99	140	56
1,2-Dichloroethane	µg/L	1.0	1.9	1.0	5.1	5.0	<5.0	5.0
1,1-Dichloroethene	µg/L	6.2	29	8.6	60	5.0	11	4.8
Chloroethane	µg/L	<1.0	<1.0	<1.0	1.0	<5.0	5.0	<5.0
Acetone	µg/L	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	17
Methylene Chloride	µg/L	1.0	4.3	1.9	<1.0	58	100	43
2-Butanone	µg/L	1.0	1.0	<1.0	1.0	<5.0	5.0	15
Toluene	µg/L	3.9	4.2	3.4	8.7	<5.0	5.0	<5.0
Benzene	µg/L	2.6	2.4	2.4	7.5	<5.0	<5.0	<5.0
p-Ethyltoluene	µg/L	<1.0	<1.0	1.0	<1.0	<5.0	<5.0	<5.0
1,3,5-Trimethylbenzene	µg/L	<1.0	1.0	1.0	1.0	5.0	<5.0	5.0
2-Chlorotoluene	µg/L	570	420	500	810	170	680	220
4-Chlorotoluene	µg/L	40	28	23	53	<5.0	20	<5.0
1,2,4-Trimethylbenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0
Naphthalene	µg/L	1.0	1.0	1.0	<1.0	<5.0	5.0	5.0
o-Xylene	µg/L	1.0	1.2	2	3.6	<5.0	<5.0	<5.0
n-Propylbenzene	µg/L	1.0	<1.0	1.0	1.0	<5.0	<5.0	5.0
Methyl t-Butyl Ether	µg/L	<1.0	<1.0	1.0	<1.0	<5.0	<5.0	<5.0
Chloroform	µg/L	1.0	1.0	<1.0	1.0	5.0	5.0	5.0
Chlorodifluoromethane	µg/L	1.0	8.4	2.4	34	<5.0	5.0	5.0
1,1,2-Trichloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	5.0	5.0	5.0
Sum VOAs (w/o Gases)	µg/L	1693	2503	1734	4992	1251	2520	1245

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	RW-3								
	Date	12/17/2003	3/17/2004	6/22/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	4/3/2007
	Days	0	91	188	285	363	581	1,056	1,203
Tetrachloroethene	µg/L	57	25	14	16	100	73	56	19
Trichloroethene	µg/L	470	270	110	61	330	290	92	92
cis-1,2-Dichloroethene	µg/L	610	290	140	95	600	610	110	280
trans-1,2-Dichloroethene	µg/L	4.5	2.1	<1.0	<1.0	<1.0	3.4	1.0	<1.0
Vinyl Chloride	µg/L	4.6	<1.0	1.2	<1.0	13	2.8	<1.0	6
1,1,1-Trichloroethane	µg/L	<1.0	1.0	1.0	<1.0	<1.0	1.0	<1.0	1.0
1,1-Dichloroethane	µg/L	65	36	19	13	170	100	15	30
1,2-Dichloroethane	µg/L	<1.0	1.0	1.0	<1.0	<1.0	1.0	<1.0	1.0
1,1-Dichloroethene	µg/L	18	6.8	4.6	<1.0	34	19	11	2.1
Chloroethane	µg/L	1.0	1.0	<1.0	<1.0	1.0	<1.0	1.0	1.0
Acetone	µg/L	<1.0	<1.0	<1.0	1.0	1.0	8.3	1.0	<1.0
Methylene Chloride	µg/L	<1.0	4.9	<1.0	<1.0	<1.0	5.0	13.0	5.4
2-Butanone	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0
Toluene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	µg/L	1.0	<1.0	<1.0	1.0	1.0	<1.0	1.0	1.0
p-Ethyltoluene	µg/L	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	1.0
1,3,5-Trimethylbenzene	µg/L	1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene	µg/L	<1.0	<1.0	<1.0	1.0	4.8	1.4	<1.0	<1.0
4-Chlorotoluene	µg/L	1.0	1.0	<1.0	<1.0	1.0	1.5	1.0	1.0
1,2,4-Trimethylbenzene	µg/L	1.0	<1.0	<1.0	1.0	1.0	1.0	1.0	1.0
Naphthalene	µg/L	1.0	<1.0	<1.0	<1.0	<1.0	1.0	1.0	1.0
o-Xylene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m-Propylbenzene	µg/L	1.0	1.0	<1.0	1.0	<1.0	1.0	1.0	<1.0
Methyl t-Butyl Ether	µg/L	<1.0	1.0	<1.0	1.0	1.0	1.0	<1.0	1.0
Chloroform	µg/L	<1.0	<1.0	1.0	<1.0	<1.0	1.0	1.0	1.0
Chlorodifluoromethane	µg/L	8.0	2.4	<1.0	<1.0	<1.0	5.9	<1.0	<1.0
Sum VOAs (w/o Gases)	µg/L	1237	637	289	185	1251.8	1120.3	297	434.5

Well	RW-4							
	Date	12/17/2003	3/15/2004	6/22/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006
	Days	0	89	188	285	363	581	1,056
Tetrachloroethene	µg/L	39	22	11	35	130	64	63
Trichloroethene	µg/L	170	130	69	85	590	190	290
cis-1,2-Dichloroethene	µg/L	360	240	190	190	1200	650	450
trans-1,2-Dichloroethene	µg/L	2.4	1.9	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	µg/L	<1.0	<1.0	1.0	<1.0	8.7	5.0	5.0
1,1,1-Trichloroethane	µg/L	1.1	<1.0	<1.0	<1.0	1.0	5.0	5.0
1,1-Dichloroethane	µg/L	99	68	47	79	430	140	50
1,2-Dichloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	µg/L	16	9.2	3.6	8.0	71	21	11
Chloroethane	µg/L	1.0	<1.0	1.0	<1.0	<1.0	<1.0	5.0
Acetone	µg/L	1.0	<1.0	<1.0	1.0	1.0	<1.0	5.0
Methylene Chloride	µg/L	1.0	5.2	<1.0	<1.0	<1.0	56	110
2-Butanone	µg/L	1.0	1.0	1.0	1.0	<1.0	<1.0	<1.0
Toluene	µg/L	<1.0	1.0	1.0	1.0	<1.0	5.0	5.0
Benzene	µg/L	<1.0	<1.0	1.0	1.0	<1.0	5.0	5.0
p-Ethyltoluene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5.0	5.0
1,3,5-Trimethylbenzene	µg/L	<1.0	1.0	<1.0	1.0	1.0	5.0	5.0
2-Chlorotoluene	µg/L	1.0	1.0	2.6	<1.0	8.6	5.0	<1.0
4-Chlorotoluene	µg/L	1.0	<1.0	<1.0	1.0	1.0	<1.0	5.0
1,2,4-Trimethylbenzene	µg/L	1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0
Naphthalene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene	µg/L	1.0	1.0	1.0	<1.0	<1.0	5.0	5.0
m-Propylbenzene	µg/L	<1.0	1.0	<1.0	<1.0	<1.0	5.0	5.0
Methyl t-Butyl Ether	µg/L	<1.0	<1.0	<1.0	1.0	1.0	5.0	5.0
Chloroform	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorodifluoromethane	µg/L	6.6	3.6	<1.0	1.0	17	5.0	5.0
Sum VOAs (w/o Gases)	µg/L	694	480	323	397	2455	1121	974

Table 2. Photocircuits Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	MW-14								
		Date	8/31/2000	10/19/2000	12/20/2000	3/28/2001	7/11/2001	1/8/2002	1/14/2003	4/28/2003
Tetrachloroethene	µM		<0.0084	<0.0024	<0.033	<0.024	<0.014	<0.19	<0.023	<0.016
Trichloroethene	µM	<0.0065	<0.010	<0.0065	<0.076	0.026	<0.026	<0.18	<0.16	<0.016
cis-1,2-Dichloroethene	µM	<0.0098	<0.018	<0.0098	<0.15	<0.029	<0.037	<0.22	<0.17	<0.088
trans-1,2-Dichloroethene	µM	<0.014	<0.014	<0.014	<0.11	<0.021	<0.060	0.24	<0.23	<0.023
Vinyl Chloride	µM	<0.028	0.17	<0.028	1.8	2.3	2.8	0.41	5.5	2.2
Ethene	µM	1.5	1.7	2.1	2.3	4.6	3.2		2.4	1.2
Acetylene	µM						0.22		<0.046	<0.046
1,1,1-Trichloroethane	µM	0.11	<0.013	0.067	7.5	15.3	11.4	7.6	12.2	3.8
1,1-Dichloroethane	µM	1.3	2.2	3.0	93.2	189.9	142.4	86.7	89.5	96.8
1,2-Dichloroethane	µM	0.0081	<0.0096	<0.0081	<0.10	0.35	<0.032	0.12	0.17	<0.017
1,1-Dichloroethene	µM	<0.011	0.065	<0.011	4.6	7.8	5.6	3.3	3.1	0.94
Chloroethane	µM	0.24	<0.019	<0.026	2.0	4.6	7.8	13.1	20.0	33.5
Ethane	µM	1.7	2.3	1.6	1.1	2.2	1.6		0.60	0.33

Contaminant	Well	MW-14							
		Date	12/16/2003	3/16/2004	6/22/2004	9/27/2004	12/14/2004	7/30/2005	11/7/2006
Tetrachloroethene	µM	0.024	0.032	0.015	<0.060	0.066	<0.12	<0.12	0.056
Trichloroethene	µM	0.044	0.069	0.063	<0.076	0.18	<0.15	<0.15	0.29
cis-1,2-Dichloroethene	µM	0.33	0.59	0.75	0.84	2.27	<0.21	<0.21	0.24
trans-1,2-Dichloroethene	µM	0.010	0.017	0.026	<0.10	<0.10	<0.21	0.21	0.10
Vinyl Chloride	µM	13.0	4.5	5.8	7.5	17.6	<0.32	<0.32	1.2
Ethene	µM	2.0	1.1	1.5	1.8	2.1	0.61	0.89	1.25
Acetylene	µM	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046
1,1,1-Trichloroethane	µM	9.0	8.2	7.5	9.0	21.0	7.2	4.7	9.0
1,1-Dichloroethane	µM	61.6	67.7	78.8	71.7	141	79	25	44
1,2-Dichloroethane	µM	0.40	0.29	0.25	<0.10	0.51	<0.20	<0.20	0.10
1,1-Dichloroethene	µM	8.46	3.30	2.89	2.79	3.41	1.14	<0.21	0.66
Chloroethane	µM	21.7	21.7	57.4	77.5	93.0	41.9	9.0	24.8
Ethane	µM	0.47	0.37	0.29	0.47	0.47	0.24	0.20	0.47

Contaminant	Well	MW-7					
		Date	8/31/2000	10/19/2000	12/20/2000	3/27/2001	7/11/2001
Tetrachloroethene	µM	<0.0024	<0.0034	<0.0024	<0.013	<0.0012	<0.00072
Trichloroethene	µM	<0.0065	0.15	0.0065	0.030	0.12	0.021
cis-1,2-Dichloroethene	µM	0.49	2.9	3.7	1.5	1.9	0.086
trans-1,2-Dichloroethene	µM	<0.014	<0.0058	<0.014	0.045	0.027	0.022
Vinyl Chloride	µM	0.63	1.1	2.2	1.0	1.0	0.17
Ethene	µM	2.3	6.1	3.9	1.2	3.4	3.9
Acetylene	µM						<0.046
1,1,1-Trichloroethane	µM	<0.0041	<0.046	<0.0041	<0.030	<0.0012	<0.0010
1,1-Dichloroethane	µM	1.2	2.2	2.7	1.4	2.1	1.9
1,2-Dichloroethane	µM	<0.0081	<0.0038	<0.0081	<0.040	<0.0013	0.037
1,1-Dichloroethene	µM	<0.011	<0.0099	<0.011	<0.037	0.020	<0.0023
Chloroethane	µM	4.0	2.8	3.1	2.5	4.2	6.0
Ethane	µM	<0.20	4.3	2.7	1.1	2.4	2.3

Table 2. Photocircuits Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	SMP-1									
Date		8/31/2000	10/18/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003
Tetrachloroethene	µM	-0.096	-0.0024	-0.13	-0.033	-0.012	-0.036	0.091	0.042	-0.0013	-0.015
Trichloroethene	µM	-0.026	0.60	6.5	11.6	0.19	33.6	202.4	0.31	-0.0055	-0.014
cis-1,2-Dichloroethene	µM	257	387	311	-0.0028	127	186	439	265	7.0	-0.017
trans-1,2-Dichloroethene	µM	-0.56	0.72	-0.41	1.4	0.36	0.71	3.9	0.16	-0.0064	-0.019
Vinyl Chloride	µM	75	96	81	76	68	56	28	143	41	-0.033
Ethene	µM	33	86	41	32	68	23	29	65	133	42
Acetylene	µM						-0.42	0.28	-0.046	-0.085	-0.085
1,1,1-Trichloroethane	µM	-0.16	-0.0041	-0.25	2.7	1.2	-0.052	-0.082	0.097	-0.010	-0.010
1,1-Dichloroethane	µM	5.1	4.9	6.3	7.2	5.4	4.6	3.7	3.0	2.0	0.30
1,2-Dichloroethane	µM	-0.32	-0.0081	-0.17	-0.033	0.033	-0.081	-0.12	-0.12	-0.0093	-0.0093
1,1-Dichloroethene	µM	-0.43	0.66	-0.27	1.9	0.57	1.5	3.1	0.52	-0.025	-0.025
Chloroethane	µM	-1.1	1.1	-0.82	-0.23	-0.23	-0.52	-0.47	-0.19	0.58	0.60
Ethane	µM	-0.20	-0.20	-0.83	-0.83	0.83	-0.43	-0.43	0.12	0.15	0.060

Contaminant	Well	SMP-1									
Date		4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007
Tetrachloroethene	µM	0.0046	0.023	-0.0060	-0.0060	0.0060	-0.012	-0.0060	-0.0060	-0.0060	-0.0060
Trichloroethene	µM	-0.0032	0.016	-0.0076	0.0076	-0.0076	-0.015	0.0076	0.0076	0.0091	-0.016
cis-1,2-Dichloroethene	µM	-0.0033	-0.017	0.056	0.010	0.019	-0.021	-0.010	-0.010	0.029	-0.021
trans-1,2-Dichloroethene	µM	-0.0045	-0.023	-0.010	0.010	0.0093	0.021	-0.010	-0.010	0.010	-0.021
Vinyl Chloride	µM	-0.0090	-0.045	0.64	-0.016	0.022	-0.032	-0.016	0.22	0.24	0.16
Ethene	µM	29	6.8	1.6	1.8	3.0	3.6	1.1	0.61	0.61	0.50
Acetylene	µM	-0.21	-0.085	-0.046	-0.046	-0.046	-0.046	-0.046	-0.046	-0.046	-0.046
1,1,1-Trichloroethane	µM	-0.0032	-0.016	-0.0075	-0.0075	-0.0075	-0.015	-0.0075	0.90	0.70	6.6
1,1-Dichloroethane	µM	0.27	-0.022	0.42	0.37	0.37	0.84	1.5	6.3	11.1	5.8
1,2-Dichloroethane	µM	-0.0034	-0.017	-0.010	-0.010	-0.010	-0.020	-0.010	0.010	-0.010	-0.020
1,1-Dichloroethene	µM	-0.0046	-0.024	-0.010	-0.010	-0.010	-0.020	-0.010	-0.010	0.060	0.099
Chloroethane	µM	3.7	4.0	10.5	4.3	18.6	17.1	11.8	11.5	15.5	9.9
Ethane	µM	-0.20	-0.080	-0.043	0.043	-0.043	0.11	-0.043	-0.043	0.043	0.043

Contaminant	Well	DMP-1									
Date		8/31/2000	10/18/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003
Tetrachloroethene	µM	0.0024	-0.00648	-0.0024	0.033	-0.0060	-0.0036	-0.0037	0.0066	-0.0066	-0.019
Trichloroethene	µM	0.0065	-0.0018	0.0065	0.076	0.034	-0.0065	0.22	0.080	0.012	-0.018
cis-1,2-Dichloroethene	µM	0.52	0.018	0.18	0.76	0.40	-0.0093	0.46	0.64	1.3	17
trans-1,2-Dichloroethene	µM	-0.014	0.0028	0.014	-0.11	-0.0072	-0.014	0.040	0.029	0.043	-0.024
Vinyl Chloride	µM	3.0	0.056	0.640	2.0	0.68	0.068	0.99	0.41	2.9	28
Ethene	µM	20	39	33	25	3.9	3.3	5.7	7.5	15.4	39
Acetylene	µM						-0.046	-0.046	-0.046	-0.046	-0.046
1,1,1-Trichloroethane	µM	-0.0041	-0.00082	-0.0041	1.4	0.21	-0.0052	-0.0033	0.0067	0.0019	-0.0013
1,1-Dichloroethane	µM	0.93	0.18	3.61	11	13	4.3	2.4	4.2	4.2	4.9
1,2-Dichloroethane	µM	-0.0081	-0.0016	-0.0081	-0.10	0.15	-0.0081	-0.0046	0.029	0.023	0.012
1,1-Dichloroethene	µM	-0.011	-0.0022	-0.011	-0.093	-0.0071	-0.011	-0.0062	-0.0028	0.0027	-0.033
Chloroethane	µM	51	0.67	3.60	2.5	3.0	1.5	1.1	0.57	0.24	0.038
Ethane	µM	0.20	0.20	-1.7	3.3	-1.7	0.027	-0.043	0.060	0.057	0.53

Contaminant	Well	DMP-1									
Date		4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007
Tetrachloroethene	µM	0.0046	-0.011	-0.0060	-0.0060	-0.0060	-0.0060	0.0060	0.012	0.014	0.034
Trichloroethene	µM	0.042	-0.0080	-0.0076	0.0076	-0.0076	0.0076	-0.0076	0.015	0.015	0.016
cis-1,2-Dichloroethene	µM	11.4	0.44	0.55	0.059	1.0	-0.010	-0.010	-0.021	-0.021	-0.021
trans-1,2-Dichloroethene	µM	0.059	-0.011	0.054	0.025	0.025	0.010	0.010	-0.021	-0.021	0.021
Vinyl Chloride	µM	16.3	1.2	4.2	0.27	1.0	0.066	0.10	0.40	0.42	0.40
Ethene	µM	32.1	11.4	5.9	2.4	1.3	3.6	1.9	0.50	0.43	0.43
Acetylene	µM	0.085	0.085	-0.046	-0.046	-0.046	-0.046	0.046	-0.046	-0.046	-0.046
1,1,1-Trichloroethane	µM	0.0033	0.0082	0.0075	-0.0075	0.0075	-0.0075	-0.0075	0.61	0.68	50.2
1,1-Dichloroethane	µM	4.1	1.6	3.2	2.8	3.2	1.3	1.9	14.1	8.4	8.3
1,2-Dichloroethane	µM	-0.0034	-0.0086	-0.010	-0.010	-0.010	-0.010	-0.010	0.020	-0.020	-0.020
1,1-Dichloroethene	µM	0.47	-0.012	-0.010	-0.010	0.018	-0.010	0.010	0.17	0.45	1.0
Chloroethane	µM	0.54	17.1	8.2	9.5	8.8	32.6	15.3	13.0	2.3	3.6
Ethane	µM	0.80	0.20	0.33	0.33	0.19	0.20	0.13	-0.043	-0.043	0.043

Table 2. Photocrenits Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	SMP-3									
Date		9/1/2000	10/19/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003
Tetrachloroethene	µM	0.48	-0.48	-0.048	0.083	0.074	-0.036	-0.14	-0.033	0.058	-0.038
Trichloroethene	µM	<1.3	<1.3	-0.13	-0.0015	<0.013	-0.065	-0.26	-0.14	0.073	-0.035
cis-1,2-Dichloroethene	µM	<2.0	<2.0	0.20	0.024	0.17	-0.093	0.37	-0.12	0.077	-0.043
trans-1,2-Dichloroethene	µM	<2.8	<2.8	-0.28	-0.0023	-0.014	-0.14	0.58	-0.16	0.018	-0.047
Vinyl Chloride	µM	5.6	5.6	-0.56	0.62	1.6	-0.68	2.72	1.9	1.7	-0.082
Ethene	µM	3.0	3.5	1.4	0.64	3.9	6.4	7.9	9.3	4.6	3.4
Acetylene	µM						0.081	0.21	0.085	0.24	-0.046
1,1,1-Trichloroethane	µM	1334	1762	244	253	98	109	57	60	42	43
1,1-Dichloroethane	µM	386	483	48	-0.0051	178	89	207	109	77	72
1,2-Dichloroethane	µM	<1.6	<1.6	-0.16	0.061	0.21	-0.081	0.32	-0.12	0.017	-0.023
1,1-Dichloroethene	µM	<2.2	<2.2	-0.22	<0.0028	1.7	1.5	-0.45	1.2	3.5	3.2
Chloroethane	µM	<5.1	<5.1	-0.51	1.2	6.4	5.4	-2.1	5.5	7.9	8.0
Ethane	µM	1.3	1.5	1.4	0.77	0.97	0.57	1.20	1.1	0.37	0.37

Contaminant	Well	SMP-3									
Date		4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007
Tetrachloroethene	µM	<0.023	<0.023	<0.0060	0.035	0.078	-0.060	0.014	0.14	-0.12	-0.060
Trichloroethene	µM	-0.016	0.016	0.0076	0.018	0.034	-0.076	-0.076	-0.15	-0.15	-0.076
cis-1,2-Dichloroethene	µM	-0.017	-0.017	0.026	0.019	0.037	-0.10	<0.10	<0.21	<0.21	<0.10
trans-1,2-Dichloroethene	µM	<0.023	<0.023	<0.010	0.010	<0.010	<0.10	<0.10	<0.21	<0.21	<0.10
Vinyl Chloride	µM	1.2	0.37	3.0	1.8	5.4	4.6	1.9	5.0	0.82	0.22
Ethene	µM	3.4	5.0	3.3	1.8	7.5	0.86	2.5	2.6	0.71	0.68
Acetylene	µM	-0.046	-0.046	-0.046	0.046	-0.046	-0.046	-0.046	-0.046	0.046	-0.046
1,1,1-Trichloroethane	µM	34	2.8	17.2	41.2	8.2	9.0	4.6	382.3	6.9	51.7
1,1-Dichloroethane	µM	59	147	192	111	72	111	111	283	59	7.1
1,2-Dichloroethane	µM	<0.017	<0.017	0.077	0.044	<0.010	-0.10	0.024	-0.20	<0.20	<0.10
1,1-Dichloroethene	µM	2.5	0.40	0.52	1.2	5.6	3.4	0.95	7.64	1.2	0.97
Chloroethane	µM	18.9	144	71	26.4	88.4	99	87	29	1.7	0.76
Ethane	µM	0.25	0.28	0.31	0.27	0.31	0.043	0.15	0.21	<0.043	0.19

Contaminant	Well	DMP-3									
Date		9/1/2000	10/19/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003
Tetrachloroethene	µM	-0.097	0.36	<0.024	-0.0066	0.44	0.21	<0.072	-0.013	<0.0066	-0.19
Trichloroethene	µM	-0.26	-0.10	-0.065	-0.015	0.065	<0.065	<0.061	<0.055	<0.0029	-0.18
cis-1,2-Dichloroethene	µM	-0.39	-0.18	-0.098	-0.031	0.15	-0.093	-0.11	0.050	0.017	-0.22
trans-1,2-Dichloroethene	µM	-0.56	-0.14	-0.14	<0.023	-0.014	-0.14	-0.10	0.064	0.013	-0.24
Vinyl Chloride	µM	17	15	13	2.3	12.6	10.5	6.4	1.8	1.0	-0.41
Ethene	µM	15.4	16.1	11.1	10.4	17.5	12.9	7.9	22	19.6	35
Acetylene	µM						0.046	0.046	-0.046	-0.046	0.046
1,1,1-Trichloroethane	µM	148	107	175	5.9	180	146	87	10	1.8	45
1,1-Dichloroethane	µM	53	49	42	7.7	32.8	22.8	38.1	24	40.2	109
1,2-Dichloroethane	µM	-0.32	-0.096	-0.081	0.020	0.26	-0.081	-0.112	0.37	0.30	-0.12
1,1-Dichloroethene	µM	1.6	-0.25	0.11	-0.018	1.7	-0.11	-0.15	0.18	0.058	-0.32
Chloroethane	µM	83	108	58	11	103	35	29	157	134	140
Ethane	µM	0.19	0.31	1.5	0.40	0.27	0.29	0.53	1.0	0.87	1.2

Contaminant	Well	DMP-3									
Date		4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007
Tetrachloroethene	µM	0.13	-0.11	<0.0060	0.17	0.041	0.12	0.040	-0.30	0.097	-0.12
Trichloroethene	µM	-0.032	-0.080	-0.0076	0.066	0.017	-0.15	0.017	0.23	0.032	-0.15
cis-1,2-Dichloroethene	µM	0.44	<0.083	-0.010	0.10	0.029	-0.21	0.031	-0.52	0.097	-0.21
trans-1,2-Dichloroethene	µM	-0.045	0.11	0.032	0.047	0.027	<0.21	<0.010	-0.52	<0.010	<0.21
Vinyl Chloride	µM	2.3	5.5	8.3	4.0	2.9	24.0	1.9	19.2	6.4	7.5
Ethene	µM	12.1	17.5	16.0	32.1	16.1	22.1	57.1	10.0	5.0	5.0
Acetylene	µM	-0.046	-0.046	-0.046	-0.046	-0.046	-0.046	-0.046	-0.046	-0.046	0.046
1,1,1-Trichloroethane	µM	11.3	27.1	4.0	105	75	49	82	390	90	48
1,1-Dichloroethane	µM	84.0	103.0	51.5	121	141	263	212	444	111	141
1,2-Dichloroethane	µM	-0.034	-0.086	0.24	0.75	0.17	1.1	0.90	0.51	0.12	-0.51
1,1-Dichloroethene	µM	0.37	0.67	0.19	2.4	1.4	0.21	1.1	-0.52	2.1	14.4
Chloroethane	µM	25	127	60	81	64	279	636	171	74	59
Ethane	µM	0.57	0.37	0.33	1.13	0.60	0.40	0.97	0.60	-0.043	-0.043

Table 2. Photocircuits Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	SMP-4									
Date		9/1/2000	10/19/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	6/25/2002	10/2/2002	1/13/2003	
Tetrachloroethene	µM	0.080	<0.0034	<0.0048	<0.033	0.056	0.193	0.42	0.23	<0.19	
Trichloroethene	µM	<0.0065	<0.041	<0.013	<0.076	<0.076	<0.076	0.049	<0.027	<0.18	
cis-1,2-Dichloroethene	µM	1.5	<0.070	0.0020	0.15	0.11	0.026	0.31	0.28	<0.22	
trans-1,2-Dichloroethene	µM	<0.014	<0.058	<0.0028	<0.11	<0.014	0.058	0.0064	0.0032	<0.24	
Vinyl Chloride	µM	2.8	0.55	0.60	1.2	1.8	2.0	0.078	0.034	<0.41	
Ethene	µM	7.9	6.8	7.9	6.1	5.7	12.1	3.1	1.0	1.0	
Acetylene	µM						<0.046	<0.046	<0.046	<0.046	
1,1,1-Trichloroethane	µM	24	1.8	7.5	23	20	20	0.17	0.086	<0.13	
1,1-Dichloroethane	µM	41	18	12	23	33	29	1.4	1.5	1.9	
1,2-Dichloroethane	µM	0.26	<0.038	<0.016	<0.10	0.20	<0.032	<0.046	0.030	<0.12	
1,1-Dichloroethene	µM	1.1	<0.099	<0.022	<0.093	0.50	1.3	<0.0056	<0.0028	<0.32	
Chloroethane	µM	19	13	47	25	15	12	2.3	7.1	16	
Ethane	µM	<0.20	<0.20	1.3	<0.33	<0.33	0.080	0.40	0.090	0.10	

Contaminant	Well	SMP-4									
Date		4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007
Tetrachloroethene	µM	0.62	0.40	1.1	0.29	0.16	0.056	0.060	0.013	<0.0060	<0.0060
Trichloroethene	µM	0.075	<0.016	0.099	0.029	0.033	<0.0076	0.0084	0.0076	<0.0076	<0.0076
cis-1,2-Dichloroethene	µM	0.32	0.35	1.9	0.50	3.0	1.9	0.77	0.13	<0.010	<0.010
trans-1,2-Dichloroethene	µM	<0.011	<0.023	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Vinyl Chloride	µM	0.16	<0.045	1.2	0.30	0.46	0.27	0.016	<0.016	<0.016	<0.016
Ethene	µM	2.9	0.61	0.86	0.13	0.82	1.1	0.61	0.64	0.30	0.26
Acetylene	µM	<0.046	<0.046	0.046	0.046	0.046	<0.046	<0.046	<0.046	0.046	<0.046
1,1,1-Trichloroethane	µM	0.064	<0.016	0.031	0.034	0.0075	<0.0075	0.0075	1.0	<0.0075	<0.0075
1,1-Dichloroethane	µM	0.81	0.55	1.1	0.22	0.13	0.010	<0.010	1.01	0.010	<0.010
1,2-Dichloroethane	µM	<0.0086	<0.017	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethene	µM	<0.012	<0.023	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloroethane	µM	15.7	20.0	11.5	1.5	4.2	5.3	<0.016	35.7	25	5.7
Ethane	µM	0.13	<0.043	0.10	<0.043	<0.043	<0.043	<0.043	<0.043	0.26	<0.043

Contaminant	Well	DMP-4									
Date		9/1/2000	10/19/2000	12/20/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003
Tetrachloroethene	µM	<0.0024	<0.00048	<0.00048	<0.00066	<0.012	<0.0072	<0.0029	<0.0033	<0.0066	<0.19
Trichloroethene	µM	<0.0065	<0.013	<0.013	<0.0015	<0.013	<0.013	<0.0024	<0.14	0.0027	<0.18
cis-1,2-Dichloroethene	µM	<0.0098	<0.020	<0.0020	<0.0031	<0.014	<0.019	<0.0043	<0.012	0.0025	<0.22
trans-1,2-Dichloroethene	µM	<0.014	<0.028	<0.0028	0.035	<0.014	<0.029	<0.0041	<0.016	0.020	<0.24
Vinyl Chloride	µM	<0.028	<0.056	<0.0056	0.046	<0.011	<0.14	<0.0032	<0.018	0.086	<0.41
Ethene	µM	8.9	9.3	7.9	5.7	<0.21	8.2	5.4	7.1	5.0	3.2
Acetylene	µM						<0.046	<0.046	<0.046	<0.046	<0.046
1,1,1-Trichloroethane	µM	0.42	0.97	<0.00082	0.11	0.14	<0.010	0.0033	0.0097	0.0019	<0.13
1,1-Dichloroethane	µM	0.50	0.20	0.0014	0.51	0.30	0.16	0.39	0.79	0.79	<0.22
1,2-Dichloroethane	µM	<0.0081	0.016	<0.0016	0.088	<0.013	<0.016	<0.0046	0.066	0.10	<0.12
1,1-Dichloroethene	µM	0.011	<0.022	<0.0022	0.0019	0.014	0.022	<0.062	<0.014	<0.0028	<0.33
Chloroethane	µM	38	40	51	57	42	19	20	21	50	54
Ethane	µM	<0.20	<0.20	1.2	<0.20	<0.20	0.080	<0.043	0.16	0.037	0.077

Contaminant	Well	DMP-4									
Date		4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/20/2005	11/6/2006	4/2/2007
Tetrachloroethene	µM	0.11	0.023	<0.0060	<0.0060	<0.0060	<0.030	<0.0060	<0.0060	<0.0060	<0.030
Trichloroethene	µM	<0.080	<0.016	<0.0076	<0.0076	<0.0076	<0.038	<0.0076	<0.0076	<0.0076	<0.038
cis-1,2-Dichloroethene	µM	<0.083	<0.017	<0.010	<0.010	<0.010	0.052	<0.010	<0.010	<0.010	<0.052
trans-1,2-Dichloroethene	µM	<0.14	<0.023	<0.010	0.015	0.017	<0.052	<0.010	<0.010	<0.010	<0.052
Vinyl Chloride	µM	<0.18	<0.045	<0.016	<0.016	<0.016	0.080	<0.016	0.16	0.045	1.920
Ethene	µM	6.1	2.9	1.2	1.9	2.6	1.8	2.1	5.4	3.3	1.9
Acetylene	µM	<0.046	<0.046	<0.046	<0.046	<0.046	0.046	0.046	<0.046	<0.046	<0.046
1,1,1-Trichloroethane	µM	<0.082	<0.016	<0.0075	0.0075	<0.0075	0.037	<0.0075	0.72	<0.0075	0.15
1,1-Dichloroethane	µM	0.93	<0.022	0.010	0.018	0.029	<0.052	0.052	4.0	2.9	23.2
1,2-Dichloroethane	µM	0.086	0.017	0.010	0.033	0.054	<0.052	0.034	0.28	0.38	<0.052
1,1-Dichloroethene	µM	<0.12	0.024	<0.010	0.010	<0.010	<0.052	<0.052	0.010	<0.010	1.3
Chloroethane	µM	85	55	7.9	28	67	39	0.016	122	140	51
Ethane	µM	0.15	0.10	<0.043	<0.043	0.16	0.13	<0.043	0.13	0.22	0.17

Table 2. Photoirenants Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	MW-8									
Date		3/28/2001	7/12/2001	1/8/2002	4/3/2002	6/25/2002	10/3/2002	1/15/2003	4/28/2003	8/5/2003	
Tetrachloroethene	µM	<0.00066	<0.0012	<0.00072	<0.0014	<0.0013	<0.0066	<0.0037	<0.0046	<0.0023	
Trichloroethene	µM	0.014	0.013	0.0074	<0.0012	<0.0055	0.0027	0.0035	0.015	0.032	
cis-1,2-Dichloroethene	µM	<0.0031	0.012	<0.0019	<0.022	<0.0050	0.0025	0.0043	0.041	0.16	
trans-1,2-Dichloroethene	µM	<0.0022	<0.0014	0.0029	<0.0021	<0.0064	0.0032	0.047	0.045	<0.0023	
Vinyl Chloride	µM	<0.0040	<0.0011	<0.014	<0.0016	0.0074	<0.0037	<0.0082	0.0090	0.0045	
Ethene	µM	<0.21	0.21	<0.046	<0.046	0.043	0.0046	0.16	0.046	0.25	
Acetylene	µM			<0.046	<0.046	<0.046	0.046	0.046	0.046	0.046	
1,1,1-Trichloroethane	µM	<0.0015	<0.0012	<0.0010	<0.0016	<0.0039	<0.0020	<0.0026	0.0033	0.0016	
1,1-Dichloroethane	µM	<0.0014	<0.0012	0.0025	<0.0022	<0.0062	0.0030	0.043	<0.0044	<0.0022	
1,2-Dichloroethane	µM	0.0020	<0.0013	<0.0016	<0.0023	<0.0046	<0.0023	<0.0023	<0.0034	<0.0017	
1,1-Dichloroethene	µM	<0.0019	<0.0014	<0.0023	<0.0030	<0.0056	<0.0028	<0.0065	<0.0047	<0.0024	
Chloroethane	µM	<0.0047	<0.0028	<0.010	<0.0095	0.0074	0.057	<0.0076	<0.014	<0.0068	
Ethane	µM	<0.20	<0.20	<0.043	<0.043	<0.043	<0.043	0.043	<0.043	<0.043	

Contaminant	Well	MW-8									
Date		12/16/2003	3/16/2004	6/22/2004	9/27/2004	12/13/2004	7/20/2005	11/7/2006	4/3/2007		
Tetrachloroethene	µM	0.019	<0.0060	0.0066	0.050	0.055	0.019	0.017	0.023		
Trichloroethene	µM	0.30	0.071	0.17	0.68	0.31	0.23	0.23	0.24		
cis-1,2-Dichloroethene	µM	1.4	0.41	0.67	1.9	0.55	1.3	0.45	0.46		
trans-1,2-Dichloroethene	µM	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	<0.010		
Vinyl Chloride	µM	<0.016	<0.016	<0.016	<0.016	<0.016	0.016	0.016	0.016		
Ethene	µM	<0.046	0.046	<0.046	<0.046	0.046	0.046	0.036	0.046		
Acetylene	µM	<0.046	0.046	0.046	0.046	<0.046	0.046	0.046	0.046		
1,1,1-Trichloroethane	µM	0.0075	0.0075	<0.0075	0.0075	<0.0075	<0.0075	0.0075	0.0075		
1,1-Dichloroethane	µM	0.17	0.044	0.082	0.28	0.085	0.20	0.048	0.058		
1,2-Dichloroethane	µM	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.010	<0.010		
1,1-Dichloroethene	µM	<0.010	<0.010	<0.010	0.038	<0.010	<0.010	<0.010	0.009		
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016		
Ethane	µM	<0.043	<0.043	<0.043	<0.043	<0.043	<0.043	<0.043	<0.043		

Contaminant	Well	MW-9				MW-10				MW-11			
Date		3/28/2001	7/12/2001	1/8/2002	1/14/2003	6/22/2004	1/22/2002	1/14/2003	6/22/2004	1/22/2002	1/14/2003	6/22/2004	
Tetrachloroethene	µM	<0.00066	<0.0012	<0.0014	<0.0037	<0.0060	0.014	<0.0037	0.017	<0.00072	0.0037	<0.0060	
Trichloroethene	µM	<0.0015	<0.0013	<0.0012	<0.0035	<0.0076	0.051	0.036	0.039	<0.0013	0.075	0.018	
cis-1,2-Dichloroethene	µM	<0.0031	<0.014	<0.0022	<0.0043	<0.010	2.4	2.5	1.0	<0.0019	0.19	0.045	
trans-1,2-Dichloroethene	µM	<0.0022	<0.0014	0.0021	<0.047	0.010	0.0021	<0.0047	0.010	<0.0029	0.0047	0.010	
Vinyl Chloride	µM	<0.0040	<0.0011	<0.0016	0.0082	<0.016	0.043	<0.0082	<0.016	0.14	0.0082	0.016	
Ethene	µM	<0.21	0.21										
Acetylene	µM												
1,1,1-Trichloroethane	µM	<0.0015	0.0012	<0.0016	<0.0026	<0.075	0.0016	0.0026	0.075	0.0010	<0.0026	0.075	
1,1-Dichloroethane	µM	<0.0014	0.0012	<0.0023	<0.043	0.010	2.1	1.9	1.3	0.0025	0.064	0.010	
1,2-Dichloroethane	µM	0.0020	0.0013	0.0023	<0.0023	0.010	0.051	0.059	0.034	<0.0016	0.0023	0.010	
1,1-Dichloroethene	µM	<0.0019	<0.0014	<0.0030	0.0065	0.010	0.52	0.42	0.31	<0.0025	0.0065	0.010	
Chloroethane	µM	<0.0047	<0.0028	<0.0095	<0.0076	0.016	0.0047	0.21	0.23	<0.010	0.0076	0.016	
Ethane	µM	<0.20	0.20										

Table 2. Photocircuits Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	MW-12									
Date		3/28/2001	7/12/2001	1/9/2002	4/3/2002	6/26/2002	10/3/2002	1/15/2003	4/28/2003	8/5/2003	
Tetrachloroethene	µM	<0.00066	<0.0012	<0.0144	<0.014	<0.0066	<0.0033	0.0037	<0.0046	0.0023	
Trichloroethene	µM	0.93	0.0071	0.13	0.24	0.52	0.63	0.37	0.79	0.29	
cis-1,2-Dichloroethene	µM	13.2	0.19	4.4	5.2	4.8	5.0	3.2	3.8	2.3	
trans-1,2-Dichloroethene	µM	0.075	<0.0014	0.058	<0.021	0.032	<0.016	<0.047	0.040	0.018	
Vinyl Chloride	µM	3.9	0.091	4.8	5.3	2.4	1.3	0.78	1.2	0.48	
Ethene	µM	0.24	2.5	6.4	4.6	6.8	0.61	<0.046	0.57	0.61	
Acetylene	µM			0.046	0.046	<0.046	<0.046	<0.046	<0.046	0.046	
1,1,1-Trichloroethane	µM	<0.0015	<0.0012	<0.0016	<0.016	<0.019	<0.0097	<0.0026	<0.0033	<0.0016	
1,1-Dichloroethane	µM	0.73	0.037	3.3	6.9	3.5	1.0	0.39	0.39	1.1	
1,2-Dichloroethane	µM	0.029	<0.0013	0.014	<0.023	<0.023	<0.012	<0.0023	<0.0034	0.0017	
1,1-Dichloroethene	µM	0.087	<0.0014	0.024	<0.0031	<0.011	<0.014	<0.0065	0.027	0.072	
Chloroethane	µM	<0.0047	<0.0047	0.095	<0.095	<0.037	<0.019	<0.0076	<0.0093	0.59	
Ethane	µM	<0.20	0.43	0.73	0.37	0.60	0.027	<0.043	0.097	0.16	

Contaminant	Well	MW-12									
Date		12/16/2003	3/16/2004	6/22/2004	9/27/2004	12/13/2004	7/20/2005	11/7/2006	4/3/2007		
Tetrachloroethene	µM	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.030	<0.030	<0.060		
Trichloroethene	µM	0.43	0.12	0.10	0.18	0.15	0.038	<0.038	<0.078		
cis-1,2-Dichloroethene	µM	2.4	1.0	0.86	2.2	2.0	<0.052	2.5	0.64		
trans-1,2-Dichloroethene	µM	0.034	0.014	<0.010	<0.010	<0.010	<0.052	<0.052	<0.10		
Vinyl Chloride	µM	0.72	0.40	0.38	1.0	1.3	0.3	4.5	1.9		
Ethene	µM	0.15	0.17	0.13	0.20	0.43	0.61	7.9	1.3		
Acetylene	µM	<0.046	<0.046	<0.046	<0.046	<0.046	0.046	<0.046	<0.046		
1,1,1-Trichloroethane	µM	0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.037	0.037	<0.075		
1,1-Dichloroethane	µM	1.9	1.4	1.3	1.5	6.6	3.4	2.5	1.1		
1,2-Dichloroethane	µM	0.010	<0.010	<0.010	<0.010	0.010	<0.051	<0.051	<0.10		
1,1-Dichloroethene	µM	0.026	<0.010	<0.010	<0.010	<0.010	<0.052	<0.052	<0.10		
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	1.5	<0.078	<0.078	<0.16		
Ethane	µM	0.14	0.19	0.24	0.40	0.25	0.37	1.2	0.73		

Contaminant	Well	MW-13									
Date		3/28/2001	7/12/2001	1/10/2002	4/3/2002	6/26/2002	10/3/2002	1/14/2003	4/29/2003	8/5/2003	
Tetrachloroethene	µM	0.50	0.72	1.3	1.4	0.10	0.49	0.42	0.078	0.12	
Trichloroethene	µM	0.65	0.87	1.6	1.9	0.11	0.59	0.53	0.092	0.16	
cis-1,2-Dichloroethene	µM	8.1	9.3	20.1	10.2	0.72	5.2	7.2	1.4	3.4	
trans-1,2-Dichloroethene	µM	0.037	0.049	0.123	0.083	<0.0032	0.031	<0.0047	<0.0045	0.0045	
Vinyl Chloride	µM	0.62	0.94	1.8	1.2	0.074	0.42	0.26	0.042	0.11	
Ethene	µM	<0.21	<0.21	0.057	<0.046	0.039	<0.046	0.046	0.16	0.21	
Acetylene	µM			<0.046	0.046	<0.046	0.046	0.046	0.046	0.046	
1,1,1-Trichloroethane	µM	0.30	0.28	0.24	0.15	0.0090	0.032	0.029	<0.0033	0.0082	
1,1-Dichloroethane	µM	3.3	3.5	4.8	3.1	0.17	0.98	1.0	0.089	0.31	
1,2-Dichloroethane	µM	0.026	0.023	0.028	<0.002	<0.0023	0.0023	<0.0023	<0.0034	0.0017	
1,1-Dichloroethene	µM	0.63	0.62	0.78	0.45	0.029	0.14	0.11	<0.0034	0.039	
Chloroethane	µM	<0.0047	<0.0025	<0.0095	<0.0095	<0.0037	0.0037	<0.0076	<0.014	<0.0068	
Ethane	µM	0.19	0.22	0.77	0.29	0.090	0.060	<0.043	<0.043	0.043	

Contaminant	Well	MW-13									
Date		12/17/2003	3/16/2004	6/22/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	4/2/2007		
Tetrachloroethene	µM	4.6	3.5	2.5	3.9	0.057	0.90	2.2	3.5		
Trichloroethene	µM	4.4	3.5	4.8	8.4	0.22	9.89	12.9	25.1		
cis-1,2-Dichloroethene	µM	20.6	10.2	9.9	13.4	0.74	6.4	5.7	7.4		
trans-1,2-Dichloroethene	µM	0.22	0.13	0.10	<0.021	<0.010	<0.010	0.010	0.051		
Vinyl Chloride	µM	4.8	1.8	1.9	2.4	<0.016	0.38	0.40	1.4		
Ethene	µM	<0.046	<0.046	0.046	0.11	<0.046	<0.046	0.011	0.16		
Acetylene	µM	0.046	<0.046	<0.046	<0.046	<0.046	<0.043	<0.043	<0.043		
1,1,1-Trichloroethane	µM	0.43	0.18	0.45	0.72	0.10	0.57	0.34	0.97		
1,1-Dichloroethane	µM	7.8	3.9	4.4	5.3	0.084	3.4	1.7	3.2		
1,2-Dichloroethane	µM	0.010	0.022	0.010	0.020	<0.010	<0.010	<0.010	<0.051		
1,1-Dichloroethene	µM	2.2	0.72	1.2	1.7	0.010	<0.010	<0.010	1.548		
Chloroethane	µM	<0.016	0.016	<0.016	0.016	<0.016	0.39	<0.016	0.51		
Ethane	µM	0.67	0.33	0.40	0.33	0.043	<0.043	0.11	0.21		

Table 2. Photoirents Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	RW-1							
Date		12-17-2003	3-15-2004	6-23-2004	9-27-2004	12-14-2004	7-20-2005	11-7-2006	4-3-2007
Tetrachloroethene	µM	0.78	0.78	0.066	1.0	6.6	2.6	1.87	5.2
Trichloroethene	µM	1.83	3.4	0.11	1.4	145	21	2.4	84
cis-1,2-Dichloroethene	µM	28.9	7.9	0.23	2.0	186	65	2.3	97
trans-1,2-Dichloroethene	µM	0.12	0.043	<0.010	<0.010	<0.010	<0.026	<0.026	0.21
Vinyl Chloride	µM	4.5	1.6	0.024	0.45	14.4	3.5	<0.40	14
Ethene	µM								
Acetylene	µM								
1,1,1-Trichloroethane	µM	0.21	0.13	<0.075	0.082	2.3	0.6	<0.19	0.97
1,1,2-Trichloroethane	µM	<0.075	<0.075	<0.075	<0.075	0.37	<0.19	<0.19	<0.15
1,1-Dichloroethane	µM	0.74	0.36	<0.010	0.14	6.26	4.55	<0.25	6.9
1,2-Dichloroethane	µM	<0.010	<0.010	<0.010	<0.010	<0.010	<0.25	<0.25	<0.10
1,1-Dichloroethene	µM	0.70	0.22	0.034	0.071	4.4	<0.26	<0.26	2.1
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	2.9	<0.39	<0.39	2.2
Ethane	µM								

Contaminant	Well	RW-2							
Date		12-17-2003	3-15-2004	6-22-2004	12-14-2004	7-20-2005	11-7-2006	4-3-2007	
Tetrachloroethene	µM	0.084	0.60	0.13	0.66	0.090	0.17	0.21	
Trichloroethene	µM	1.1	6.9	2.2	6.4	1.0	2.0	1.6	
cis-1,2-Dichloroethene	µM	7.3	7.9	6.8	21.7	7.6	11.4	6.4	
trans-1,2-Dichloroethene	µM	0.045	0.10	0.046	<0.010	<0.052	0.052	0.051	
Vinyl Chloride	µM	1.3	1.4	2.2	9.1	0.62	2.88	0.64	
Ethene	µM								
Acetylene	µM								
1,1,1-Trichloroethane	µM	<0.075	<0.075	0.075	<0.075	<0.075	0.075	<0.037	
1,1,2-Trichloroethane	µM	<0.075	<0.075	0.075	<0.075	<0.075	0.075	<0.037	
1,1-Dichloroethane	µM	1.21	1.3	0.75	3.9	1.0	1.4	0.57	
1,2-Dichloroethane	µM	0.010	0.019	<0.010	0.052	<0.051	<0.051	<0.050	
1,1-Dichloroethene	µM	0.06	0.30	0.089	0.62	<0.52	0.11	0.05	
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	<0.078	<0.078	<0.078	
Ethane	µM								

Contaminant	Well	RW-3							
Date		12-17-2003	3-17-2004	6-22-2004	9-27-2004	12-14-2004	7-20-2005	11-7-2006	4-3-2007
Tetrachloroethene	µM	0.34	0.15	0.084	0.097	0.60	0.44	0.34	0.11
Trichloroethene	µM	3.6	2.1	0.8	0.46	2.51	2.21	0.70	0.70
cis-1,2-Dichloroethene	µM	6.3	3.0	1.4	1.0	6.2	6.3	1.1	2.9
trans-1,2-Dichloroethene	µM	0.046	0.022	0.010	<0.010	<0.010	0.035	<0.010	<0.010
Vinyl Chloride	µM	0.074	<0.016	0.019	<0.016	0.21	0.04	0.016	0.10
Ethene	µM								
Acetylene	µM								
1,1,1-Trichloroethane	µM	<0.075	<0.075	<0.075	0.075	<0.075	0.0075	<0.0075	<0.0075
1,1,2-Trichloroethane	µM	0.66	0.36	0.19	0.13	1.7	1.0	0.15	0.30
1,2-Dichloroethane	µM	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethane	µM	0.19	0.070	0.047	<0.010	0.35	0.20	0.11	0.022
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	0.016	<0.016	<0.016	<0.016
Ethane	µM								

Contaminant	Well	RW-4							
Date		12-17-2003	3-17-2004	6-22-2004	9-27-2004	12-14-2004	7-20-2005	11-7-2006	
Tetrachloroethene	µM	0.24	0.13	0.066	<0.075	0.78	0.39	0.38	
Trichloroethene	µM	1.3	1.0	0.53	0.13	4.5	1.4	2.2	
cis-1,2-Dichloroethene	µM	3.7	2.5	2.0	<0.010	12.4	6.7	4.6	
trans-1,2-Dichloroethene	µM	0.025	0.020	<0.010	<0.010	<0.010	<0.052	<0.052	
Vinyl Chloride	µM	<0.016	<0.016	<0.016	<0.016	0.14	0.080	<0.080	
Ethene	µM								
Acetylene	µM								
1,1,1-Trichloroethane	µM	0.0082	0.0075	<0.0075	0.0075	0.0075	0.037	0.037	
1,1,2-Trichloroethane	µM	1.0	0.69	0.47	0.80	4.3	1.4	0.51	
1,2-Dichloroethane	µM	<0.010	0.010	0.010	<0.010	0.010	0.051	0.051	
1,1-Dichloroethane	µM	0.17	0.095	0.057	0.083	0.73	0.22	0.11	
Chloroethane	µM	0.016	0.016	<0.016	<0.016	<0.016	<0.078	<0.078	
Ethane	µM								

Table 3. Photocircuits Anaerobic Pilot Field Data

Well		SMW-7		SMP-1											
Well Depth	ft	23.2		9.1											
Well Diameter	inch	4		1											
Date		1/8/2002	4/2/2002	1/8/2002	4/2/2002	6/25/2002	10/2/2002	4/28/2003	8/4/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	7.12		6.42											
pH		7.4	7.1	7.5	7.3	7.5	7.3	7.1	7.4	7.1	6.8	6.8	6.5	7.0	6.2
Temperature	°C	17.9	16.81	11.64	14.84	18.74	24.80	14.82	25.86	10.34	20.91	23	11.9	16.4	16.4
Spec. Conductivity	µmhos/cm	4235	4190	2690	3250	4468	22	4230	6	3539	1138	667	910	1200	1840
Redox Potential	mV	-23	-40	31	-130	-64	-76	-114	-132	-89	-108	-58	-35	-95	-62
Dissolved Oxygen	mg/L	0.36	0.45	2.37	1.72	2.17	4.22	1.61	7.91	1.09	3.8	6.0	0.1	3.7	3.5
Bromide	mg/L			20		19									

Well		DMP-1													
Well Depth	ft	19.04													
Well Diameter	inch	1													
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	6.88													
pH		7.3		7.3	7.1	7.6	7.8	6.9	7.7	7.4	7.1	7.1	6.8	7.0	7.3
Temperature	°C	17.85		17.7	21.37	17.4	14.85	18.73	17.6	13.77	16.39	20	15.3	19.3	13.1
Spec. Conductivity	µmhos/cm	5560		3597	1838	1080	1381	7970	3160	7120	3753	3250	8670	3897	
Redox Potential	mV	-117		-183	-153	-85	-145	-11	-130	196	-156.7	-150	-58	-178	-108
Dissolved Oxygen	mg/L	1.98		7.55	1.74	7.55	1.56	1.75	1.64	5.13	8.67	0.5	0.1	1.9	3.7
Bromide	mg/L		111	9.77											

Well		SMP-3													
Well Depth	ft	14.6													
Well Diameter	inch	1													
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	6.8													
pH		6.9	6.7	8.8	8.8	7.0	7.4	7.6	7.1	7.1	7.2	6.9	6.4	7.2	6.4
Temperature	°C	12.06	11.47	19.18	22.80	13.37	15.41	21.26	13.91	12.08	19.2	21.9	15.1	17.6	12.1
Spec. Conductivity	µmhos/cm	5550	5940	2890	4058	359	650	1760	790	3001	5129	1218	462	591	727
Redox Potential	mV	-44	-52	-95	-120	-62	-161	-72	-108	-72	-244	-124	-53	-171	-17
Dissolved Oxygen	mg/L	3.87	2.94	1.16	2.16	5.41	4.61	5.72	6.83	3.95	9.4	1.2	0.6	1.0	6.4
Bromide	mg/L		5	55											

Well		DMP-5													
Well Depth	ft	24.35													
Well Diameter	inch	1													
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	6.91													
pH		6.4		7.1	6.3	6.6	7.6	7.5	6.7	7.0	7.1	7.5	6.8	6.9	7.3
Temperature	°C	17.06		16.15	16.61	19.65	17.76	15.37	17.16	17.64	15.71	15.8	15.1	13.9	18.8
Spec. Conductivity	µmhos/cm	3200		3130	3979	5863	5260	3685	1770	1831	9120	9080	5601	5331	1190
Redox Potential	mV	-120		-110	-116	-154	-159	-314	-119	-170	-181	-113	-117	-75	-139
Dissolved Oxygen	mg/L	1.57		1.13	0.71	0.59	0.1	2.15	0.19	0.14	1.79	0.77	1.1	0.1	3.5
Bromide	mg/L		16	179											

Well		SMP-4													
Well Depth	ft	15.82													
Well Diameter	inch	1													
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	6.82													
pH		7.6	7.5	7.3	6.1	6.7	6.8	7.7	6.2	6.3	6.5	6.1	6.2	6.8	7.1
Temperature	°C	16.54	14.62	18.77	22.40	11.68	15.15	21.61	13.97	11.94	18.22	21.8	13.3	16.8	11.8
Spec. Conductivity	µmhos/cm	5186	4130	4440	5530	3290	850	2320	2940	782	1040	395	908	960	666
Redox Potential	mV	-165	-170	-22	-35	-10	-10	-35	-73	-100	-152.5	-42	-52	-113	-137
Dissolved Oxygen	mg/L	0.74	0.65	7.2	1.32	7.19	6.8	3.95	4.68	4.18	1.58	1.7	1.4	1.0	5.1
Bromide	mg/L			336											

Table 3. Photoreactors Anaerobic Pilot Field Data

Well		DMP-1													
Well Depth	ft	20.55													
Well Diameter	inch	1													
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	8/4/2003	12/16/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	6.71	7.1	6.7	7.1	7.0	7.0	6.1	6.9	7.0	7.0	6.8	6.5	6.7	6.8
pH		7.1	7.1	7.2	7.1	7.0	7.0	6.1	6.9	7.0	7.0	6.8	6.5	6.7	6.8
Temperature	°C	17.61	16.2	17.2	20.12	16.50	14.73	17.66	17.3	13.13	16.69	19.3	15.3	18.3	15.1
Spec. Conductivity	µmhos/cm	2776	3130	2653	3180	3579	1850	3130	3190	3538	3823	3180	3627	3130	3005
Redox Potential	mV	-171	-80	-176	-178	-129	-163	-128	-132	-140	-158	-167	-71	-135	-157
Dissolved Oxygen	mg/L	0.11	0.72	0.58	0.61	7.3	0.78	0.55	0.18	0.51	29.5	6.1	0.1	1.0	9.1
Iodide	mg/L		38	19											

Well		MW-8													
Well Depth	ft	102													
Well Diameter	inch	4													
Date		1/8/2002	4/2/2002	6/25/2002	10/3/2002	1/15/2003	4/28/2003	8/5/2003	12/16/2003	3/16/2004	6/22/2004	9/27/2004	12/14/2004	11/6/2006	4/2/2007
Water Level	ft	7.96	8.4	6.4	8.2	7.2	7.0	6.3	7.0	7.1	7.0	7.0	6.7	7.5	6.8
pH		8.7	8.4	6.4	8.2	7.2	7.0	6.3	7.0	7.1	7.0	7.0	6.7	7.5	6.8
Temperature	°C	15.43	14.87	12.89	13.46	14.15	14.49	13.74	13.47	13.24	13.67	15.7	12.0	15.1	10.3
Spec. Conductivity	µmhos/cm	183	190	221	173	178	191	175	206	230	284	247	207	168	176
Redox Potential	mV	-240	-270	-273	-84	-114	-98	-230.4	-61	-146	-75	-41	-127	-44	-113
Dissolved Oxygen	mg/L	8.78	5.32	4.62	10.3	13.56	13.96	11.54	16.18	19.4	16.62	12.0	14.0	1.9	-4.8
Iodide	mg/L		5.8	2.0											

Well		MW-9		
Well Depth	ft			
Well Diameter	inch			
Date		4/2/2002	1/14/2003	6/22/2004
Water Level	ft			
pH		7.1	6.8	6.6
Temperature	°C	14.26	15.97	12.3
Spec. Conductivity	µmhos/cm	200	179	193
Redox Potential	mV	-50	-78	-60
Dissolved Oxygen	mg/L	0.97	1.01	1.7
Iodide	mg/L			

Well		MW-12												
Well Depth	ft													
Well Diameter	inch													
Date		4/2/2002	6/25/2002	10/3/2002	1/15/2003	4/28/2003	8/5/2003	12/16/2003	3/16/2004	6/22/2004	9/27/2004	12/14/2004	11/6/2006	4/2/2007
Water Level	ft	6.5	6.6	6.6	7.1	6.8	6.5	6.3	6.9	6.9	6.8	6.3	6.6	7.0
pH		6.5	6.6	6.6	7.1	6.8	6.5	6.3	6.9	6.9	6.8	6.3	6.6	7.0
Temperature	°C	14.2	14.8	16.27	14.89	15.88	16.02	15.55	14.45	14.45	15.4	13.9	16.0	11.3
Spec. Conductivity	µmhos/cm	4129	4680	4150	1860	2548	3808	2108	2600	3425	2303	2910	3620	2711
Redox Potential	mV	-80	-136	-122	69	-132	-99	-13	-50	-51	-114	18	-153	89
Dissolved Oxygen	mg/L	0.7	0.58	1.14	11.88	1.28	9.41	4.81	1.2	2.3	0.6	0.2	1.9	0.2
Iodide	mg/L	11	1.1											

Well		MW-13										
Well Depth	ft											
Well Diameter	inch											
Date		4/2/2002	6/25/2002	10/3/2002	1/14/2003	4/28/2003	8/5/2003	3/16/2004	6/22/2004	9/27/2004	12/14/2004	4/2/2007
Water Level	ft											
pH		6.3	6.6	6.6	7.0	7.3	6.5	6.7	6.3	6.7	7.2	6.3
Temperature	°C	16.9	16.00	17.01	17.81	16.76	18.1	16.88	17.84	18.2	16.5	16.6
Spec. Conductivity	µmhos/cm	1530	960	1558	1361	3985	1528	1970	1100	1005	833	1170
Redox Potential	mV	600	750	-110	-101	-3	710	114	37	-48	177	-73
Dissolved Oxygen	mg/L	1.71	0.8	0.6	3.87	1.9	1.86	9.77	1.5	1.1	2.3	0.1
Iodide	mg/L	7.4	0.6									

Table 4. Photocircuits Anaerobic Pilot Percent Change Between 9/1/00 and 1/8/02 or 3/15/04

% Change Between 9/1/00 and 1/8/02 or 4/2/07									
Compound	MW-14	MW-7	SMP-1	DMP-1	SMP-3	DMP-3	SMP-4	DMP-4	
First Sampled	9/1/2000	9/1/2000	9/1/2000	9/1/2000	9/1/2000	9/1/2000	9/1/2000	9/1/2000	9/1/2000
Last Sampled	4/2/2007	1/8/2002	4/2/2007	4/2/2007	4/2/2007	4/2/2007	4/2/2007	4/2/2007	4/2/2007
Acetone	80	0	-297	91	-81	-39	-581	0	0
Methylene Chloride	-562	38	96	69	95	47	99	-71	
Toluene	-1033	85	-87	34	-95	57	96	-102	
2-Chlorotoluene	0	-888	-82	24	0	-29	98	83	
Sum VOAs (w/o gases)	-1805	-33	88	30	96	17	95	-121	
Methane	-29445	-665	-400	-46	-6300	-1541	-2122	-6567	
Iron	50	-490	-46	93	78	72	80	62	
Sulfate	99.7	-813	-87	96.9	31	-451	99.9	26	
TOC	97	96	63	92	72	78	28	38	
PCE	0	0	0	-1325	0	0	-92	0	
TCE	-2123	-218	0	-147	0	0	0	0	
cDCE	-1260	82	-99,992	-96	0	0	-99.3	0	
oDCE	0	-56	0	0	0	0	0	0	
VC	-4014	73	99.8	87	96	55	-99.4	-6757	
Ethene	19	-75	-98	98	77	67	97	79	
ITCA	-8233	0	-3900	-1218082	96	68	-99.97	64	
IDCA	-3392	-58	-13	-793	98	-168	99.8	-7644	
IDCE	-5995	0	-77	-9138	-55	-797	-99	0	
CA	-10156	-51	-789	93	-85	29	70	-36	
Ethane	73	-1033	0	0	86	-77	0	15	

% Change Between 3/28/00 and 4/2/2007										
Compound	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	RW-1	RW-2	RW-3	RW-4
First Sampled	3/28/2001	3/28/2001	3/28/2001	1/22/2002	1/22/2002	3/28/2001	12/17/2003	12/17/2003	12/17/2003	12/17/2003
Last Sampled	4/2/2007	6/22/2004	6/22/2004	6/22/2004	4/2/2007	4/2/2007	4/2/2007	4/2/2007	4/2/2007	11/7/2006
Acetone	0	0	0	0	-4157	0	-17900	-1600	0	0
Methylene Chloride	-1266		-176	0	-20876	-12339	-18900	-4200	-440	-10900
Toluene	0	0	0	0	-931	0	-275	-28	0	0
2-Chlorotoluene	0	0	0	0	-180	26	-3300	61	0	0
Sum VOAs (w/o gases)	-4750		43	-73	28	-273	-561	26	65	-40
Methane	0				-590	-63233				
Iron	-233				-74	8				
Sulfate	10				34	57				
TOC	80				16	30				
PCE	-3355		-22	0	0	-600	-562	-143	67	-62
TCE	-1622		24	-1521	92	-3742	-4483	-50	80	-71
cDCE	-14900		57	-2344	95	8	-236	13	54	-25
oDCE	0		0	0	-37	-39	-67	-14	-78	-108
VC	0		63	0	51	-133	-204	51	78	0
Ethene	0				-422	25				
ITCA	0		0	0	0	-225	-364	0	0	-355
IDCA	-3971		37	0	-52	1	-832	53	54	49
IDCE	-378		40	0	-19	-148	-194	23	88	31
CA	0		-2961	0	0	-10900	-775	0	0	0
Ethane	0				-267	78				

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	Little PCE, TCE, cDCE, or VC found initially. Ethene moderate. Low levels of PCE, TCF, cDCE, and VC found in 4-07.	ITCA, IDCA, IDCE, and CA increased between 11-06 and 4-07. Ethane fairly stable, but low.	Low nitrate found in 4-07. Sulfate decreased by 99.7%. Methane up greatly. Iron increased from 12.00 to 12.03, but is now similar to initial levels	Emulsion found 4-02, 6-02, and 10-02 and TOC levels had been above 1,000 mg/L. TOC availability was lower in 1-03 and 3-04, but returned to ~600 mg/L in 6-04 through 4-07.
MW-7	Ethene generally predominant product. TCE up slightly. cDCE and VC down by 82 and 73% from start of pilot. dDCE up slightly. Not sampled since 1-02 because of emulsion in well.	IDCA and CA up, CA major product. Ethane produced.	Sulfate increased from 69 to 949 mg/L from 7-01 to 1-02, methane and iron up greatly	TOC had fallen to 1.7 mg/L in 1-02. Emulsion found thereafter.
SMP-1	TCE and cDCE up beginning in 1-02, but fell between 7-02 and 10-02 after emulsion injection and were low or not detected from 1-03 through 4-07. VC increased and then fell to non-detect as more substrate became available. VC found in 12-03, 6-04, 7-05, 11-06, and 4-07, but not 3-04, 9-04, or 12-04. Ethene increased when substrate levels were higher, but declined beginning in 8-03. Ethene has been primary chlorinated ethene since 10-02.	No ITCA detected from 7-01 to 12-04. ITCA, IDCA, and CA have increased since 9-04. IDCE not detected from 10-02 to 7-05, found 11-06 and 4-07. CA produced and is primary chlorinated ethane. Little ethane.	Nitrate low in 4-07. Sulfate increased 87% from start of pilot. Iron up by 46%, and methane up by 400% from start of pilot.	TOC rebounded to 1,280 mg/L in 4-03; enhanced dechlorination. TOC dropped to 50 mg/L in 12-03 and 3-04, rebounded to 398 mg/L in 6-04, but was only 34 to 64 mg/L in 9-04 to 4-07. Based upon increases in competing electron acceptor sulfate, decreases in iron, and increases in IDCA and CA, area thought to be substrate-limited
DMP-1	Only trace PCE found in 4-07. VC has decreased by 87% over course of pilot, but rebounded between 12-04 and 4-07. Ethene remains predominant product.	ITCA up +1,218,082%, IDCA up 793%, IDCE up 9,138%, CA down by 93%. Little ethane detected. Substantial increase in ITCA and IDCA over last 28 months with low substrate levels	Over the course of the pilot, sulfate down 97% and iron by 93%, and methane increased by 46%. Since 12-03, sulfate has increased from 226 to 911 mg/L suggesting substrate-limitation.	TOC increased from 24 mg/L in 6-02 to 284 mg/L in 4-03, but declined after that sampling event. Inadequate supply since 9-04.
SMP-3	TCE and cDCE not detected since 7-05, and VC has decreased. VC and ethene predominant products.	ITCA down by 96%, IDCA down 98%, IDCE down by 55%, and CA decreased by 85%. ITCA and IDCA decreased between 7-05 and 4-07. Some ethane.	Sulfate decreased from 3,640 mg/L in 4-02 to 75 mg/L in 4-03, but increased to 2,570 mg/L in 6-04 indicating potential substrate limitation. Lower levels of 124 to 472 mg/L found in 9-04 to 4-07. Iron down by 78%, but methane increased by 6,300%.	TOC in 4-02 up to 1,600 mg/L, but then fell below optimal levels. Adequate levels since then except 12-03 (+0.51 mg/L), 12-04 (49.5 mg/L), and 11-06 (49 mg/L).
DMP-3	No detectable PCE, TCE, and cDCE in 4-07. VC greater than ethene from 7-20/05 to 4-07. Substrate limited.	ITCA down by 68%, IDCA up by 168%, and IDCE up by 797%. CA decreased by 29%. Ethane down. ITCA and IDCA increased greatly between 3-04 and 4-07 due to substrate limitation.	Sulfate increased by 451% over pilot with increased levels from 9-04 to 4-07. Methane up, but iron decreasing.	TOC increased to 349 mg/L after second emulsion injection, but has fallen below target to 19 mg/L in 12-03. Elevated TOC of 230-243 mg/L found in 3-04 to 6-04, but fell to <50 mg/L in 9-04 to 4-07. Well substrate-limited

Table 5 continued. 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
SMP-4	PCE, TCE, cDCE, tDCE, and VC not detected 4-07. Ethene again predominant chlorinated ethene.	ITCA, IDCA, and IDCE down by >99 to >99.97%. CA up sharply between 12-04 and 11-06, but lower in 4-07. Little ethane.	Sulfate decreased to < 1.5 mg/L in 6-04 to 7-05, but increased to 87 mg/L in 14-07. Iron has decreased by 80%, and methane increased greatly.	High levels of TOC (3,680 mg/L found on 10-03) and were elevated until 12-03 when only <0.51 mg/L found. Adequate TOC of 53 to 341 mg/L found in 3-04 to 4-07.
DMP-4	No detectable PCE, TCE, cDCE, or tDCE in 4-07; elevated VC, and lower ethene.	ITCA down 64%, IDCA up by 7644% and IDCE non-detect 14-07. CA increased greatly between 12-04 and 11-06, but lower in 4-07. Little ethane.	Sulfate down 26%, iron down 62%, and methane increased.	FOC adequate levels (<80 mg/L) from 3-04 through 11-06, but only 27 mg/L in 4-07. Increases in IDCA, and CA suggest substrate limiting.
MW-8	PCE, TCE, and cDCE detected 4-07. No VC or ethene.	IDCA and IDCE detected in 4-07.	Sulfate decreased by 10% and iron has increased by 74%.	Little TOC available.
MW-9	No chlorinated ethenes detected in 6-04.	No chlorinated ethanes detected in 6-04.	Low sulfate, some methane and iron.	Little TOC available at last sampling point in 7-01.
MW-10	PCE, TCE, and cDCE detected in 6-04, but no VC.	IDCA, 2-IDCA, IDCA, and CA detected in 6-04.	Not available.	Based upon contaminant distribution, likely to be substrate-limited.
MW-11	Low levels of TCE and cDCE detected in 6-04, but no VC.	No chlorinated ethanes detected in 6-04.	Not available.	Based upon contaminant distribution, likely to be substrate-limited.
MW-12	TCE, cDCE, and tDCE are decreasing, and VC increasing. Ethene lower in 4-07 than 11-06.	IDCA increased 52%, IDCE up >19%, and ethane detected at moderate levels. CA not detected 7-05 to 4-07.	Sulfate decreased by 34%, iron increased by 74%, and methane increased by 590%.	TOC level adequate in 6-04, 124 mg/L, but decreased to 34 mg/L or less in 9-04 to 4-07.
MW-13	Increases in PCE, TCE, cDCE, and VC concentrations from 12-03 through 4-07. Some ethene detected.	Increases in ITCA (225%), IDCE (148%), and CA (>10,900%), but decreased IDCA (1%), and ethane (78%) concentrations.	Methane increased, but iron down by 8% and sulfate down 57%.	TOC level of 6-9 mg/L in 12-04 to 4-07, well below optimal.
RW-1	cDCE major product with elevated TCE and lower VC and PCE. Concentrations of PCE increased by 362% and TCE by 4483%, cDCE by -236%, and VC by -204% between 12-03 and 4-07. No ethene data.	IDCA primary chlorinated ethane, some ITCA, IDCE, and CA. ITCA, IDCE, IDCA, CA, and IDCE increased by 194% to 775% between 12-03 and 14-07.	Not available.	Based upon contaminant distribution, likely to be substrate-limited.
RW-2	cDCE major product with some VC, PCE, TCE, and occasional tDCE. No ethene data. From 12-03 to 4-07, total chlorinated ethenes have remained relatively stable.	IDCA and IDCE primary chlorinated ethanes, but no detectable ITCA or CA. Total chlorinated ethanes have remained stable.	Not available.	Based upon contaminant distribution, likely to be substrate-limited.
RW-3	cDCE major product with moderate TCE, and limited VC, PCE, and tDCE. No ethene data. From 12-03 to 4-07, total chlorinated ethenes decreased by 63%.	IDCA and IDCE primary chlorinated ethanes, with no detectable ITCA or CA. From 12-03 to 4-07, total chlorinated ethanes decreased by 62%.	Not available.	Based upon contaminant distribution, likely to be substrate-limited.
RW-4	cDCE major product with moderate TCE, and low levels of PCE and tDCE and VC. No ethene data. From 12-03 to 11-06 (no data for 4-07), total chlorinated ethenes increased by	IDCA and IDCE primary chlorinated ethanes, but no detectable ITCA or CA. Total chlorinated ethanes decreased by 47% from 12-03 to 11-06.	Not available.	Based upon contaminant distribution, likely to be substrate-limited.