



**SECOND AND THIRD QUARTER 2007  
PROGRESS REPORT**

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

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

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## **1.0 Introduction**

This Second and Third Quarter 2006 Progress Report (2&3Q07) 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 Second and Third 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 August 6-7.
- Maintenance activities were performed on to the hydraulic control system at the 31 Sea Cliff Avenue site.

## **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, April 2-3, 2007 and August 6-7, 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, April 2007, and August 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 83 months of operation, the overall average sum of VOCs has decreased by 70%; 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 November 14, 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	Aug
1240	1910	2200	2510	3600	1420	118	180	83	29	10	110	47	35	30	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. During each sampling event, clogs are removed either mechanically or with compressed air, or the discharge tubing is replaced.



**STATUS REPORT**

**AUGUST 2007**

**PHOTOCIRCUITS CORPORATION  
ACCELERATED ANAEROBIC BIOREMEDIATION PROJECT**

**PREPARED FOR:**

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**NOVEMBER 14, 2007**



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### 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 <sup>TM</sup>	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), DMP-3, 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 69.7% in August 2007. The substrate reinjection in February and April 2002 increased the TOC concentrations in all wells within the treatment cell. In August 2007, TOC levels ranged from 64 mg/L in SMP-3 to 740 mg/L in MW-

14 with an average of 202 mg/L in the seven wells sampled within the treatment cell. TOC levels in all seven wells were above the target level of 50 mg/L in August 2007. 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 MW-14, DMP-3, and DMP-4 in the August 2007 sampling event than the previous event in April 2007.

The average percent removal of total volatiles increased from 31.9% in July 2005 to 69.7% in August 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 31,000 µg/L and in DMP-3 from 40,000 to 18,000 µg/L over this period. The 1DCA concentrations in SMP-3 decreased from 28,000 to 3,700 µg/L and in DMP-3 from 44,000 to 15,000 µg/L. The CA concentrations in these wells decreased as reductive dechlorination became limited due to availability of substrate. In August 2007, the concentrations of TOC were 64 mg/L in SMP-3 and 83 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 msl
- 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.

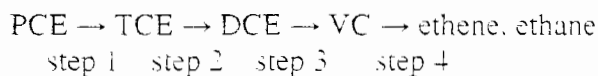
The following technology description is from a report entitled "Cost and Performance Report – In Situ Anaerobic Bioremediation Pinellas Northeast Site Largo, Florida" prepared for the U.S. Department of Energy (1998) by Sandia National Laboratories and Hazardous Waste Remedial Actions Program.

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,  $\text{Fe}^{3+}$ , 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). Methane, ethene, and ethane samples were not analyzed in August 2007 due to a mix-up in the shipping procedures.
- 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 1,1,1-TCA is equivalent to one unit of 1,1-DCE, 1,1-DCA, 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 8/7/07 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 August 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 Ground Water Treated:	Approximately 92' X 157' X 60', 866,640 ft <sup>3</sup> Approximately 1,620,617 gallons
System substrate transport effectiveness:	Demonstrated distribution throughout treatment area
Substrate effectiveness:	Enhanced dechlorination
Substrate viability	Lasted for more than five years
Reduction of total contaminants of concern:	Achieved reductions of 17% to 95% except in MW-14, MW-7 (through 1/8/02), DMP-3, 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 August 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 SMP-1, DMP-1, DMP-3 and DMP-4 in August 2007. Ethene was the dominant chlorinated ethene in April 2007 in wells MW-14, SMP-1, DMP-1, SMP-3, and SMP-4. Methane, ethene, and ethane analyses were not conducted in August 2007. Wells SMP-3 and 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 4.1 µg/L in August 2007.

Of 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 August 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 August 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, TCE, cDCE, tDCE, and VC 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 through 4/07. 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. From September 2004 to August 2007, there was only <1.0 to 2.7 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 and April 2007, the new recovery wells RW-1, RW-2, RW-3, and RW-4 contained a mix of PCE, TCE, cDCE, tDCE, and VC with cDCE being the dominant compound. In August 2007, TCE was present at higher concentration on a molar basis than cDCE in RW-1 and RW-4. Ethene and ethane were not analyzed in these wells. Since December 2003, the total chlorinated ethenes have increased by 566% for RW-1, 276% for RW-2, and 36% for RW-4 (through November 2006), but decreased by 86% for RW-3 and 30% for RW-4.

### 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 an 83% (178,000 µg/L to 31,000 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 (90%), and SMP-4 (99.6%). 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 DMP-1 and DMP-3. 1DCE was not detected in August 2000 or April 2007 in MW-14, SMP-3, and DMP-4. CA concentrations have declined by 98% in DMP-1 and >98% in DMP-3, 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 eighty-three 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 August 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, and DMP-4. Further degradation products CA and ethane levels are elevated in wells MW-14, MW-7 (thru 1/8/02), 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 August 2007 in wells MW-14, SMP-1, DMP-1, SMP-3, and DMP-3. 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 August 2007. 1TCA may have been released from the soybean oil or untreated 1TCA may have been released from an upgradient location.

Relatively low levels of 1TCA 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, MW-12, and MW-13 between July 2001 and August 2007.

The new recovery wells have relatively low levels of 1TCA 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 two of the four recovery wells (RW-1 and RW-2).

### 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 eighty-three months of the project operation to date, acetone concentrations decreased by 95% in DMP-1 and >59% in MW-14. Methylene chloride concentrations have decreased in wells MW-7 (through 1/8/02), SMP-1, DMP-1, SMP-3, and SMP-4, with declines by as much as >99.8 percent in SMP-1, >99.7% in SMP-4, >96% in SMP-3, 43% in DMP-1, and 38% in MW-7 (through 1/8/02); increased methylene chloride concentrations have been observed in MW-14, DMP-5, and DMP-4. Methylene chloride can also be anaerobically degraded. Toluene concentrations have declined in five 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 96% in SMP-4, >69% in DMP-4, <82% in SMP-1, >69% in DMP-1, and 64% 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 August 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, DMP-3, SMP-4, DMP-4, MW-13, and RW-1, but not wells SMP-3, MW-8, MW-12, RW-2, RW-3, or RW-4.



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 282% in MW-12 between 3/28/01 and 8/7/07 and also have increased in RW-1. 4-Chlorotoluene has been found in MW-12.

In December 2003 through August 2007, the recovery wells contained the following compounds: PCE, TCE, cDCE, VC, 1TCA, 1DCA, 1DCE, 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 94% in SMP-1 with large decreases in SMP-4 (77%), SMP-1 (88%), and DMP-1 (90%). The sum of VOAs has increased by 2,376% 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), DMP-3 (15%), and DMP-4 (122%). The overall average of the sum of the volatiles has declined by 69.6% over the course of the pilot and full scale implementation. This average includes the seven wells sampled on 8/2/07 and the well (MW-7) last sampled on 1/8/02. The average percent removal was lower in August 2007 than in the previous sampling round in April 2007 as total volatiles increased in MW-14, SMP-3, DMP-3, SMP-4, and DMP-4.

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 (7%), but increased in MW-8 (2,794%) and MW-13 (424%) 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 August 2007 have increased by 680% in RW-1 and 142% in RW-2, but decreased in RW-3 (86%) and RW-4 (30%).

#### **5.3.5 Substrate Distribution**

The total organic carbon concentrations in August 2007 within the treatment cell ranged from 64 mg/L in SMP-3 to 740 mg/L in MW-14. Well MW-7 contained the emulsion in August 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 all test cell wells in August 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 propionic, 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 August 2007 in the treatment cell at concentrations between 0.057 and 1.59 mg/L and is a minor electron acceptor. Nitrate was detected in downgradient wells MW-8, MW-12, and MW-13 in August 2007 at concentrations of 0.158 (MW-12) to 2.11 mg/L (MW-13). The predominant electron acceptor in the groundwater within the treatment cell in August 2007 was sulfate with concentrations that ranged from 77.8 mg/L in SMP-4 to 1,120 mg/L in DMP-3. Sulfate concentrations have declined from the initial concentrations in September 2000 in wells MW-14 (98%), DMP-1 (98% from 29,600 to 576 mg/L), SMP-4 (99.9%), SMP-3 (42%), and DMP-4 (8%) as would be expected with consumption of the oil emulsion. Sulfate levels increased in MW-7 (through 1/8/02), SMP-1 (47%), and DMP-3 (803%). The average sulfate concentration in the cell has declined by 91%. However, sulfate levels increased in wells MW-14, DMP-3, and DMP-4 between April 2007 and August 2007. Total iron concentrations within the treatment cell in August 2007 ranged from 6.38 mg/L in DMP-3 to 55.8 mg/L in SMP-4, which indicated that iron is also an important electron acceptor. Over the eighty-three month project, total iron concentrations have decreased in seven 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 for which methane data was available, 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. In August 2007, only well SMP-4 had a pH below 6.5 which may inhibit reductive dechlorination by *Dehalococcoides ethenogenes*.

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  $\mu\text{mhos/cm}$ . Downgradient wells MW-8 and MW-9 had lower specific conductivity readings of 120 to 493  $\mu\text{mhos/cm}$ . Downgradient wells MW-12 and MW-13 had higher specific conductivity levels than MW-8 and MW-9.

Negative redox potentials of -197 mV (DMP-1) to -17 (SMP-1) were found in the wells within the treatment cell in August 2007. Downgradient well MW-13 had a positive redox potential of 111 mV in August 2007.

Dissolved oxygen readings ranged from 0.11 to 3.4 mg/L in August 2007. The high dissolved oxygen levels found in SMP-1, SMP-3, 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 69.6%.
- The average concentrations of the parent compound 1,1,1-trichloroethane has decreased by 74%.
- Ethene was the dominant chlorinated ethene in wells MW-14, SMP-1, DMP-1, SMP-3, and SMP-4 in April 2007.
- Four monitoring wells (MW-7, MW-14, DMP-3, and DMP-4) have shown increased total volatile concentrations since September 1, 2000 by 15 to 2,376%. 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 8/07, total VOC concentrations decreased by 70% in MW-14. Since first monitored in May 1999,

well DMP-3 has shown a decrease in total volatiles from 60,390 to 36.888  $\mu\text{g/L}$  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 70% over the course of 83 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.

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## FIGURES



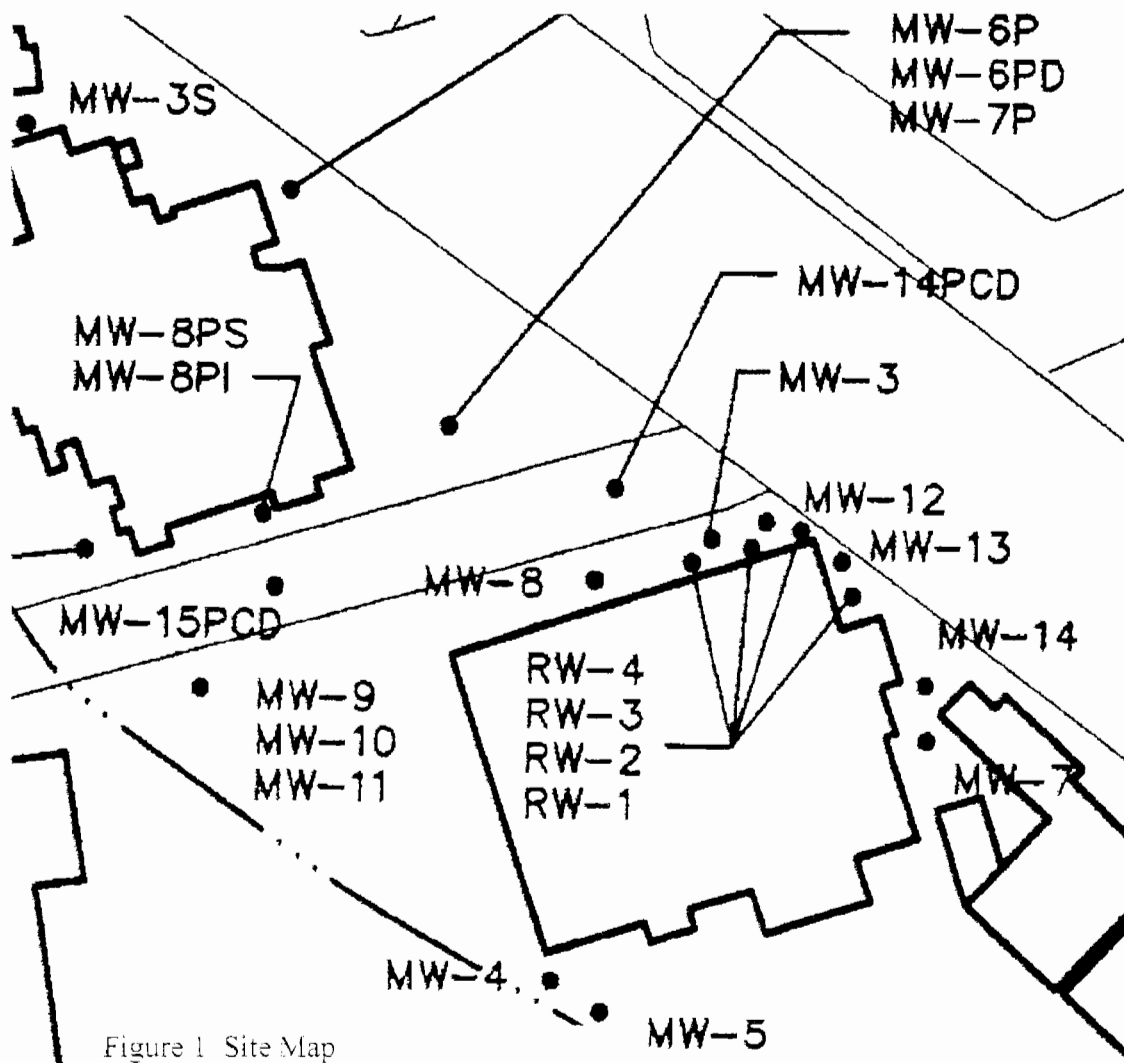


Figure 1 Site Map

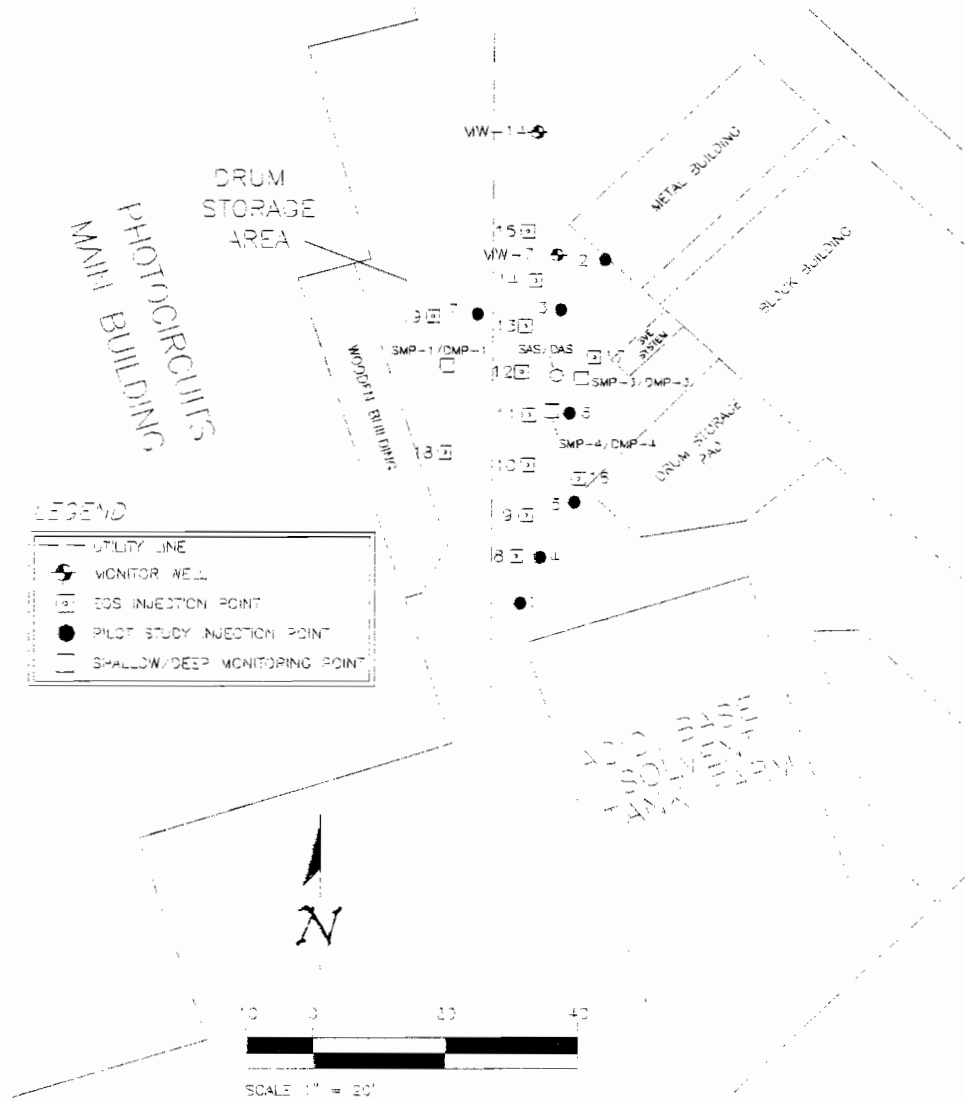


Figure 2. Treatment Cell

## TABLES

Table 1. Photocreusis Anaerobic Pilot Analytical Summary

Well	MW-14									
	Date	6/3/2000	10/19/2000	12/20/2000	3/29/2001	7/17/2001	8/2/2002	1/14/2003	4/29/2003	9/5/2003
Days	0	49	171	209	314	408	466	570	1069	
Tetrachloroethene	µg/L	<1.4	<0.40	<0.40	<5.5	<4.0	<2.4	<3.1	<3.8	<3.8
Trichloroethene	µg/L	<0.35	<1.35	<0.35	<10	<3.4	<3.4	<2.3	<2.1	<2.1
cis-1,2-Dichloroethene	µg/L	<0.35	<1.7	<0.35	<15	<2.3	<2.3	<2.1	<1.6	8.48
trans-1,2-Dichloroethene	µg/L	<1.35	<1.40	<1.35	<11	<2.8	<5.8	<2.1	<2.2	<2.20
Vinyl Chloride	µg/L	<1.75	70.6	<1.75	114	148	171	<25.8	342	739
Pfihene	µg/L	43	47	60	65	130	90	68	68	74
Acetylene	µg/L						5.7		<1.2	<1.2
1,1,1-Trichloroethane	µg/L	14.4	<1.7	3.9	994	2040	1520	1020	1630	307
1,1,2-Dichloroethane	µg/L	7.6	216	293	1230	18306	4100	3830	3860	3830
1,2-Dichloroethane	µg/L	<0.90	<0.90	<0.90	<9.0	33.2	33.2	17.3	<1.7	<1.70
1,1-Dichloroethene	µg/L	<0.95	3.3	<1.35	441	751	842	<2.1	296	91.3
Chloroethane	µg/L	15.8	<1.25	<1.65	132	298	501	448	290	2160
Ethane	µg/L	42	59	48	34	56	49	68	68	91
Acetone	µg/L	97.8	370	126	174	851	986	<290	11	784
Methylene Chloride	µg/L	15	<1.30	1.1	220	156	1.4	<1.3	115	52.9
n-Butane	µg/L	124	75.3	25	<125	363	344	526	<164	797
Toluene	µg/L	3.3	<0.40	<0.40	<7.3	12.4	28	19	129	23.9
Benzene	µg/L	<0.70	<0.70	<0.70	<63	2.6	<0.4	<2.0	5.1	12
p-Isobutylene	µg/L	<1.2	<1.2	<1.2	39	14.4	4.4	1.1	1.1	1.1
1,2,3-Trimethylbenzene	µg/L	<0.90	<1.30	<0.90	1.7	<2.2	<2.4	<28.2	<1.7	<1.70
2,4-Dimethylbenzene	µg/L	<0.95	<1.35	<0.95	116.3	<3.2	<4.2	<19	<12	<11.9
1,2,4-Trimethylbenzene	µg/L	<1.65	<1.25	<0.65	37	34.4	12	180	115	90
Naphthalene	µg/L	<1.35	<0.90	<1.35	<9.3	3.2	2.1	47	<40	<14.40
o-Xylene	µg/L	<0.40	<1.35	<0.40	39	<3.2	<1.2	<1.3	<12	<11.20
m-Propylbenzene	µg/L	<0.70	<1.30	<0.70	<10.3	<9.2	<2.8	<1.1	16	9
Methyl Tertiary Butyl Ether	µg/L	<1.5	<1.5	<1.25	<124	<1.3	3.1	<29	55.1	29.53
Sum VOCs (not classes)	µg/L	396	270	128	111	1567	1123	977	713	4099
Methane	µg/L	44	34	380	360	<460	830	<660	<660	<660
Iron, Total	mg/L	33.2	132	69	197	163	279	46	119	140
Sulfate	mg/L	647	770	321	307	1270	441	837	143	174
Nitrate-Nitrogen	mg/L	9.13	117	<0.125	<0.0615	<0.13	0.125	0.122	0.080	0.080
Total Organic Carbon	mg/L	13.64	363	100	284	336	636	263	263	346

Well	MW-14									
	Date	1/21/2004	3/10/2004	6/22/2004	9/17/2004	12/14/2004	3/20/2005	11/7/2005	4/29/07	9/9/2007
Days	292	329	1391	1438	1736	744	2256	2635	3633	
Tetrachloroethane	µg/L	3	3.3	1.2	60	11	32	26	32	26
Trichloroethane	µg/L	8.9	11	3.3	110	2.1	120	129	68	129
cis-1,2-Dichloroethene	µg/L	33	32	33	61	120	120	26	13	26
trans-1,2-Dichloroethene	µg/L	3	3	3.7	11	11	21	26	3	21
Vinyl Chloride	µg/L	110	29	699	47	14	125	21	71	125
Ethane	µg/L	15	1	12	19	18	17	15	13	13
Acetylene	µg/L	8.7	1.2	1.2	1	1	1	1	1	1
1,1,1-Trichloroethane	µg/L	20	710	64	216	284	69	194	211	410
1,1,2-Dichloroethane	µg/L	<1.60	170	340	730	493	700	340	210	490
1,2-Dichloroethane	µg/L	60	29	28	110	30	20	29	17	120
1,1-Dichloroethene	µg/L	49	130	180	29	16	30	1	14	17
Chloroethane	µg/L	460	46	170	930	490	170	330	60	290
Pfihene	µg/L	4	1	3.7	14	14	7.1	3.1	1	1
Acetone	µg/L	1560	119	1300	126	130	194	29	29	140
Methylene Chloride	µg/L	40	37	64	73	20	170	190	6	440
n-Butane	µg/L	64	140	70	360	300	131	121	10	60
Benzene	µg/L	13	28	12	23	17	11	21	14	13
o-Xylene	µg/L	1.3	1.3	1.4	1.1	1.7	2.6	2.1	1.3	2.1
m-Propylbenzene	µg/L	1.3	1.3	1.3	1.1	1.7	2.6	2.1	1.3	2.1
1,3,5-Trimethylbenzene	µg/L	80	130	61.9	110	110	620	179	170	20
2-Chlorotoluene	µg/L	<1.30	<1.30	<1.30	1.1	1.1	2.1	1.1	1.1	2.1
1,2,4-Trimethylbenzene	µg/L	11.3	11.3	11.3	10	11.3	12.1	2.1	11.3	2.1
Naphthalene	µg/L	<1.30	<1.30	<1.30	1.1	1.1	2.1	1.1	1.1	1.1
o-Xylene	µg/L	11.3	11.3	11.3	11.3	11.3	12.1	11.3	11.3	11.3
m-Propylbenzene	µg/L	11.3	11.3	11.3	11.3	11.3	12.1	11.3	11.3	11.3
Methyl Tertiary Butyl Ether	µg/L	11.3	11.3	11.3	11.3	11.3	12.1	11.3	11.3	11.3
Sum VOCs (not classes)	µg/L	12227	16807	2689	16259	7466	491	4799	719	899
Methane	µg/L	444	360	430	310	490	43	61	60	60
Iron, Total	mg/L	68	46.8	66.5	11	11	14.1	14.1	11	20
Sulfate	mg/L	234	153	143	12	249	6	29.4	17.4	6.0
Nitrate-Nitrogen	mg/L	9.13	6.13	1.38	1.13	11.506	1.28	6.1	2.01	1.36
Total Organic Carbon	mg/L	6.1	176	132	17	21	1	19	21	7.4

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well		MW-7					
		6/11/2000	10/19/2000	12/29/2000	5/27/2001	7/11/2001	1/8/2002
Date		0	49	111	208	314	495
Days							
Tetrachloroethene	µg/L	<0.40	<0.36	<0.40	<0.2	<0.20	<0.12
Trichloroethene	µg/L	<0.85	19.3	<0.38	64	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	64.4	2.6	2.1
Vinyl Chloride	µg/L	39.3	67.1	139	30	63.9	19.5
Ethene	µg/L	35	179	110	55	44	116
Acetylene	µg/L						<1.2
1,1,1-Trichloroethane	µg/L	91.5 <sup>2</sup>	31.0 <sup>2</sup>	<0.55	64	31.36	91.14
1,1-Dichloroethane	µg/L	22	214	268	35	207	193
1,2-Dichloroethane	µg/L	30.80	<0.38	<0.30	64	<0.13	3.7
1,1,4-Trichloroethene	µg/L	<1.95	<0.96	13.95	<1.2	1	<0.22
Chloroethane	µg/L	258	781	201	160	269	300
Ethane	µg/L	66	730	31	34	71	68
Acetone	µg/L	0.45	52.2	69.35	<29.6	13.5	62.1
Methylene Chloride	µg/L	2.3	591	11	3.3	33	8.1
2-Butanone	µg/L	3	1.44	65.1	1.6	15.25	7.1
Toluene	µg/L	12	84	33	23	33	1.8
Benzene	µg/L	13	33	16.7	12	2.8	12
o-xylotoluene	µg/L	67.1	<0.98	61.1	63.2	60.22	66.24
1,3,5-Trimethylbenzene	µg/L	1000	<0.60	63.6	61.8	<0.13	<0.1
2-Chlorotoluene	µg/L	91.85	8.1	91.35	64.2	61.2	64
1,2,4-Trimethylbenzene	µg/L	0.65	99.59	0.35	63.4	12	61.1
Naphthalene	µg/L	1.25	69.20	1.35	1.3	12	<0.27
o-Xylene	µg/L	69.40	69.54	69.4	<5.2	1	<0.16
p-Xylylene	µg/L	69.70	69.56	69.7	64.1	61.31	61.74
Methyl tert-butyl ether	µg/L	11.1	69.36	2.5	2.1	0.80	1.35
Diethyl ether	µg/L	66	640	171	156	791	612
Methane	µg/L	64	600	760	660	6930	660
Iron, Total	mg/L	2.22	7.84	3.97	3.72	4.78	17.1
Sulfate	mg/L	104	7	264	203	38.9	69
Nitrate Nitrogen	mg/L		29.13	6.625	16.29	10.17	13.85
Total Organic Carbon	mg/L	58.1	33.1	61	72.1	58.2	17

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	Date	SMPs											
		8/31/2000	10/13/2000	12/20/2000	3/27/2001	7/11/2001	7/8/2002	4/2/2002	9/25/2002	10/2/2002	1/19/2003	4/28/2003	
Tetrachloroethene	ug/L	<10	<10	<22	<5.5	<2.0	<6.0	<12	<5.5	<12.2	<2.48	<1.76	
Trichloroethene	ug/L	<34	79	366	15.9	25.3	44.6	26600	49	<1.72	<1.84	<1.42	
cis-1,2-Dichloroethene	ug/L	24900	37500	30100	<1.7	12300	10647	<2500	25700	389	<1.58	<1.52	
trans-1,2-Dichloroethene	ug/L	<54	<9.9	<40	1.12	34.5	58.5	376	<15.3	<16.2	<1.84	<1.44	
Vinyl Chloride	ug/L	4770	5990	5095	4770	4230	3490	1780	8920	2540	<2.04	<1.36	
Bibenzene	ug/L	330	2400	1140	309	1890	<50	900	320	37.0	1180	306	
Acetylene	ug/L												
1,1,1-Trichloroethane	ug/L	22	<15.3	<24	59	158	170	<11	<13	<13.2	<1.4	<1.44	
1,1-Dichloroethane	ug/L	8.6	480	628	708	536	486	366	295	197	29.8	26.3	
1,2-Dichloroethane	ug/L	<12	<10.6	<17	<10	<13	<23	<1.7	<1.5	<1.46	<1.42	<1.44	
1,1,1-Trichloroethene	ug/L	142	1042	127	84	35.1	143	296	503	<1.34	<1.52	<1.46	
Chloroethane	ug/L	372	71.3	151	115	11.3	13.3	30.3	<12.0	<7.8	38.7	141	
Bibenzene	ug/L	389	320	<25	<25	<25	<12	1.3	3.9	4.6	3.8	65.0	
Acetone	ug/L	<178	<145	<196	2.74	614.4	<115	196	626.5	21.26	<45.3	<1.42	
Methylene Chloride	ug/L	482	4.3	26	<20.3	11.9	<14.3	127	<10.3	32.42	<1.42	2.75	
1,4-Dioxane	ug/L	<204	5.1	658	<12.3	<16.7	<869	<25.1	<190	7.9	<10.7	<1.28	
1,2-Dioxane	ug/L	<12	<1.3	<1.9	<1.2	<1.3	<1.7	194	1.1	1.3	25.7	48.3	
Benzene	ug/L	<28	4.40	154	7	<1.3	85.8	1.38	416.3	14	11.3	24.4	
Styrene	ug/L	148	2	4	1	1	1.2	1.2	3.1	<1.2	<1.44	1.0	
1,3-Dimethylbenzene	ug/L	124	60.00	126	117	81.1	199	610	110	60.4	2.28	60.94	
1,4-Dimethylbenzene	ug/L	114	18.1	125	107	47.1	116.8	112.5	112.3	17.4	<1.22	19.1	
1,2,4-Trimethylbenzene	ug/L	126	19.7	168.5	117	15.7	26.5	18.3	18.7	20.44	12.4	10.9	
Naphthalene	ug/L	374	11.7	119	10.3	2.2	1.3	1.7	1.3	10.73	13.70	10.30	
n-Nonane	ug/L	170	10.40	14	3	1.4	16.1	110	12.3	3.7	<1.32	10.24	
i-Propylbenzene	ug/L	128	19.70	117	101.3	3.1	17.3	100.3	8.9	20.12	2.48	16.33	
Methyl Ethyl Ether	ug/L	156	16.25	125	114	16.80	11.7	11.7	10.1	10.36	10.33	10.1	
sum of 1,2,3,4,5,6,7,8,9	ug/L	1350	140.00	1077.0	796.0	150.0	21.4	71.2	112	11	1.7	43.4	
Methane	ug/L	140	<1.40	1890	294	140	14	170	100	2170	160.9	1290	
Iron Sulfide	ug/L	11.3	1.9	13.1	17.7	29.3	16.4	8.9	1.2	2.4	1.3	42.2	
Sulfate	ug/L	146	366	44.5	6.8	305	73.1	1.3	42	164	60.4	25.1	
Nitrate-Nitrogen	ug/L		102.4	1071	1.3	1016	10.15	1049	10127	10115	1082	10.1	
Total Organic Carbon	ug/L	11.7	15.4	109	10.7	45.0	10.3	11.3	136	136	140	1790	

Well	Date	SMPs											
		8/1/2004	9/1/2004	12/1/2004	1/31/2005	2/21/2005	3/25/2005	4/14/2005	7/29/2005	11/9/2005	12/20/07	6/2/2007	
Tetrachloroethene	ug/L	16	1.30	1.9	1.9	1.9	2.1	1.9	1.9	1.9	1.9	1.87	
Trichloroethene	ug/L	4	12.10	1.9	1.9	1.9	2.1	1.9	1.9	1.9	1.9	1.9	
cis-1,2-Dichloroethene	ug/L	24900	1950	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
trans-1,2-Dichloroethene	ug/L	14	1.20	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Vinyl Chloride	ug/L	4770	230	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Bibenzene	ug/L	330	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Acetylene	ug/L												
1,1,1-Trichloroethane	ug/L	22	12.10	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
1,1-Dichloroethane	ug/L	8.6	2.10	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
1,2-Dichloroethane	ug/L	<12	1.70	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
1,1,1-Trichloroethene	ug/L	142	1.70	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Chloroethane	ug/L	372	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Bibenzene	ug/L	389	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Acetone	ug/L	<178	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Methylene Chloride	ug/L	482	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
1,4-Dioxane	ug/L	<204	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
1,2-Dioxane	ug/L	<12	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Benzene	ug/L	<28	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Styrene	ug/L	148	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
1,3-Dimethylbenzene	ug/L	124	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
1,4-Dimethylbenzene	ug/L	114	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
1,2,4-Trimethylbenzene	ug/L	126	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Naphthalene	ug/L	374	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
n-Nonane	ug/L	170	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Methyl Ethyl Ether	ug/L	156	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
sum of 1,2,3,4,5,6,7,8,9	ug/L	1350	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Methane	ug/L	140	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Iron Sulfide	ug/L	11.3	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Sulfate	ug/L	146	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Nitrate-Nitrogen	ug/L		102.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Total Organic Carbon	ug/L	11.7	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	DMP-1	8/31/2000	10/03/2000	12/09/2000	2/27/2001	7/11/2001	6/30/2002	4/25/2002	6/25/2002	10/2/2002	6/13/2003	4/28/2003
Date		0	48	111	208	314	405	576	663	762	865	890
Days												
Tetrachloroethene	µg/L	<0.40	<0.080	<0.40	<5.5	<1.0	<0.60	<0.48	1.1	<0.11	<5.1	<0.76
Trichloroethene	µg/L	<0.35	<0.17	<0.85	<10	4.5	<0.35	29.3	30.5	1.6	12.3	5.53
cis-1,2-Dichloroethene	µg/L	50.4	1.70	17.4	73.5	38.4	<0.90	44.3	92.1	127	1610	1100
trans-1,2-Dichloroethene	µg/L	<1.35	<0.27	<1.35	<11	<0.70	<1.1	3.9	2.8	4.2	62.3	5.75
Vinyl Chloride	µg/L	788	3.5	40	125	42.7	<4.25	162	15.4	180	1780	1020
Ethene	µg/L	560	1080	120	690	110	93	164	210	430	1080	800
Acetylene	µg/L						<1.2	61.2	61.2	<1.2	<1.2	62.2
1,1,1-Trichloroethane	µg/L	90.55	<0.11	<0.55	93	28.1	<0.70	<0.44	930	<0.26	117.5	<0.44
1,1-Dichloroethane	µg/L	91.3	17.5	557	1730	413	413	240	411	47.4	486	401
1,2-Dichloroethane	µg/L	11.80	<0.16	<0.80	<10	34.9	<0.80	63.6	1.9	1.3	61.3	6.34
1,1-Dichloroethene	µg/L	6.195	<0.21	<1.05	69	20.70	<1.10	61.0	61.27	61.27	63.18	4.7
Chloroethane	µg/L	3290	43.4	232	159	193	17	99.7	6.2	15.5	2.65	14.7
Ethane	µg/L	60	60	<20	<100	<20	0.8	<1.3	1.4	1.7	16	14
Acetone	µg/L	6670	139	172	11.4	156	17.5	<0.24	48.3	49.5	676.6	36
Methoxychloride	µg/L	68.9	1.40	22.4	191	52.8	<0.47	<0.98	1	8	13.5	4.47
2-Butanone	µg/L	55.1	<1.12	1.1	12.25	63.7	186	116	13.5	13.5	12.7	11.23
Formic acid	µg/L	60.5	2.40	23.1	40.2	11	9.76	21	1	1	14.4	11
Benzene	µg/L	<0.70	<0.14	8.8	1.5	20.65	19.85	61.32	91.23	48	98	174
p-Phytonene	µg/L	2.9	19.24	6.2	13	61.1	1.2	60.4	4	1	1	10.9
1,2,4-Triethylbenzene	µg/L	1.3	19.12	19.69	6.77	60.25	60.60	60.4	1	1	12.65	10.54
2,4-Dimethylbenzene	µg/L	21.7	19.17	14.1	190.5	13.7	79.7	17.1	61.1	17.3	66.2	1.9
1,2,4-Triethylbenzene	µg/L	8.4	17.7	14	17	4.8	6.7	15.4	12	10	31.0	31.0
Naphthalene	µg/L	1.1	<0.27	<1.37	19.5	12.05	6.13	<0.28	11.29	11	14.7	4.28
o-Xylene	µg/L	11.40	11.80	11.40	18	19.40	11.80	11.40	18.2	1	11.65	21.7
m-p-Xylene	µg/L	10.70	11.3	10.10	16.3	15.5	10.70	10.12	11.9	10.18	11.1	10.32
Methyl tert-butyl ether	µg/L	11.22	<0.15	6.25	17.4	19.40	10.10	10.68	10.13	10.13	12.9	11
Sum of 1,3,5-trimethylbenzene	µg/L	12.00	1.10	10.4	11.2	28.72	4.4	2	6.6	6.6	10.27	10.1
Methane	µg/L	1003	10.00	10.00	40.00	7.00	3.00	6.00	12.00	12.00	12.00	10.00
total Total	µg/L	38.5	4.45	1	21.7	5.63	15.1	12.1	13	14.2	14.8	15.1
Sulfate	mg/L	29600	37.7	70	73	420	260	29.70	596	1040	90.20	513
Nitrate-Nitrogen	mg/L	1.29	3.24	0.25	10.15	10.15	10.15	10.15	10.15	10.15	10.15	10.15
Total Organic Carbon	mg/L	200	224	37	132	84.8	114	4.1	34.5	34.7	11	284

Well	DMP-1	9/4/2003	12/16/2003	3/15/2004	5/21/2004	9/17/2004	12/13/2004	7/29/2005	11/16/2005	9/22/07	9/6/2007
Date		1966	1292	1292	1396	1446	1562	1784	1284	24.5	116.7
Days											
Tetrachloroethene	µg/L	61.06	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9
Trichloroethene	µg/L	11.95	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
cis-1,2-Dichloroethene	µg/L	43.3	83	83	83	83	83	83	83	83	83
trans-1,2-Dichloroethene	µg/L	11.10	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Vinyl Chloride	µg/L	75.3	260	17	81	47	11	15	16	18	18
Ethane	µg/L	120	66	66	66	100	22	14	12	12	12
Acetylene	µg/L	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1,1,1-Trichloroethane	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1,1-Dichloroethane	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1,2-Dichloroethane	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1,1-Dichloroethene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Chloroethane	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Ethene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Acetone	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Methoxychloride	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
2-Butanone	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Formic acid	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Benzene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
p-Phytonene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1,2,4-Triethylbenzene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
2,4-Dimethylbenzene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1,2,4-Triethylbenzene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Naphthalene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
o-Xylene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
m-p-Xylene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Methyl tert-butyl ether	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Sum of 1,3,5-trimethylbenzene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Methane	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
total Total	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Sulfate	mg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Nitrate-Nitrogen	mg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Total Organic Carbon	mg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

Table 1. Photocredits Amenable Pilot Analytical Summary

Well		MPC										
Date		9/1/2000	10/19/2000	1/22/2001	3/27/2001	7/11/2001	7/26/2002	4/2/2002	9/25/2002	10/2/2002	5/19/2003	4/28/2003
Days		0	49	111	208	314	495	579	662	761	864	969
1,1,1-Trichloroethane	mg/L	<80	<80	<8	13.7	12.2	<6.0	<2.5	<5.5	<5	<6.2	<5.8
1,1,1,2-Tetrachloroethane	mg/L	<170	<170	<17	<6.2	<7.7	<8.5	<3.4	<18	<6	<4.5	<2.10
trans-1,2-Dichloroethene	mg/L	<100	<100	<19	2.3	16.4	<9.0	<3.6	<12	<7.8	<4.2	<1.6
cis-1,2-Dichloroethene	mg/L	<270	<270	<27	<11.22	<14	<14	<5.6	<13.5	<7	<4.6	<2.2
Vinyl Chloride	mg/L	<150	<150	<25	30.8	38.8	<42.5	<17.0	<13	<15	<5.1	<3.9
Ethene	mg/L	84	93	89	13	106	186	220	260	309	36	94
Acetylene	mg/L						2.7	5.4	7.2	6.3	<1.2	<1.2
1,1,1-Trichloroethane	mg/L	173000	235000	32600	<3700	13100	43600	7600	40700	7600	8740	4810
1,1,1,2-Tetrachloroethane	mg/L	38200	17800	4770	<16.5	17600	38600	21500	14800	24200	7300	5430
trans-1,2-Dichloroethene	mg/L	7100	6780	<215	<3	2160	<75.0	<12	<11.5	<5.3	<2.8	<1.70
cis-1,2-Dichloroethene	mg/L	<190	<190	<22	<26.27	<34	<46	<34	<32	<47	<17	<16
Chloroethane	mg/L	<170	<170	<25	7600	4.1	146	<134	<84	500	<150	<120
Ethane	mg/L	50	42	49	22	29	17	38	42	1	1	7.7
Acetone	mg/L	<1500	<1500	<230	<69.0	5.86	<135	<166	<162.5	70.2	<11.5	256
Methylene Chloride	mg/L	2420	1700	<24	14.5	12	39	<15.2	<19.8	24.7	<10.5	<1.5
2-Butanone	mg/L	<1120	<1120	<162	<27.3	<2.7	<140	<140	<140	<140	<14	<14
Formene	mg/L	<60	<60	<6	<6.7	36.2	54.2	<28	76	53.4	<12.2	<12.2
Benzene	mg/L	<19	<19	<1.4	<16.7	20.5	8.3	<13	<15.2	<16	<10	<2.10
o-xymethylbenzene	mg/L	<140	<140	<14	40.5	<22.1	<17.1	<44.8	<36	<100	<16.2	<10.80
m-xymethylbenzene	mg/L	<120	<120	<12	16.3	<6.7	<6.6	<14	<10	<10.2	<6.7	<10.30
p-xymethylbenzene	mg/L	<170	<170	<17	4.1	<4.3	30.2	<42	<17.3	21.4	<13.4	<1.50
Napthalene	mg/L	<170	<170	<27	9.3	1.1	1.3	<15.4	<14.3	<1	<10.4	<14.8
o-xylene	mg/L	<68	<68	<6.8	<1	<1	<14.3	<1	<1.7	<1.7	<1.3	<1.7
m-xylene	mg/L	<46	<46	<4.6	<4.2	<3	<11	<12.8	<10.7	<10.6	<10.2	<10.8
p-xylene	mg/L	<25	<25	<2.5	<12.8	<3	<11	<11	<11	<10.3	<10.4	<10.2
Methyl Tertiary Butyl Ether	mg/L	<100	<100	<10	75.0	<129.7	24.1	<23.2	<15.6	<14.4	<10.4	<12.78
Methane	mg/L	100	40	44	76	100	<162	240	390	740	<100	1000
Iron Total	mg/L	800	50	900	3.42	32.2	3.29	3.46	4.17	9.1	55.2	<1
Sulfate	mg/L	250	362	54	3.7	6.9	40	600	1.9	53.8	<1	73.2
Nitrate Nitrogen	mg/L	<100	<100	<25	<10.7	<10.15	1.15	<10.09	<10.17	<10.25	<10.19	<10.17
Total Organic Carbon	mg/L	104	172	<20.7	14	19	2.2	100	17.2	40.2	6.7	7.4

Well		MPC										
Date		6/6/2003	2/19/2004	5/18/2004	6/2/2004	9/27/2004	11/2/2004	7/26/2005	1/9/2006	4/12/07	6/6/2007	
Days		67	120	207	250	447	504	710	1237	1404	1464	
1,1,1-Trichloroethane	mg/L	<38	<38	<3.8	<2.7	<3.3	<1.8	<24	<12	<10	<16	
1,1,1,2-Tetrachloroethane	mg/L	<2.6	<2.6	<2.6	4.2	<4.2	<1.8	<2.9	<20	<19	<19	
trans-1,2-Dichloroethene	mg/L	<17	<17	<1.7	<1.7	<1.7	<1.7	<2.9	<29	<29	<29	
cis-1,2-Dichloroethene	mg/L	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.9	<29	<29	<29	
Vinyl Chloride	mg/L	<30	<30	<3	30	24	<1	<30	<30	<2	<30	
Ethane	mg/L	40	32	37	113	124	17	74	1	<1	<1	
Acetylene	mg/L	12	12	<1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
1,1,1-Trichloroethane	mg/L	172	244	350	113	24	42	11.1	<29	60	70	
1,1,1,2-Tetrachloroethane	mg/L	260	114	180	70	110	81	141	97	11	190	
trans-1,2-Dichloroethene	mg/L	<1	<1	<1.4	<1	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	mg/L	8.0	6	2	6	76	12	36	26	4	108	
Chloroethane	mg/L	29	66.4	74.6	87.6	103	167	140	111	93	116	
Ethane	mg/L	3	1.2	1.7	3	3	3	3	3	3	3	
Acetone	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methylene Chloride	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Formene	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Benzene	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
o-xymethylbenzene	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
m-xymethylbenzene	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
p-xymethylbenzene	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Napthalene	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
o-xylene	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
m-xylene	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
p-xylene	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methyl Tertiary Butyl Ether	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methane	mg/L	100	100	100	100	100	100	100	100	100	100	
Iron Total	mg/L	100	100	100	100	100	100	100	100	100	100	
Sulfate	mg/L	100	100	100	100	100	100	100	100	100	100	
Nitrate Nitrogen	mg/L	100	100	100	100	100	100	100	100	100	100	
Total Organic Carbon	mg/L	100	100	100	100	100	100	100	100	100	100	



Table 1. Photochemicals Anaerobic Pilot Analytical Summary

Well Date	OMP-1	OMP-1										
		6/1/2000 Days	6/9/2000 40	12/10/2000 111	3/27/2001 168	7/17/2001 214	8/20/02 265	4/27/2002 370	6/25/2002 467	10/2/2002 563	1/15/2003 664	4/28/2003 869
Tetrachloroethene	µg/L	<16	60.5	<4.0	<1.1	72.3	34	<12	<2.2	<0.11	<21	21.3
Trichloroethene	µg/L	<34	<13.3	28.5	<2	3.6	28.5	<8	<7.2	<0.26	<23	24.20
cis-1,2-Dichloroethene	µg/L	<38	<17	29.3	<3	24.9	19.9	29.5	14.8	1.8	<21	42.7
trans-1,2-Dichloroethene	µg/L	<54	<14	<13.3	<2.2	<1.4	<14	<10	<6.2	1.3	<23	<4.40
Vinyl Chloride	µg/L	1040	928	818	45	785	654	597	13	<1.2	<25.5	146
Ethene	µg/L	430	430	310	290	490	500	220	520	330	370	340
Acetylene	µg/L							<1.2	<1.2	<1.2	<1.2	<2.2
1,1,1-Trichloroethane	µg/L	17000	14300	23400	790	24000	19300	11300	1330	234	3970	1310
1,1-Dichloroethane	µg/L	3230	4860	4200	764	3250	1260	3770	2460	980	10800	3320
2,2-Dichloroethane	µg/L	<42	<9.3	<8.0	<2	23.4	8.0	<11.3	30.0	29.3	<1.2	<7.4
1,1-Dichloroethene	µg/L	56	<24	210.3	<1.3	68	<1.7	<13	17.4	3.0	<3.3	30.2
Chloroethane	µg/L	3376	3070	2760	720	5630	2280	1400	10100	6640	1050	6840
Ethane	µg/L	8.7	9.4	44	12	62	36	11	3	26	35	37
Acetone	µg/L	<378	365	<94.3	<4.3	114.4	<15	<36	345	721	<506	<173
Methylene Chloride	µg/L	436	349	310	173	58.7	3.7	<2.7	6.1	<2	<2.3	34.7
2-Dimethylamine	µg/L	294	<41	<51	<25	292.5	669	1269	76	<1.4	826	<128
Toluene	µg/L	132	1.3	1.6	3.7	1.4	198	34	35	30.7	3.3	22.3
Benzene	µg/L	28	1.7	27.3	1	11.3	28.2	18	14.7	<0.21	<25	24.1
p-Toluenolone	µg/L	48	7	52	1.1	1.1	1	1	1.2	0.1	1.1	3.1
1,2,5-Trimethylbenzene	µg/L	<24	<13	<13	<4	1.1	<0.1	30	<1.0	1.5	<29.3	<146
2,4-Dichlorotoluene	µg/L	<34	<10.2	18.2	12.1	37.3	119.3	111.2	3.0	3.7	<19	23.4
1,2,4-Trimethylbenzene	µg/L	<26	<12.3	20.3	11	1.7	19.5	28.3	24	4.4	<46	<190
Naphthalene	µg/L	<54	9.0	213.3	19.9	14	13.3	1.7	2.4	3	<47	23.0
n-Xylene	µg/L	<13	<13.3	14.3	13.3	1.1	36	100	1.3	1.3	16.3	<24
p-Propylbenzene	µg/L	<28	<13.7	7.0	2.1	1.1	1.1	120.2	1.2	1.3	1	<2.2
Methyl Ethyl Ether	µg/L	350	31.7	<12	1.3	13.80	18	1.7	6.1	30.3	1.29	<166
sum of 13 VOCs bases	µg/L	<144	1740.2	22.3	247.0	122.7	249.2	77.1	7.1	14.3	247.7	190.7
Methane	µg/L	380	396	970	346	176	144	393	114	110	1070	3290
Iron Total	mg/L	39.4	36.3	74.3	20.4	77.3	99	11.3	11.4	38.3	11.9	3.7
Sulfate	mg/L	124	136	37	34.3	33	48	17	14	170	436	1290
Nitrate-Nitrogen	mg/L	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Total Organic Carbon	mg/L	98.3	85.3	14	18	33.3	30.3	12	340	3.3	310	64

Well Date	OMP-1	OMP-1									
		3/8/2003 Days	2/18/2003 120	9/15/2003 26	6/12/2004 170	2/7/2004 487	12/12/2004 583	7/24/2005 1703	1/6/2006 2257	4/22/07 2404	9/6/2007 3632
Tetrachloroethene	µg/L	17.0	1.0	20	5.3	12.0	3.1	40	26	20	11.0
Trichloroethene	µg/L	10.2	1.1	8.7	2.2	2.0	2.2	1.9	4.2	2.0	1.90
cis-1,2-Dichloroethene	µg/L	38.0	1.1	1.7	1.3	1.38	1.1	1.80	1.4	1.0	1.0
trans-1,2-Dichloroethene	µg/L			2	2	2.0	1	2.0	1	2	1.1
Vinyl Chloride	µg/L	342	320	130	30	1300	120	210	36	170	170
Ethane	µg/L	396	447	300	130	110	600	280	140	130	
Acetylene	µg/L	11.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
1,1,1-Trichloroethane	µg/L	600	740	404	604	604	111	404	214	404	
1,1-Dichloroethane	µg/L	1200	3100	291	400	1100	1700	2400	114	400	
2,2-Dichloroethane	µg/L	15	14	74	17	1	10	50	12	21	
1,1-Dichloroethene	µg/L	31	1	3	20	1	1	8	1.1	4.0	
Bromoethane	µg/L	630	690	320	410	1600	1100	1100	460	300	
Ethane	µg/L	1	10	34	3	2	20	3	1.1	1.1	
Acetone	µg/L	30.2	1.0	10	4	20	1.1	30	1.0	1.0	
Methylene Chloride	µg/L	176	1.7	35	3	160	10	120	14	1.0	
2-Dimethylamine	µg/L	1	1.1	10	40	20	10	10	1	1.0	
Toluene	µg/L	30.3	1.0	1	1.1	150	70	210	40	100	
Benzene	µg/L	10.3	1.1	1	1	20	1	10	1	20	
p-Toluenolone	µg/L	7.0	1.1	1	1.1	10	1	1	1	1.0	
1,2,5-Trimethylbenzene	µg/L	<3.0	4.8	1.7	1.1	10	1.1	1.1	1.1	1.0	
2,4-Dimethylbenzene	µg/L	7.0	4.0	40	13	13	13	13	14	1.0	
1,2,4-Trimethylbenzene	µg/L	7.0	1.8	1	1	20	1.3	1.1	1.1	1.0	
Naphthalene	µg/L	19.0	1.1	1.1	1.3	2.0	1.4	1.1	1.1	1.1	
n-Xylene	µg/L	20.00	3.7	1.7	1.1	120	1	100	1.1	120	
m-Xylenolone	µg/L	13.4	1.1	1.1	1.1	12	1	1.1	1.1	1.0	
Methyl Ethyl Ether	µg/L	1.17	1.1	1.1	1.1	1	1.1	1.1	1.1	1.1	
sum of 13 VOCs bases	µg/L	2247.6	303.2	257	260	1735	730.7	71.1	71.1	103.4	
Methane	µg/L	384	396	970	346	176	144	393	114	110	
Iron Total	mg/L	41	320	1.7	1.30	1.6	7.11	1.0	1.0	1.0	
Sulfate	mg/L	3.3	30	1.00	1.68	1.08	2.6	1.0	1.4	1.7	
Nitrate-Nitrogen	mg/L	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	
Total Organic Carbon	mg/L	2.1	18.3	30	14	15.3	40	1	14	22	

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well		SMP-4									
Date		9/1/2000	10/1/2000	12/20/2000	9/27/2001	7/11/2001	8/2/2002	9/25/2002	10/2/2002	11/5/2003	4/28/2003
Days		0	48	90	207	313	494	662	761	864	960
Tetrachloroethene	µg/L	13.2	<5.6	<0.40	<5.5	9.3	32	70.2	37.3	<3.1	10.2
Trichloroethene	µg/L	<0.85	<5.4	<1.7	<10	<1.7	<3.4	5.5	<0.36	<2.3	9.8
cis-1,2-Dichloroethene	µg/L	143	<6.8	<1.9	<1.5	10.8	<3.6	80	27.2	<2.1	1.1
trans-1,2-Dichloroethene	µg/L	<1.35	<5.0	<2.7	<1.1	<1.4	<5.0	0.62	<0.31	<2.3	<1.10
Vinyl Chloride	µg/L	175	34.6	37.6	72.3	111	326	4.9	3.1	<25.5	10.7
Ethene	µg/L	229	190	220	170	169	340	67	29	20	82
Acetylene	µg/L							<1.2	<1.2	<1.2	<1.2
1,1,1-Trichloroethane	µg/L	330	246	897	3100	2670	2789	23	11.3	617.5	3.54
1,1-Dichloroethane	µg/L	4670	1740	1180	2240	3270	2890	333	149	184	30.4
1,2-Dichloroethane	µg/L	26.2	<3.3	<1.1	<10	19.7	<2.2	69.46	3.1	1.5	69.55
o-Dichlorobenzene	µg/L	0.5	9.6	<2.1	<9	48.2	190	10.54	69.27	<31.3	<1.15
Chloroethane	µg/L	1220	927	889	1590	345	776	4.7	350	680	1010
ethane	µg/L	<1.6	<6	<30	<10	<10	2.4	1	2.7	1.1	4
Acetone	µg/L	69.4	<29	<15.9	674	<13.4	<46	66.5	4.1	630	<3.5
Methylene Chloride	µg/L	293	323	12	278	327	66.3	7.3	1.3	3.5	9.35
n-Butane	µg/L	75.1	<16.4	<19.2	<125	662.5	1.44	7.6	1.7	6329	55.29
Isobutane	µg/L	1.1	17.3	25.2	17.5	48.2	81	19.40	0.95	19	<1.30
Benzene	µg/L	30.59	<2.5	<1.4	<3	<3.5	<3.4	19.42	9.2	229	<1.62
p-Fluorotoluene	µg/L	4.1	<6.3	<2.1	15	<2.2	14.1	1632	19.1	1.1	26.75
1,3,5-Trinitrobenzene	µg/L	3.2	96.9	<1.2	<1.7	<1.1	<2.4	49.49	99.2	<2.1	61.55
2-Chlorotoluene	µg/L	55.5	5.4	11.7	110.3	21.4	14.2	19.9	9.25	199	69.75
2,4-Dimethylbenzene	µg/L	3.6	5.3	<1.3	15	17.1	22.5	69.34	91.77	190	63.75
Naphthalene	µg/L	<1.05	<3.0	<2.7	<9.2	64.1	65.4	69.54	69.29	1.7	22.80
m-Xylene	µg/L	19.0	65.4	16.8	18	19.6	1.2	19.50	69.25	616.2	1.60
p-Propylbenzene	µg/L	10.76	67.3	11.3	<10.5	52.1	62.3	6.62	19.56	5.1	9.30
Methyl tert-butyl ether	µg/L	1.25	64.9	62.5	194	19.8	65.5	1.39	96.8	129	60.26
sum of hydrocarbons	µg/L	179	618	740	27	721	79	257	257	264	195
Methane	µg/L	161	479	640	9650	300	264	4.29	91	4660	21.44
non-Peak	µg/L	76.2	54.1	47.1	54.2	41.2	17.4	23.0	1.1	54.1	299
Sulfate	µg/L	133	470	435	794	910	1630	139	3	5.34	1.9
Nitrate/Nitrogen	µg/L		<0.115	1.3	1.9	0.27	<0.3	<0.025	<0.025	0.19	0.55
Total Organic Carbon	mg/L	15.1	60.4	61.84	34.5	46.5	33.0	34.6	36.80	196.0	1.60

Well		SMP-4									
Date		9/1/2002	12/19/2002	9/15/2004	9/21/2004	9/27/2004	12/15/2004	7/29/2005	1/6/2006	4/22/07	9/9/2007
Days		1261	1291	1291	1689	1687	564	1783	2337	2404	360
Tetrachloroethene	µg/L	37.1	90	43	27	12	19	22	1.1	1.1	1.1
Trichloroethene	µg/L	2.10	1.1	3	4.2	61.0	1.1	19.5	1.9	1.9	1.9
cis-1,2-Dichloroethene	µg/L	55.7	80	48	90	100	19	1.1	1.1	1.1	1.1
trans-1,2-Dichloroethene	µg/L	2.1	1.1	1.1	1.1	37.1	1.1	1.1	1.1	1.1	1.1
Vinyl Chloride	µg/L	12.46	75	19	29	17	11.1	1.1	1.1	1.1	1.1
Ethene	µg/L	17	23	23	23	22	17	1.1	4	7.3	1.1
Acetylene	µg/L	<1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1,1,1-Trichloroethane	µg/L	22.1	4.2	4.6	1.1	11.9	1.1	140	1.1	1.1	1.1
1,1-Dichloroethane	µg/L	53.2	1.1	22	1.1	11.9	1.1	149	1.1	1.1	1.1
1,2-Dichloroethane	µg/L	179	1.1	11.9	1.1	11.9	1.1	1.1	1.1	1.1	1.1
o-Dichlorobenzene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Chloroethane	µg/L	7209	740	12	29	340	119	190	63	1.9	1.90
Ethane	µg/L	67.1	2.1	1.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Acetone	µg/L	5.1	129	21.6	14	22	1.1	1.1	1.1	1.1	1.1
Methylene Chloride	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	4.4	61.0
n-Butane	µg/L	6.64	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Isobutane	µg/L	2.10	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Benzene	µg/L	2.10	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
p-Fluorotoluene	µg/L	1.10	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1,3,5-Trinitrobenzene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
2-Chlorotoluene	µg/L	67.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
2,4-Dimethylbenzene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Styrene	µg/L	3.4	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
m-Xylene	µg/L	61.20	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
p-Propylbenzene	µg/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Methyl tert-butyl ether	µg/L	67.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
sum of hydrocarbons	µg/L	267	276	467	673	86	77	273	159	155	179
Methane	µg/L	180	660	36	900	309	40	106	20	110	110
non-Peak	µg/L	2.4	7	7.2	7.4	49	169	3	12.3	14	34.4
Sulfate	µg/L	59	75	1.1	1.1	1.1	1.1	1.1	1.1	1.1	77.4
Nitrate/Nitrogen	µg/L	1.3	<0.130	1.26	0.149	0.160	1.29	0.06	0.13	1.1	1.20
Total Organic Carbon	mg/L	6.7	9.39	5.3	11	15.5	9.1	2	299	1	2.1

Table 1. Phocircraks Anaerobic Pilot Analytical Summary

Well	Date	Days	DMP--									
			9/1/2000	10/1/2000	2/20/2001	4/27/2001	7/11/2001	9/20/2002	4/2/2002	9/26/2002	10/2/2002	1/13/2003
Tetrachloroethene	ug/L	<0.40	<0.080	<0.080	<0.11	<2.0	<1.2	<0.48	<0.55	<0.11	4.31	<19.0
Trichloroethene	ug/L	41.35	<1.70	<0.17	<0.20	<1.7	<0.32	<0.32	<0.3	<0.36	<2.3	<10.5
cis-1,2-Dichloroethene	ug/L	<0.95	<1.30	<0.19	<0.30	<1.4	<1.8	<0.42	<1.2	<0.24	<2.1	<8.80
trans-1,2-Dichloroethene	ug/L	<1.25	<2.70	<0.27	3.4	<1.4	<2.8	<0.40	<1.55	1.9	<2.3	<14.0
Vinyl Chloride	ug/L	<1.75	<3.50	<0.35	2.0	<0.70	<8.5	<1.20	<1.15	5.4	<25.5	<11.0
Ethene	ug/L	250	300	220	90	65	2.80	3.80	2.40	1.40	80	170
Acetylene	ug/L						<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,1,1-Trichloroethane	ug/L	76.2	1.30	<0.21	1.7	18.4	<1.4	<0.44	<1.3	<0.26	<17.5	<13.0
1,1,1,1-Tetrafluoroethane	ug/L	10.7	20.1	<0.14	90	30.0	5.3	38.6	38.7	78.2	<21.5	32.5
1,2-Dichloroethane	ug/L	<0.30	<1.30	<0.3	3.7	<1.7	<1.1	<0.46	<1.7	0.3	<1.15	<8.50
1,1-Dichloroethene	ug/L	<0.95	<2.10	<0.2	<0.3	11.4	<8.2	31.6	<1.25	<0.27	<31.5	<11.5
Chloroethane	ug/L	120	25.0	1.00	85.0	2680	1200	1206	13.30	<2.0	35.0	540
Ethane	ug/L	96	96	32	40	96	2.4	<1.3	2.7	1	2.5	4.4
Acetone	ug/L	<0.45	<1.30	<1.40		<1.44	<2.3	<0.24	<0.35	<0.15	280	<0.5
Methylene Chloride	ug/L	22.5	0.6	1.1	9.3	20.3	3.4	2.2	22.2	26.9	<1.4	1.3
2-Butanone	ug/L	35.1	<0.2	1.02	<2.5	<6.27	<1.02	<3.0	<1.3	3.5	<0.25	<0.3
1-Butene	ug/L		7.2	1.1	3	1.4	1.1	10.2	7.1	9.2	<1.0	<2.00
1-Butene	ug/L	<0.70	<0.40	<0.14	<0.00	13.5	8.7	<0.571	1.05	<1.0	<0.0	<10.0
p-Toluenolene	ug/L	1.7	2.30	9.24	1	2.2	2.4	29.48	10.9	2.3	3.1	17.50
1,2,3-Trimethylbenzene	ug/L	9.2	1.20	1.8	1.4	4.1	<1.2	3.7	3.05	2.9	<28.5	<8.20
2-Toluolene	ug/L	94.5	44.2	17.1	1.1	11.4	34.2	40.2	21.1	27.2	<1.0	<12.00
2,4-Dimethylbenzene	ug/L	8.3	15.9	7.5	10.22	1.2	10.0	3.8	8.1	1.4	<3.0	<12.00
Naphthalene	ug/L	4.3	<2.70	<0.27	1.1	34.1	<1.7	<0.20	<1.27	1.1	<4.7	<20.0
o-Xylene	ug/L	4.3	0.80	0.38	2.1	6.7	1.8	3.0	<1.25	2.6	<1.5	<0.00
m-Propylbenzene	ug/L	14.2	1.30	0.14	9.27	1.1	11.4	30.42	10.30	<0.5	<1.1	<0.00
Methyl Tertiary Ether	ug/L	1.25	1.4	<0.15	<0.28	26.80	27.0	20.58	10.90	0.78	<1.0	<2.00
sum C10-C15 n-alkanes	ug/L	20.00	25.3	<0.31	5.03	270	29.7	3.8	1.0	<0.7	3.0	3.5
Methane	ug/L	30	270	90	8.4	1	250	240	2400	3000	21500	22300
Iron Total	ug/L	80.2	9.2	32.5	87.4	12.3	3	29.1	44.7	13.4	36.3	<2.1
Sulfate	mg/L	1.3	1.1	8.5	1.09	3.23	4.6	1.76	1.89	2.8	3.77	2.22
Sulfate-Nitrogen	mg/L		0.22	0.3	1.2	0.415	0.7	0.83	0.025	0.025	<0.15	0.18
Total Organic Carbon	mg/L	41.7	67.4	90.9	84.1	35.7	11	11.7	3.1	13.3	30.1	49.6

Well	Date	Days	DMP--									
			9/1/2003	12/1/2003	3/13/2004	4/27/2004	6/27/2004	7/27/2004	9/20/2004	11/20/2004	1/20/2005	4/20/2005
Tetrachloroethene	ug/L	1.80	1.9	1.1	1	2	2	1.1	1.1	1.1	0.9	2.0
Trichloroethene	ug/L	62.05	1.1	1.0	1.3	1.3	0.2	0.3	0.1	0.1	0.1	2.0
cis-1,2-Dichloroethene	ug/L	1.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
trans-1,2-Dichloroethene	ug/L	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
Vinyl Chloride	ug/L	2.9	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
Ethene	ug/L	47	2.1	8	74	37	90	50	3	22	1.1	1.1
Acetylene	ug/L											
1,1,1-Trichloroethane	ug/L	2.20	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
1,1,1,1-Tetrafluoroethane	ug/L	2.20	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
1,2-Dichloroethane	ug/L	1.70	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
1,1-Dichloroethene	ug/L	1.90	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
Methane	ug/L	750	1.0	300	600	200	1.1	700	400	700	1000	400
Ethane	ug/L	2.0	1.1	1.1	1.8	1.1	1.1	1.1	1.1	1.1	1.1	2.1
Acetone	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
Methylene Chloride	ug/L	0.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
2-Butanone	ug/L	0.4	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
1-Butene	ug/L	0.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
1-Butene	ug/L	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
p-Toluenolene	ug/L	0.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
1,2,3-Trimethylbenzene	ug/L	0.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
2-Toluolene	ug/L	0.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
2,4-Dimethylbenzene	ug/L	0.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
Naphthalene	ug/L	0.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
o-Xylene	ug/L	1.30	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
m-Propylbenzene	ug/L	1.4	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
Methyl Tertiary Ether	ug/L	1.33	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
sum C10-C15 n-alkanes	ug/L	0.9	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
Methane	ug/L	1.8	2000	8000	1000	1000	1000	1000	1000	1000	1000	1000
Iron Total	ug/L	94	60	127	15.4	16.4	54.2	70.0	100	100	100	100
Sulfate	mg/L	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.1
Sulfate-Nitrogen	mg/L	1.7	0.08	0.15	12.3	10.655	0.0528	0.0764	0.13	0.08	0.48	0.18
Total Organic Carbon	mg/L	2.85	10.27	36.3	12	69.7	7.1	10	10	10	10	10

Table 1. Photocircuits Amersibc Pilot Analytical Summary

Well	Date	MW-3								
		9/28/2001	7/12/2001	7/8/2002	4/9/2002	6/26/2002	7/23/2002	1/15/2003	4/28/2003	6/5/2003
Days		0	54	104	276	363	392	553	761	863
Tetrachloroethene	ug/L	<0.11	<0.20	<0.12	<0.24	<0.22	<0.11	<0.62	<0.76	<0.58
Trichloroethene	ug/L	<0.11	<0.17	<0.12	<0.16	<0.72	<0.36	<0.46	<0.91	<0.22
cis-1,2-Dichloroethene	ug/L	<0.36	1.2	<0.18	<0.21	<0.48	<0.24	<0.42	<0.99	15.4
trans-1,2-Dichloroethene	ug/L	<0.22	<0.14	<0.28	<0.20	<0.62	<0.24	<0.46	<0.44	<0.22
Vinyl Chloride	ug/L	<0.25	<0.070	<0.85	<0.70	<0.46	<1.3	<0.51	<0.56	<0.28
Ethene	ug/L	<0.6	<0.6	<1.3	<1.3	<1.2	<1.2	<1.6	<1.2	<1.1
Acetylene	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.26	<0.2	<0.2	<0.2
1,1,1-Trichloroethane	ug/L	<0.20	<0.16	<0.14	<0.22	<0.52	<0.3	<0.33	<0.44	<0.22
1,1-Dichloroethane	ug/L	<0.14	<0.12	<0.15	<0.15	<0.60	<0.3	<0.43	<0.44	<0.22
1,2-Dichloroethane	ug/L	<0.26	<0.17	<0.16	<0.23	<0.46	<0.23	<0.21	<0.24	<0.17
1,1-Dibromoethene	ug/L	<0.18	<0.14	<0.22	<0.40	<0.54	<0.27	<0.33	<0.46	<0.22
Chloroethane	ug/L	<0.30	<0.18	<0.67	<0.31	<0.48	<1.7	<0.47	<0.48	<0.44
Ethane	ug/L	<0.6	<0.6	<1.2	<1.3	<1.3	<1.3	<1.7	<1.2	<0.3
Acetone	ug/L	<1.48	<0.44	<2.3	<1.2	<2.26	<1.3	<1.3	<2.42	<1.41
Methylene Chloride	ug/L	<0.41	<0.15	<0.27	<0.24	<0.42	<0.21	<0.35	<0.30	<0.15
2-Butanone	ug/L	<1.4	<0.25	<1.72	<0.9	<1.3	<1.3	<1.5	<3.28	<1.34
Toluene	ug/L	<0.17	<0.11	<0.13	<0.14	<0.36	<0.2	<0.3	<0.46	<0.23
Benzene	ug/L	<0.10	<0.1	<0.1	<0.1	<0.42	<0.27	<0.4	<0.47	<0.11
p-Toluidinone	ug/L	<0.11	<0.22	<0.24	<0.24	<0.32	<0.3	<0.32	<0.46	<0.13
1,2,3-Trimethylbenzene	ug/L	<0.34	<0.11	<0.12	<0.20	<0.46	<0.2	<0.27	<0.34	<0.17
2-Chlorotoluene	ug/L	<0.21	<0.15	<0.27	<0.27	<0.30	<0.25	<0.35	<0.4	<0.15
4-Chlorotoluene	ug/L	<0.22	<0.22	<0.11	<0.26	<0.34	<0.17	<0.48	<0.40	<0.15
Naphthalene	ug/L	<0.19	<0.4	<0.27	<0.4	<0.58	<0.29	<0.74	<0.81	<0.40
m-Xylene	ug/L	<0.16	<0.13	<0.3	<0.21	<0.54	<0.27	<0.3	<0.23	<0.12
n-Propylbenzene	ug/L	<0.21	<0.13	<0.4	<0.1	<0.52	<0.3	<0.3	<0.31	<0.13
Methyl tert-butyl ether	ug/L	<0.20	<0.08	<0.3	<0.14	<0.46	<0.13	<0.13	<0.13	<0.13
Sum 50 Volatiles	ug/L	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3
Methane	ug/L	<0.6	<0.6	<1.2	<1.3	<1.3	<1.3	<1.7	<1.2	<0.3
Iron Total	mg/L	0.023	0.088	<0.096	<0.096	0.011	0.023	0.060	0.06	0.066
Sulfate	mg/L	22.6	23.4	23.4	23.2	43	46	32.4	28	33.4
Nitrate-Nitrogen	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Organic Carbon	mg/L	4.37	0.64	0.64	0.41	0.3	0.7	0.4	0.2	0.26

Well	Date	MW-3								
		7/20/2003	6/19/2004	7/22/2004	6/17/2004	2/19/2004	2/26/2003	1/17/2003	4/12/2003	1/12/03
Days		693	1084	1111	1290	1360	874	1050	1307	1333
Tetrachloroethene	ug/L	<0.2	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Trichloroethene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
cis-1,2-Dichloroethene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
trans-1,2-Dichloroethene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Vinyl Chloride	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Ethene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Acetylene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,1,1-Trichloroethane	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,1-Dichloroethane	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dichloroethane	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Chloroethane	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Ethane	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Acetone	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Methylene Chloride	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
2-Butanone	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Toluene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Benzene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
p-Toluidinone	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2,3-Trimethylbenzene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
2-Chlorotoluene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
4-Chlorotoluene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
2,4-Dimethylbenzene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Naphthalene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
m-Xylene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
n-Propylbenzene	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Methyl tert-butyl ether	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Sum 50 Volatiles	ug/L	<0.2	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Methane	ug/L	<0.1	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Iron Total	mg/L	0.031	0.037	0.031	0.030	0.032	0.021	0.03	0.03	0.036
Sulfate	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nitrate-Nitrogen	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Organic Carbon	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	MW-9	MW-10						MW-11				
		1/29/2001	5/12/2001	1/9/2002	1/14/2002	6/22/2004	1/22/2002	1-14/2003	9/22/2004	1/22/2002	7/14/2003	6/22/2004
Date												
Days		0	314	494	657	1182	0	357	882	0	357	525
Tetrachloroethene	ug/L	<0.11	<0.20	<0.24	<0.62	<1.0	2.3	<0.62	2.8	<0.12	<0.62	<1.0
Trichloroethene	ug/L	<0.20	<0.17	<0.76	<0.46	<1.0	9.7	4.7	5.1	<0.17	<1.0	2.3
cis-1,2-Dichloroethene	ug/L	<0.30	<0.14	<0.21	<0.42	<1.0	231	244	190	<0.18	18.1	4.4
trans-1,2-Dichloroethene	ug/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	ug/L	<0.27	<0.070	<0.10	<0.21	<1.0	2.7	<0.21	<1.0	<0.65	<0.51	<1.0
Ethene	ug/L	n	n									
Acetylene	ug/L											
1,1,1-Trichloroethane	ug/L	<0.20	<0.16	<0.22	<0.35	<1.0	<0.22	<0.25	<1.0	<0.14	<0.35	<1.0
1,1-Dichloroethane	ug/L	26.4	<0.12	<0.22	<0.43	<1.0	206	190	<0.30	<0.25	n	<1.0
1,2-Dichloroethane	ug/L	<0.20	<0.13	<0.21	<0.22	<1.0	3	3.4	2	<0.10	<0.23	<1.0
1,1-Dichloroethene	ug/L	<0.38	<0.14	<0.30	<0.61	<1.0	80.3	40.8	70	<0.25	<0.63	<1.0
Chloroethane	ug/L	<0.3	<0.18	<0.61	<0.49	<1.0	<0.49	15.5	15	<0.67	<0.49	<1.0
Bibenzene	ug/L	n	n									
Acetone	ug/L	<1.48	<1.44	<1.12	<1.17	<1.0	<0.12	<11.0	0	<2.0	<1.0	<1.0
Methylene Chloride	ug/L	<0.41	<0.18	<0.54	<0.63	<1.0	<0.34	<0.63	4	<0.37	<0.63	<1.0
2-Butanone	ug/L	<2.7	<1.25	<1.3	<1.6	<1.0	<1.0	<1.5	n	<1.2	<1.0	<1.0
Toluene	ug/L	<0.2	<0.14	<0.4	<0.68	<1.0	<0.4	<0.28	<1.0	<0.4	<0.28	<1.0
Benzene	ug/L	<1.1	<0.74	<1.1	<0.8	<1.0	<0.75	<1.1	<1.0	<1.7	<1.1	<1.0
p-cymenylene	ug/L	<0.16	<0.12	<0.14	<0.62	<1.0	<0.14	<0.62	<1.0	<0.14	<0.62	<1.0
m-cymenylene	ug/L	<0.24	<0.11	<0.20	<0.57	<1.0	<0.20	<0.57	<1.0	<0.11	<0.27	<1.0
1-Chlorobenzene	ug/L	<0.2	<0.15	<0.17	<0.38	<1.0	<0.27	<0.38	<1.0	<0.2	<0.38	<1.0
o-Chlorobenzene	ug/L							<1.0				
1,2,4-Trichlorobenzene	ug/L	<0.22	<0.22	<0.7	<0.16	<1.0	<0.7	<0.86	<1.0	<0.33	<0.80	<1.0
Napthalene	ug/L	<0.19	<0.41	<0.4	<0.94	<1.0	<0.14	<1.0	<1.0	<0.37	<0.94	<1.0
n-Nonane	ug/L	<1.1	<0.11	<0.20	<0.33	<1.0	<0.20	<0.33	<1.0	<0.11	<0.20	<1.0
m-Propylbenzene	ug/L	<0.27	<0.11	<0.27	<0.6	<1.0	<0.21	<0.6	<1.0	<0.11	<0.6	<1.0
Methyl-tert-butyl Ether	ug/L	<0.24	<0.80	<0.14	<0.25	<1.0	<0.14	<0.24	<1.0	<0.11	<0.25	<1.0
Sum of 13 n-Paraffins	ug/L	11	<1.0	<1.0	<1.0	<1.0	904	108.4	254.0	<1.0	14.4	<1.0
Methane	ug/L	300	140									
Iron Total	ug/L	<0.4	<1.1									
Sulfate	mg/L	<1.0	<1.1									
Sulfate-Sulfate	mg/L	<1.1	<1.1									
Total Organic Carbon	ug/L	<1.0	<1.0									

Table 1. Phocetrants Anaerobic Pilot Analytical Summary

Well	MW-12	Date									
		3/24/2001	3/12/2001	3/9/2002	4/3/2002	6/26/2002	10/3/2002	1/15/2003	4/28/2003	6/5/2003	
Days		0	106	287	371	455	554	658	761	860	
Tetrachloroethene	ug/L	<0.11	<0.20	<0.24	<0.3	<0.3	<0.55	<0.82	<0.76	<0.53	
Dichloroethene	ug/L	132	9.93	16.2	31	67.8	82.5	48.7	1.94	58.3	
cis-1,2-Dichloroethene	ug/L	<0.280	18.2	4.80	803	467	488	31.1	369	22.3	
trans-1,2-Dichloroethene	ug/L	7.3	<0.14	5.6	<2.0	<2.1	<1.55	<0.36	3.44	1.70	
Vinyl Chloride	ug/L	244	5.7	298	333	151	83.1	48.8	75.1	29.7	
Ethene	ug/L	<0.7	<0.9	<1.80	1.90	1.90	7	<1.3	1.6	1.7	
Acetylene	ug/L				<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	
1,1,1-Trichloroethane	ug/L	<0.20	<0.13	<0.22	<2.2	2.1	<1.3	<0.58	<0.44	<0.22	
1,1-Dichloroethane	ug/L	71.2	1.7	<0.29	884	335	84.2	38.3	1.83	<0.7	
1,2-Dichloroethane	ug/L	2.9	<0.13	1.4	<2.3	2.1	<1.15	<0.23	<0.34	<0.17	
1,1,1-Trichloroethene	ug/L	3.4	<0.14	1.3	<2.3	2.1	<1.15	<0.23	<0.34	<0.17	
Chloroethane	ug/L	<0.26	<0.13	0.6	<0.1	<2.4	1.2	<0.48	<0.38	0.91	
Fluorene	ug/L	<0.6	0.3	0.22	0.1	0.38	0.8	<0.3	2.9	4.3	
Acetone	ug/L	<1.48	<1.14	<1.12	<1.2	1.3	<1.8	<1.7	1.62	<1.1	
Methylcyclohexane	ug/L	<0.41	<0.3	<0.34	<0.4	<0.4	<0.5	<0.5	<0.5	<0.5	
2-Butanone	ug/L	2.8	<0.23	0.1	0.5	0.9	1.1	1.0	0.23	0.4	
Toluene	ug/L	<0.7	<0.4	0.1	0.4	0.7	<0.9	<0.9	0.41	<0.20	
Benzene	ug/L	5.3	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	
o-Dichlorobenzene	ug/L	<0.26	<0.22	<0.24	<0.4	0.1	<0.8	<0.32	<0.30	<0.18	
m,p-Dichlorobenzene	ug/L	<0.24	<0.1	<0.20	<0.2	0.1	<0.2	<0.2	0.14	<0.17	
2-Chlorotoluene	ug/L	70.3	26.3	26.9	361	1946	884	33	45	2.5	
o-Chlorotoluene	ug/L	14.7	0.7	82.8	70	147	17	<0.5	0.5	0.46	
1,2,4-Trichlorobenzene	ug/L	<0.22	<0.22	<0.17	<0.7	0.7	<1.02	<0.6	0.1	0.5	
Naphthalene	ug/L	<0.1	0.41	<0.14	0.1	0.1	<0.15	<0.14	0.49	<0.10	
n-Valene	ug/L	<0.1	<0.16	0.13	<0.1	0.1	0.1	0.1	0.24	<0.1	
o-Dibromobenzene	ug/L	<0.1	<0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Methylcyclohexane	ug/L	0.28	<0.26	0.14	<0.1	0.1	<0.1	<0.1	0.1	<0.1	
Sum of 13 Aromatics	ug/L	118	34	88.8	96	111	36.1	11	344	119	
Methane	ug/L	420	136.6	2170	670	1470	319	13	220	750	
Iron Sulfide	ug/L	7.26	33.1	65.1	134	46.7	67	12	42	27.9	
Sulfate	ug/L	41.7	42.0	41.8	40	390	407	2.0	2.0	440	
Sulfate:Iron ratio	ug/L	<0.178	1.27	0.608	0.3	1.12	0.17	<0.025	0.1	0.1	
Total Organic Carbon	ug/L	0.22	0.6	0.94	1.1	0.83	2.3	4.3	10.1	16.3	

Well	MW-12	Date									
		2/19/2001	2/16/2001	2/22/2001	2/23/2001	2/27/2001	3/3/2001	3/10/01	3/16/01	3/22/01	
Days		0	384	42	27	81	87	236	217	232	
Tetrahydrofuran	ug/L	<0.1	<0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Diethyl sulfide	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
gas-Dibromochloroethene	ug/L	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
trans-1,2-Dichloroethene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Vinyl Chloride	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Ethene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Acetylene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
1,1,1-Trichloroethane	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
1,1-Dichloroethane	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
1,2-Dichloroethane	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
1,1,1-Trichloroethene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Chloroethane	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Acetone	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Methylcyclohexane	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
2-Butanone	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Toluene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Benzene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
o-Dibromobenzene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
m,p-Dibromobenzene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
2-Chlorotoluene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
o-Chlorotoluene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
1,2,4-Trichlorobenzene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
n-Valene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
4-Bromotoluene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
2,4-Dinitrochlorobenzene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Naphthalene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
n-Valene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
1,2-Dibromobenzene	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Methylcyclohexane	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Sum of 13 Aromatics	ug/L	2.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Methane	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Iron Sulfide	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Sulfate	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Sulfate:Iron ratio	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Total Organic Carbon	ug/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	

Table 1. Photocredits Anaerobic P100 Analytical Summary

Date Days	MW-13									
	9/28/2001	7/12/2001	3/10/2002	4/3/2002	5/29/2002	10/3/2002	1-14/2003	4/29/2003	9/5/2003	
Tetrachloroethene	ug/L	87.9	120	216	227	18.2	80.5	69	13	
Trichloroethene	ug/L	45.9	114	216	142	13.6	57.2	59.8	12.1	
cis-1,2-Dichloroethene	ug/L	784	397	1950	988	99.6	501	697	135	
trans-1,2-Dichloroethene	ug/L	3.6	4.7	11.9	3.0	60.91	3.9	60.46	60.44	
Vinyl Chloride	ug/L	98.6	58.6	112	74	4.6	26.2	16.3	2.60	
Ethene	ug/L	60	66	1.6	11.3	1.1	<1.2	61.3	4.5	
Acetylene	ug/L			<1.2	<1.2	<1.2	<1.2	61.2	61.2	
1,1,1-Trichloroethane	ug/L	46	36.7	22.2	19.7	1.2	4.2	1.1	0.44	
1,1-Dichloroethane	ug/L	52.9	51	176	695	17	96.4	18.1	4.85	
1,2-Dichloroethane	ug/L	1.9	2.1	2.3	67.21	69.21	61.21	61.21	61.21	
1,1-Dibromoethene	ug/L	60.6	60.4	75.5	43.6	58	63.3	60.5	61.46	
Chloroethane	ug/L	60.60	60.18	60.61	60.61	60.24	60.24	60.40	60.48	
Ethane	ug/L	3.8	6.7	2.6	8.7	2.7	1.3	61.3	61.3	
Acetone	ug/L	1.48	61.44	18.7	52.22	61.13	61.13	61.13	22.4	
Methylene Chloride	ug/L	60.41	60.13	60.54	60.54	60.21	60.21	60.57	60.57	
1,1-Dimethane	ug/L	1.27	61.25	1.1	65	6.4	6.3	6.3	3.28	
Benzene	ug/L	11.7	61.4	61.4	61.4	61.20	61.20	61.38	61.40	
Acetylene	ug/L	1.1	1.1	1.1	6.7	61.21	1.1	1.1	61.21	
p,p'-DDE	ug/L	61.16	61.21	61.14	61.24	61.16	61.16	61.62	61.16	
o,p'-DDE	ug/L	60.34	61.1	61.31	61.21	61.20	61.1	61.61	61.34	
p,p'-DDE	ug/L	61.2	61.2	61.4	61.3	61.3	61.2	61.6	61.34	
1,2,4-Trinitrobenzene	ug/L	61.22	61.22	61.7	61.17	61.17	61.17	61.60	61.30	
Nitrobenzene	ug/L	61.29	61.47	61.51	61.43	61.29	61.29	61.64	61.46	
o-xylene	ug/L	61.36	61.36	61.20	61.21	61.25	61.25	61.33	61.24	
m-xylene	ug/L	61.21	61.31	61.21	61.21	61.25	61.26	61.62	61.71	
Methyl tert-butyl ether	ug/L	61.28	61.33	61.33	61.34	61.31	61.31	61.33	61.31	
sum 3,4,5-trinitrobenz	ug/L	61.67	61.67	61.16	61.16	61.24	61.2	61.51	61.51	
Methane	ug/L	1.2	1.2	61.10	61.10	61.10	61.10	61.40	61.40	
Iron, Total	ug/L	61.4	61.48	61.4	61.4	61.27	61.4	61.4	61.4	
Sulfate	ug/L	61.7	61.76	61.48	61.46	61.27	61.7	61.7	61.7	
Sulfate-Nitrogen	ug/L	61.18	61.68	61.44	61.44	61.3	61.2	61.7	61.7	
total Organic Carbon	ug/L	61.2	61.1	61.14	61.1	61.2	61.1	61.4	61.1	

Date Days	MW-13									
	2/17/2003	1/16/2004	6/22/2004	1/27/2004	20/4/2004	7/20/2003	7/10/00	4/2/2007	6/7/2007	
Tetrachloroethene	ug/L	77.9	580	410	68	63	59	79	59	
Trichloroethene	ug/L	53.6	418	30	68	29	106	73.6	69.6	
cis-1,2-Dichloroethene	ug/L	2943	660	660	68	72	20	363	21	
trans-1,2-Dichloroethene	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Vinyl Chloride	ug/L	600	6	29	18	19	4	21	40	
Ethene	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	4.5	
Acetylene	ug/L	1.1	61.2	1.2	1.2	1.2	1.2	1.2	1.2	
1,1,1-Trichloroethane	ug/L	61.7	21	61.16	61.16	61.16	61.16	61.16	61.16	
1,1-Dichloroethane	ug/L	77.9	796	449	67	67	846	676	676	
1,2-Dichloroethane	ug/L	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.1	
1,1-Dibromoethene	ug/L	219	79	129	19	19	19	19	19	
Chloroethane	ug/L	1.1	1.19	1.19	2.1	1.1	2.1	1.1	1.1	
Ethane	ug/L	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
Acetone	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Methylene Chloride	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
1,1-Dimethane	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Benzene	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
p,p'-DDE	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
o,p'-DDE	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
p,p'-DDE	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
1,2,4-Trinitrobenzene	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Nitrobenzene	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
o-xylene	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
m-xylene	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Methyl tert-butyl ether	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
sum 3,4,5-trinitrobenz	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Methane	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Iron, Total	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Sulfate	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Sulfate-Nitrogen	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
total Organic Carbon	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	

Table 1. Photocircuits Anaerobic Pilot Analytical Summary

Well	Date	RW-1								
		12/17/2003	3/15/2004	6/23/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	4/9/2007	9/7/2007
Days		39	49	89	125	163	58	1,256	1,263	1,329
Tetrachloroethene	µg/L	130	130	11	170	1100	430	310	860	960
Trichloroethene	µg/L	240	450	15	190	1900	2800	210	11000	16000
cis-1,2-Dichloroethene	µg/L	2800	770	22	190	18000	6390	220	9460	10640
trans-1,2-Dichloroethene	µg/L	12	4.2	<1.0	<1.0	<1.0	<25	<25	620	51
Vinyl Chloride	µg/L	280	100	1.5	28	960	220	<25	850	570
1,1,1-Trichloroethane	µg/L	28	18	<1.0	1.1	310	74	<25	130	100
1,1-Dichloroethane	µg/L	73	36	<1.0	14	620	450	<25	680	350
1,2-Dichloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<25	<20	<10
1,1,0-Trichloroethene	µg/L	98	21	3.3	19	430	<25	<25	290	160
1,1,0-Dichloroethane	µg/L	1	3.1	<1.0	17.1	90	<25	<25	40	50
Acetone	µg/L	<1.0	<1.0	<1.0	1.0	<1.0	<25	<25	60	60
Methylene Chloride	µg/L	<1.0	6.4	1.1	<1.0	5	280	600	190	<10
2-Butanone	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<25	660	680
Toluene	µg/L	96	46	2.9	1.3	490	25	<15	14	14
Benzene	µg/L	1	1	<1.0	<1.0	21	<25	<25	20	10
m-Dichlorobenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
p-Dichlorobenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
1,2,4-Trimethylbenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
1,2,4,6-Tetramethylbenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
1,2,3,6-Tetramethylbenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
1,2,3,5-Tetramethylbenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
1,2,3,4-Tetramethylbenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
1,2,3,4,6-Pentamethylbenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
1,2,3,4,5-Pentamethylbenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
1,2,3,4,5,6-Hexamethylbenzene	µg/L	1	1	<1.0	<1.0	<1.0	<25	<25	<20	<10
Sum of 13 Aromatics	µg/L	6600	650	85	87	4,150	1870	440	14000	15700

Well	Date	RW-2								
		12/17/2003	3/15/2004	6/22/2004	12/14/2004	7/20/2005	11/7/2006	4/9/2007	9/7/2007	
Days		39	80	108	143	181	1,256	1,263	1,329	
Tetrachloroethene	µg/L	1	80	22	10	15	20	14	80	
Trichloroethene	µg/L	40	900	29	140	30	240	100	940	
cis-1,2-Dichloroethene	µg/L	710	700	660	1.0	740	18	170	274	
trans-1,2-Dichloroethene	µg/L	4.4	1	1	<1.0	680	50	10	4	
Vinyl Chloride	µg/L	82	87	140	670	39	140	90	80	
1,1,1-Trichloroethane	µg/L	1	1	1	1	1	1	1	1	
1,1-Dichloroethane	µg/L	30	30	34	90	98	40	86	90	
1,2-Dichloroethane	µg/L	1	1	1	1	1	1	1	1	
1,1,0-Trichloroethene	µg/L	1.2	20	30	40	5	1	8.8	90	
1,1,0-Dichloroethane	µg/L	1	<1.0	1	1	1	1	1	1	
Acetone	µg/L	1	1	1	1	1	1	1	1	
Methylene Chloride	µg/L	1	1	1	1	34	180	43	13	
2-Butanone	µg/L	1	1	1	1	1	1	1	1	
Toluene	µg/L	1	1	1	1	1	1	1	1	
Benzene	µg/L	1	1	1	1	1	1	1	1	
m-Dichlorobenzene	µg/L	1	1	1	1	1	1	1	1	
p-Dichlorobenzene	µg/L	1	1	1	1	1	1	1	1	
1,2,4-Trimethylbenzene	µg/L	1	1	1	1	1	1	1	1	
1,2,4,6-Tetramethylbenzene	µg/L	1	1	1	1	1	1	1	1	
1,2,3,6-Tetramethylbenzene	µg/L	1	1	1	1	1	1	1	1	
1,2,3,5-Tetramethylbenzene	µg/L	1	1	1	1	1	1	1	1	
1,2,3,4-Tetramethylbenzene	µg/L	1	1	1	1	1	1	1	1	
1,2,3,4,6-Pentamethylbenzene	µg/L	1	1	1	1	1	1	1	1	
1,2,3,4,5-Pentamethylbenzene	µg/L	1	1	1	1	1	1	1	1	
1,2,3,4,5,6-Hexamethylbenzene	µg/L	1	1	1	1	1	1	1	1	
Sum of 13 Aromatics	µg/L	6600	150	174	202	1281	1820	143	4098	



Table 1. Photocircuits Ambient P80 Analytical Summary

Well	RW-3									
	Date	12/17/2003	9/17/2004	9/22/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	4/3/2007	8/7/2007
Days	0	91	188	285	363	581	1,056	1,203	1,329	
Tetrachloroethene	µg/L	57	25	14	16	100	73	56	10	30
Trichloroethene	µg/L	470	270	110	61	350	290	112	92	57
cis-1,2-Dichloroethene	µg/L	<1.0	290	140	95	600	610	110	290	74
trans-1,2-Dichloroethene	µg/L	4.5	2.1	<1.0	<1.0	<1.0	3.4	<1.0	<1.0	<1.0
Vinyl Chloride	µg/L	4.0	<1.0	1.2	<1.0	1.3	2.8	<1.0	0	<1.0
1,1,1-Trichloroethane	µg/L	<1.0	<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	13	30	1
1,2-Dichloroethane	µg/L	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
1,1-Dichloroethene	µg/L	1.8	1.3	1.0	1.0	1.4	1.0	1.0	1.0	1.0
Chloroethane	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Acetone	µg/L	17.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Methylene Chloride	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2-Butanone	µg/L	<1.0	<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	<1.0
Benzene	µg/L	1.0	<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	<1.0
m,p-Cresol/benzene	µg/L	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1-Chlorotoluene	µg/L	<1.0	<1.0	<1.0	<1.0	4.8	4	1.0	1.0	1.0
o-Chlorotoluene	µg/L	1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<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	<1.0
Methylacetone	µg/L	<1.0	<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	<1.0
m-Propylbenzene	µg/L	1.0	1.0	<1.0	1.0	1.0	1.0	1.0	1.0	1.0
Methyl Isobutyl Ether	µg/L	1.0	1.0	<1.0	1.0	1.0	1.0	1.0	1.0	1.0
Diethyl Ether	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Diethylmethoxyethane	µg/L	<1.0	1.0	<1.0	<1.0	1.0	1.0	1.0	1.0	1.0
sum of 13 VOCs (µg/L)	µg/L	227	127	189	18	1,214	29	297	144	72

Well	RW-4									
	Date	12/17/2003	9/15/2004	9/22/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	9/7/2007	
Days	0	89	88	203	262	581	1,056	1,203	1,329	
Tetrachloroethene	µg/L	11	22	1	13	9	12	11	20	
Trichloroethene	µg/L	17	120	69	65	90	98	290	190	
cis-1,2-Dichloroethene	µg/L	190	240	190	90	1,000	690	140	13	
trans-1,2-Dichloroethene	µg/L	1.4	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	
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	190	168	17	79	190	9	10	17.0	
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	1.0	1.0	1.0	1.0	1.0	
Chloroethane	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Acetone	µg/L	11.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Methylene Chloride	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
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	
m,p-Cresol/benzene	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
1-Chlorotoluene	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
o-Chlorotoluene	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
1,2,4-Triethylbenzene	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Methylacetone	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 Isobutyl Ether	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Diethyl Ether	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Diethylmethoxyethane	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
sum of 13 VOCs (µg/L)	µg/L	194	430	125	307	243	12	174	491	

Table 2. Photocircuits Anaerobic P10a Chlorinated Solvents in Micromolar Concentrations

Contaminant Date	Well	MW-14									
		8/31/2000	10/19/2000	12/30/2000	3/28/2001	7/11/2001	1/8/2002	1/14/2003	4/28/2003	8/5/2003	
Tetrachloroethene	µM	<0.0084	<0.0084	<0.0024	<0.033	<0.024	<0.014	<0.19	<0.023	<0.023	
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	3.3	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	36.8	
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	0.965	<0.011	4.6	7.4	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 Date	Well	MW-14									
		12/16/2003	3/16/2004	6/22/2004	9/27/2004	12/14/2004	7/29/2005	11/7/2006	4/2/2007	8/6/2007	
Tetrachloroethene	µM	0.024	0.031	0.015	<0.060	0.068	<0.1	<0.12	0.056	<0.12	
Trichloroethene	µM	0.044	0.069	0.063	<0.076	0.18	<0.15	<0.15	0.29	<0.15	
cis-1,2-Dichloroethene	µM	0.3	0.59	0.75	0.44	2.37	<0.21	<0.21	0.24	<0.21	
trans-1,2-Dichloroethene	µM	<0.010	0.017	0.026	<0.10	0.10	<0.21	<0.21	<0.10	<0.21	
Vinyl Chloride	µM	13.0	4.5	5.8	7.3	17.6	<0.32	<0.32	1.2	1.9	
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	7.3	9.0	21.0	7.2	4.7	9.0	13.3	
1,1-Dichloroethane	µM	61.6	67.7	78.8	71.2	141	79	25	44	45	
1,2-Dichloroethane	µM	0.40	0.29	0.25	<0.10	0.51	0.29	<0.20	<0.10	<0.20	
1,1-Dichloroethene	µM	3.46	3.20	2.89	2.70	3.41	1.14	<0.21	0.66	<0.21	
Chloroethane	µM	21.7	21.7	37.4	77.7	93.0	41.9	0.0	24.8	45.0	
Ethane	µM	0.47	0.37	0.20	0.47	0.47	0.24	<0.20	0.47		

Contaminant Date	Well	MW-7						
		8/31/2000	10/19/2000	12/30/2000	3/27/2001	7/11/2001	1/8/2002	
Tetrachloroethene	µM	<0.0024	<0.0024	<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	1.7	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	3.1	3.9	1.2	3.4	3.0	
Acetylene	µM						<0.046	
1,1,1-Trichloroethane	µM	<0.0041	<0.046	<0.0041	<0.020	0.0012	<0.010	
1,1-Dichloroethane	µM	1.2	2.2	2.7	1.4	2.1	1.9	
1,2-Dichloroethane	µM	<0.0081	<0.0058	<0.0081	<0.040	0.0012	0.057	
1,1-Dichloroethene	µM	<0.011	<0.0099	<0.011	<0.037	0.020	<0.021	
Chloroethane	µM	3.0	2.8	3.1	2.2	4.2	6.0	
Ethane	µM	<0.20	4.3	2.7	1.1	1.4	1.3	

Table 2. Photocircuits Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant Date	Well	SMP-1										
		8/31/2000	10/18/2000	12/29/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/25/2002	10/22/2002	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	0.56	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	<0.032	<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	<0.22	<0.52	<0.47	<0.19	0.38	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 Date	Well	SMP-1										
		8/28/2002	8/4/2003	12/19/2003	3/19/2004	6/21/2004	9/27/2004	12/13/2004	7/29/2005	11/6/2006	4/2/2007	8/6/2007
Tetrachloroethene	µM	<0.0046	<0.025	<0.0061	<0.0060	<0.0060	<0.012	<0.0060	<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	<0.0076	<0.0076	<0.0076
cis-1,2-Dichloroethene	µM	<0.0033	<0.017	0.056	<0.010	0.010	<0.021	<0.010	<0.010	<0.010	<0.010	0.042
trans-1,2-Dichloroethene	µM	<0.0045	<0.023	<0.010	<0.010	0.0093	<0.021	<0.010	<0.010	<0.010	<0.010	<0.010
Vinyl Chloride	µM	<0.0090	<0.045	0.64	<0.016	0.022	<0.032	<0.016	0.22	0.24	0.16	0.99
Ethene	µM	29	6.3	1.6	1.3	3.0	3.6	1.2	0.4	0.4	0.59	
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	0.00	0.70	6.6	2.7
1,1-Dichloroethane	µM	0.27	<0.022	1.42	0.37	0.37	0.84	1.5	6.3	11.1	3.3	8.4
1,2-Dichloroethane	µM	<0.0034	<0.017	<0.010	<0.010	<0.010	0.020	<0.010	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethene	µM	<0.0046	<0.024	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	0.066	0.099	0.076
Chloroethane	µM	3.7	4.0	10.3	4.2	38.6	17.3	11.3	11.3	15.7	4.2	10.3
Ethane	µM	<0.20	<0.080	<0.043	<0.043	<0.043	0.11	<0.043	<0.043	<0.043	<0.043	<0.043

Contaminant Date	Well	SMP-1										
		8/31/2000	10/18/2000	12/29/2000	3/27/2001	7/11/2001	1/8/2002	4/2/2002	6/25/2002	10/22/2002	1/13/2003	
Tetrachloroethene	µM	<0.0024	<0.0048	<0.0024	<0.033	<0.0060	<0.0036	<0.0037	<0.0066	<0.0066	<0.0066	
Trichloroethene	µM	<0.0065	<0.0018	<0.0065	<0.076	0.034	<0.0065	0.22	<0.0065	0.012	<0.018	
cis-1,2-Dichloroethene	µM	0.52	0.038	0.68	0.36	0.40	<0.0093	0.46	0.84	1.3	17	
trans-1,2-Dichloroethene	µM	0.014	<0.0028	0.014	0.31	<0.0071	0.014	0.346	0.029	0.043	<0.024	
Vinyl Chloride	µM	3.0	0.056	0.840	2.0	0.68	<0.0068	0.99	0.41	2.9	28	
Ethene	µM	76	36	33	38	3.6	3.3	3.7	3.3	3.4	30	
Acetylene	µM						<0.046	<0.046	<0.046	<0.046	<0.046	
1,1,1-Trichloroethane	µM	<0.0041	<0.0082	<0.0041	1.4	0.21	<0.0052	<0.0053	<0.0067	<0.0049	<0.0043	
1,1-Dichloroethane	µM	0.13	0.18	3.6	3.1	3.1	4.1	2.3	4.2	4.2	3.9	
1,2-Dichloroethane	µM	<0.0081	<0.0016	<0.0081	0.10	0.13	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	1.57	1.00	2.3	3.0	1.3	1.1	0.57	1.24	<0.038	
Ethane	µM	<0.30	<0.20	<0.30	0.30	0.30	0.027	<0.043	0.080	0.057	1.33	

Contaminant Date	Well	SMP-1										
		8/28/2002	8/4/2003	12/19/2003	3/19/2004	6/21/2004	9/27/2004	12/13/2004	7/29/2005	11/6/2006	4/2/2007	8/6/2007
Tetrachloroethene	µM	<0.0046	<0.011	<0.0061	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
Trichloroethene	µM	0.042	0.0080	0.0076	0.0076	<0.0076	<0.0076	0.076	0.017	0.017	0.016	<0.017
cis-1,2-Dichloroethene	µM	11.4	0.44	0.57	0.059	1.1	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
trans-1,2-Dichloroethene	µM	0.059	<0.011	0.64	0.025	0.025	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Vinyl Chloride	µM	6.3	1.2	4.2	0.27	3.0	0.086	0.0	0.40	1.42	1.40	0.21
Ethene	µM	32.1	1.4	3.3	3.4	1.3	3.6	3.9	0.30	0.47	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	0.01	0.38	50.2	1.4
1,1-Dichloroethane	µM	4.1	1.5	3.2	2.0	2.2	3.0	1.9	14.1	0.4	8.3	2.3
1,2-Dichloroethane	µM	<0.0024	0.0086	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020
1,1-Dichloroethene	µM	0.17	<0.012	<0.010	<0.010	0.038	<0.010	0.010	0.77	0.45	0.1	0.21
Chloroethane	µM	0.84	1.71	1.2	0.7	8.4	2.0	3.3	3.0	2.3	7.6	1.7
Ethane	µM	0.80	0.20	0.30	0.30	0.30	0.29	0.27	<0.043	<0.043	<0.043	

Table 2. Photocircuits Anaerobic Plot (Chlorinated Solvents in Micromolar Concentrations)

Contaminant	Well	SMP-3									
		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	<0.015	<0.013	<0.065	<0.14	<0.14	0.073	<0.025
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	<0.023	<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	1374	1762	244	253	98	109	57	60	42	43
1,1-Dichloroethane	µM	886	483	48	<0.051	178	80	207	98	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	<0.028	1.7	1.5	<0.15	1.2	3.3	3.2
Chloroethane	µM	<5.1	<5.1	<0.51	1.2	6.4	5.4	<2.1	5.5	7.0	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									
		4/26/2003	9/4/2003	12/10/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/29/2005	10/6/2006	4/2/2007
Tetrachloroethene	µM	<0.023	<0.023	<0.060	0.035	0.078	<0.060	0.014	<0.12	<0.060	<0.00
Trichloroethene	µM	<0.016	0.016	<0.076	0.018	0.024	<0.076	<0.076	<0.15	0.076	<0.76
cis-1,2-Dichloroethene	µM	<0.017	<0.017	0.026	0.019	0.037	<0.10	<0.10	<0.21	<0.10	<1.0
trans-1,2-Dichloroethene	µM	<0.023	<0.023	<0.010	<0.010	<0.010	<0.10	<0.10	<0.21	<0.10	<1.0
Vinyl Chloride	µM	1.2	0.37	3.9	3.8	5.4	4.6	1.9	5.0	0.82	<0.22
Ethene	µM	3.4	5.0	3.3	3.8	7.8	0.86	2.8	2.8	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	3.2	9.0	4.6	382.3	6.9	51.7
1,1-Dichloroethane	µM	80	147	92	77	72	1.3	131	200	59	17.4
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	0.05	7.84	1.2	0.97
Chloroethane	µM	18.9	144	71	26.4	88.4	39	37	29	1.7	0.76
Ethane	µM	0.25	0.28	0.31	0.27	0.21	<0.043	0.15	0.21	<0.043	0.19

Contaminant	Well	SMP-3									
		4/26/2003	10/19/2003	12/20/2003	3/27/2004	7/11/2004	1/8/2005	4/2/2005	6/25/2005	10/2/2005	1/13/2006
Tetrachloroethene	µM	<0.007	0.36	<0.024	<0.006	0.44	0.23	0.072	0.012	<0.006	<0.19
Trichloroethene	µM	<0.26	<0.10	<0.065	<0.015	0.067	<0.065	<0.061	<0.055	<0.020	<0.18
cis-1,2-Dichloroethene	µM	<0.39	<0.15	<0.098	<0.011	0.15	<0.093	0.77	<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	0.7	3.3	3	2.3	12.2	10.5	5.4	3.8	3.3	<0.41
Ethene	µM	15.4	0.5	0.7	10.4	17.3	12.9	7.9	22	19.3	35
Acetylene	µM						<0.046	<0.046	<0.046	<0.046	<0.046
1,1,1-Trichloroethane	µM	0.48	10.7	7.8	3.9	3.0	0.46	3.7	10	3.8	45
1,1-Dichloroethane	µM	53	49	42	77	52.8	22.8	38.1	24	46.2	109
1,2-Dichloroethane	µM	<0.32	<0.096	<0.031	<0.020	0.6	<0.081	<0.012	0.27	0.30	<0.12
1,1-Dichloroethene	µM	3.8	<0.15	<0.11	0.018	1.7	0.11	<0.15	0.17	0.058	<0.32
Chloroethane	µM	83	108	38	33	93	33	29	7	14	40
Ethane	µM	0.19	0.31	0.5	0.40	0.27	0.29	0.32	1.0	1.87	1.2

Contaminant	Well	SMP-3										
		4/26/2003	9/4/2003	12/10/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/29/2005	10/6/2006	4/2/2007	8/6/2007
Tetrachloroethene	µM	0.13	<0.17	<0.0060	0.17	0.041	<0.12	0.040	<0.29	0.007	<0.12	<0.00
Trichloroethene	µM	<0.012	<0.086	<0.0076	0.066	0.017	<0.15	0.017	<0.21	0.022	<0.15	<0.76
cis-1,2-Dichloroethene	µM	0.44	<0.053	<0.061	0.10	0.29	0.21	0.031	0.12	0.007	<0.21	<1.0
trans-1,2-Dichloroethene	µM	<0.045	<0.11	0.032	0.047	0.027	0.21	0.010	0.52	<0.016	<0.21	<1.9
Vinyl Chloride	µM	2.2	5.5	1.7	4.9	2.9	24.0	1.9	19.2	3.4	7.5	11.2
Ethene	µM	12.1	17.7	0.3	5.1	19.7	22.1	87.1	10.8	5.0	7.0	11.0
Acetylene	µM	<0.046	<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	1.0	0.05	75	29	82	303	30	48	125
1,1-Dichloroethane	µM	64.0	103.0	51.5	21	14	263	114	444	7	141	151
1,2-Dichloroethane	µM	<0.034	0.086	0.24	0.15	0.7	1.1	90	0.81	0.12	<0.51	0.7
1,1-Dichloroethene	µM	0.17	0.17	0.19	0.4	0.4	0.21	0.7	0.12	0.17	0.44	0.77
Chloroethane	µM	25	127	30	31	64	279	836	171	74	79	11.8
Ethane	µM	0.27	0.37	0.33	0.17	0.99	0.46	0.37	0.66	0.43	0.043	0.043

Table 2. Photocircuits Anaerobic Plot Chlorinated Solvents in Mikromolar Concentrations

Contaminant	Well	SMP-4									
		Date	9/1/2000	10/19/2000	12/29/2000	3/27/2001	7/11/2001	1/8/2002	6/25/2002	10/2/2002	1/15/2003
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	0.049	<0.0027	<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	0.78	0.034	<0.41	
Ethene	µM	7.0	6.8	7.0	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	20	1.4	1.5	1.9	
1,2-Dichloroethane	µM	0.26	<0.038	<0.016	<0.10	0.20	<0.032	<0.0046	0.030	<0.12	
1,1-Dichloroethene	µM	1.1	<0.099	<0.022	<0.093	0.50	1.3	<0.0056	<0.0028	<0.52	
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	4/29/2003	9/4/2003	12/19/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/29/2005	1/16/2006	4/2/2007
Tetrachloroethene	µM	0.02	0.40	7.1	0.29	0.16	0.056	0.060	0.013	<0.0060	<0.0060	<0.0060
Trichloroethene	µM	0.075	<0.016	0.099	0.029	1.033	<0.076	0.084	<0.0076	<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	1.3	<0.010	<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	<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	<0.016
Ethene	µM	2.0	0.61	0.66	0.13	0.32	1.1	0.61	0.64	1.30	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	1.0	<0.0075	<0.0075	<0.0075	<0.0075
1,1-Dichloroethane	µM	0.51	0.55	1.1	0.22	0.13	<0.010	<0.010	1.91	<0.010	<0.010	1.2
1,2-Dichloroethane	µM	<0.006	<0.017	<0.009	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethene	µM	<0.012	<0.022	<0.010	<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	32.6
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	4/29/2003	9/4/2003	12/19/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/29/2005	1/16/2006	4/2/2007
Tetrachloroethene	µM	<0.024	<0.0048	<0.0048	<0.0060	<0.012	<0.072	<0.0029	<0.0033	<0.0060	<0.010	<0.19
Trichloroethene	µM	<0.0065	<0.013	<0.013	<0.015	<0.013	<0.013	<0.0024	<0.14	<0.0076	<0.0076	<0.18
cis-1,2-Dichloroethene	µM	<0.0098	<0.029	<0.0020	<0.031	<0.014	<0.019	<0.0043	<0.012	<0.0025	<0.025	<0.22
trans-1,2-Dichloroethene	µM	<0.014	<0.028	<0.0028	0.035	<0.014	<0.029	<0.0043	<0.016	0.020	<0.24	
Vinyl Chloride	µM	<0.028	0.056	0.056	0.046	<0.011	0.14	<0.0032	<0.018	0.086	<0.41	
Ethene	µM	6.9	7.3	7.9	7.7	<0.21	6.2	5.4	7.1	5.1	5.2	
Acetylene	µM						<0.046	<0.046	<0.046	<0.046	<0.046	
1,1,1-Trichloroethane	µM	0.42	0.97	<0.0082	0.11	0.14	<0.010	<0.0033	<0.0037	<0.0019	<0.13	
1,1-Dichloroethane	µM	0.36	0.29	<0.0014	0.71	0.30	1.16	0.39	0.79	0.99	<0.22	
1,2-Dichloroethane	µM	<0.0081	<0.016	<0.0016	0.088	<0.013	<0.016	<0.0046	0.066	1.10	<0.12	
1,1-Dichloroethene	µM	<0.017	<0.022	<0.0022	<0.0019	0.014	<0.022	<0.002	<0.014	<0.0028	<0.33	
Chloroethane	µM	38	40	51	57	42	39	20	21	59	54	
Ethane	µM	<0.20	<0.20	1.2	<0.20	<0.20	0.080	<0.043	1.16	0.037	0.17	

Contaminant	Well	DMP-4										
		Date	4/29/2003	9/4/2003	12/19/2003	3/15/2004	6/21/2004	9/27/2004	12/13/2004	7/29/2005	1/16/2006	4/2/2007
Tetrachloroethene	µM	<0.11	<0.023	<0.0060	<0.0060	<0.030	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.12
Trichloroethene	µM	<0.080	<0.016	<0.0076	<0.0076	<0.038	<0.0076	<0.0076	<0.0076	<0.0076	<0.0076	<0.18
cis-1,2-Dichloroethene	µM	<0.087	0.097	0.10	<0.050	<0.050	0.052	0.10	<0.010	<0.052	<0.21	
trans-1,2-Dichloroethene	µM	<0.14	<0.023	<0.010	0.035	0.013	<0.052	<0.010	<0.010	<0.052	<0.24	
Vinyl Chloride	µM	<0.18	<0.045	<0.016	<0.016	<0.016	<0.080	<0.016	0.16	0.045	0.020	
Ethene	µM	6.1	2.9	1.2	1.9	2.6	1.8	2.1	3.4	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	<0.0075	<0.0075	0.72	<0.0075	0.15	
1,1-Dichloroethane	µM	0.33	<0.022	<0.010	0.093	0.020	<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	<0.52	
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	45	55	79	28	57	39	<0.016	122	340	51	
Ethane	µM	0.13	0.10	<0.043	<0.043	1.0	0.13	<0.043	1.13	0.22	0.17	

Table 2. Photochemical Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	MW-8								
		Date	3/28/2001	7/12/2001	1/8/2002	4/5/2002	6/25/2002	10/3/2002	1/15/2003	4/28/2003
Tetrachloroethene	µM	<0.0066	<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	<0.0047	<0.0045	<0.0023
Vinyl Chloride	µM	<0.0040	<0.0011	<0.014	<0.0016	<0.0074	<0.0037	<0.0032	<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	<0.0029	<0.0026	<0.0033	<0.0016
1,1-Dichloroethane	µM	<0.0014	<0.0012	<0.0028	<0.0022	<0.0062	<0.0030	<0.0043	<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	1/27/2003	5/19/2004	6/22/2004	9/27/2004	12/13/2004	7/20/2005	11/7/2006	4/9/2007
Tetrachloroethene	µM	0.019	<0.0060	<0.0060	0.050	0.055	0.019	0.017	0.023	0.010
Trichloroethene	µM	0.30	0.071	0.17	1.88	0.21	0.23	0.23	0.24	0.13
cis-1,2-Dichloroethene	µM	1.4	0.41	0.67	3.9	0.55	1.3	1.45	1.46	0.31
trans-1,2-Dichloroethene	µM	<0.010	<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	<0.016
Ethene	µM	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	0.036	<0.046	<0.046
Acetylene	µM	<0.046	<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	<0.0075
1,1-Dichloroethane	µM	0.17	0.044	0.082	0.28	0.085	0.20	0.048	0.058	0.035
1,2-Dichloroethane	µM	<0.010	<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	<0.010
Chloroethane	µM	<0.016	<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	<0.043

Contaminant	Well	MW-8				MW-10				MW-11			
		Date	3/28/2001	7/12/2001	1/8/2002	5/14/2003	6/22/2004	1/22/2002	1/14/2003	6/22/2004	1/22/2002	1/14/2003	6/22/2004
Tetrachloroethene	µM	<0.0066	<0.0012	<0.0014	<0.0037	<0.0060	0.014	<0.0037	0.017	<0.0072	<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	<0.0014	<0.0022	<0.0043	<0.0019	2.4	2.5	0.0	<0.0019	0.19	0.047	
trans-1,2-Dichloroethene	µM	<0.0022	<0.0014	<0.0021	<0.0047	<0.0019	<0.0021	<0.0047	<0.0019	<0.0029	<0.0047	<0.0019	
Vinyl Chloride	µM	<0.0040	<0.0011	<0.0016	<0.0082	<0.0019	0.043	<0.0082	<0.0019	0.04	<0.0082	<0.0019	
Ethene	µM	<0.21	<0.21										
Acetylene	µM												
1,1,1-Trichloroethane	µM	<0.0015	<0.0012	<0.0015	0.0026	<0.0075	<0.0016	<0.0026	0.075	<0.0016	0.026	0.075	
1,1-Dichloroethane	µM	<0.0014	<0.0012	<0.0023	<0.0043	<0.0016	2.1	0.0	0.5	<0.0025	0.064	<0.0016	
1,2-Dichloroethane	µM	<0.0020	<0.0013	<0.0023	<0.0023	<0.0016	0.051	0.059	0.054	<0.0016	<0.0023	<0.0016	
1,1-Dichloroethene	µM	<0.0019	<0.0014	<0.0030	0.0065	<0.0016	1.52	0.42	0.71	<0.0025	<0.0065	<0.0016	
Chloroethane	µM	<0.0047	<0.0028	<0.0045	<0.0076	0.01	<0.0047	1.21	0.22	<0.0016	<0.0076	<0.0016	
Ethane	µM	<0.20	<0.20										

Table 2. Photochemical Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	MW-12										
Date			5/28/2001	7/12/2001	1/9/2002	4/3/2002	6/26/2002	10/9/2002	1/15/2003	4/29/2003	8/5/2003	
Tetrachloroethene	µM	<0.0066	<0.0012	<0.0144	<0.014	<0.0066	<0.0033	<0.0037	<0.0046	<0.0023	<0.0023	
Trichloroethene	µM	0.93	0.0071	0.13	0.24	0.32	0.63	0.37	0.79	0.29	0.29	
cis-1,2-Dichloroethene	µM	13.2	0.19	4.4	5.2	4.8	5.0	3.2	3.3	2.3	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	0.018	
Vinyl Chloride	µM	3.9	0.091	4.8	5.3	2.4	1.3	0.78	1.2	0.48	0.48	
Ethene	µM	0.24	2.5	5.4	4.6	6.8	0.61	<0.046	0.57	0.61	0.61	
Acetylene	µM			<0.046	<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	<0.0087	<0.0026	<0.0033	<0.0016	<0.0016	
1,1-Dichloroethane	µM	0.73	0.027	3.3	0.9	3.5	1.0	0.29	0.29	1.1	1.1	
1,2-Dichloroethane	µM	0.029	<0.0013	0.014	<0.023	<0.023	<0.012	<0.0023	<0.0034	<0.0017	<0.0017	
1,1-Dichloroethene	µM	0.087	<0.0014	0.021	<0.0021	<0.011	<0.014	<0.0065	0.027	0.072	0.072	
Chloroethane	µM	<0.0047	<0.0047	0.095	<0.005	<0.057	<0.019	<0.0076	<0.0093	0.29	0.29	
Ethane	µM	<0.20	0.43	0.73	0.37	0.60	0.027	<0.043	0.097	0.16	0.16	

Contaminant	Well	MW-12										
Date			5/28/2003	7/12/2003	1/9/2004	4/3/2004	6/26/2004	10/9/2004	1/15/2006	4/29/2007	8/5/2007	
Tetrachloroethene	µM	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	
Trichloroethene	µM	0.43	0.12	0.10	0.18	0.15	<0.038	<0.038	<0.038	<0.038	<0.038	
cis-1,2-Dichloroethene	µM	2.4	1.0	0.86	2.2	2.0	<0.052	2.5	0.54	0.24	0.24	
trans-1,2-Dichloroethene	µM	0.034	0.014	<0.010	<0.010	<0.010	<0.052	<0.052	<0.10	<0.052	<0.052	
Vinyl Chloride	µM	0.72	0.40	0.38	1.0	1.3	0.3	4.3	1.9	0.48	0.48	
Ethene	µM	0.15	0.17	0.13	0.20	0.43	0.61	7.9	1.3	1.3	1.3	
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	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	
1,1-Dichloroethane	µM	1.9	1.4	1.3	1.5	0.6	3.4	2.5	1.1	3.4	3.4	
1,2-Dichloroethane	µM	<0.010	<0.010	<0.010	<0.010	<0.010	<0.051	<0.051	<0.10	<0.051	<0.051	
1,1-Dichloroethene	µM	0.026	<0.010	<0.010	<0.010	<0.010	<0.052	<0.052	<0.10	<0.052	<0.052	
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	1.5	<0.078	<0.078	<0.16	<0.078	<0.078	
Ethane	µM	0.14	0.19	0.24	0.40	0.25	0.37	1.2	0.73	0.73	0.73	

Contaminant	Well	MW-13										
Date			5/28/2001	7/12/2001	1/9/2002	4/3/2002	6/26/2002	10/9/2002	1/15/2003	4/29/2003	8/5/2003	
Tetrachloroethene	µM	0.50	0.72	1.2	1.4	0.10	0.49	0.42	0.078	0.12	0.12	
Trichloroethene	µM	0.65	0.87	0.5	1.0	0.11	0.59	0.53	0.092	0.16	0.16	
cis-1,2-Dichloroethene	µM	5.1	1.2	20.1	10.2	0.72	3.2	7.2	0.4	3.1	3.1	
trans-1,2-Dichloroethene	µM	0.037	0.049	0.122	0.083	<0.0072	0.031	<0.0047	<0.0045	<0.0045	<0.0045	
Vinyl Chloride	µM	0.62	0.94	8	1.2	0.74	0.42	0.26	0.342	0.11	0.11	
Ethene	µM	0.21	<0.21	0.057	0.046	0.029	0.046	<0.046	0.05	0.21	0.21	
Acetylene	µM			<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	
1,1,1-Trichloroethane	µM	0.40	0.28	0.24	0.15	0.096	0.32	1.029	<0.033	0.082	0.082	
1,1-Dichloroethane	µM	3	3.5	4.3	3.1	2.7	0.98	1.0	0.089	0.51	0.51	
1,2-Dichloroethane	µM	0.026	0.023	0.028	0.002	0.0027	0.0027	<0.0023	<0.0034	<0.0017	<0.0017	
1,1-Dichloroethene	µM	0.63	0.6	0.78	0.45	0.329	0.14	0.11	<0.034	0.029	0.029	
Chloroethane	µM	<0.0047	<0.0025	<0.0035	<0.0035	0.0017	0.0037	<0.0076	<0.014	<0.0066	<0.0066	
Ethane	µM	0.19	0.22	0.77	0.29	0.060	0.060	<0.043	<0.043	<0.043	<0.043	

Contaminant	Well	MW-13										
Date			5/28/2003	7/12/2003	1/9/2004	4/3/2004	6/26/2004	10/9/2004	1/15/2006	4/29/2007	8/5/2007	
Tetrachloroethene	µM	1.5	3.2	2.5	3.9	0.057	0.90	2.2	3.5	1.5	1.5	
Trichloroethene	µM	1.1	3.5	4.8	5.4	0.22	1.80	12.9	25.1	58.3	58.3	
cis-1,2-Dichloroethene	µM	26.8	0.2	0.9	0.74	0.72	3.4	3.7	7.4	8	8	
trans-1,2-Dichloroethene	µM	0.22	0.13	0.10	<0.021	<0.010	<0.010	<0.010	<0.051	<0.051	<0.051	
Vinyl Chloride	µM	4.8	1.8	1.0	2.4	<0.010	0.38	0.40	0.4	2.7	2.7	
Ethene	µM	0.046	0.046	0.046	0.11	0.046	0.046	0.046	0.046	0.046	0.046	
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	0.43	0.38	0.45	0.72	0.10	1.57	0.34	0.07	0.20	0.20	
1,1-Dichloroethane	µM	1.3	1.9	2.4	3.3	0.84	3.4	1.7	1.7	3.3	3.3	
1,2-Dichloroethane	µM	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
1,1-Dichloroethene	µM	0.2	0.2	0.2	0.7	<0.010	<0.010	<0.010	0.348	0.342	0.342	
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	<0.016	0.39	<0.016	0.51	0.34	0.34	
Ethane	µM	0.67	0.77	0.40	0.33	<0.043	0.043	1.1	2.5	2.5	2.5	

Table 2. Photocircuits Anaerobic Pilot Chlorinated Solvents in Micromolar Concentrations

Contaminant	Well	RW-1								
Date		12/17/2003	3/15/2004	6/22/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	4/3/2007	8/7/2007
Tetrachloroethene	µM	0.78	0.78	0.066	1.0	6.6	2.6	1.87	5.2	5.8
Trichloroethene	µM	1.83	3.4	0.11	1.4	14.5	21	2.4	84	122
cis-1,2-Dichloroethene	µM	28.9	7.0	0.23	2.0	186	65	2.3	97	103
trans-1,2-Dichloroethene	µM	0.12	0.043	<0.010	<0.010	<0.010	<0.026	<0.026	<0.21	0.526
Vinyl Chloride	µM	4.5	1.6	0.024	0.45	14.4	3.5	<0.40	13.6	9.1
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	<0.75
1,1,2-Trichloroethane	µM	<0.075	<0.075	<0.075	<0.075	3.37	<0.19	<0.19	<0.15	<0.075
1,1-Dichloroethane	µM	0.74	0.36	<0.010	0.14	0.26	4.55	<0.25	6.0	6.6
1,2-Dichloroethane	µM	<0.010	<0.010	<0.010	<0.010	<0.010	<0.25	<0.25	<0.10	<0.10
1,1-Dichloroethene	µM	0.70	0.22	0.024	0.071	4.4	<0.26	<0.26	2.1	1.9
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	2.0	<0.39	<0.39	2.2	2.3
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	8/7/2007	
Tetrachloroethene	µM	0.84	0.80	0.13	0.66	0.90	0.17	0.21	0.97	
Trichloroethene	µM	1.1	6.9	2.2	6.4	1.0	2.0	5	6.1	
cis-1,2-Dichloroethene	µM	7.3	7.9	6.3	21.7	7.6	11.4	6.4	27.9	
trans-1,2-Dichloroethene	µM	0.045	0.10	0.046	<0.010	<0.052	<0.052	<0.051	0.144	
Vinyl Chloride	µM	1.3	1.4	2.2	3.0	0.62	2.88	0.54	2.88	
Ethene	µM									
Acetylene	µM									
1,1,1-Trichloroethane	µM	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	0.075	
1,1,2-Trichloroethane	µM	<0.075	<0.075	<0.075	<0.075	<0.075	0.075	<0.075	1.3	
1,1-Dichloroethane	µM	1.21	1.1	0.75	2.9	1.9	1.4	1.57	<0.010	
1,2-Dichloroethane	µM	<0.010	0.019	<0.010	0.052	<0.051	<0.051	<0.050	0.30	
1,1-Dichloroethene	µM	0.36	0.30	0.089	0.62	<0.52	0.11	0.05	<0.016	
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	3/15/2004	6/22/2004	9/27/2004	12/14/2004	7/20/2005	11/7/2006	4/3/2007	8/7/2007
Tetrachloroethene	µM	0.24	0.15	0.084	0.097	0.60	0.44	0.24	0.11	0.13
Trichloroethene	µM	2.6	2.1	0.3	0.46	2.51	2.22	0.70	0.70	3.43
cis-1,2-Dichloroethene	µM	6.3	3.0	1.4	3.0	1.2	8.3	2.9	1.3	1.3
trans-1,2-Dichloroethene	µM	0.046	0.022	<0.010	0.019	0.019	0.053	<0.019	<0.010	<0.010
Vinyl Chloride	µM	0.74	<0.016	0.019	<0.016	0.21	0.04	<0.016	0.10	<0.016
Ethene	µM									
Acetylene	µM									
1,1,1-Trichloroethane	µM	<0.075	0.075	<0.075	0.075	0.075	<0.075	<0.075	0.075	0.075
1,1-Dichloroethane	µM	0.66	0.36	0.9	0.3	1.1	1	0.5	0.30	1.1
1,2-Dichloroethane	µM	<0.010	0.019	0.010	0.010	0.010	0.019	0.010	0.010	0.010
1,1-Dichloroethene	µM	0.19	0.070	0.047	0.010	0.35	0.29	0.11	0.22	<0.010
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	0.016	0.016	<0.016	<0.016	<0.016
Ethane	µM									0.010

Contaminant	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	4/3/2007	
Tetrachloroethene	µM	0.24	0.12	0.084	0.075	0.78	0.29	1.38	0.12	
Trichloroethene	µM	1.3	0	0.53	0.13	4.5	1.4	2.2	3.5	
cis-1,2-Dichloroethene	µM	3.7	2.3	2.0	<0.019	12.4	3.7	4.8	0.10	
trans-1,2-Dichloroethene	µM	0.025	0.020	<0.010	<0.010	<0.010	<0.052	<0.052	<0.010	
Vinyl Chloride	µM	<0.016	<0.016	<0.016	<0.016	0.14	<0.080	<0.080	<0.016	
Ethene	µM									
Acetylene	µM									
1,1,1-Trichloroethane	µM	0.082	0.074	<0.075	0.075	0.075	0.037	0.037	0.075	
1,1,2-Trichloroethane	µM	0.0	0.89	0.47	0.80	4.3	1.4	0.71	0.010	
1,2-Dichloroethane	µM	<0.010	<0.010	<0.010	<0.010	<0.010	<0.051	<0.051	0.010	
1,1-Dichloroethane	µM	0.17	0.095	0.157	0.083	0.73	0.22	0.1	<0.010	
Chloroethane	µM	<0.016	<0.016	<0.016	<0.016	<0.016	<0.078	<0.078	<0.016	
Ethane	µM									



Table 3. Photocremis Anaerobic Pilot Field Data

Well		SMP-1		SMP-1		SMP-1		SMP-1		SMP-1		SMP-1		SMP-1	
Well Depth	ft	23.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Well Diameter	inch	4	1	1	1	1	1	1	1	1	1	1	1	1	1
Date		1/8/2002	4/2/2002	1/8/2002	4/2/2002	6/25/2002	10/2/2002	4/28/2003	6/4/2003	9/15/2004	4/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
pH		7.4	7.1	7.2	7.3	7.3	7.2	7.1	7.1	7.1	7.1	6.8	6.5	7.0	6.7
Temperature	°C	17.9	16.91	11.44	14.44	18.74	24.30	14.82	22.86	19.24	22.93	22	11.3	16.4	19.4
Spec. Conductivity	µmhos/cm	4235	4100	2660	2540	2468	22	4230	2468	3350	3138	367	918	2200	1680
Redox Potential	mV	274	40	31	170	44	276	-114	122	26	-68	-54	33	-35	-42
Dissolved Oxygen	mg/L	0.26	0.45	0.27	0.2	0.2	4.22	3.61	7.91	0.9	3.7	0.9	0.1	3.7	3.7
Bromide	mg/L					70									7.43

Well		SMP-1		SMP-1		SMP-1		SMP-1		SMP-1		SMP-1		SMP-1	
Well Depth	ft	19.04													
Well Diameter	inch	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	6/4/2003	12/16/2003	9/15/2004	4/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	6.43													
pH		7.4	7.1	7.1	7.4	7.4	7.3	7.1	7.1	7.1	7.2	7.1	6.8	7.0	7.3
Temperature	°C	17.42	17.7	11.27	17.1	13.35	18.73	17.6	17.7	17.7	16.19	20	14.3	16.3	18.69
Spec. Conductivity	µmhos/cm	2564	1667	1850	4000	1780	1930	1960	1120	1120	1194	1194	700	600	784
Redox Potential	mV	177	251	193	18	197	11	170	96	96.7	99	98	78	75	163
Dissolved Oxygen	mg/L	1.98		1.14	2.18	1.56	1.24	6.4	5.12	3.62	0.3	0.1	0.1	0.10	0.13
Bromide	mg/L		311	187											0.13

Well		SMP-3		SMP-3		SMP-3		SMP-3		SMP-3		SMP-3		SMP-3	
Well Depth	ft	14.6													
Well Diameter	inch	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	6/4/2003	12/16/2003	9/15/2004	4/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	7.1													
pH		7.1	6.7	7.1	7.2	7.1	7.4	7.6	7.1	7.1	7.2	6.9	6.4	7.1	7.1
Temperature	°C	21.36	14.7	19.18	14.40	13.37	17.41	11.28	17.91	12.08	19.2	21.4	7.1	7.6	21.1
Spec. Conductivity	µmhos/cm	1791	5640	3078	4078	150	550	760	260	260	1270	462	91	91	777
Redox Potential	mV	44	12	15	-120	62	681	272	108	272	244	124	77	71	17
Dissolved Oxygen	mg/L	1.77	2.04	1.16	2.16	1.3	4.31	7.72	4.43	3.45	1.4	2	0.8	1.9	0.42
Bromide	mg/L			14											

Well		SMP-3		SMP-3		SMP-3		SMP-3		SMP-3		SMP-3		SMP-3	
Well Depth	ft	24.38													
Well Diameter	inch	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	6/4/2003	12/16/2003	9/15/2004	4/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	6.91													
pH		7.1	7.1	6.9	6.6	7.1	7.1	7.1	7.1	7.1	7.1	6.4	6.1	7.1	6.6
Temperature	°C	21.48	16.73	16.94	9.68	17.16	14.7	11.16	17.61	14.5	14.1	18.4	14.4	18.8	17.6
Spec. Conductivity	µmhos/cm	4230	970	970	763	440	1667	1270	1231	1231	1231	1231	1231	1231	1231
Redox Potential	mV	291	10	116	171	69	714	19	20	761	17	17	17	17	17
Dissolved Oxygen	mg/L	1.77	1.13	1.21	1.50	1.44	2.15	1.99	1.14	1.79	1.72	1.7	1.7	1.19	1.7
Bromide	mg/L		16	79											

Well		SMP-4		SMP-4		SMP-4		SMP-4		SMP-4		SMP-4		SMP-4	
Well Depth	ft	15.62													
Well Diameter	inch	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	1/13/2003	4/28/2003	6/4/2003	12/16/2003	9/15/2004	4/21/2004	9/27/2004	12/13/2004	11/6/2006	4/2/2007
Water Level	ft	6.82													
pH		7.1	7.1	7.2	7.1	6.7	7.3	7.7	6.1	6.7	6.7	6.1	6.2	7.1	6.4
Temperature	°C	16.34	14.42	16.77	22.40	9.88	17.73	22.61	17.45	11.44	16.27	21.4	17.7	16.3	24.76
Spec. Conductivity	µmhos/cm	1186	1130	1440	770	2260	950	1220	2640	774	1910	198	708	7640	2740
Redox Potential	mV	170	170	234	7	-100	170	175	91	66	122.7	12	12	15	127
Dissolved Oxygen	mg/L	1.77	1.65	1.5	1.2	7.08	4.2	6.0	4.78	4.18	1.74	1.7	1.7	1.19	1.7
Bromide	mg/L			156											

Table 3. Photoreactors Anaerobic Pilot Field Data

Well MW-4																
Well Depth	ft	20.55														
Well Diameter	inch	4														
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	11/15/2003	4/28/2003	9/4/2003	12/16/2003	3/15/2004	6/12/2004	9/27/2004	12/14/2004	11/6/2006	4/2/2007	8/6/2007
Water Level	ft	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71
pH		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Temperature	°C	17.64	16.2	15.2	15.2	16.50	15.74	15.46	15.7	17.43	16.89	19.5	18.1	18.5	19.1	18.3
Spec. Conductivity	micro-s/cm	1776	1449	1343	1459	1639	1690	1149	1199	2199	2488	3385	3380	2967	3329	3567
Redox Potential	mV	21	49	116	78	229	163	128	172	110	154	167	1	145	122	149
Dissolved Oxygen	mg/L	1.41	0.72	0.53	0.63	2.7	0.78	0.55	0.18	0.54	0.3	0.1	0.1	0.13	0.1	0.19
Sulfate	mg/L	78	78	79												

Well MW-4																
Well Depth	ft	20.55														
Well Diameter	inch	4														
Date		1/8/2002	4/2/2002	6/25/2002	10/2/2002	11/15/2003	4/28/2003	8/5/2003	12/16/2003	3/16/2004	6/12/2004	9/27/2004	12/14/2004	11/6/2006	4/2/2007	8/6/2007
Water Level	ft	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66
pH		6.7	6.4	6.4	8.2	7.2	7.9	8.2	7.9	7.7	7.9	7.9	7.7	7.5	7.8	7.7
Temperature	°C	17.47	14.7	12.99	13.46	14.17	14.49	11.74	14.7	15.24	17.7	17.7	17.1	17.1	17.1	14.7
Spec. Conductivity	micro-s/cm	1763	1601	221	77	78	191	177	196	229	284	217	187	168	179	149
Redox Potential	mV	246	270	273	84	199	98	239.4	94	140	74	79	127	94	113	148
Dissolved Oxygen	mg/L	0.78	0.2	4.62	10.7	15.58	13.98	11.74	16.18	19.4	16.62	2.9	4.0	11.9	4.3	2.7
Sulfate	mg/L	8.4														

Well MW-9				
Well Depth	ft	20.55		
Well Diameter	inch	4		
Date		4/2/2002	1/14/2003	6/12/2004
Water Level	ft	11.71	11.71	11.71
pH		7.1	7.1	7.1
Temperature	°C	17.16	17.07	17.1
Spec. Conductivity	micro-s/cm	290	293	193
Redox Potential	mV	170	178	269
Dissolved Oxygen	mg/L	0.92	0.94	1.2
Sulfate	mg/L			

Well MW-12															
Well Depth	ft	20.55													
Well Diameter	inch	4													
Date		4/2/2002	6/12/2002	10/9/2002	11/15/2003	4/28/2003	6/5/2003	12/16/2003	3/16/2004	6/12/2004	9/27/2004	12/14/2004	11/6/2006	4/2/2007	8/7/2007
Water Level	ft	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71
pH		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Temperature	°C	14.2	14.9	16.27	14.39	14.48	16.92	15	14.15	14.47	14.4	14.4	14.4	14.4	14.4
Spec. Conductivity	micro-s/cm	1124	1090	1170	1069	1594	1808	2108	2169	2427	1793	2104	1629	1711	1769
Redox Potential	mV	110	126	122	89	112	149	127	191	171	144	138	113	109	117
Dissolved Oxygen	mg/L	0.7	0.28	0.16	0.8	1.4	1.44	4.71	1.2	1.2	1.1	0.2	1.1	1.2	0.7
Sulfate	mg/L	11	11	11											

Well MW-13													
Well Depth	ft	20.55											
Well Diameter	inch	4											
Date		4/2/2002	6/25/2002	10/9/2002	1/14/2003	4/29/2003	6/5/2003	3/16/2004	6/12/2004	9/27/2004	12/14/2004	4/2/2007	8/7/2007
Water Level	ft	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71
pH		6.2	6.9	6.9	7.0	7	7.3	7.3	7.7	7.7	7.7	7.7	7.6
Temperature	°C	16.9	16.99	19.4	19.4	16.6	16.68	17.94	18.2	16.7	16.6	17.94	17.94
Spec. Conductivity	micro-s/cm	1120	1069	158	158	113	1129	1141	1605	122	122	122	122
Redox Potential	mV	80	179	16	91	7	19	14	18	177	177	171	171
Dissolved Oxygen	mg/L	1	0.16	0.05	0.7	0.9	1.06	1.2	1	1	1	1	0.99
Sulfate	mg/L	11	11	11									



**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 oxidate. Moderate levels of VC found in 8/07.	1,1-DCA, 1,1-DCA, and CA increased between 11/06 and 8/07	Low nitrate found in 8/07. Sulfate decreased by 98.4%. Methane up greatly, no methane data 8/07. Iron increased from 1,200 to 1,203, but is now similar to initial levels.	Emulsion found 4/02, 8/02, and 10/02 and POC levels had been above 1,000 mg/L. POC availability was lower in 1/03 and 3/04, but returned to >600 mg/L in 8/04 through 8/07.
MW-7	Ethene generally predominant product. TCE up slightly. cDCE and VC down by 82 and 73% from start of pilot. cDCE up slightly. Not sampled since 1/02 because of emulsion in well.	1,1-DCA and CA up. CA minor product. Ethane produced.	Sulfate increased from 89 to 449 mg/L from 7/03 to 1/02, methane and iron up greatly.	POC had fallen to 17 mg/L in 1/02. Emulsion found thereafter.
SMP-2	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 3/03 through 8/07. VC increased and then fell to non-detect as more substrate became available. VC found in 7/05 through 8/07. Ethene increased when substrate levels were higher, but declined beginning in 6/03. Ethene has been primary chlorinated ethene since 10/02 (no ethene data 8/07).	No 1,1-DCA detected from 7/01 to 12/04. 1,1-DCA and CA have increased since 9/04. 1,1-DCE not detected from 10/02 to 7/05, found 11/06, 4/07, and 8/07. CA produced and is primary chlorinated ethane. Little ethane.	Nitrate low in 8/07. Sulfate increased 77% from start of pilot (down by 25%), and methane up by 400% from start of pilot (no methane data 8/07).	POC rebounded to >280 mg/L in 4/03; enhanced dechlorination. POC dropped to 50 mg/L in 12/03 and 3/04, rebounded to 398 mg/L in 8/04, but was only 34 to 64 mg/L in 9/04 to 4/07. Higher in 8/07 (130 mg/L). Based upon increases in competing electron acceptor sulfate, decreases in iron, and increases in 1,1-DCA and CA, area thought to be substrate-limited.
OMP-1	Only low VC found in 8/07. VC has decreased by 97% over course of pilot, but rebounded between 12/04 and 8/07. Ethene remained predominant product in 4/07 (no ethene data 8/07).	1,1-DCA up >38,082%, 1,1-DCE up 205%, 1,1-DCE up 1,043%, CA down by 98%, little ethane detected 4/07. Substantial increase in 1,1-DCA and 1,1-DCE over last 12 months with low substrate levels, but lower in 8/07 than 4/07.	Over the course of the pilot, sulfate down 38% and iron by 99%, and methane increased by 46% thru 4/07. Since 12/03, sulfate has increased from 126 to 876 mg/L suggesting substrate-limitation.	POC increased from 24 mg/L in 8/02 to 264 mg/L in 4/03, but declined after that sampling event. Inadequate supply since 9/04 except for 8/07.
SMP-2	TCE and cDCE not detected since 7/05, and VC has decreased. No VC 8/07, but detection limit high (100 mg/L).	1,1-DCA down by 65%, 1,1-DCE down 90%, and 1,1-DCE and CA non-detect 8/07. 1,1-DCA and 1,1-DCE increased between 7/05 and 4/07 (no increased in 4/07 to 8/07). Some ethane 4/07.	Sulfate decreased from 3,840 mg/L in 4/02 to 75 mg/L in 4/03, but increased to 1,570 mg/L in 8/04 indicating potential substrate limitation. Lower levels of 124 to 672 mg/L found in 9/04 to 8/07, then down by 64%, but methane increased by >3,000% thru 4/07.	POC in 4/02 up to 1,800 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).
OMP-1	No detectable PCE, TCE, and cDCE in 8/07. VC greater than ethene from 5/20/05 to 4/07. VC up from 4/07 to 8/07. Substrate limited.	1,1-DCA down by 97%, 1,1-DCA up by 184%, and 1,1-DCE up by 490%. CA decreased by >98%. Ethane down 4/07, 1,1-DCA and 1,1-DCE increased greatly between 3/04 and 8/07 due to substrate limitation.	Sulfate increased by 802% over pilot with increased levels from 9/04 to 8/07. Methane up thru 4/07, but iron decreasing.	POC increased to 449 mg/L after second emulsion injection, but has fallen below target to 19 mg/L in 12/03. Elevated POC of 230-243 mg/L found in 7/04 to 8/04, but fell to <50 mg/L in 9/04 to 4/07. POC 83 mg/L in 8/07. Well substrate-saturated based on increased sulfate, 1,1-DCA, and 1,1-DCE.

**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, DCE, and VC not detected 8/07. Ethene predominant chlorinated ethene in 4/07.	1,1-CA, 1,1-DCA, and 1,1-DCE down by >99% to <99.97%; 1,1-CA up sharply between 12/04 and 11/06, but higher in 4/07. Little ethane in 4/07.	Sulfate decreased to <1.5 mg/L in 6/04 to 7/05, but increased to 75 mg/L in 8/07. Iron has decreased by 27% and methane increased greatly thru 4/07.	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 32 to 343 mg/L found in 3/04 to 8/07.
DMP-4	No detectable PCE, TCE, cDCE, or DCE in 7/07, elevated VC.	1,1-CA down 64%, 1,1-DCA up by 3267% and 1,1-DCE non-detect 8/07. 1,1-CA increased greatly between 12/04 and 11/06, but a few in 4/07 to 8/07. Little ethane 4/07.	Sulfate down 87%, iron down 50% and methane increased thru 4/07.	TOC adequate levels (>50 mg/L) from 3/04 through 11/06, but only 27 mg/L in 4/07. Rebounded to 120 mg/L in 8/07. Increases in 1,1-DCA, and VC suggest substrate limiting.
MW-8	PCE, TCE, and cDCE detected 8/07. No VC.	1,1-DCA detected in 8/07.	Sulfate increased by 29% and iron has increased by 37%.	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 3/04.
MW-10	PCE, TCE, and cDCE detected in 6/04, but no VC.	1,1-DCA, 2,1-DCA, 1,1-DCA, 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 VC are decreasing, and cDCE increasing. Ethene lower in 4/07 than 11/06.	1,1-CA increased 371%, 1,1-DCE up 640% and ethane detected at moderate levels (460%), 7% not detected 7/05 to 8/07.	Sulfate decreased by 28%, iron increased by 203%, and methane increased by 390% (4/07).	TOC level adequate in 6/04 (24 mg/L), but decreased to 4 mg/L or less in 9/04 to 6/07.
MW-13	Increases in PCE, TCE, 1,1-DCE, 1,1-DCE, and VC concentrations from 12/03 through 6/07. Some ethene detected 4/07.	Increases in 1,1-CA (300%), 1,1-DCA (36%), 1,1-DCE (35%), and CA (>17,000%).	Methane increased thru 4/07, but iron down by 43% and sulfate increased 28%.	TOC level (4 to 9 mg/L) in 12/03 to 3/07 well below optimal.
RW-1	TCE and cDCE major products with elevated PCE, 1,1-DCE, and VC. Concentrations of PCE increased by 638%, TCE by 1567%, cDCE 237%, 1,1-DCE 125%, and VC by 104% between 12/03 and 8/07. No ethene data.	1,1-CA primary chlorinated ethane, some 1,1-DCA, 1,1-DCE, and CA. 1,1-DCA, 1,1-DCE, 1,1-DCE, and CA increased by 105% to 338% between 12/03 and 8/07.	Not available.	Based upon contaminant distribution, likely to be substrate-limited.
RW-2	cDCE major product with some VC, DCE, PCE, and TCE. No ethene data. From 12/03 to 8/07, total chlorinated ethenes have remained relatively stable.	1,1-DCA and 1,1-DCE primary chlorinated ethanes. Not available but no detectable 1,1-CA or CA. 5,400 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 PCE. No cDCE or VC 8/07. No ethene data. From 12/03 to 8/07, total chlorinated ethenes decreased by 36%.	1,1-DCA primary chlorinated ethane, with no detectable 1,1-DCE, 1,1-DCE, or CA in 8/07. From 12/03 to 8/07, total chlorinated ethanes decreased by 67%.	Not available.	Based upon contaminant distribution, likely to be substrate-limited.
RW-4	TCE major product with moderate cDCE, and low levels of PCE. No detectable 1,1-DCE and VC 8/07. No ethene data. From 12/03 to 8/07, total chlorinated ethenes decreased by	No detectable 1,1-CA, 1,1-DCA, 1,1-DCE, or CA 8/07. Total chlorinated ethanes decreased by 90% from 12/03 to 8/07.	Not available.	Based upon contaminant distribution, likely to be substrate-limited.



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

Friday, August 17, 2007

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

TEL: (516) 609-1344  
FAX (516) 609-1257

RE: Photocircuits/Job#643.002-A

Order No.: 0708088

Dear Peter Takach:

American Analytical Laboratories, LLC. received 16 sample(s) on 8/8/2007 for the analyses presented in the following report.

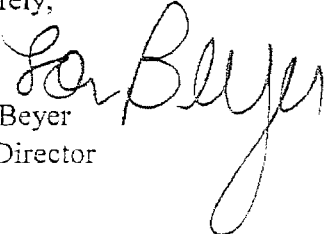
Samples were analyzed in accordance with the test procedures documented on the chain of custody and detailed throughout the text of this report.

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](mailto:lbeyer@american-analytical.com).

Sincerely,

  
Lori Beyer  
Lab Director

CLIENT: Photocircuits Corporation  
Project: Photocircuits/Job#643.002-A  
Lab Order: 0708088

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
0708088-01A	SMP-1		8/6/2007 5:00:00 PM	8/8/2007
0708088-02A	DMP-1		8/6/2007 5:30:00 PM	8/8/2007
0708088-03A	SMP-3		8/6/2007 5:20:00 PM	8/8/2007
0708088-04A	DMP-3		8/6/2007 4:50:00 PM	8/8/2007
0708088-05A	SMP-4		8/6/2007 4:15:00 PM	8/8/2007
0708088-06A	DMP-4		8/6/2007 3:30:00 PM	8/8/2007
0708088-07A	MW-8		8/7/2007 6:15:00 PM	8/8/2007
0708088-08A	MW-12		8/6/2007 12:40:00 PM	8/8/2007
0708088-09A	MW-13		8/7/2007 2:15:00 PM	8/8/2007
0708088-10A	MW-14		8/6/2007 4:30:00 PM	8/8/2007
0708088-11A	RW-1		8/7/2007 3:40:00 PM	8/8/2007
0708088-12A	RW-2		8/7/2007 3:45:00 PM	8/8/2007
0708088-13A	RW-3		8/7/2007 3:50:00 PM	8/8/2007
0708088-14A	MW-3S (45A Site)		8/7/2007 5:00:00 PM	8/8/2007
0708088-15A	MW-4S (45A Site)		8/7/2007 7:00:00 PM	8/8/2007
0708088-16A	Trip Blank		8/7/2007	8/8/2007



NYSDOH ELAP 11418  
 AIHA PAT, LPAT 15668  
 CTDOH PH-0205

56 TOLEDO STREET • FARMINGDALE, NY 11735 • (516) 454-6100 • FAX (516) 454-8027

# CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

CLIENT NAME/ADDRESS  
 Photo Circuits  
 31 Sea Cliff Ave  
 Glen Cove, NY 11542

CONTACT:  
 Peter Teich  
 Andy Barber  
 (Barber & Leggett, P.C.)

SAMPLER (SIGNATURE)  
*[Signature]*  
 DATE 8/8/07 TIME 08:30  
 SAMPLER NAME (PRINT)  
 Darik M. Sorden

PROJECT LOCATION:  
 Photocircuits / Job # 643.002-A

ANALYSIS REQUIRED  
 EPA 8260B  
 TOC/Nitrate  
 Nitrate/Sulfate

LABORATORY ID #	MATRIX	TYPE Date	PRES. TIME	SAMPLE # - LOCATION	ANALYSIS REQUIRED	STAT 3	BY	RECEIVED BY LAB (SIGNATURE)	DATE TIME	PRINTED NAME	RECEIVED BY LAB (SIGNATURE)	DATE TIME	PRINTED NAME
0708083-01A	H2O	8/6/07	17:00	SMP-1	X	X							
-03A			17:30	DMP-1	X	X							
-03A			17:20	SMP-3	X	X							
-04A			16:50	DMP-3	X	X							
-05A			16:15	SMP-4	X	X							
-06A			15:30	DMP-4	X	X							
-07A			18:15	MW-8	X	X							
-08A			12:40	MW-12	X	X							
-09A			14:15	MW-13	X	X							
-10A			16:30	MW-14	X	X							
-11A			15:40	RW-1	X	X							
-12A			15:45	RW-2	X	X							
-13A			15:50	RW-3	X	X							

MATRIX S=SOIL; L=LIQUID; SL=SLUDGE; A=AIR; W=WIPE; P=PAINT CHIPS; B=BULK MATERIAL  
 TYPE G=GRAB; C=COMPOSITE; SS=SPLIT SPOON

TURNAROUND REQUIRED:  
 NORMAL  STAT 3  BY 1/1

RELINQUISHED BY (SIGNATURE)  
*[Signature]*  
 DATE 8/7/07 TIME 08:45  
 PRINTED NAME Darik M. Sorden

RECEIVED BY LAB (SIGNATURE)  
*[Signature]*  
 DATE 8-8-07 TIME 10:50  
 PRINTED NAME C. D. [unclear]

COMMENTS / INSTRUCTIONS  
 All Samples Grab Samples





NYSDOH ELAP 11418  
 AIHA PAT, LPAT 15668  
 CTDOH PH-0205

56 TOLEDO STREET • FARMINGDALE, NY 11735 • (516) 454-6100 • FAX (516) 454-8027

## CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

CLIENT NAME/ADDRESS Photocircuits 31 Sea Cliff Ave. Glen Cove, NY 11542		CONTACT: Peter Takach Amy Barber (Barton & Losvick, P.C.)		SAMPLER (SIGNATURE) <i>[Signature]</i>	DATE 8/8/07	TIME 08:30	SAMPLE(S) SEALED	YES / NO
PROJECT LOCATION: Photocircuits / Job # 643.002-A		ANALYSIS REQUIRED EPA 8360B		SAMPLER NAME (PRINT) Darik M. Jordan		CORRECT CONTAINER(S)		YES / NO
LABORATORY ID #	MATRIX	TYPE	PRES. TIME	SAMPLE # - LOCATION	ANALYSIS REQUIRED	DATE	TIME	P.O.#
0700038-14A	H2O	8/7/07	17:00	MU-35 (45A SITE)	X			
-15A	H2O	8/11/07	14:00	MU-45 (45A SITE)	X			
				TRIP BUNK	X			
					<i>[Signature]</i>			
MATRIX S=SOIL, L=LIQUID, SL=SLUDGE, A=AIR, W=WIPE, P=PAINT CHIPS, B=BULK MATERIAL		TURNAROUND REQUIRED:		COMMENTS / INSTRUCTIONS				
TYPE G=GRAB; C=COMPOSITE, SS=SPLIT SPOON		NORMAL <input checked="" type="checkbox"/> STAT <input type="checkbox"/> BY 1/1		All Samples 6166 Samples				
RELINQUISHED BY (SIGNATURE) <i>[Signature]</i>		DATE 8/7/07 TIME 08:45		RECEIVED BY LAB (SIGNATURE) <i>[Signature]</i>		DATE 8-8-07 TIME 10:50		PRINTED NAME C. Jordan
RELINQUISHED BY (SIGNATURE)		DATE TIME		RECEIVED BY LAB (SIGNATURE)		DATE TIME		PRINTED NAME

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

# CHAIN-OF-CUSTODY RECORD

TEL: 6314546100 FAX: 6314548027

**Subcontractor:**

Eco Test Laboratories, Inc.  
 377 Sheffield Avenue  
 North Babylon, NY 11703

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

09-Aug-07

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests			
				SW9060			
0708088-01A	Liquid	8/6/2007 5:00:00 PM	500ML PU	1			
0708088-02A	Liquid	8/6/2007 5:30:00 PM	500ML PU	1			
0708088-03A	Liquid	8/6/2007 5:20:00 PM	500ML PU	1			
0708088-04A	Liquid	8/6/2007 4:50:00 PM	500ML PU	1			
0708088-05A	Liquid	8/6/2007 4:15:00 PM	500ML PU	1			
0708088-06A	Liquid	8/6/2007 3:30:00 PM	500ML PU	1			
0708088-07A	Liquid	8/6/2007 6:15:00 PM	500ML PU	1			
0708088-08A	Liquid	8/6/2007 12:40:00 PM	500ML PU	1			
0708088-09A	Liquid	8/6/2007 2:15:00 PM	500ML PU	1			
0708088-10A	Liquid	8/6/2007 4:30:00 PM	500ML PU	1			

*Handwritten note:* 1504  
 HOS  
 11/20/07

General Comments: Please analyze for TOC; normal TAT

Relinquished by: <u>Chy James</u>	Date/Time: <u>8-9-07 4:10</u>
Relinquished by: _____	Date/Time: _____
Received by: <u>[Signature]</u>	Date/Time: <u>8/9/07 16:10</u>
Received by: _____	Date/Time: _____

## **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:

<b>Value</b>	If the result is greater than or equal to the detection limit, report the value
<b>U</b>	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.
<b>J</b>	Indicates an estimated value. The flag is used: <ol style="list-style-type: none"><li>(1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.)</li><li>(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.</li></ol>
<b>B</b>	Indicates the analyte was found in the blank as well as the sample report "10B".
<b>E</b>	Indicates the analytes concentration exceeds the calibrated range of the instrument for that specific analysis.
<b>D</b>	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
<b>P</b>	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".
<b>N</b>	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.
<b>H</b>	Indicates sample was received and/or analyzed outside of The method allowable holding time

**American Analytical Laboratories, LLC.**

Date: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	SMP-1
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 5:00:00 PM
<b>Lab ID:</b>	0708088-01A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		<b>Analyst: JP</b>
Iron	14.9	0.0200		mg/L	1	8/10/2007 12:51:59 PM
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				<b>Analyst: MB</b>
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,1,1-Trichloroethane	360	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,1-Dichloroethane	830	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,1-Dichloroethene	7.4	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
2-Butanone	U	3.0		µg/L	1	8/9/2007 2:11:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
2-Chlorotoluene	6.2	1.0		µg/L	1	8/9/2007 2:11:00 PM
2-Hexanone	U	2.0		µg/L	1	8/9/2007 2:11:00 PM
2-Propanol	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	8/9/2007 2:11:00 PM
Acetone	U	2.0		µg/L	1	8/9/2007 2:11:00 PM
Acrolein	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Acrylonitrile	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Benzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Bromobenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Bromochloromethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

CLIENT: Photocircuits Corporation  
 Lab Order: 0708088  
 Project: Photocircuits/Job#643.002-A  
 Lab ID: 0708088-01A

Client Sample ID: SMP-1  
 Tag Number:  
 Collection Date: 8/6/2007 5:00:00 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	8/9/2007 2:11:00 PM
Bromoform	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Bromomethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Carbon disulfide	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Chlorobenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Chloroethane	680	1.0		µg/L	1	8/9/2007 2:11:00 PM
Chloroform	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Chloromethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
cis-1,2-Dichloroethene	4.1	1.0		µg/L	1	8/9/2007 2:11:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Dibromochloromethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Dibromomethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Diisopropyl ether	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Ethanol	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Ethyl acetate	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Ethylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Freon-114	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Isopropyl acetate	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Isopropylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
m,p-Xylene	U	2.0		µg/L	1	8/9/2007 2:11:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Methylene chloride	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
n-Amyl acetate	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Naphthalene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
n-Butyl acetate	U	2.0		µg/L	1	8/9/2007 2:11:00 PM
n-Butylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
n-Propyl acetate	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
n-Propylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
o-Xylene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Styrene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	8/9/2007 2:11:00 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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	SMP-I
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 5:00:00 PM
<b>Lab ID:</b>	0708088-01A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				Analyst: MB
Tetrachloroethene	0.87	1.0	J	µg/L	1	8/9/2007 2:11:00 PM
Toluene	4.0	1.0		µg/L	1	8/9/2007 2:11:00 PM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Trichloroethene	1.4	1.0		µg/L	1	8/9/2007 2:11:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Vinyl acetate	U	1.0		µg/L	1	8/9/2007 2:11:00 PM
Vinyl chloride	43	1.0		µg/L	1	8/9/2007 2:11:00 PM
Surr: 4-Bromofluorobenzene	106	54-134		%REC	1	8/9/2007 2:11:00 PM
Surr: Dibromofluoromethane	98.3	52-132		%REC	1	8/9/2007 2:11:00 PM
Surr: Toluene-d8	95.5	51-127		%REC	1	8/9/2007 2:11:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>				Analyst: STP
Nitrate	0.588	0.100		mg/L	1	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>				Analyst: PB
Sulfate	346	1.00		mg/L	1	8/14/2007

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

**American Analytical Laboratories, LLC.**

Date: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	DMP-1
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 5:30:00 PM
<b>Lab ID:</b>	0708088-02A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		<b>Analyst: JP</b>
Iron	9.18	0.0200		mg/L	1	8/10/2007 12:53:36 PM
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				<b>Analyst: MB</b>
1,1,1,2-Tetrachloroethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,1,1-Trichloroethane	320	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,1,2,2-Tetrachloroethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,1,2-Trichloroethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,1-Dichloroethane	280	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,1-Dichloroethene	12	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,1-Dichloropropene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2,3-Trichlorobenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2,3-Trichloropropane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2,4,5-Tetramethylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2,4-Trichlorobenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2,4-Trimethylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2-Dibromo-3-chloropropane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2-Dibromoethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2-Dichlorobenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2-Dichloroethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,2-Dichloropropane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,3,5-Trimethylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,3-Dichlorobenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,3-dichloropropane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
1,4-Dichlorobenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
2,2-Dichloropropane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
2-Butanone	U	6.0		µg/L	2	8/9/2007 2:36:00 PM
2-Chloroethyl vinyl ether	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
2-Chlorotoluene	8.5	2.0		µg/L	2	8/9/2007 2:36:00 PM
2-Hexanone	U	4.0		µg/L	2	8/9/2007 2:36:00 PM
2-Propanol	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
4-Chlorotoluene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
4-isopropyltoluene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
4-Methyl-2-pentanone	U	4.0		µg/L	2	8/9/2007 2:36:00 PM
Acetone	470	4.0		µg/L	2	8/9/2007 2:36:00 PM
Acrolein	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Acrylonitrile	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Benzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Bromobenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Bromochloromethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

CLIENT: Photocircuits Corporation Client Sample ID: DMP-1  
 Lab Order: 0708088 Tag Number:  
 Project: Photocircuits/Job#643.002-A Collection Date: 8/6/2007 5:30:00 PM  
 Lab ID: 0708088-02A 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	8/9/2007 2:36:00 PM
Bromoform	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Bromomethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Carbon disulfide	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Carbon tetrachloride	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Chlorobenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Chlorodifluoromethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Chloroethane	74	2.0		µg/L	2	8/9/2007 2:36:00 PM
Chloroform	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Chloromethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
cis-1,2-Dichloroethene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
cis-1,3-Dichloropropene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Dibromochloromethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Dibromomethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Dichlorodifluoromethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Diisopropyl ether	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Ethanol	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Ethyl acetate	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Ethylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Freon-114	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Hexachlorobutadiene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Isopropyl acetate	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Isopropylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
m,p-Xylene	U	4.0		µg/L	2	8/9/2007 2:36:00 PM
Methyl tert-butyl ether	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Methylene chloride	39	2.0	B	µg/L	2	8/9/2007 2:36:00 PM
n-Amyl acetate	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Naphthalene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
n-Butyl acetate	U	4.0		µg/L	2	8/9/2007 2:36:00 PM
n-Butylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
n-Propyl acetate	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
n-Propylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
o-Xylene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
p-Diethylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
p-Ethyltoluene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
sec-Butylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Styrene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
t-Butyl alcohol	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
tert-Butylbenzene	U	2.0		µg/L	2	8/9/2007 2:36:00 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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	DMP-1
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 5:30:00 PM
<b>Lab ID:</b>	0708088-02A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				Analyst: MB
Tetrachloroethene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Toluene	4.7	2.0		µg/L	2	8/9/2007 2:36:00 PM
trans-1,2-Dichloroethene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
trans-1,3-Dichloropropene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Trichloroethene	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Trichlorofluoromethane	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Vinyl acetate	U	2.0		µg/L	2	8/9/2007 2:36:00 PM
Vinyl chloride	13	2.0		µg/L	2	8/9/2007 2:36:00 PM
Surr: 4-Bromofluorobenzene	102	54-134		%REC	2	8/9/2007 2:36:00 PM
Surr: Dibromofluoromethane	102	52-132		%REC	2	8/9/2007 2:36:00 PM
Surr: Toluene-d8	96.4	51-127		%REC	2	8/9/2007 2:36:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>				Analyst: STP
Nitrate	1.36	0.100		mg/L	1	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>				Analyst: PB
Sulfate	576	1.00		mg/L	1	8/14/2007

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	SMP-3
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 5:20:00 PM
<b>Lab ID:</b>	0708088-03A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		<b>Analyst: JP</b>
Iron	7.97	0.0200		mg/L	1	8/10/2007 12:55:13 PM
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				<b>Analyst: MB</b>
1,1,1,2-Tetrachloroethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,1,1-Trichloroethane	31000	100		µg/L	100	8/9/2007 3:01:00 PM
1,1,2,2-Tetrachloroethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,1,2-Trichloroethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,1-Dichloroethane	3700	100		µg/L	100	8/9/2007 3:01:00 PM
1,1-Dichloroethene	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,1-Dichloropropene	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2,3-Trichlorobenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2,3-Trichloropropane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2,4,5-Tetramethylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2,4-Trichlorobenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2,4-Trimethylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2-Dibromo-3-chloropropane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2-Dibromoethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2-Dichlorobenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2-Dichloroethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,2-Dichloropropane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,3,5-Trimethylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,3-Dichlorobenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,3-dichloropropane	U	100		µg/L	100	8/9/2007 3:01:00 PM
1,4-Dichlorobenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
2,2-Dichloropropane	U	100		µg/L	100	8/9/2007 3:01:00 PM
2-Butanone	U	300		µg/L	100	8/9/2007 3:01:00 PM
2-Chloroethyl vinyl ether	U	100		µg/L	100	8/9/2007 3:01:00 PM
2-Chlorotoluene	U	100		µg/L	100	8/9/2007 3:01:00 PM
2-Hexanone	U	200		µg/L	100	8/9/2007 3:01:00 PM
2-Propanol	U	100		µg/L	100	8/9/2007 3:01:00 PM
4-Chlorotoluene	U	100		µg/L	100	8/9/2007 3:01:00 PM
4-isopropyltoluene	U	100		µg/L	100	8/9/2007 3:01:00 PM
4-Methyl-2-pentanone	U	200		µg/L	100	8/9/2007 3:01:00 PM
Acetone	U	200		µg/L	100	8/9/2007 3:01:00 PM
Acrolein	U	100		µg/L	100	8/9/2007 3:01:00 PM
Acrylonitrile	U	100		µg/L	100	8/9/2007 3:01:00 PM
Benzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Bromobenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Bromochloromethane	U	100		µg/L	100	8/9/2007 3:01:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	SMP-3
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 5:20:00 PM
<b>Lab ID:</b>	0708088-03A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>						
		<b>SW8260B</b>				<b>Analyst: MB</b>
Bromodichloromethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
Bromoform	U	100		µg/L	100	8/9/2007 3:01:00 PM
Bromomethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
Carbon disulfide	U	100		µg/L	100	8/9/2007 3:01:00 PM
Carbon tetrachloride	U	100		µg/L	100	8/9/2007 3:01:00 PM
Chlorobenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Chlorodifluoromethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
Chloroethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
Chloroform	U	100		µg/L	100	8/9/2007 3:01:00 PM
Chloromethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
cis-1,2-Dichloroethene	U	100		µg/L	100	8/9/2007 3:01:00 PM
cis-1,3-Dichloropropene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Dibromochloromethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
Dibromomethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
Dichlorodifluoromethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
Diisopropyl ether	U	100		µg/L	100	8/9/2007 3:01:00 PM
Ethanol	U	100		µg/L	100	8/9/2007 3:01:00 PM
Ethyl acetate	U	100		µg/L	100	8/9/2007 3:01:00 PM
Ethylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Freon-114	U	100		µg/L	100	8/9/2007 3:01:00 PM
Hexachlorobutadiene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Isopropyl acetate	U	100		µg/L	100	8/9/2007 3:01:00 PM
Isopropylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
m,p-Xylene	U	200		µg/L	100	8/9/2007 3:01:00 PM
Methyl tert-butyl ether	U	100		µg/L	100	8/9/2007 3:01:00 PM
Methylene chloride	U	100		µg/L	100	8/9/2007 3:01:00 PM
n-Amyl acetate	U	100		µg/L	100	8/9/2007 3:01:00 PM
Naphthalene	U	100		µg/L	100	8/9/2007 3:01:00 PM
n-Butyl acetate	U	200		µg/L	100	8/9/2007 3:01:00 PM
n-Butylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
n-Propyl acetate	U	100		µg/L	100	8/9/2007 3:01:00 PM
n-Propylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
o-Xylene	U	100		µg/L	100	8/9/2007 3:01:00 PM
p-Diethylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
p-Ethyltoluene	U	100		µg/L	100	8/9/2007 3:01:00 PM
sec-Butylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Styrene	U	100		µg/L	100	8/9/2007 3:01:00 PM
t-Butyl alcohol	U	100		µg/L	100	8/9/2007 3:01:00 PM
tert-Butylbenzene	U	100		µg/L	100	8/9/2007 3:01:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	SMP-3
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 5:20:00 PM
<b>Lab ID:</b>	0708088-03A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Tetrachloroethene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Toluene	U	100		µg/L	100	8/9/2007 3:01:00 PM
trans-1,2-Dichloroethene	U	100		µg/L	100	8/9/2007 3:01:00 PM
trans-1,3-Dichloropropene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Trichloroethene	U	100		µg/L	100	8/9/2007 3:01:00 PM
Trichlorofluoromethane	U	100		µg/L	100	8/9/2007 3:01:00 PM
Vinyl acetate	U	100		µg/L	100	8/9/2007 3:01:00 PM
Vinyl chloride	U	100		µg/L	100	8/9/2007 3:01:00 PM
Surr: 4-Bromofluorobenzene	106	54-134		%REC	100	8/9/2007 3:01:00 PM
Surr: Dibromofluoromethane	100	52-132		%REC	100	8/9/2007 3:01:00 PM
Surr: Toluene-d8	94.4	51-127		%REC	100	8/9/2007 3:01:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>		Analyst: STP		
Nitrate	0.482	0.100		mg/L	1	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>		Analyst: PB		
Sulfate	166	1.00		mg/L	1	8/14/2007

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	DMP-3
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 4:50:00 PM
<b>Lab ID:</b>	0708088-04A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		Analyst: JP
Iron	6.38	0.0200		mg/L	1	8/10/2007 12:56:50 PM
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				Analyst: MB
1,1,1,2-Tetrachloroethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,1,1-Trichloroethane	18000	100		µg/L	100	8/9/2007 3:26:00 PM
1,1,2,2-Tetrachloroethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,1,2-Trichloroethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,1-Dichloroethane	15000	100		µg/L	100	8/9/2007 3:26:00 PM
1,1-Dichloroethene	920	100		µg/L	100	8/9/2007 3:26:00 PM
1,1-Dichloropropene	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2,3-Trichlorobenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2,3-Trichloropropane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2,4,5-Tetramethylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2,4-Trichlorobenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2,4-Trimethylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2-Dibromo-3-chloropropane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2-Dibromoethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2-Dichlorobenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2-Dichloroethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,2-Dichloropropane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,3,5-Trimethylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,3-Dichlorobenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,3-dichloropropane	U	100		µg/L	100	8/9/2007 3:26:00 PM
1,4-Dichlorobenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
2,2-Dichloropropane	U	100		µg/L	100	8/9/2007 3:26:00 PM
2-Butanone	U	300		µg/L	100	8/9/2007 3:26:00 PM
2-Chloroethyl vinyl ether	U	100		µg/L	100	8/9/2007 3:26:00 PM
2-Chlorotoluene	U	100		µg/L	100	8/9/2007 3:26:00 PM
2-Hexanone	U	200		µg/L	100	8/9/2007 3:26:00 PM
2-Propanol	U	100		µg/L	100	8/9/2007 3:26:00 PM
4-Chlorotoluene	U	100		µg/L	100	8/9/2007 3:26:00 PM
4-Isopropyltoluene	U	100		µg/L	100	8/9/2007 3:26:00 PM
4-Methyl-2-pentanone	U	200		µg/L	100	8/9/2007 3:26:00 PM
Acetone	U	200		µg/L	100	8/9/2007 3:26:00 PM
Acrolein	U	100		µg/L	100	8/9/2007 3:26:00 PM
Acrylonitrile	U	100		µg/L	100	8/9/2007 3:26:00 PM
Benzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Bromobenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Bromochloromethane	U	100		µg/L	100	8/9/2007 3:26:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	DMP-3
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 4:50:00 PM
<b>Lab ID:</b>	0708088-04A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Bromodichloromethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
Bromoform	U	100		µg/L	100	8/9/2007 3:26:00 PM
Bromomethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
Carbon disulfide	U	100		µg/L	100	8/9/2007 3:26:00 PM
Carbon tetrachloride	U	100		µg/L	100	8/9/2007 3:26:00 PM
Chlorobenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Chlorodifluoromethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
Chloroethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
Chloroform	U	100		µg/L	100	8/9/2007 3:26:00 PM
Chloromethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
cis-1,2-Dichloroethene	U	100		µg/L	100	8/9/2007 3:26:00 PM
cis-1,3-Dichloropropene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Dibromochloromethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
Dibromomethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
Dichlorodifluoromethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
Diisopropyl ether	U	100		µg/L	100	8/9/2007 3:26:00 PM
Ethanol	U	100		µg/L	100	8/9/2007 3:26:00 PM
Ethyl acetate	U	100		µg/L	100	8/9/2007 3:26:00 PM
Ethylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Freon-114	U	100		µg/L	100	8/9/2007 3:26:00 PM
Hexachlorobutadiene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Isopropyl acetate	U	100		µg/L	100	8/9/2007 3:26:00 PM
Isopropylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
m,p-Xylene	U	200		µg/L	100	8/9/2007 3:26:00 PM
Methyl tert-butyl ether	U	100		µg/L	100	8/9/2007 3:26:00 PM
Methylene chloride	1900	100		µg/L	100	8/9/2007 3:26:00 PM
n-Amyl acetate	U	100		µg/L	100	8/9/2007 3:26:00 PM
Naphthalene	U	100		µg/L	100	8/9/2007 3:26:00 PM
n-Butyl acetate	U	200		µg/L	100	8/9/2007 3:26:00 PM
n-Butylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
n-Propyl acetate	U	100		µg/L	100	8/9/2007 3:26:00 PM
n-Propylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
o-Xylene	U	100		µg/L	100	8/9/2007 3:26:00 PM
p-Diethylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
p-Ethyltoluene	U	100		µg/L	100	8/9/2007 3:26:00 PM
sec-Butylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Styrene	U	100		µg/L	100	8/9/2007 3:26:00 PM
t-Butyl alcohol	U	100		µg/L	100	8/9/2007 3:26:00 PM
tert-Butylbenzene	U	100		µg/L	100	8/9/2007 3:26:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	DMP-3
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 4:50:00 PM
<b>Lab ID:</b>	0708088-04A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				Analyst: MB
Tetrachloroethene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Toluene	98	100	J	µg/L	100	8/9/2007 3:26:00 PM
trans-1,2-Dichloroethene	U	100		µg/L	100	8/9/2007 3:26:00 PM
trans-1,3-Dichloropropene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Trichloroethene	U	100		µg/L	100	8/9/2007 3:26:00 PM
Trichlorofluoromethane	U	100		µg/L	100	8/9/2007 3:26:00 PM
Vinyl acetate	U	100		µg/L	100	8/9/2007 3:26:00 PM
Vinyl chloride	970	100		µg/L	100	8/9/2007 3:26:00 PM
Surr: 4-Bromofluorobenzene	101	54-134		%REC	100	8/9/2007 3:26:00 PM
Surr: Dibromofluoromethane	97.3	52-132		%REC	100	8/9/2007 3:26:00 PM
Surr: Toluene-d8	93.9	51-127		%REC	100	8/9/2007 3:26:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>				Analyst: STP
Nitrate	0.0570	0.100	J	mg/L	1	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>				Analyst: PB
Sulfate	1120	1.00		mg/L	1	8/14/2007

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	SMP-4
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 4:15:00 PM
<b>Lab ID:</b>	0708088-05A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		<b>Analyst: JP</b>
Iron	55.8	0.0200		mg/L	1	8/10/2007 12:58:28 PM
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				<b>Analyst: MB</b>
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,1-Dichloroethane	17	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2,4-Trimethylbenzene	1.9	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
2-Butanone	U	3.0		µg/L	1	8/9/2007 3:51:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
2-Chlorotoluene	2.0	1.0		µg/L	1	8/9/2007 3:51:00 PM
2-Hexanone	U	2.0		µg/L	1	8/9/2007 3:51:00 PM
2-Propanol	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	8/9/2007 3:51:00 PM
Acetone	U	2.0		µg/L	1	8/9/2007 3:51:00 PM
Acrolein	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Acrylonitrile	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Benzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Bromobenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Bromochloromethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	SMP-4
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 4:15:00 PM
<b>Lab ID:</b>	0708088-05A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>				<b>SW8260B</b>		<b>Analyst: MB</b>
Bromodichloromethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Bromoform	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Bromomethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Carbon disulfide	2.7	1.0		µg/L	1	8/9/2007 3:51:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Chlorobenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Chloroethane	2100	5.0		µg/L	5	8/10/2007 1:31:00 PM
Chloroform	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Chloromethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
cis-1,2-Dichloroethene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Dibromochloromethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Dibromomethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Diisopropyl ether	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Ethanol	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Ethyl acetate	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Ethylbenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Freon-114	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Isopropyl acetate	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Isopropylbenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
m,p-Xylene	U	2.0		µg/L	1	8/9/2007 3:51:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Methylene chloride	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
n-Amyl acetate	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Naphthalene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
n-Butyl acetate	U	2.0		µg/L	1	8/9/2007 3:51:00 PM
n-Butylbenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
n-Propyl acetate	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
n-Propylbenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
o-Xylene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Styrene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	SMP-4
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 4:15:00 PM
<b>Lab ID:</b>	0708088-05A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Tetrachloroethene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Toluene	18	1.0		µg/L	1	8/9/2007 3:51:00 PM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Trichloroethene	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Vinyl acetate	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Vinyl chloride	U	1.0		µg/L	1	8/9/2007 3:51:00 PM
Surr: 4-Bromofluorobenzene	103	54-134		%REC	1	8/9/2007 3:51:00 PM
Surr: 4-Bromofluorobenzene	112	54-134		%REC	5	8/10/2007 1:31:00 PM
Surr: Dibromofluoromethane	93.4	52-132		%REC	1	8/9/2007 3:51:00 PM
Surr: Dibromofluoromethane	103	52-132		%REC	5	8/10/2007 1:31:00 PM
Surr: Toluene-d8	93.0	51-127		%REC	5	8/10/2007 1:31:00 PM
Surr: Toluene-d8	92.4	51-127		%REC	1	8/9/2007 3:51:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>		Analyst: STP		
Nitrate	1.59	0.100		mg/L	1	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>		Analyst: PB		
Sulfate	77.8	1.00		mg/L	1	8/14/2007

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	DMP-4
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 3:30:00 PM
<b>Lab ID:</b>	0708088-06A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		Analyst: JP
Iron	19.2	0.0200		mg/L	1	8/10/2007 1:00:05 PM
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				Analyst: MB
1,1,1,2-Tetrachloroethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,1,1-Trichloroethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,1,2,2-Tetrachloroethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,1,2-Trichloroethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,1-Dichloroethane	1000	20		µg/L	20	8/9/2007 4:15:00 PM
1,1-Dichloroethene	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,1-Dichloropropene	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2,3-Trichlorobenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2,3-Trichloropropane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2,4,5-Tetramethylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2,4-Trichlorobenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2,4-Trimethylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2-Dibromo-3-chloropropane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2-Dibromoethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2-Dichlorobenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2-Dichloroethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,2-Dichloropropane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,3,5-Trimethylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,3-Dichlorobenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,3-dichloropropane	U	20		µg/L	20	8/9/2007 4:15:00 PM
1,4-Dichlorobenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
2,2-Dichloropropane	U	20		µg/L	20	8/9/2007 4:15:00 PM
2-Butanone	U	60		µg/L	20	8/9/2007 4:15:00 PM
2-Chloroethyl vinyl ether	U	20		µg/L	20	8/9/2007 4:15:00 PM
2-Chlorotoluene	U	20		µg/L	20	8/9/2007 4:15:00 PM
2-Hexanone	U	40		µg/L	20	8/9/2007 4:15:00 PM
2-Propanol	U	20		µg/L	20	8/9/2007 4:15:00 PM
4-Chlorotoluene	U	20		µg/L	20	8/9/2007 4:15:00 PM
4-Isopropyltoluene	U	20		µg/L	20	8/9/2007 4:15:00 PM
4-Methyl-2-pentanone	U	40		µg/L	20	8/9/2007 4:15:00 PM
Acetone	U	40		µg/L	20	8/9/2007 4:15:00 PM
Acrolein	U	20		µg/L	20	8/9/2007 4:15:00 PM
Acrylonitrile	U	20		µg/L	20	8/9/2007 4:15:00 PM
Benzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Bromobenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Bromochloromethane	U	20		µg/L	20	8/9/2007 4:15:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	DMP-4
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 3:30:00 PM
<b>Lab ID:</b>	0708088-06A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Bromodichloromethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
Bromoform	U	20		µg/L	20	8/9/2007 4:15:00 PM
Bromomethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
Carbon disulfide	U	20		µg/L	20	8/9/2007 4:15:00 PM
Carbon tetrachloride	U	20		µg/L	20	8/9/2007 4:15:00 PM
Chlorobenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Chlorodifluoromethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
Chloroethane	4400	20		µg/L	20	8/9/2007 4:15:00 PM
Chloroform	U	20		µg/L	20	8/9/2007 4:15:00 PM
Chloromethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
cis-1,2-Dichloroethene	U	20		µg/L	20	8/9/2007 4:15:00 PM
cis-1,3-Dichloropropene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Dibromochloromethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
Dibromomethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
Dichlorodifluoromethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
Diisopropyl ether	U	20		µg/L	20	8/9/2007 4:15:00 PM
Ethanol	U	20		µg/L	20	8/9/2007 4:15:00 PM
Ethyl acetate	U	20		µg/L	20	8/9/2007 4:15:00 PM
Ethylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Freon-114	U	20		µg/L	20	8/9/2007 4:15:00 PM
Hexachlorobutadiene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Isopropyl acetate	U	20		µg/L	20	8/9/2007 4:15:00 PM
Isopropylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
m,p-Xylene	U	40		µg/L	20	8/9/2007 4:15:00 PM
Methyl tert-butyl ether	U	20		µg/L	20	8/9/2007 4:15:00 PM
Methylene chloride	410	20	B	µg/L	20	8/9/2007 4:15:00 PM
n-Amyl acetate	U	20		µg/L	20	8/9/2007 4:15:00 PM
Naphthalene	U	20		µg/L	20	8/9/2007 4:15:00 PM
n-Butyl acetate	U	40		µg/L	20	8/9/2007 4:15:00 PM
n-Butylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
n-Propyl acetate	U	20		µg/L	20	8/9/2007 4:15:00 PM
n-Propylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
o-Xylene	U	20		µg/L	20	8/9/2007 4:15:00 PM
p-Diethylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
p-Ethyltoluene	U	20		µg/L	20	8/9/2007 4:15:00 PM
sec-Butylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Styrene	U	20		µg/L	20	8/9/2007 4:15:00 PM
t-Butyl alcohol	U	20		µg/L	20	8/9/2007 4:15:00 PM
tert-Butylbenzene	U	20		µg/L	20	8/9/2007 4:15:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	DMP-4
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 3:30:00 PM
<b>Lab ID:</b>	0708088-06A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Tetrachloroethene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Toluene	17	20	J	µg/L	20	8/9/2007 4:15:00 PM
trans-1,2-Dichloroethene	U	20		µg/L	20	8/9/2007 4:15:00 PM
trans-1,3-Dichloropropene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Trichloroethene	U	20		µg/L	20	8/9/2007 4:15:00 PM
Trichlorofluoromethane	U	20		µg/L	20	8/9/2007 4:15:00 PM
Vinyl acetate	U	20		µg/L	20	8/9/2007 4:15:00 PM
Vinyl chloride	72	20		µg/L	20	8/9/2007 4:15:00 PM
Surr: 4-Bromofluorobenzene	102	54-134		%REC	20	8/9/2007 4:15:00 PM
Surr: Dibromofluoromethane	94.3	52-132		%REC	20	8/9/2007 4:15:00 PM
Surr: Toluene-d8	91.8	51-127		%REC	20	8/9/2007 4:15:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>		Analyst: STP		
Nitrate	0.648	0.100		mg/L	1	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>		Analyst: PB		
Sulfate	122	1.00		mg/L	1	8/14/2007

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-8
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 6:15:00 PM
<b>Lab ID:</b>	0708088-07A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		<b>Analyst: JP</b>
Iron	0.0360	0.0200		mg/L	1	8/10/2007 1:01:42 PM
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				<b>Analyst: MB</b>
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,1-Dichloroethane	3.5	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
2-Butanone	U	3.0		µg/L	1	8/9/2007 4:40:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
2-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
2-Hexanone	U	2.0		µg/L	1	8/9/2007 4:40:00 PM
2-Propanol	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	8/9/2007 4:40:00 PM
Acetone	U	2.0		µg/L	1	8/9/2007 4:40:00 PM
Acrolein	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Acrylonitrile	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Benzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Bromobenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Bromochloromethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-8
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 6:15:00 PM
<b>Lab ID:</b>	0708088-07A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>						
		<b>SW8260B</b>				Analyst: MB
Bromodichloromethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Bromoform	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Bromomethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Carbon disulfide	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Chlorobenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Chloroethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Chloroform	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Chloromethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
cis-1,2-Dichloroethene	30	1.0		µg/L	1	8/9/2007 4:40:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Dibromochloromethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Dibromomethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Diisopropyl ether	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Ethanol	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Ethyl acetate	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Ethylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Freon-114	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Isopropyl acetate	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Isopropylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
m,p-Xylene	U	2.0		µg/L	1	8/9/2007 4:40:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Methylene chloride	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
n-Amyl acetate	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Naphthalene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
n-Butyl acetate	U	2.0		µg/L	1	8/9/2007 4:40:00 PM
n-Butylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
n-Propyl acetate	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
n-Propylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
o-Xylene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Styrene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-8
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 6:15:00 PM
<b>Lab ID:</b>	0708088-07A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				Analyst: MB
Tetrachloroethene	1.6	1.0		µg/L	1	8/9/2007 4:40:00 PM
Toluene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Trichloroethene	17	1.0		µg/L	1	8/9/2007 4:40:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Vinyl acetate	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Vinyl chloride	U	1.0		µg/L	1	8/9/2007 4:40:00 PM
Surr: 4-Bromofluorobenzene	107	54-134		%REC	1	8/9/2007 4:40:00 PM
Surr: Dibromofluoromethane	99.0	52-132		%REC	1	8/9/2007 4:40:00 PM
Surr: Toluene-d8	93.5	51-127		%REC	1	8/9/2007 4:40:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>				Analyst: STP
Nitrate	0.756	0.100		mg/L	1	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>				Analyst: PB
Sulfate	29.2	1.00		mg/L	1	8/14/2007

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-12
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 12:40:00 PM
<b>Lab ID:</b>	0708088-08A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		<b>Analyst: JP</b>
Iron	22.1	0.0200		mg/L	1	8/10/2007 1:03:20 PM
<b>VOLATILE SW-846 METHOD 8260</b>						<b>Analyst: MB</b>
1,1,1,2-Tetrachloroethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,1,1-Trichloroethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,1,2,2-Tetrachloroethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,1,2-Trichloroethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,1-Dichloroethane	340	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,1-Dichloroethene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,1-Dichloropropene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2,3-Trichlorobenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2,3-Trichloropropane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2,4,5-Tetramethylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2,4-Trichlorobenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2,4-Trimethylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2-Dibromo-3-chloropropane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2-Dibromoethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2-Dichlorobenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2-Dichloroethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,2-Dichloropropane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,3,5-Trimethylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,3-Dichlorobenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,3-dichloropropane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
1,4-Dichlorobenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
2,2-Dichloropropane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
2-Butanone	U	15		µg/L	5	8/9/2007 5:04:00 PM
2-Chloroethyl vinyl ether	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
2-Chlorotoluene	1500	5.0		µg/L	5	8/9/2007 5:04:00 PM
2-Hexanone	U	10		µg/L	5	8/9/2007 5:04:00 PM
2-Propanol	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
4-Chlorotoluene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
4-Isopropyltoluene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
4-Methyl-2-pentanone	U	10		µg/L	5	8/9/2007 5:04:00 PM
Acetone	U	10		µg/L	5	8/9/2007 5:04:00 PM
Acrolein	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Acrylonitrile	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Benzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Bromobenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Bromochloromethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-12
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 12:40:00 PM
<b>Lab ID:</b>	0708088-08A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		<b>Analyst: MB</b>		
Bromodichloromethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Bromoform	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Bromomethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Carbon disulfide	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Carbon tetrachloride	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Chlorobenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Chlorodifluoromethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Chloroethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Chloroform	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Chloromethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
cis-1,2-Dichloroethene	23	5.0		µg/L	5	8/9/2007 5:04:00 PM
cis-1,3-Dichloropropene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Dibromochloromethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Dibromomethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Dichlorodifluoromethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Diisopropyl ether	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Ethanol	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Ethyl acetate	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Ethylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Freon-114	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Hexachlorobutadiene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Isopropyl acetate	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Isopropylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
m,p-Xylene	U	10		µg/L	5	8/9/2007 5:04:00 PM
Methyl tert-butyl ether	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Methylene chloride	100	5.0	B	µg/L	5	8/9/2007 5:04:00 PM
n-Amyl acetate	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Naphthalene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
n-Butyl acetate	U	10		µg/L	5	8/9/2007 5:04:00 PM
n-Butylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
n-Propyl acetate	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
n-Propylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
o-Xylene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
p-Diethylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
p-Ethyltoluene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
sec-Butylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Styrene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
t-Butyl alcohol	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
tert-Butylbenzene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-12
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 12:40:00 PM
<b>Lab ID:</b>	0708088-08A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Tetrachloroethene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Toluene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
trans-1,2-Dichloroethene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
trans-1,3-Dichloropropene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Trichloroethene	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Trichlorofluoromethane	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Vinyl acetate	U	5.0		µg/L	5	8/9/2007 5:04:00 PM
Vinyl chloride	28	5.0		µg/L	5	8/9/2007 5:04:00 PM
Surr: 4-Bromofluorobenzene	107	54-134		%REC	5	8/9/2007 5:04:00 PM
Surr: Dibromofluoromethane	96.1	52-132		%REC	5	8/9/2007 5:04:00 PM
Surr: Toluene-d8	93.9	51-127		%REC	5	8/9/2007 5:04:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>		Analyst: STP		
Nitrate	0.158	0.100		mg/L	1	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>		Analyst: PB		
Sulfate	301	1.00		mg/L	1	8/14/2007

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

American Analytical Laboratories, LLC.

Date: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-13
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 2:15:00 PM
<b>Lab ID:</b>	0708088-09A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		Analyst: JP
Iron	0.310	0.0200		mg/L	1	8/10/2007 1:04:57 PM
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>				Analyst: MB
1,1,1,2-Tetrachloroethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,1,1-Trichloroethane	160	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,1,2,2-Tetrachloroethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,1,2-Trichloroethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,1-Dichloroethane	380	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,1-Dichloroethene	130	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,1-Dichloropropene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2,3-Trichlorobenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2,3-Trichloropropane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2,4,5-Tetramethylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2,4-Trichlorobenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2,4-Trimethylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2-Dibromo-3-chloropropane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2-Dibromoethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2-Dichlorobenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2-Dichloroethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,2-Dichloropropane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,3,5-Trimethylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,3-Dichlorobenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,3-dichloropropane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
1,4-Dichlorobenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
2,2-Dichloropropane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
2-Butanone	U	6.0		µg/L	2	8/9/2007 5:29:00 PM
2-Chloroethyl vinyl ether	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
2-Chlorotoluene	16	2.0		µg/L	2	8/9/2007 5:29:00 PM
2-Hexanone	U	4.0		µg/L	2	8/9/2007 5:29:00 PM
2-Propanol	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
4-Chlorotoluene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
4-isopropyltoluene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
4-Methyl-2-pentanone	U	4.0		µg/L	2	8/9/2007 5:29:00 PM
Acetone	U	4.0		µg/L	2	8/9/2007 5:29:00 PM
Acrolein	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Acrylonitrile	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Benzene	6.4	2.0		µg/L	2	8/9/2007 5:29:00 PM
Bromobenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Bromochloromethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-13
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 2:15:00 PM
<b>Lab ID:</b>	0708088-09A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Bromodichloromethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Bromoform	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Bromomethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Carbon disulfide	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Carbon tetrachloride	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Chlorobenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Chlorodifluoromethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Chloroethane	54	2.0		µg/L	2	8/9/2007 5:29:00 PM
Chloroform	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Chloromethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
cis-1,2-Dichloroethene	800	2.0		µg/L	2	8/9/2007 5:29:00 PM
cis-1,3-Dichloropropene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Dibromochloromethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Dibromomethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Dichlorodifluoromethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Diisopropyl ether	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Ethanol	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Ethyl acetate	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Ethylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Freon-114	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Hexachlorobutadiene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Isopropyl acetate	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Isopropylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
m,p-Xylene	U	4.0		µg/L	2	8/9/2007 5:29:00 PM
Methyl tert-butyl ether	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Methylene chloride	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
n-Amyl acetate	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Naphthalene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
n-Butyl acetate	U	4.0		µg/L	2	8/9/2007 5:29:00 PM
n-Butylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
n-Propyl acetate	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
n-Propylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
o-Xylene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
p-Diethylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
p-Ethyltoluene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
sec-Butylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Styrene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
t-Butyl alcohol	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
tert-Butylbenzene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-13
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 2:15:00 PM
<b>Lab ID:</b>	0708088-09A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Tetrachloroethene	750	2.0		µg/L	2	8/9/2007 5:29:00 PM
Toluene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
trans-1,2-Dichloroethene	6.3	2.0		µg/L	2	8/9/2007 5:29:00 PM
trans-1,3-Dichloropropene	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Trichloroethene	5100	10		µg/L	10	8/10/2007 1:56:00 PM
Trichlorofluoromethane	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Vinyl acetate	U	2.0		µg/L	2	8/9/2007 5:29:00 PM
Vinyl chloride	170	2.0		µg/L	2	8/9/2007 5:29:00 PM
Surr: 4-Bromofluorobenzene	109	54-134		%REC	2	8/9/2007 5:29:00 PM
Surr: 4-Bromofluorobenzene	114	54-134		%REC	10	8/10/2007 1:56:00 PM
Surr: Dibromofluoromethane	98.2	52-132		%REC	2	8/9/2007 5:29:00 PM
Surr: Dibromofluoromethane	98.2	52-132		%REC	10	8/10/2007 1:56:00 PM
Surr: Toluene-d8	111	51-127		%REC	10	8/10/2007 1:56:00 PM
Surr: Toluene-d8	110	51-127		%REC	2	8/9/2007 5:29:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>		Analyst: STP		
Nitrate	2.11	0.100		mg/L	1	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>		Analyst: PB		
Sulfate	763	1.00		mg/L	1	8/14/2007

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-14
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 4:30:00 PM
<b>Lab ID:</b>	0708088-10A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>TOTAL IRON</b>		<b>E200.7</b>		<b>SW3010A</b>		<b>Analyst: JP</b>
Iron	26.3	0.0200		mg/L	1	8/10/2007 1:09:48 PM
<b>VOLATILE SW-846 METHOD 8260</b>						<b>Analyst: MB</b>
1,1,1,2-Tetrachloroethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,1,1-Trichloroethane	1800	20		µg/L	20	8/9/2007 5:54:00 PM
1,1,2,2-Tetrachloroethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,1,2-Trichloroethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,1-Dichloroethane	4500	20		µg/L	20	8/9/2007 5:54:00 PM
1,1-Dichloroethene	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,1-Dichloropropene	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2,3-Trichlorobenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2,3-Trichloropropane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2,4,5-Tetramethylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2,4-Trichlorobenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2,4-Trimethylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2-Dibromo-3-chloropropane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2-Dibromoethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2-Dichlorobenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2-Dichloroethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,2-Dichloropropane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,3,5-Trimethylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,3-Dichlorobenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,3-dichloropropane	U	20		µg/L	20	8/9/2007 5:54:00 PM
1,4-Dichlorobenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
2,2-Dichloropropane	U	20		µg/L	20	8/9/2007 5:54:00 PM
2-Butanone	U	60		µg/L	20	8/9/2007 5:54:00 PM
2-Chloroethyl vinyl ether	U	20		µg/L	20	8/9/2007 5:54:00 PM
2-Chlorotoluene	U	20		µg/L	20	8/9/2007 5:54:00 PM
2-Hexanone	U	40		µg/L	20	8/9/2007 5:54:00 PM
2-Propanol	U	20		µg/L	20	8/9/2007 5:54:00 PM
4-Chlorotoluene	U	20		µg/L	20	8/9/2007 5:54:00 PM
4-Isopropyltoluene	U	20		µg/L	20	8/9/2007 5:54:00 PM
4-Methyl-2-pentanone	U	40		µg/L	20	8/9/2007 5:54:00 PM
Acetone	U	40		µg/L	20	8/9/2007 5:54:00 PM
Acrolein	U	20		µg/L	20	8/9/2007 5:54:00 PM
Acrylonitrile	U	20		µg/L	20	8/9/2007 5:54:00 PM
Benzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Bromobenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Bromochloromethane	U	20		µg/L	20	8/9/2007 5:54:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-14
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 4:30:00 PM
<b>Lab ID:</b>	0708088-10A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		<b>Analyst: MB</b>		
Bromodichloromethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
Bromoform	U	20		µg/L	20	8/9/2007 5:54:00 PM
Bromomethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
Carbon disulfide	U	20		µg/L	20	8/9/2007 5:54:00 PM
Carbon tetrachloride	U	20		µg/L	20	8/9/2007 5:54:00 PM
Chlorobenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Chlorodifluoromethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
Chloroethane	2900	20		µg/L	20	8/9/2007 5:54:00 PM
Chloroform	U	20		µg/L	20	8/9/2007 5:54:00 PM
Chloromethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
cis-1,2-Dichloroethene	U	20		µg/L	20	8/9/2007 5:54:00 PM
cis-1,3-Dichloropropene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Dibromochloromethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
Dibromomethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
Dichlorodifluoromethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
Diisopropyl ether	U	20		µg/L	20	8/9/2007 5:54:00 PM
Ethanol	U	20		µg/L	20	8/9/2007 5:54:00 PM
Ethyl acetate	U	20		µg/L	20	8/9/2007 5:54:00 PM
Ethylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Freon-114	U	20		µg/L	20	8/9/2007 5:54:00 PM
Hexachlorobutadiene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Isopropyl acetate	U	20		µg/L	20	8/9/2007 5:54:00 PM
Isopropylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
m,p-Xylene	U	40		µg/L	20	8/9/2007 5:54:00 PM
Methyl tert-butyl ether	U	20		µg/L	20	8/9/2007 5:54:00 PM
Methylene chloride	440	20	B	µg/L	20	8/9/2007 5:54:00 PM
n-Amyl acetate	U	20		µg/L	20	8/9/2007 5:54:00 PM
Naphthalene	U	20		µg/L	20	8/9/2007 5:54:00 PM
n-Butyl acetate	U	40		µg/L	20	8/9/2007 5:54:00 PM
n-Butylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
n-Propyl acetate	U	20		µg/L	20	8/9/2007 5:54:00 PM
n-Propylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
o-Xylene	U	20		µg/L	20	8/9/2007 5:54:00 PM
p-Diethylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
p-Ethyltoluene	U	20		µg/L	20	8/9/2007 5:54:00 PM
sec-Butylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Styrene	U	20		µg/L	20	8/9/2007 5:54:00 PM
t-Butyl alcohol	U	20		µg/L	20	8/9/2007 5:54:00 PM
tert-Butylbenzene	U	20		µg/L	20	8/9/2007 5:54:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-14
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/6/2007 4:30:00 PM
<b>Lab ID:</b>	0708088-10A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Tetrachloroethene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Toluene	43	20		µg/L	20	8/9/2007 5:54:00 PM
trans-1,2-Dichloroethene	U	20		µg/L	20	8/9/2007 5:54:00 PM
trans-1,3-Dichloropropene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Trichloroethene	U	20		µg/L	20	8/9/2007 5:54:00 PM
Trichlorofluoromethane	U	20		µg/L	20	8/9/2007 5:54:00 PM
Vinyl acetate	U	20		µg/L	20	8/9/2007 5:54:00 PM
Vinyl chloride	120	20		µg/L	20	8/9/2007 5:54:00 PM
Surr: 4-Bromofluorobenzene	102	54-134		%REC	20	8/9/2007 5:54:00 PM
Surr: Dibromofluoromethane	98.6	52-132		%REC	20	8/9/2007 5:54:00 PM
Surr: Toluene-d8	95.4	51-127		%REC	20	8/9/2007 5:54:00 PM
<b>NITRATE AS N</b>		<b>E353.2</b>		Analyst: STP		
Nitrate	0.536	0.200		mg/L	2	8/16/2007
<b>SULFATE</b>		<b>E375.4</b>		Analyst: PB		
Sulfate	88.6	1.00		mg/L	1	8/14/2007

<b>Qualifiers:</b>	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: 17-Aug-07

CLIENT: Photocircuits Corporation Client Sample ID: RW-1  
 Lab Order: 0708088 Tag Number:  
 Project: Photocircuits/Job#643.002-A Collection Date: 8/7/2007 3:40:00 PM  
 Lab ID: 0708088-11A Matrix: LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
1,1,1,2-Tetrachloroethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,1,1-Trichloroethane	100	10		µg/L	10	8/9/2007 6:20:00 PM
1,1,2,2-Tetrachloroethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,1,2-Trichloroethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,1-Dichloroethane	650	10		µg/L	10	8/9/2007 6:20:00 PM
1,1-Dichloroethene	180	10		µg/L	10	8/9/2007 6:20:00 PM
1,1-Dichloropropene	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2,3-Trichlorobenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2,3-Trichloropropane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2,4,5-Tetramethylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2,4-Trichlorobenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2,4-Trimethylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2-Dibromo-3-chloropropane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2-Dibromoethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2-Dichlorobenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2-Dichloroethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,2-Dichloropropane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,3,5-Trimethylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,3-Dichlorobenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,3-dichloropropane	U	10		µg/L	10	8/9/2007 6:20:00 PM
1,4-Dichlorobenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
2,2-Dichloropropane	U	10		µg/L	10	8/9/2007 6:20:00 PM
2-Butanone	U	30		µg/L	10	8/9/2007 6:20:00 PM
2-Chloroethyl vinyl ether	U	10		µg/L	10	8/9/2007 6:20:00 PM
2-Chlorotoluene	44	10		µg/L	10	8/9/2007 6:20:00 PM
2-Hexanone	U	20		µg/L	10	8/9/2007 6:20:00 PM
2-Propanol	U	10		µg/L	10	8/9/2007 6:20:00 PM
4-Chlorotoluene	U	10		µg/L	10	8/9/2007 6:20:00 PM
4-Isopropyltoluene	U	10		µg/L	10	8/9/2007 6:20:00 PM
4-Methyl-2-pentanone	U	20		µg/L	10	8/9/2007 6:20:00 PM
Acetone	U	20		µg/L	10	8/9/2007 6:20:00 PM
Acrolein	U	10		µg/L	10	8/9/2007 6:20:00 PM
Acrylonitrile	U	10		µg/L	10	8/9/2007 6:20:00 PM
Benzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
Bromobenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
Bromochloromethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
Bromodichloromethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
Bromoform	U	10		µg/L	10	8/9/2007 6:20:00 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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	RW-1
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 3:40:00 PM
<b>Lab ID:</b>	0708088-11A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Bromomethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
Carbon disulfide	U	10		µg/L	10	8/9/2007 6:20:00 PM
Carbon tetrachloride	U	10		µg/L	10	8/9/2007 6:20:00 PM
Chlorobenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
Chlorodifluoromethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
Chloroethane	150	10		µg/L	10	8/9/2007 6:20:00 PM
Chloroform	U	10		µg/L	10	8/9/2007 6:20:00 PM
Chloromethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
cis-1,2-Dichloroethene	10000	50		µg/L	50	8/10/2007 2:20:00 PM
cis-1,3-Dichloropropene	U	10		µg/L	10	8/9/2007 6:20:00 PM
Dibromochloromethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
Dibromomethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
Dichlorodifluoromethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
Diisopropyl ether	U	10		µg/L	10	8/9/2007 6:20:00 PM
Ethanol	U	10		µg/L	10	8/9/2007 6:20:00 PM
Ethyl acetate	U	10		µg/L	10	8/9/2007 6:20:00 PM
Ethylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
Freon-114	U	10		µg/L	10	8/9/2007 6:20:00 PM
Hexachlorobutadiene	U	10		µg/L	10	8/9/2007 6:20:00 PM
Isopropyl acetate	U	10		µg/L	10	8/9/2007 6:20:00 PM
Isopropylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
m,p-Xylene	U	20		µg/L	10	8/9/2007 6:20:00 PM
Methyl tert-butyl ether	U	10		µg/L	10	8/9/2007 6:20:00 PM
Methylene chloride	U	10		µg/L	10	8/9/2007 6:20:00 PM
n-Amyl acetate	U	10		µg/L	10	8/9/2007 6:20:00 PM
Naphthalene	U	10		µg/L	10	8/9/2007 6:20:00 PM
n-Butyl acetate	U	20		µg/L	10	8/9/2007 6:20:00 PM
n-Butylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
n-Propyl acetate	U	10		µg/L	10	8/9/2007 6:20:00 PM
n-Propylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
o-Xylene	U	10		µg/L	10	8/9/2007 6:20:00 PM
p-Diethylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
p-Ethyltoluene	U	10		µg/L	10	8/9/2007 6:20:00 PM
sec-Butylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
Styrene	U	10		µg/L	10	8/9/2007 6:20:00 PM
t-Butyl alcohol	U	10		µg/L	10	8/9/2007 6:20:00 PM
tert-Butylbenzene	U	10		µg/L	10	8/9/2007 6:20:00 PM
Tetrachloroethene	960	10		µg/L	10	8/9/2007 6:20:00 PM
Toluene	14	10		µg/L	10	8/9/2007 6:20:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	RW-1
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 3:40:00 PM
<b>Lab ID:</b>	0708088-11A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
trans-1,2-Dichloroethene	51	10		µg/L	10	8/9/2007 6:20:00 PM
trans-1,3-Dichloropropene	U	10		µg/L	10	8/9/2007 6:20:00 PM
Trichloroethene	16000	50		µg/L	50	8/10/2007 2:20:00 PM
Trichlorofluoromethane	U	10		µg/L	10	8/9/2007 6:20:00 PM
Vinyl acetate	U	10		µg/L	10	8/9/2007 6:20:00 PM
Vinyl chloride	570	10		µg/L	10	8/9/2007 6:20:00 PM
Surr: 4-Bromofluorobenzene	104	54-134		%REC	10	8/9/2007 6:20:00 PM
Surr: 4-Bromofluorobenzene	114	54-134		%REC	50	8/10/2007 2:20:00 PM
Surr: Dibromofluoromethane	95.7	52-132		%REC	10	8/9/2007 6:20:00 PM
Surr: Dibromofluoromethane	99.7	52-132		%REC	50	8/10/2007 2:20:00 PM
Surr: Toluene-d8	109	51-127		%REC	50	8/10/2007 2:20:00 PM
Surr: Toluene-d8	114	51-127		%REC	10	8/9/2007 6:20:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	RW-2
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 3:45:00 PM
<b>Lab ID:</b>	0708088-12A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>			<b>SW8260B</b>		Analyst: MB	
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,1-Dichloroethane	130	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,1-Dichloroethene	30	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
2-Butanone	U	3.0		µg/L	1	8/9/2007 6:45:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
2-Chlorotoluene	61	1.0		µg/L	1	8/9/2007 6:45:00 PM
2-Hexanone	U	2.0		µg/L	1	8/9/2007 6:45:00 PM
2-Propanol	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	8/9/2007 6:45:00 PM
Acetone	U	2.0		µg/L	1	8/9/2007 6:45:00 PM
Acrolein	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Acrylonitrile	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Benzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Bromobenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Bromochloromethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Bromodichloromethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Bromoform	U	1.0		µg/L	1	8/9/2007 6:45:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	RW-2
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 3:45:00 PM
<b>Lab ID:</b>	0708088-12A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Bromomethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Carbon disulfide	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Chlorobenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Chlorodifluoromethane	9.7	1.0		µg/L	1	8/9/2007 6:45:00 PM
Chloroethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Chloroform	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Chloromethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
cis-1,2-Dichloroethene	2700	5.0		µg/L	5	8/10/2007 2:45:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Dibromochloromethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Dibromomethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Diisopropyl ether	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Ethanol	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Ethyl acetate	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Ethylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Freon-114	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Isopropyl acetate	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Isopropylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
m,p-Xylene	U	2.0		µg/L	1	8/9/2007 6:45:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Methylene chloride	13	1.0	B	µg/L	1	8/9/2007 6:45:00 PM
n-Amyl acetate	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Naphthalene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
n-Butyl acetate	U	2.0		µg/L	1	8/9/2007 6:45:00 PM
n-Butylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
n-Propyl acetate	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
n-Propylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
o-Xylene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Styrene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Tetrachloroethene	160	1.0		µg/L	1	8/9/2007 6:45:00 PM
Toluene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	RW-2
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 3:45:00 PM
<b>Lab ID:</b>	0708088-12A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
trans-1,2-Dichloroethene	14	1.0		µg/L	1	8/9/2007 6:45:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Trichloroethene	800	1.0		µg/L	1	8/9/2007 6:45:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Vinyl acetate	U	1.0		µg/L	1	8/9/2007 6:45:00 PM
Vinyl chloride	180	1.0		µg/L	1	8/9/2007 6:45:00 PM
Surr: 4-Bromofluorobenzene	103	54-134		%REC	1	8/9/2007 6:45:00 PM
Surr: 4-Bromofluorobenzene	108	54-134		%REC	5	8/10/2007 2:45:00 PM
Surr: Dibromofluoromethane	96.9	52-132		%REC	1	8/9/2007 6:45:00 PM
Surr: Dibromofluoromethane	91.0	52-132		%REC	5	8/10/2007 2:45:00 PM
Surr: Toluene-d8	104	51-127		%REC	5	8/10/2007 2:45:00 PM
Surr: Toluene-d8	112	51-127		%REC	1	8/9/2007 6:45:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	RW-3
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 3:50:00 PM
<b>Lab ID:</b>	0708088-13A	<b>Matrix:</b>	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	8/9/2007 7:11:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,1-Dichloroethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
2-Butanone	U	3.0		µg/L	1	8/9/2007 7:11:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
2-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
2-Hexanone	U	2.0		µg/L	1	8/9/2007 7:11:00 PM
2-Propanol	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	8/9/2007 7:11:00 PM
Acetone	U	2.0		µg/L	1	8/9/2007 7:11:00 PM
Acrolein	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Acrylonitrile	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Benzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Bromobenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Bromochloromethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Bromodichloromethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Bromoform	U	1.0		µg/L	1	8/9/2007 7:11:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	RW-3
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 3:50:00 PM
<b>Lab ID:</b>	0708088-13A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE SW-846 METHOD 8260		SW8260B		Analyst: MB		
Bromomethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Carbon disulfide	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Chlorobenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Chloroethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Chloroform	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Chloromethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
cis-1,2-Dichloroethene	74	1.0		µg/L	1	8/9/2007 7:11:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Dibromochloromethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Dibromomethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Diisopropyl ether	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Ethanol	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Ethyl acetate	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Ethylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Freon-114	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Isopropyl acetate	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Isopropylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
m,p-Xylene	U	2.0		µg/L	1	8/9/2007 7:11:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Methylene chloride	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
n-Amyl acetate	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Naphthalene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
n-Butyl acetate	U	2.0		µg/L	1	8/9/2007 7:11:00 PM
n-Butylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
n-Propyl acetate	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
n-Propylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
o-Xylene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Styrene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Tetrachloroethene	30	1.0		µg/L	1	8/9/2007 7:11:00 PM
Toluene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	RW-3
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 3:50:00 PM
<b>Lab ID:</b>	0708088-13A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
trans-1,2-Dichloroethene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Trichloroethene	57	1.0		µg/L	1	8/9/2007 7:11:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Vinyl acetate	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Vinyl chloride	U	1.0		µg/L	1	8/9/2007 7:11:00 PM
Surr: 4-Bromofluorobenzene	109	54-134		%REC	1	8/9/2007 7:11:00 PM
Surr: Dibromofluoromethane	98.0	52-132		%REC	1	8/9/2007 7:11:00 PM
Surr: Toluene-d8	97.8	51-127		%REC	1	8/9/2007 7:11:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-3S (45A Site)
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 5:00:00 PM
<b>Lab ID:</b>	0708088-14A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,1-Dichloroethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
2-Butanone	U	3.0		µg/L	1	8/9/2007 7:36:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
2-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
2-Hexanone	U	2.0		µg/L	1	8/9/2007 7:36:00 PM
2-Propanol	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	8/9/2007 7:36:00 PM
Acetone	U	2.0		µg/L	1	8/9/2007 7:36:00 PM
Acrolein	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Acrylonitrile	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Benzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Bromobenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Bromochloromethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Bromodichloromethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Bromoform	U	1.0		µg/L	1	8/9/2007 7:36:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-3S (45A Site)
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 5:00:00 PM
<b>Lab ID:</b>	0708088-14A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Bromomethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Carbon disulfide	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Chlorobenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Chloroethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Chloroform	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Chloromethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
cis-1,2-Dichloroethene	9.3	1.0		µg/L	1	8/9/2007 7:36:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Dibromochloromethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Dibromomethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Diisopropyl ether	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Ethanol	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Ethyl acetate	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Ethylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Freon-114	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Isopropyl acetate	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Isopropylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
m,p-Xylene	U	2.0		µg/L	1	8/9/2007 7:36:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Methylene chloride	19	1.0	B	µg/L	1	8/9/2007 7:36:00 PM
n-Amyl acetate	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Naphthalene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
n-Butyl acetate	U	2.0		µg/L	1	8/9/2007 7:36:00 PM
n-Butylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
n-Propyl acetate	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
n-Propylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
o-Xylene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Styrene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Tetrachloroethene	20	1.0		µg/L	1	8/9/2007 7:36:00 PM
Toluene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-3S (45A Site)
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 5:00:00 PM
<b>Lab ID:</b>	0708088-14A	<b>Matrix:</b>	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	8/9/2007 7:36:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Trichloroethene	460	1.0		µg/L	1	8/9/2007 7:36:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Vinyl acetate	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Vinyl chloride	U	1.0		µg/L	1	8/9/2007 7:36:00 PM
Surr: 4-Bromofluorobenzene	105	54-134		%REC	1	8/9/2007 7:36:00 PM
Surr: Dibromofluoromethane	98.8	52-132		%REC	1	8/9/2007 7:36:00 PM
Surr: Toluene-d8	106	51-127		%REC	1	8/9/2007 7:36:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-4S (45A Site)
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 7:00:00 PM
<b>Lab ID:</b>	0708088-15A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		<b>Analyst: MB</b>		
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,1-Dichloroethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
2-Butanone	U	3.0		µg/L	1	8/9/2007 8:02:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
2-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
2-Hexanone	U	2.0		µg/L	1	8/9/2007 8:02:00 PM
2-Propanol	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	8/9/2007 8:02:00 PM
Acetone	U	2.0		µg/L	1	8/9/2007 8:02:00 PM
Acrolein	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Acrylonitrile	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Benzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Bromobenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Bromochloromethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Bromodichloromethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Bromoform	U	1.0		µg/L	1	8/9/2007 8:02:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-4S (45A Site)
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 7:00:00 PM
<b>Lab ID:</b>	0708088-15A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
Bromomethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Carbon disulfide	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Chlorobenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Chloroethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Chloroform	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Chloromethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
cis-1,2-Dichloroethene	1.4	1.0		µg/L	1	8/9/2007 8:02:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Dibromochloromethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Dibromomethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Diisopropyl ether	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Ethanol	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Ethyl acetate	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Ethylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Freon-114	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Isopropyl acetate	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Isopropylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
m,p-Xylene	U	2.0		µg/L	1	8/9/2007 8:02:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Methylene chloride	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
n-Amyl acetate	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Naphthalene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
n-Butyl acetate	U	2.0		µg/L	1	8/9/2007 8:02:00 PM
n-Butylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
n-Propyl acetate	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
n-Propylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
o-Xylene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Styrene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Tetrachloroethene	30	1.0		µg/L	1	8/9/2007 8:02:00 PM
Toluene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	MW-4S (45A Site)
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007 7:00:00 PM
<b>Lab ID:</b>	0708088-15A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>						
		<b>SW8260B</b>				Analyst: MB
trans-1,2-Dichloroethene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Trichloroethene	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Vinyl acetate	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Vinyl chloride	U	1.0		µg/L	1	8/9/2007 8:02:00 PM
Surr: 4-Bromofluorobenzene	110	54-134		%REC	1	8/9/2007 8:02:00 PM
Surr: Dibromofluoromethane	95.9	52-132		%REC	1	8/9/2007 8:02:00 PM
Surr: Toluene-d8	94.8	51-127		%REC	1	8/9/2007 8:02:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	Trip Blank
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007
<b>Lab ID:</b>	0708088-16A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>		<b>SW8260B</b>		Analyst: MB		
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,1-Dichloroethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
2-Butanone	U	3.0		µg/L	1	8/9/2007 8:27:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
2-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
2-Hexanone	U	2.0		µg/L	1	8/9/2007 8:27:00 PM
2-Propanol	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
4-isopropyltoluene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	1	8/9/2007 8:27:00 PM
Acetone	U	2.0		µg/L	1	8/9/2007 8:27:00 PM
Acrolein	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Acrylonitrile	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Benzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Bromobenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Bromochloromethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Bromodichloromethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Bromoform	U	1.0		µg/L	1	8/9/2007 8:27:00 PM

<b>Qualifiers:</b>	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: 17-Aug-07

**CLIENT:** Photocircuits Corporation  
**Lab Order:** 0708088  
**Project:** Photocircuits/Job#643.002-A  
**Lab ID:** 0708088-16A

**Client Sample ID:** Trip Blank  
**Tag Number:**  
**Collection Date:** 8/7/2007  
**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	8/9/2007 8:27:00 PM
Carbon disulfide	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Carbon tetrachloride	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Chlorobenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Chloroethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Chloroform	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Chloromethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
cis-1,2-Dichloroethene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Dibromochloromethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Dibromomethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Diisopropyl ether	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Ethanol	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Ethyl acetate	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Ethylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Freon-114	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Isopropyl acetate	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Isopropylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
m,p-Xylene	U	2.0		µg/L	1	8/9/2007 8:27:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Methylene chloride	29	1.0	B	µg/L	1	8/9/2007 8:27:00 PM
n-Amyl acetate	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Naphthalene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
n-Butyl acetate	U	2.0		µg/L	1	8/9/2007 8:27:00 PM
n-Butylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
n-Propyl acetate	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
n-Propylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
o-Xylene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Styrene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Tetrachloroethene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Toluene	U	1.0		µg/L	1	8/9/2007 8:27:00 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: 17-Aug-07

<b>CLIENT:</b>	Photocircuits Corporation	<b>Client Sample ID:</b>	Trip Blank
<b>Lab Order:</b>	0708088	<b>Tag Number:</b>	
<b>Project:</b>	Photocircuits/Job#643.002-A	<b>Collection Date:</b>	8/7/2007
<b>Lab ID:</b>	0708088-16A	<b>Matrix:</b>	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>						
		<b>SW8260B</b>				Analyst: MB
trans-1,2-Dichloroethene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Trichloroethene	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Vinyl acetate	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Vinyl chloride	U	1.0		µg/L	1	8/9/2007 8:27:00 PM
Surr: 4-Bromofluorobenzene	100	54-134		%REC	1	8/9/2007 8:27:00 PM
Surr: Dibromofluoromethane	93.7	52-132		%REC	1	8/9/2007 8:27:00 PM
Surr: Toluene-d8	92.1	51-127		%REC	1	8/9/2007 8:27:00 PM

<b>Qualifiers:</b>	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

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

LAB NO.273505.01

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: 0708088-01A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:08/06/07 RECEIVED:08/09/07

TIME COL'D:1700

MATRIX:Liquid SAMPLE:

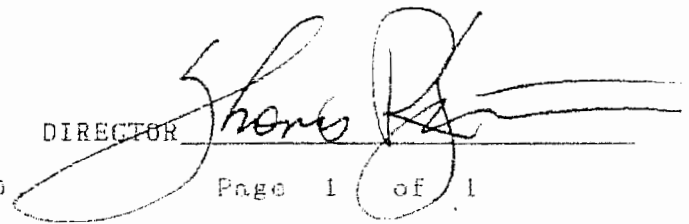
ANALYTICAL PARAMETERS	UNITS	RESULT	DATE OF	FLAG	ANALYSIS	LRL	ANALYTICAL
Tot Organic Carbon	mg/L	130	08/15/07	5			EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



ru = 24364

NYSDOH ID # 10320

Page 1 of 1

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

LAB NO.273505.02

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735  
ATTN: Lori Beyer PO#:

SOURCE OF SAMPLE: 0708088-02A

SOURCE OF SAMPLE:

COLLECTED BY: Client DATE COL'D:08/06/07 RECEIVED:08/09/07  
TIME COL'D:1730

MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS	UNITS	RESULT	DATE OF FLAG ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	68	08/15/07	5	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR 

rn = 24365

NYSDOH ID # 10320

Page of 1

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

LAB NO.273505.03

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: 0708088-03A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:08/06/07 RECEIVED:08/09/07

TIME COL'D:1720

MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS	UNITS	RESULT	DATE OF FLAG ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	64	08/15/07	5	EPA415.1

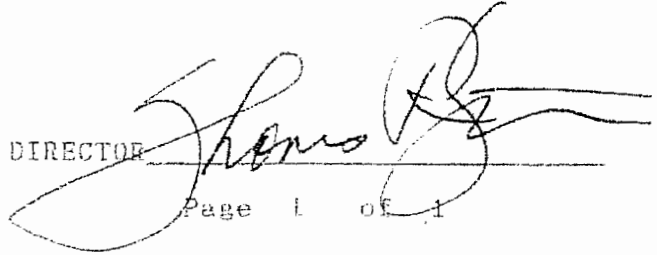
cc:

LRL=laboratory Reporting Limit

REMARKS:

en = 24366

NYSDOH ID # 10320

DIRECTOR 

Page 1 of 1

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

LAB NO.273505.04

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: 0708088-04A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:08/06/07 RECEIVED:08/09/07

TIME COL'D:1650

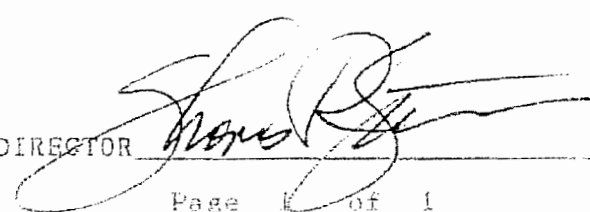
MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS	UNITS	RESULT	DATE OF	FLAG	ANALYSIS	LRL	ANALYTICAL
Tot Organic Carbon	mg/L	83	08/15/07	5			EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR 

rn = 24367

NYSDOH ID # 10320

Page 1 of 1

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

LAB NO.273505.05

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: 0708088-05A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:08/06/07 RECEIVED:08/09/07

TIME COL'D:1615

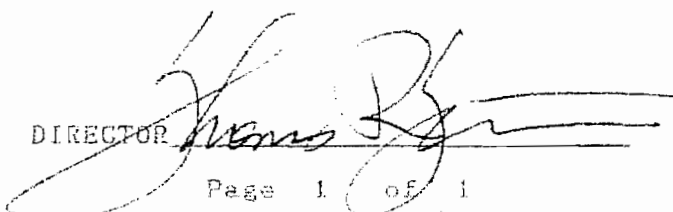
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Tot Organic Carbon	mg/L	210	08/15/07	5			EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR 

rn = 24368

NYSDOH ID # 10320

Page 1 of 1



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

LAB NO.273505.06

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: 0708088-06A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:08/06/07 RECEIVED:08/09/07  
TIME COL'D:1530

MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS	UNITS	RESULT	FLAG	DATE OF ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	120		08/15/07	5	EPA415.1

cc:

URL=Laboratory Reporting Limit

REMARKS:

DIRECTOR 

en = 24369

NYSDOH ID # 10320

Page 1 of 1

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

LAB NO.273505.07

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735  
ATTN: Lori Beyer PO#:

SOURCE OF SAMPLE: 0708088-07A

SOURCE OF SAMPLE:

COLLECTED BY: Client DATE COL'D:08/06/07 RECEIVED:08/09/07  
TIME COL'D:1815

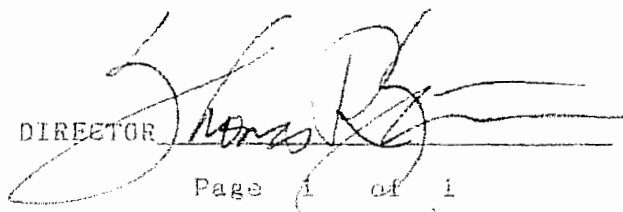
MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS	UNITS	RESULT	DATE OF FLAG ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	1.7	08/15/07	1	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR 

rn = 24370

NYSDOH ID # 10320

Page 1 of 1

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

LAB NO.273505.08

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: 0708088-08A

SOURCE OF SAMPLE:

COLLECTED BY: Client      DATE COL'D:08/06/07 RECEIVED:08/09/07  
TIME COL'D:1240

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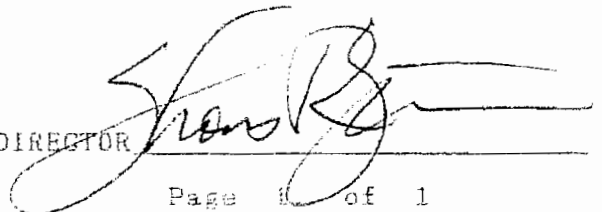
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Tot Organic Carbon	mg/L	34		08/15/07	5	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR



rn = 24371

NYSDOH ID # 10320

Page 1 of 1

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

LAB NO.273505.09

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: 0708088-09A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:08/06/07 RECEIVED:08/09/07

TIME COL'D:1415

MATRIX:Liquid SAMPLE:

ANALYTICAL PARAMETERS	UNITS	RESULT	FLAG	DATE OF ANALYSIS	LRL	ANALYTICAL METHOD
Tot Organic Carbon	mg/L	8.7		08/15/07	1	EPA415.1

cc:

LRL=Laboratory Reporting Limit

REMARKS:

DIRECTOR 

ra = 24772

NYSDOH ID # 10320

Page 1 of 1

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

LAB NO.273505.10

08/20/07

American Analytical Laboratories  
56 Toledo Street  
Farmingdale, NY 11735

ATTN: Lori Beyer

PO#:

SOURCE OF SAMPLE: 0708088-10A

SOURCE OF SAMPLE:

COLLECTED BY: Client

DATE COL'D:08/06/07 RECEIVED:08/09/07

TIME COL'D:1630

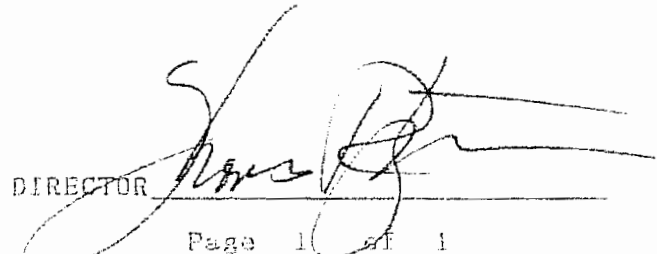
MATRIX:Liquid SAMPLE:

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Tot Organic Carbon	mg/L	740	08/15/07	20	EPA415.1

cc:

LRL=laboratory Reporting Limit

REMARKS:

DIRECTOR 

rn = 24373

NYSDOH ID # 10320

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