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November 29, 2004

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

Re: Site Numbers 1-30-009 and 1-30-053A
Second Quarter 2004 Progress Report

File: 643.001

Dear Mr. Jones:

Enclosed please find three copies of the Third Quarter 2004 Progress Report for the subject sites.

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

Thank you.

Very truly yours,

BARTON & LOGUIDICE, P. C.

Andrew J. Barber
Senior Managing Environmental Scientist

AJB/mfg

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Terra Systems

Lou Stans
Photocircuits Corporation
31 Sea Cliff Avenue
Glen Cove, NY 11542

Date: October 13, 2004

Light Hydrocarbon Gases Analyses

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

Well: MW-14
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	7500	µg/L	E
Acetylene	1.2	<1.1	µg/L	U
Ethene	1.3	49	µg/L	
Ethane	1.3	14	µg/L	

Well: SMP-1
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	10500	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	100	µg/L	
Ethane	1.3	3.3	µg/L	

Well: DMP-1
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	24200	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	100	µg/L	
Ethane	1.3	6.1	µg/L	

Well: SMP-3
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	2820	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	24	µg/L	
Ethane	1.3	<1.3	µg/L	U

Well: DMP-3
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	18400	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	620	µg/L	
Ethane	1.3	12	µg/L	

Well: SMP-4
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	17800	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	32	µg/L	
Ethane	1.3	<1.3	µg/L	U

Well: DMP-4
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	22200	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	51	µg/L	
Ethane	1.3	3.9	µg/L	

Well: MW-8
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	50	µg/L	
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	<1.3	µg/L	U
Ethane	1.3	<1.3	µg/L	U

Well: MW-12
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	1600	µg/L	
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	5.7	µg/L	
Ethane	1.3	12	µg/L	

Well: MW-13
Date Sampled: 9/27/04
Matrix: Liquid

Analyte	Method Detection Limit	Concentration	Units	Qualifiers
Methane	0.7	11200	µg/L	E
Acetylene	1.2	<1.2	µg/L	U
Ethene	1.3	3.1	µg/L	
Ethane	1.3	9.9	µg/L	

Qualifiers:
E Compound concentration estimated; above method calibration limits
U Compound not detected

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

TERRA SYSTEMS, INC.

Michael D Lee, PhD.

Michael D. Lee, Ph.D.
Laboratory Manager

cc: Andy Barber, Barton and Loguidice

Terra Systems

INCORPORATED

STATUS REPORT

SEPTEMBER 2004

PHOTOCIRCUITS CORPORATION
ACCELERATED ANAEROBIC BIOREMEDIATION PROJECT

PREPARED FOR:

PHOTOCIRCUITS CORPORATION
31 SEA CLIFF AVENUE
GLEN COVE, NY 11542

PREPARED BY:

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

NOVEMBER 11, 2004

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FIGURES

TABLES

ABBREVATIONS

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

1.0 EXECUTIVE SUMMARY

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

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

An additional 5,722 gallons of the emulsified substrate was injected in months 17 and 19 (February and April 2002) at twelve injection points in a full-scale treatment cell. VOC and substrate concentrations have been monitored fourteen times over a forty-six month period at eight wells spaced throughout the treatment area. VOC and substrate concentrations have also been monitored at six 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 (3-96%) were generally observed. Degradation rates for the total VOCs (9/1/00 concentration minus 9/27/04 concentration divided by 1,488 days) were as high as 134 µg/L-day (well SMP-3) in higher concentration areas with greater than 100,000 µg/L total volatiles. In other areas with lower concentrations, total VOC degradation rates were lower, in the range of 0.05 (DMP-4) to 19.7 µg/L-day (SMP-1). Wells MW-14, MW-7, and DMP-3 have shown increased total volatiles concentrations since September 2000. The average total contaminant concentrations within the treatment cell

(excluding MW-7) have fallen by 68.7% since September 2000. The substrate reinjection in February and April 2002 increased the TOC concentrations in all wells within the treatment cell. In September 2004, TOC levels ranged from 37.6 mg/L in DMP-1 to 1,470 mg/L in MW-14 with an average of 283 mg/L in the seven wells sampled within the treatment cell. TOC levels in five of the seven wells were above the target level of 50 mg/L. The concentrations of competing electron acceptors including nitrate or sulfate were higher in wells MW-14, SMP-1, DMP-1, SMP-3, and DMP-3 in the sampling event in June 2004 than the previous events. The concentrations of nitrate and sulfate declined in wells MW-14, DMP-1, SMP-3, and DMP-3 in September 2004 from the levels seen in June 2004. The extent of dechlorination increased in these wells over the last three months.

The average percent removal of total volatiles decreased from 77.6% in June 2004 to 68.7% in September 2004 largely as a result of increased concentrations of 1DCA and CA in DMP-3. Although 1TCA concentrations decreased in DMP-3 from 10,000 to 6,600 µg/L over this period, the 1DCA concentrations increased from 14,000 to 26,000 µg/L and CA from 4,100 to 18,000 µg/L. The concentrations of TOC dropped from 243 to 45 mg/L, below the optimal levels. There 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 may have reached well DMP-3.

TSI recommends that samples be collected from MW-14 and SMP-3 which has high sulfate and TOC levels to be analyzed for volatile fatty acids. 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 in December 2003, March 2004, June 2004, and September 2004. Well RW-2 was not sampled in September 2004 because of the accumulation of material in the pump discharge line.

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 8, 10, and 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 mls
- MW-12 9 to 19 feet msl, and
- MW-13 11 to 21 feet msl.

Historical data indicates that anaerobic biodegradation is occurring at the site as evidenced by the presence of daughter products from the breakdown of tetrachloroethene (PCE) and trichloroethene (TCE) including cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), vinyl chloride (VC), and ethene. Acetylene can be produced by the abiotic reaction of PCE or TCE with ferrous sulfide (Butler and Hayes 2000). 1,1,1-Trichloroethane (1TCA) breaks down to 1,1-dichloroethene (1DCE), 1,1-dichloroethane (1DCA), chloroethane (CA), and ethane. However, VC and ethene can also be generated from the breakdown of the 1TCA, 1DCA, and 1DCE. Based on a review of the site historical data, it appears that the biological degradation process is limited by the availability of organic carbon.

3.4 Technology Description

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

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

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

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

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

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

$$\underset{\text{step 1}}{\text{PCE} \rightarrow} \underset{\text{step 2}}{\text{TCE} \rightarrow} \underset{\text{step 3}}{\text{DCE} \rightarrow} \underset{\text{step 4}}{\text{VC} \rightarrow} \text{ethene, ethane}$$

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.

4.0 MATERIALS AND METHODS

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:

a. ability to move a carbon source throughout the contaminated area;
b. estimation of quantity of chlorinated compounds
c. 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 eleven field sampling events over a 49 month period.

5.2 Organization of Data

The analytical data from the treatment cell collected from each of the fifth-teen sampling events are summarized in the following five tables.

- Table 1 presents the volatile organic data (VOCs), final biodegradation byproducts (ethene and ethane), important electron acceptors (total iron, sulfate, nitrate, and methane), and electron donor as represented by total organic carbon (TOC).

- Table 2 converts the concentrations of the chlorinated ethenes and chlorinated ethanes to micromolar units so that one unit of PCE is equivalent to one unit of TCE, cDCE, tDCE, VC, and ethene. Similarly one unit of 1TCA is equivalent to one unit of 1DCE, 1DCA, CA, or ethane.

- Table 3 presents the field data collected in January, April, June, and October 2002, January, April, August, and December 2003, and March, June, and September 2004.

- Table 4 summarizes the changes between the samples collected within the treatment cell immediately after the oil emulsion injection and the samples collected forty-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 was sampled in January, April, August, December 2003, and March, June, and September 2004. 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 forty-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 5 summarizes the percent changes between the sample collected on 3/28/01 and the samples collected on 9/27/04 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 6 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 September 2004.

5.3 Project To Date Results

The following table summarizes the status of the key performance measures for this project as of June 2004. 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^3 Approximately 1,620,617gallons
System substrate transport effectiveness:	Demonstrated distribution throughout treatment area
Substrate effectiveness:	Enhanced dechlorination
Substrate viability	Lasted for more than one year
Total volatile contaminant degradation rates; 100 mg/L concentration levels 1 – 100 mg/L concentration levels	 134 µg/L-day 0.05 to 19.7 µg/L-day
Reduction of total contaminants of concern:	Achieved reductions of 3% to 96% except in MW-14, MW-7 (through 1/8/02), and DMP-3
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 June and September 2004, the parent compounds PCE and TCE and the intermediate daughter products cDCE, tDCE, and VC declined in wells SMP-1, DMP-1, SMP-3, and SMP-4. VC was the dominant chlorinated ethene detected in wells SMP-3 and DMP-3 in September 2004. Wells SMP-1 and DMP-4 did not contain detectable concentrations of PCE, TCE, cDCE, tDCE, or VC in September 2004; however, the detection limits were higher than in June 2004.

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 was the predominant chlorinated ethene in wells MW-14, MW-7 (through 1/8/02), SMP-1, DMP-1, and DMP-4. Over the course of the project, ethene concentrations have increased in wells MW-14, MW-7 (through 1/8/02), and DMP-3. 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 SMP-1, DMP-1, SMP-3, SMP-4, and DMP-4. The most dramatic change was observed in well SMP-1 where cDCE concentrations declined 24,900 µg/L in August 2000 to <2.0 µg/L in September 2004.

In the downgradient monitoring wells sampled since March 2001, wells MW-8, MW-10, MW-11, MW-12, and MW-13 had parent compounds PCE and/or TCE. Concentrations greater than 1,000 µg/L of chlorinated ethenes were only detected in MW-12. Total chlorinated ethenes have subsequently been greater than 1,000 µg/L in MW-13. Since March 2001, six months after the first substrate injection, TCE, cDCE, tDCE, and VC concentrations have declined in MW-12. 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 April, August, December 2003, and March, June, and September 2004. Much 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. Although the area around MW-13 appeared to be substrate-limited from March 2001 until November 2002, the availability of substrate increased to between 24 and 39 mg/L from January through August 2003. In March and June 2004, TOC was found at 47 to 49 mg/L compared to < 0.51 mg/L in December 2003 and PCE, TCE, cDCE, and VC decreased over the levels seen in December 2003. In September 2004, there was only 9.0 mg/L of TOC in MW-13 and the PCE, TCE, and cDCE concentrations have increased substantially.

In December 2003 and March, June, and September 2004, the new recovery wells contained a mix of PCE, TCE, cDCE, tDCE, and VC with cDCE being the dominant compound. Ethene and ethane were not analyzed in these wells. Since December 2003, the total chlorinated ethenes have declined by 82% for RW-1, -17% for RW-2 (through 6/22/04), 85% for RW-3, and 46% for RW-4.

5.3.2 Chlorinated Ethane Results

The analytical data for the treatment test to date provides evidence for biodegradation of the chlorinated ethanes. Wells DMP-1, SMP-3, DMP-3, and SMP-4 had the highest concentrations of total chlorinated ethanes in September 2000 with greater than 1,000 µg/L. 1TCA was the primary chlorinated ethane contaminant in wells SMP-3 and DMP-3. Reduced products such as 1,1-dichloroethane, chloroethane, and ethane predominated in wells MW-14, MW-7, SMP-1, DMP-1, SMP-4, and DMP-4.

Well SMP-3 has shown a 99.3% (178,000 µg/L to 1,200 µg/L) reduction in the 1TCA concentrations. 1TCA levels in wells DMP-3, SMP-4, and DMP-4 have dropped by 66 to greater than 99.97 percent. 1DCA concentrations have dropped in SMP-1 (84%), SMP-3 (71%), SMP-4 (>99.98%), and DMP-4 (>83%). However, increased 1DCA concentrations have been noted in MW-14, MW-7 (through 1/8/02), DMP-1, and DMP-3 as a result of the dechlorination of 1TCA. Large reductions in the 1DCE concentrations have been observed in well SMP-4 (>99.0%), but 1DCE increased in MW-14, and SMP-3. 1DCE was not detected in August 2000 or September 2004 in SMP-1 and DMP-4. CA concentrations have declined by 36% in DMP-1 and 72% in SMP-4, but increased in other treatment cell wells. Based upon these results and laboratory studies currently underway with an anaerobic culture derived from the Photocircuits groundwater, we believe that direct utilization of 1TCA and 1DCA may be occurring in addition to the reductive dechlorination reaction where daughter products such as CA are produced and degraded. Acetic acid has been reported as a byproduct of 1TCA degradation (Lee and Davis 2000). Alternatively, sulfides generated from the reduction of sulfate may be reacting abiotically with the 1TCA and 1DCA (Gander et al. 2002).

Well SMP-4 has shown decreases in the 1TCA, 1DCA, CA, and ethane concentrations over the forty-nine months following the first injection of the oil emulsion. There was a rebound in concentrations of these compounds between December 2000 and January 2002 in SMP-4. When substrate levels were elevated after the second application of SRS™, the 1TCA and 1DCA concentrations dropped and have remained lower than the initial levels. In September 2004, concentrations of 1TCA, 1DCA, 2DCA, 1DCE, and CA higher than initial levels were observed in wells MW-14, MW-7 (through 1/8/02), SMP-1, and DMP-4. However, further degradation products CA and ethane levels are elevated in wells MW-14, MW-7, SMP-1, SMP-3, 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 September 2004 in wells MW-14, SMP-1, DMP-1, DMP-3, and DMP-4. There appeared to be sufficient TOC (38-1,420 mg/L), but sulfate levels increased in wells MW-14, SMP-1, and DMP-1 during this period. Nitrate was detected above 1 mg/L in wells MW-14, SMP-1, and SMP-3 in June 2004, but decreased to below 1 mg/L in all treatment cell wells in September 2004. The

increases in nitrate and sulfate indicate a substrate availability limitation. 1DCA and CA concentrations increased substantially in well DMP-3 between June and September 2004. 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 September 2004. In MW-13, 1TCA, 1DCA, 1DCE, and ethane concentrations have increased by 61 to 164%.

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. Pumping the recovery wells has resulted in a 83% reduction in total chlorinated ethanes in RW-1, 34% in RW-2, 89% in RW-3, and 26% in RW-4.

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 forty-nine months of the project operation to date, acetone concentrations decreased by >99.99% in DMP-1, but increased in MW-14 and SMP-4. In September 2004, acetone was found at 220 µg/L in SMP-4 and represented 27% of the total volatiles in this well. Methylene chloride has decreased in all wells except MW-14 and DMP-4 with declines by as much as 99.8 percent in SMP-1, 77% in DMP-1, 96% in SMP-3, 43% in DMP-3, >99.7% in SMP-4, and 38% in MW-7 (through 1/8/02).. 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 >98% in SMP-4, <88% in SMP-1, <71% in SMP-3, and 44% in DMP-4, but increased in MW-7 (through 1/8/02), DMP-1, and DMP-3. 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 September 2004, other potential components of gasoline or other petroleum fuels including benzene, toluene, o-xylene, 1,2,4-trimethyl benzene, 1,3,5-trimethyl benzene, and/or naphthalene were detected in wells MW-14, SMP-1, DMP-1, SMP-3, DMP-3, SMP-4, DMP-4, MW-12, MW-13, RW-1, RW-2, but not wells MW-8, MW-9, MW-10, MW-11, RW-3, or RW-4.

Few of the contaminants other than the chlorinated ethenes and ethanes were found in the downgradient wells. 2-Chlorotoluene concentrations have increased by 42% in MW-12 and MW-13 between 3/28/01 and 9/27/04. 4-Chlorotoluene has been found in MW-12. Benzene was often detected in MW-12 and MW-13. Acetone, methylene chloride, benzene, and n-propylbenzene have been detected in MW-13. None of these compounds were detected in wells MW-8, MW-9, or MW-11 in June 2004. Well MW-10 had only a low level of methylene chloride, 1,3 µg/L.

In December 2003 through September 2004, the recovery wells contained the following compounds: PCE, TCE, cDCE, tDCE, VC, 1TCA, 1DCA, 2DCA, 1DCE, CA, methylene chloride, toluene, benzene, 2-chlorotoluene, 4-chlorotoluene, o-xylene, chloroform, and chlorodifluoromethane.

5.3.4 Sum of VOAs

The sum of the concentrations of all of the contaminants in each well was calculated excluding the final degradation endproduct gases: acetylene, ethene, and ethane. The sum of the VOAs has declined by up to 96% in SMP-1 with large decreases in SMP-3 (91%), DMP-1 (82%), and SMP-4 (91%), with a smaller 3% reduction in DMP-4. The sum of VOAs has increased by 4,007% in MW-14 as the contaminated groundwater displaced during injection came back into the well and potentially as VOCs adsorbed into the oil were released. Increases in the sum of VOAs were also observed to a lesser degree in MW-7 (-33 through 1/8/02) and DMP-3 (-64%). The overall average of the sum of the volatiles has declined by 68.7% over the course of the pilot and full scale implementation. This average includes the seven wells sampled on 9/27/04 and the well (MW-7) last sampled on 1/8/02. The average percent removal was less in September 2004 than in the previous sampling round in June 2004 as total volatiles increased in DMP-3 from 28,821 µg/L to 52,755 µg/L due primarily to higher levels of VC, 1DCA, and CA as TOC levels fell below the target level of 50 mg/L. 1TCA may have been released from the soybean oil or moved into the area of DMP-3 from an upgradient, untreated area.

A first order degradation half-life of 533 days was calculated for the average total volatile contaminants within the treatment cell. Degradation rates have slowed as the substrate levels have dropped.

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 (53%), but increased in MW-8 (-17,122%) and MW-13 (-177%) 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). With pumping, the total volatiles have declined by 83% in RW-1, 85% in RW-3, and 43% in RW-4, but increased by 2.4% in RW-2 through June 22, 2004.

5.3.5 Substrate Distribution

The total organic carbon concentrations in September 2004 within the treatment cell ranged from 37.6 mg/L in DMP-1 to 1,470 mg/L in MW-14. Well MW-7 contained the emulsion in June 2004 and was not sampled. It presumably contains very high levels of TOC. TOC levels were below the target level of 50 mg/L in wells DMP-1 and DMP-3 in September 2004. A substrate

level of 50 mg/L TOC should provide sufficient carbon to support dechlorination and other electron accepting processes such as methanogenesis and sulfate-reduction.

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

The substrate injections have apparently 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, and MW-13 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.

5.3.6 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 present in September 2004 at concentrations of <0.100 to 0.205 mg/L in the treatment cell and is a minor electron acceptor. Nitrate was detected in downgradient wells MW-8, MW-12, and MW-13 in September 2004 at concentrations of 0.0264 (MW-13) to 2.12 mg/L (MW-8). The predominant electron acceptor in the groundwater within the treatment cell in September 2004 was sulfate with concentrations that ranged from <1.0 mg/L in SMP-4 and DMP-4 to 744 mg/L in DMP-1. Sulfate concentrations have declined from the initial concentrations in September 2000 in wells MW-14 (94%), SMP-1 (66%), DMP-1 (97% from 29,600 to 744 mg/L), SMP-3 (16%), DMP-3 (96%), SMP-4 (>99.9%), and DMP-4 (>99.2%) as would be expected with consumption of the oil emulsion. Sulfate levels have increased in MW-7 (through 1/8/02) over the course of the treatment. The average sulfate concentration in the cell has declined by 94%. However, sulfate levels increased in wells MW-14, SMP-1, and DMP-1 between December 2003 and September 2004. Total iron concentrations within the treatment cell in September 2004 ranged from 3.9 mg/L in DMP-3 to 71 mg/L in MW-14, which indicated that iron is also an important electron acceptor. Over the forty-nine month project, total iron concentrations have decreased in four 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 September 2004, methanogenic conditions (>1,000 µg/L methane) was detected in all wells. Methane concentrations have increased in all eight monitoring wells in the project area between September 2000 and September 2004.

Well MW-8 appears to be 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. Well MW-12 is under sulfate to methanogenic conditions based upon the elevated sulfate and methane levels. Sulfate and methane are the dominant electron acceptors in MW-13.

5.3.7 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, but declined to between 6.9 and 7.6 from January 2003 to September 2004. The pH dropped to slightly acidic conditions of 5.3-6.5 in SMP-4. Downgradient wells MW-12 and MW-13 were slightly acidic to neutral, 6.2 to 7.3. The pH in the downgradient well MW-8 ranged from slightly acidic, 6.4 to slightly basic, 8.7.

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

Negative redox potentials of –52 (SMP-4) to -167 mV (DMP-4) were found in the wells within the treatment cell in September 2004. Downgradient well MW-8 had a positive redox potential in September 2004. The redox potential of MW-12 has ranged between –136 mV to 69 mV. A low (<1.0 mg/L) dissolved oxygen reading was observed in well DMP-1 in September 2004. Higher dissolved oxygen levels were found in SMP-1, SMP-3, DMP-3, SMP-4, and DMP-4; the high dissolved oxygen levels 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 49 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%.
- The average concentrations of the parent compound 1,1,1-trichloroethane has decreased by 96%.
- Ethene was the dominant chlorinated ethene in wells SMP-1, DMP-1, and DMP-4 in September 2004.
- Three monitoring wells (MW-7, MW-14, and DMP-3) have shown increased total volatile concentrations since September 1, 2000 by 33 to 4,007%. 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 11/1/99 to 9/27/04, total VOC concentrations decreased by 51% in MW-14. Since first monitored in May 1999, well

DMP-4 has shown an increase in total volatiles from 1,632 to 2,608 µg/L primarily due to an increase in CA concentrations.

The original projection for degradation of the contaminant source was that a 90% reduction would be achieved in four years from the original injection in August 2000. As of September 2004, we have achieved an average TVOC reduction of 69% in the treatment cell. Although we are reasonably close to the 90% reduction projection, it is our opinion that the delay associated with the first re-injection event (February-April 2002) slowed the degradation process and hindered the achievement of the 90% reduction goal. The increase in nitrate and sulfate levels from December 2003 to September 2004 in several wells suggests that the substrate availability may have become limited.

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.

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 69% over the course of 49 months. Increases in intermediate and final daughter products from the chlorinated ethenes and ethanes have been observed in all of the primary monitoring wells.

Degradation rates for the total VOCs are as high as 134 µg/L per day in higher concentration areas. In areas with lower total volatile concentrations, degradation rates range from 0.05 to 19.7 µg/L per day. Wells MW-7 (through January 2002), MW-14, and DMP-3 have shown increases in total VOCs through their last sampling point in September 2004.

Determine the rate of chlorinated solvent biodegradation to estimate the time frame required for contaminant removal.

A first order degradation half-life of 533 days was calculated for the average total volatile contaminants within the treatment cell. This average includes all of the wells sampled on 9/27/04 and excludes well MW-7 last sampled on 1/8/02. Based upon this degradation rate, 90% of the total contaminants should be removed within 48 months from the initial injection in August 2000. Degradation rates have slowed as substrate levels dropped below optimal levels and competing electron acceptors have increased. An additional substrate injection is recommended.

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

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

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

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

8.0 REFERENCES

Barrio-Lage, G. A., F. Z. Parsons, R. M. Narbaitz, P. A. Lorenzo, and H. E. Archer. 1990. Enhanced anaerobic biodegradation of vinyl chloride in ground water. *Environ. Toxicol. Chem.* 9:403-415.

Beeman, R. E., S. H. Shoemaker, J. E. Howell, E. A. Salazar, and J. R. Buttram. 1994. A field evaluation of in situ microbial reductive dehalogenation by the biotransformation of chlorinated ethenes. In R. E. Hinchee, A. Leeson, L. Semprini, and S. K. Ong, ed., *Bioremediation of Chlorinated and Polycyclic Aromatic Hydrocarbon Compounds*, Lewis Publishers, Boca Raton, FL. pp. 14-27.

Butler, E. C. and K. F. Hayes. 2000. Kinetics of the transformation of halogenated aliphatic compounds by iron sulfide. *Environ. Sci. Technol.* 34(3):422-429.

DiStefano, T. D., J. M. Gossett, and S. H. Zinder. 1991. Reductive dehalogenation of high concentrations of tetrachloroethene to ethene by an anaerobic enrichment culture in the absence of methanogenesis. *Appl. Environ. Microbiol.* 57(8):2287-2292.

Ellis, D. E., E. J. Lutz, J. M. Odom, R. J. Buchanan, M. D. Lee, C. L. Bartlett, M. R. Harkness, K. A. DeWeerd. 2000. Bioaugmentation for accelerated in situ anaerobic bioremediation. *Environmental Science and Technology*34(11):2254-2260.

Gander, J. W. G. F. Parkin, and M. M. Scherer. 2002. Kinetics of 1,1,1-trichloroethane transformation by iron sulfide and a methanogenic consortia. *Environmental Science and Technology* 36(21):4540-4546.

Lee, M. D. and J. W. Davis. 2000. Natural remediation of chlorinated organic compounds. In Swindoll, M., R. G. Stahl, Jr. and S. J. Ells, editors. *Natural Remediation of Environmental Contaminants: Its Role in Ecological Risk Assessment and Risk Management.* SETAC Press, Pensacola FL. p. 199-245.

Parsons, F., G. B. Lage, and R. Rice. 1985. Biotransformation of chlorinated organic solvents in static microcosms. *Environ. Toxicol. Chem.* 4:739-742.

Scholz-Muramatsu, A. Neumann, M. Meβmer, E. Moore, and G. Diekert. 1995. Isolation and characterization of *Dehalospirillum multivorans* gen., sp. Nov., a tetrachloroethene-utilizing, strictly anaerobic bacterium. *Arch. Microbiol.* 163:48-56.

Sims, J. L., J. M. Suflita, and H. R. Russell. 1991. *Reductive Dehalogenation of Organic Contaminants in Soils and Ground Water.* EPA/540/4-90/054. Superfund Technology Support Center for Ground Water, U. S. EPA, Ada, OK.

U.S. Department of Energy. 1998. Cost and Performance Report – In Situ Anaerobic Bioremediation, Pinellas Northeast Site, Largo, Florida. Innovative Treatment Remediation

Demonstration. April 1998. Sandia National Laboratories, Albuquerque, NW and Hazardous Waste Remedial Actions Program, Oak Ridge, TN. 33 p.

FIGURES

THIRD QUARTER 2004
PROGRESS REPORT

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

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

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

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

November, 2004

1.0 Introduction

This Third Quarter 2004 Progress Report (3Q04) is being submitted pursuant to the 1997 Order on Consent between Photocircuits Corporation and the New York State Department of Environmental Conservation (NYSDEC).

During the Third Quarter of 2004, 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 September 27-28.
- Operation of the Soil Vapor Extraction (SVE) and Air Sparging (AS) system at the 45A Sea Cliff Avenue site was discontinued in the third quarter of 2004 as part of the pulsing of the system, and soil vapor samples were collected; these activities were conducted per the NYSDEC approved work plan (approval letter of September 9, 2004).
- Operation of the hydraulic control system at the 31 Sea Cliff Avenue site was continued.

2.0 Discussion of Results

2.1 SVE System at 31 Sea Cliff Avenue

The SVE system is in the process of being decommissioned.

2.2 Bioremediation Pilot Test

The bioremediation pilot test was started during the week of August 28, 2000 when Terra Systems conducted the injection of a nutrient solution (substrate) into the subsurface at the 31 Sea Cliff Avenue site. Following the injection, groundwater samples were collected from the following monitoring wells/points: MW-7, MW-14, SMP-1, DMP-1, SMP-3, DMP-3, SMP-4 and DMP-4. These wells/points were sampled again on October 18-19, December 20, 2000, March 27-28, 2001and 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.

The most recent sampling event was conducted on September 27-28, 2004; the results from the September 2004 sampling event 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 September 2004) 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 site; degradation rates as high as 134 ug/L per day of total volatile organic compounds (TVOCs) have been observed in areas of higher concentration.

- A first order degradation half life of 533 days was calculated for the average total VOC concentration within the pilot cell area (January 2003 data); this degradation rate suggests that 90% of the total VOC mass within the pilot test cell will be removed within 48 months. Over the 49 months of operation, the overall average sum of VOCs has decreased by 69%.

- Bioremediation will be the primary treatment technology for contaminant destruction at the site.

The Terra Systems report 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.

2.3 IRM at 45 Sea Cliff Avenue

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

an electrical problem. The system 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 vapor sample indicate that mass removal versus time relationship became asymptotic. We concluded at that time that we demonstrated that there is 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 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 is 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						
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		
Jan	Apr	Jun	Oct	Jan	Apr	Aug	Dec	Mar	Jun	Sep
1240	1910	2200	2510	3600	1420	118	180	83	29	10

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 and 28, per the approved work plan, and the results are attached to this report and summarized below:

#	Location	Sample Depth Interval	Tetrachloroethene Concentration (ppmv)
1	West side of Bldg 7, next to the existing equipment pad, which overlies the location of the former tank	Six inch interval immediately under asphalt	23
2	In Bldg 7, near inside SVE well 3 (closest interior well to former tank location)	Six inch interval immediately under slab (+/- 10 inches thick)	113
3	In Bldg 7, approximately 20 feet south of sample 2	Could not penetrate slab (+/- 10 inches thick) at two attempted locations	No Sample

4	East side of Bldg 7, approximately 5 feet from MW-4S	Six inch interval starting at 6 feet below asphalt	0.0795

The concentrations of tetrachloroethene detected in Samples 1 and 2 indicate that there is additional contaminant mass present in the vadose zone in this area. To address this contaminant mass, the SVE blower will be brought back to the west side of Building 7 (along with activated carbon drums to treat the blower effluent), and will be operated using existing/new SVE wells and piping to extract shallow soil vapor.

2.4 Hydraulic Control along Sea Cliff Avenue

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. The recommended approach for the conditions at the Photocircuits site is 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) indicates 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.

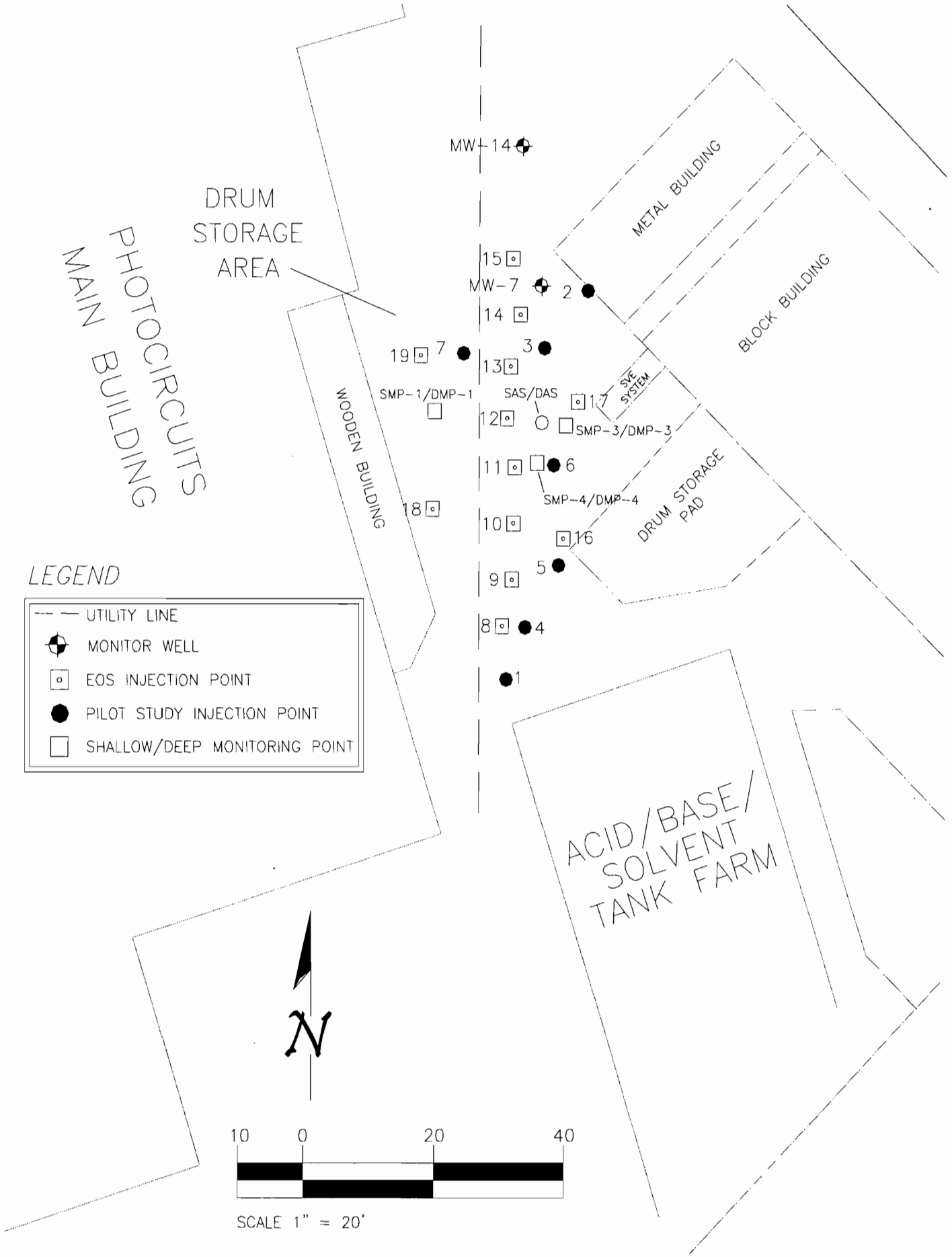
The pumps, piping and control systems were installed during the week of April 28, 2003. The layout of the piping and controls are provided on the attached figure. The system was started up on May 1, 2003, with each well pumping at an initial flow rate of one gallon per minute (gpm). On May 20, the pumping 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 plan to continue 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. Soybean oil was not evident in well MW-14 during the September 2004 sampling event.

During the September 2004 event, the pumping systems in wells RW-1 and RW-2 were not operational due to clogging of the discharge lines (between the well head and the discharge manhole) by large amounts of precipitated iron. We believe that the iron is the result of the bioremediation program, which reduces naturally-occurring iron oxides (+3 valence) in the formation to the more soluble +2 valence state. As the 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. We will replace the clogged discharge tubing with larger diameter tubing in the next month; we anticipate that the clogging problem will be minimized or eliminated using the larger tubing.

3.0 Schedule

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


DRUM STORAGE AREA
PHOTOCIRCUITS MAIN BUILDING
METAL BUILDING
BLOCK BUILDING
WOODEN BUILDING
DRUM STORAGE PAD
ACID/BASE/ SOLVENT TANK FARM
MW-14
MW-7
SMP-1/DMP-1
SAS/DAS
SVE SYSTEM
SMP-3/DMP-3
SMP-4/DMP-4
LEGEND
UTILITY LINE
MONITOR WELL
EOS INJECTION POINT
PILOT STUDY INJECTION POINT
SHALLOW/DEEP MONITORING POINT
N
10 0 20 40
SCALE 1" = 20'

Monday, October 11, 2004

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

TEL: (516) 609-1730
FAX (516) 609-1257

RE: Photocircuits 31 Sea Cliff Ave. Glen Cove,

Order No.: 0409270

Dear Peter Takach:

American Analytical Laboratories, LLC. received 16 sample(s) on 9/28/2004 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 you have any questions regarding these tests results, please do not hesitate to call (631) 454-6100 or email me directly at lbeyer@american-analytical.com.

Sincerely,

Lori Beyer
Lab Director

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT: Photocircuits Corporation
Project: Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.
Lab Order: 0409270

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
0409270-01A	SMP-1	3271	9/27/2004	9/28/2004
0409270-01B	SMP-1	3271	9/27/2004	9/28/2004
0409270-01C	SMP-1	3271	9/27/2004	9/28/2004
0409270-01D	SMP-1	3271	9/27/2004	9/28/2004
0409270-02A	DMP-1	3271	9/27/2004	9/28/2004
0409270-02B	DMP-1	3271	9/27/2004	9/28/2004
0409270-02C	DMP-1	3271	9/27/2004	9/28/2004
0409270-02D	DMP-1	3271	9/27/2004	9/28/2004
0409270-03A	SMP-3	3271	9/27/2004	9/28/2004
0409270-03B	SMP-3	3271	9/27/2004	9/28/2004
0409270-03C	SMP-3	3271	9/27/2004	9/28/2004
0409270-03D	SMP-3	3271	9/27/2004	9/28/2004
0409270-04A	DMP-3	3271	9/27/2004	9/28/2004
0409270-04B	DMP-3	3271	9/27/2004	9/28/2004
0409270-04C	DMP-3	3271	9/27/2004	9/28/2004
0409270-04D	DMP-3	3271	9/27/2004	9/28/2004
0409270-05A	SMP-4	3271	9/27/2004	9/28/2004
0409270-05B	SMP-4	3271	9/27/2004	9/28/2004
0409270-05C	SMP-4	3271	9/27/2004	9/28/2004
0409270-05D	SMP-4	3271	9/27/2004	9/28/2004
0409270-06A	DMP-4	3271	9/27/2004	9/28/2004
0409270-06B	DMP-4	3271	9/27/2004	9/28/2004
0409270-06C	DMP-4	3271	9/27/2004	9/28/2004
0409270-06D	DMP-4	3271	9/27/2004	9/28/2004
0409270-07A	MW-8	3271	9/27/2004	9/28/2004
0409270-07B	MW-8	3271	9/27/2004	9/28/2004
0409270-07C	MW-8	3271	9/27/2004	9/28/2004
0409270-07D	MW-8	3271	9/27/2004	9/28/2004
0409270-08A	MW-12	3271	9/27/2004	9/28/2004
0409270-08B	MW-12	3271	9/27/2004	9/28/2004
0409270-08C	MW-12	3271	9/27/2004	9/28/2004
0409270-08D	MW-12	3271	9/27/2004	9/28/2004
0409270-09A	MW-13	3271	9/27/2004	9/28/2004
0409270-09B	MW-13	3271	9/27/2004	9/28/2004
0409270-09C	MW-13	3271	9/27/2004	9/28/2004
0409270-09D	MW-13	3271	9/27/2004	9/28/2004
0409270-10A	MW-14	3271	9/27/2004	9/28/2004
0409270-10B	MW-14	3271	9/27/2004	9/28/2004

CLIENT:	Photocircuits Corporation
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.
Lab Order:	0409270

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
0409270-10C	MW-14	3271	9/27/2004	9/28/2004
0409270-10D	MW-14	3271	9/27/2004	9/28/2004
0409270-11A	MW-3S (45A Site)	3271	9/28/2004	9/28/2004
0409270-12A	MW-4S (45A Site)	3271	9/27/2004	9/28/2004
0409270-13A	RW-1	3269	9/28/2004	9/28/2004
0409270-14A	RW-3	3269	9/28/2004	9/28/2004
0409270-15A	RW-4	3269	9/28/2004	9/28/2004
0409270-16A	Total Influent (45A Site)	3269	9/28/2004	9/28/2004

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

TAG # / COC 3271

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

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

CLIENT NAME/ADDRESS
Photocircuits
31 Sea Cliff Avenue
Glen Cove, NY 11542

CONTACT:
Peter Tadkach
Andy Barber (Barton & Loguidice)

SAMPLER (SIGNATURE) David H. Hanny / Darik Jordan

SAMPLER NAME (PRINT) David Hanny / Darik Jordan

SAMPLE(S) SEALED YES / NO

CORRECT CONTAINER(S) YES / NO

PROJECT LOCATION:

LABORATORY ID #	MATRIX	# CONTAINERS	SAMPLING DATE/ TIME	SAMPLE # - LOCATION	ANALYSIS REQUIRED: 8260 B	TOC	Nitrate	Sulfate	IRON	FOR METHANOL PRESERVED SAMPLES [VOLATILE VIAL #]
0409270-1	H_2O	5	9/27/04 0845	SMP-1	X	X	X	X	X	
-2			0855	DMP-1	X	X	X	X	X	
-3			0900	SMP-3	X	X	X	X	X	
-4			0910	DMP-3	X	X	X	X	X	
-5			0930	SMP-4	X	X	X	X	X	
-6			0945	DMP-4	X	X	X	X	X	
-7			1610	MW-8	X	X	X	X	X	
-8			1410	MW-12	X	X	X	X	X	
-9			1130	MW-13	X	X	X	X	X	
-10			1220	MW-14	X	X	X	X	X	
-11		2	9/28/04 1015	MW-3S (45A site)	X					
-12	↓	2	9/27/04 1930	MW-4S (45A Site)	X					

COOLER TEMPERATURE:

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 ☐ BY / /

COMMENTS / INSTRUCTIONS

RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY LAB (SIGNATURE)	DATE / TIME	PRINTED NAME
David H. Hanny	9/28/04 1305	David R. Hanny		9/28/04 3:20pm	C. Hanny
RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY LAB (SIGNATURE)	DATE / TIME	PRINTED NAME

WHITE-OFFICE / CANARY-LAB / PINK-SAMPLE CUSTODIAN / GOLDENROD-CLIENT

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

TAG # / COC 3269

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

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

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

CONTACT:
Peter Takacs (PC)
Andy Barber (Barton & Loguidice)

SAMPLER (SIGNATURE)

SAMPLER NAME (PRINT)
David Hanny / Darik Jordan

SAMPLE(S) SEALED YES / NO

CORRECT CONTAINER(S) YES / NO

PROJECT LOCATION:

LABORATORY ID #	MATRIX	# CONTAINERS	SAMPLING DATE/ TIME	SAMPLE # - LOCATION	ANALYSIS REQUIRED 8260 B	FOR METHANOL PRESERVED SAMPLES [VOLATILE VIAL #]
0409270-13	L	2	9/28/04 1030	RW-1	X	
-14	L	2	" 1045	RW-3	X	
-15	L	2	" 1100	RW-4	X	

COOLER TEMPERATURE:

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 ☐ BY / /

COMMENTS / INSTRUCTIONS

RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY LAB (SIGNATURE)	DATE / TIME	PRINTED NAME
	9/28/04 1305	David R. Hanny		9-28-04 3:20 pm	C. Dunn
RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY LAB (SIGNATURE)	DATE / TIME	PRINTED NAME

WHITE-OFFICE / CANARY-LAB / PINK-SAMPLE CUSTODIAN / GOLDENROD-CLIENT

241144

American Analytical Laboratories,
56 Toledo Street
Farmingdale, NY 11735-
(631) 454-6100

CHAIN-OF-CUSTODY RECORD

18.4
Ice Melted

Subcontractor:
Severn Trent Laboratories (STL) Newburgh
315 Fullerton Avenue
Newburgh, New York 12550

TEL: (845) 562-0890
FAX: (845) 562-0794

Acct #:

29-Sep-04

	Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests: SW9060						
1	0409270-01C	Liquid	9/27/2004	250MLPH2SO4	1						
2	0409270-02C	Liquid	9/27/2004	250MLPH2SO4	1						
3	0409270-03C	Liquid	9/27/2004	250MLPH2SO4	1						
4	0409270-04C	Liquid	9/27/2004	250MLPH2SO4	1						
5	0409270-05C	Liquid	9/27/2004	250MLPH2SO4	1						
6	0409270-06C	Liquid	9/27/2004	250MLPH2SO4	1						
7	0409270-07C	Liquid	9/27/2004	250MLPH2SO4	1						
8	0409270-08C	Liquid	9/27/2004	250MLPH2SO4	1						
9	0409270-09C	Liquid	9/27/2004	250MLPH2SO4	1						
10	0409270-10C	Liquid	9/27/2004	250MLPH2SO4	1						

Comments: Analyze for TOC.
Normal TAT, Thanks.

		Date/Time		Date/Time
Relinquished by:		10/1/04	**Received by:**	
Relinquished by:			**Received by:**	10/4/04 1010

AMERICAN ANALYTICAL LABORATORIES, LLC
56 TOLEDO STREET
FARMINGDALE, NEW YORK 11735
TELEPHONE: (631) 454-6100 FAX: (631) 454-8027

DATA REPORTING QUALIFIERS

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

Value	If the result is greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
J	Indicates an estimated value. The flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3ug/L was calculated report as 3J. This flag is used when similar situations arise on any organic parameter i.e. Pesticide, PCBs and others.
B	Indicates the analyte was found in the blank as well as the sample report "10B".
E	Indicates the analytes concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide / PCB target analyte when there is >25% difference for detected concentrations between the two GC Columns. The higher of the two values is reported on Form I and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
H	Indicates sample was received and/or analyzed outside of The method allowable holding time

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-01A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,1,1-Trichloroethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,1,2,2-Tetrachloroethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,1,2-Trichloroethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,1-Dichloroethane	83	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,1-Dichloroethene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,1-Dichloropropene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2,3-Trichlorobenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2,3-Trichloropropane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2,4,5-Tetramethylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2,4-Trichlorobenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2,4-Trimethylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2-Dibromo-3-chloropropane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2-Dibromoethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2-Dichlorobenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2-Dichloroethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,2-Dichloropropane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,3,5-Trimethylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,3-Dichlorobenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,3-dichloropropane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
1,4-Dichlorobenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
2,2-Dichloropropane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
2-Butanone	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
2-Chloroethyl vinyl ether	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
2-Chlorotoluene	10	2.0		µg/L	2	9/30/2004 7:13:00 PM
2-Hexanone	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
4-Chlorotoluene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
4-Isopropyltoluene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
4-Methyl-2-pentanone	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Acetone	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Acrolein	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Acrylonitrile	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Benzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Bromobenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Bromochloromethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Bromodichloromethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Bromoform	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Bromomethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Carbon disulfide	U	2.0		µg/L	2	9/30/2004 7:13:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-01A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Chlorobenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Chlorodifluoromethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Chloroethane	1100	2.0		µg/L	2	9/30/2004 7:13:00 PM
Chloroform	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Chloromethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
cis-1,2-Dichloroethene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
cis-1,3-Dichloropropene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Dibromochloromethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Dibromomethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Dichlorodifluoromethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Dilsopropyl ether	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Ethanol	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Ethyl acetate	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Ethylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Freon-114	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Hexachlorobutadiene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Isopropyl acetate	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Isopropylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
m,p-Xylene	U	4.0		µg/L	2	9/30/2004 7:13:00 PM
Methyl tert-butyl ether	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Methylene chloride	9.2	2.0	B	µg/L	2	9/30/2004 7:13:00 PM
Naphthalene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
n-Butyl acetate	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
n-Butylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
n-Propyl acetate	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
n-Propylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
o-Xylene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
p-Diethylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
p-Ethyltoluene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
sec-Butylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Styrene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
t-Butyl alcohol	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
tert-Butylbenzene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Tetrachloroethene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Toluene	20	2.0		µg/L	2	9/30/2004 7:13:00 PM
trans-1,2-Dichloroethene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
trans-1,3-Dichloropropene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Trichloroethene	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Trichlorofluoromethane	U	2.0		µg/L	2	9/30/2004 7:13:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-01A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	2.0		µg/L	2	9/30/2004 7:13:00 PM
Vinyl chloride	U	2.0		µg/L	2	9/30/2004 7:13:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-01B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	33.5	0.0200		mg/L	1	10/7/2004 3:36:55 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-01C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	0.0595	0.100	J	mg/L	1	10/6/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-01D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	81.2	1.00		mg/L	1	9/30/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-02A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,1-Dichloroethane	130	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2,4-Trimethylbenzene	3.8	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
2-Butanone	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
2-Chlorotoluene	30	1.0		µg/L	1	9/30/2004 7:52:00 PM
2-Hexanone	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
4-Methyl-2-pentanone	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Acetone	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Acrolein	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Acrylonitrile	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Benzene	3.2	1.0		µg/L	1	9/30/2004 7:52:00 PM
Bromobenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Bromochloromethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Bromodichloromethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Bromoform	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Bromomethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Carbon disulfide	U	1.0		µg/L	1	9/30/2004 7:52:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-02A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Chlorobenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Chloroethane	2100	10		µg/L	10	10/5/2004 11:43:00 AM
Chloroform	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Chloromethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
cis-1,2-Dichloroethene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Dibromochloromethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Dibromomethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Diisopropyl ether	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Ethanol	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Ethyl acetate	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Ethylbenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Freon-114	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Isopropyl acetate	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Isopropylbenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
m,p-Xylene	U	2.0		µg/L	1	9/30/2004 7:52:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Methylene chloride	16	1.0	B	µg/L	1	9/30/2004 7:52:00 PM
Naphthalene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
n-Butyl acetate	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
n-Butylbenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
n-Propyl acetate	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
n-Propylbenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
o-Xylene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
sec-Butylbenzene	0.91	1.0	J	µg/L	1	9/30/2004 7:52:00 PM
Styrene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Tetrachloroethene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Toluene	8.2	1.0		µg/L	1	9/30/2004 7:52:00 PM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Trichloroethene	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	9/30/2004 7:52:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-02A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		µg/L	1	9/30/2004 7:52:00 PM
Vinyl chloride	4.1	1.0		µg/L	1	9/30/2004 7:52:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-02B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	5.82	0.0200		mg/L	1	10/7/2004 3:42:05 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-02C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	U	0.100		mg/L	1	10/6/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-1
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-02D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	744	1.00		mg/L	1	9/30/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-03A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,1,1-Trichloroethane	1200	10		µg/L	10	9/30/2004 8:30:00 PM
1,1,2,2-Tetrachloroethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,1,2-Trichloroethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,1-Dichloroethane	11000	20		µg/L	20	10/5/2004 12:16:00 PM
1,1-Dichloroethene	330	10		µg/L	10	9/30/2004 8:30:00 PM
1,1-Dichloropropene	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2,3-Trichlorobenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2,3-Trichloropropane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2,4,5-Tetramethylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2,4-Trichlorobenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2,4-Trimethylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2-Dibromo-3-chloropropane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2-Dibromoethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2-Dichlorobenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2-Dichloroethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,2-Dichloropropane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,3,5-Trimethylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,3-Dichlorobenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,3-dichloropropane	U	10		µg/L	10	9/30/2004 8:30:00 PM
1,4-Dichlorobenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
2,2-Dichloropropane	U	10		µg/L	10	9/30/2004 8:30:00 PM
2-Butanone	U	10		µg/L	10	9/30/2004 8:30:00 PM
2-Chloroethyl vinyl ether	U	10		µg/L	10	9/30/2004 8:30:00 PM
2-Chlorotoluene	20	10		µg/L	10	9/30/2004 8:30:00 PM
2-Hexanone	U	10		µg/L	10	9/30/2004 8:30:00 PM
4-Chlorotoluene	U	10		µg/L	10	9/30/2004 8:30:00 PM
4-Isopropyltoluene	U	10		µg/L	10	9/30/2004 8:30:00 PM
4-Methyl-2-pentanone	U	10		µg/L	10	9/30/2004 8:30:00 PM
Acetone	U	10		µg/L	10	9/30/2004 8:30:00 PM
Acrolein	U	10		µg/L	10	9/30/2004 8:30:00 PM
Acrylonitrile	U	10		µg/L	10	9/30/2004 8:30:00 PM
Benzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Bromobenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Bromochloromethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
Bromodichloromethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
Bromoform	U	10		µg/L	10	9/30/2004 8:30:00 PM
Bromomethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
Carbon disulfide	U	10		µg/L	10	9/30/2004 8:30:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-03A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	10		µg/L	10	9/30/2004 8:30:00 PM
Chlorobenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Chlorodifluoromethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
Chloroethane	6400	20		µg/L	20	10/5/2004 12:16:00 PM
Chloroform	U	10		µg/L	10	9/30/2004 8:30:00 PM
Chloromethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
cis-1,2-Dichloroethene	U	10		µg/L	10	9/30/2004 8:30:00 PM
cis-1,3-Dichloropropene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Dibromochloromethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
Dibromomethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
Dichlorodifluoromethane	U	10		µg/L	10	9/30/2004 8:30:00 PM
Diisopropyl ether	U	10		µg/L	10	9/30/2004 8:30:00 PM
Ethanol	U	10		µg/L	10	9/30/2004 8:30:00 PM
Ethyl acetate	U	10		µg/L	10	9/30/2004 8:30:00 PM
Ethylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Freon-114	U	10		µg/L	10	9/30/2004 8:30:00 PM
Hexachlorobutadiene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Isopropyl acetate	U	10		µg/L	10	9/30/2004 8:30:00 PM
Isopropylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
m,p-Xylene	U	20		µg/L	10	9/30/2004 8:30:00 PM
Methyl tert-butyl ether	U	10		µg/L	10	9/30/2004 8:30:00 PM
Methylene chloride	88	10		µg/L	10	9/30/2004 8:30:00 PM
Naphthalene	U	10		µg/L	10	9/30/2004 8:30:00 PM
n-Butyl acetate	U	10		µg/L	10	9/30/2004 8:30:00 PM
n-Butylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
n-Propyl acetate	U	10		µg/L	10	9/30/2004 8:30:00 PM
n-Propylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
o-Xylene	U	10		µg/L	10	9/30/2004 8:30:00 PM
p-Diethylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
p-Ethyltoluene	U	10		µg/L	10	9/30/2004 8:30:00 PM
sec-Butylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Styrene	U	10		µg/L	10	9/30/2004 8:30:00 PM
t-Butyl alcohol	U	10		µg/L	10	9/30/2004 8:30:00 PM
tert-Butylbenzene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Tetrachloroethene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Toluene	140	10		µg/L	10	9/30/2004 8:30:00 PM
trans-1,2-Dichloroethene	U	10		µg/L	10	9/30/2004 8:30:00 PM
trans-1,3-Dichloropropene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Trichloroethene	U	10		µg/L	10	9/30/2004 8:30:00 PM
Trichlorofluoromethane	U	10		µg/L	10	9/30/2004 8:30:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-03A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	10		µg/L	10	9/30/2004 8:30:00 PM
Vinyl chloride	290	10		µg/L	10	9/30/2004 8:30:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-03B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	28.2	0.0200		mg/L	1	10/7/2004 3:49:36 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-03C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	0.0611	0.100	J	mg/L	1	10/6/2004

Qualifiers:	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-03D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	239	1.00		mg/L	1	9/30/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-04A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,1,1-Trichloroethane	6600	20		µg/L	20	9/30/2004 9:09:00 PM
1,1,2,2-Tetrachloroethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,1,2-Trichloroethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,1-Dichloroethane	26000	40		µg/L	40	10/5/2004 12:48:00 PM
1,1-Dichloroethene	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,1-Dichloropropene	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,2,3-Trichlorobenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,2,3-Trichloropropane	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,2,4,5-Tetramethylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,2,4-Trichlorobenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,2,4-Trimethylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,2-Dibromo-3-chloropropane	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,2-Dibromoethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,2-Dichlorobenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,2-Dichloroethane	110	20		µg/L	20	9/30/2004 9:09:00 PM
1,2-Dichloropropane	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,3,5-Trimethylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,3-Dichlorobenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,3-dichloropropane	U	20		µg/L	20	9/30/2004 9:09:00 PM
1,4-Dichlorobenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
2,2-Dichloropropane	U	20		µg/L	20	9/30/2004 9:09:00 PM
2-Butanone	U	20		µg/L	20	9/30/2004 9:09:00 PM
2-Chloroethyl vinyl ether	U	20		µg/L	20	9/30/2004 9:09:00 PM
2-Chlorotoluene	45	20		µg/L	20	9/30/2004 9:09:00 PM
2-Hexanone	U	20		µg/L	20	9/30/2004 9:09:00 PM
4-Chlorotoluene	U	20		µg/L	20	9/30/2004 9:09:00 PM
4-Isopropyltoluene	U	20		µg/L	20	9/30/2004 9:09:00 PM
4-Methyl-2-pentanone	U	20		µg/L	20	9/30/2004 9:09:00 PM
Acetone	U	20		µg/L	20	9/30/2004 9:09:00 PM
Acrolein	U	20		µg/L	20	9/30/2004 9:09:00 PM
Acrylonitrile	U	20		µg/L	20	9/30/2004 9:09:00 PM
Benzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Bromobenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Bromochloromethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
Bromodichloromethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
Bromoform	U	20		µg/L	20	9/30/2004 9:09:00 PM
Bromomethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
Carbon disulfide	U	20		µg/L	20	9/30/2004 9:09:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-04A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	20		µg/L	20	9/30/2004 9:09:00 PM
Chlorobenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Chlorodifluoromethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
Chloroethane	18000	40		µg/L	40	10/5/2004 12:48:00 PM
Chloroform	U	20		µg/L	20	9/30/2004 9:09:00 PM
Chloromethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
cis-1,2-Dichloroethene	U	20		µg/L	20	9/30/2004 9:09:00 PM
cis-1,3-Dichloropropene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Dibromochloromethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
Dibromomethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
Dichlorodifluoromethane	U	20		µg/L	20	9/30/2004 9:09:00 PM
Diisopropyl ether	U	20		µg/L	20	9/30/2004 9:09:00 PM
Ethanol	U	20		µg/L	20	9/30/2004 9:09:00 PM
Ethyl acetate	U	20		µg/L	20	9/30/2004 9:09:00 PM
Ethylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Freon-114	U	20		µg/L	20	9/30/2004 9:09:00 PM
Hexachlorobutadiene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Isopropyl acetate	U	20		µg/L	20	9/30/2004 9:09:00 PM
Isopropylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
m,p-Xylene	U	40		µg/L	20	9/30/2004 9:09:00 PM
Methyl tert-butyl ether	U	20		µg/L	20	9/30/2004 9:09:00 PM
Methylene chloride	250	20		µg/L	20	9/30/2004 9:09:00 PM
Naphthalene	U	20		µg/L	20	9/30/2004 9:09:00 PM
n-Butyl acetate	U	20		µg/L	20	9/30/2004 9:09:00 PM
n-Butylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
n-Propyl acetate	U	20		µg/L	20	9/30/2004 9:09:00 PM
n-Propylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
o-Xylene	U	20		µg/L	20	9/30/2004 9:09:00 PM
p-Diethylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
p-Ethyltoluene	U	20		µg/L	20	9/30/2004 9:09:00 PM
sec-Butylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Styrene	U	20		µg/L	20	9/30/2004 9:09:00 PM
t-Butyl alcohol	U	20		µg/L	20	9/30/2004 9:09:00 PM
tert-Butylbenzene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Tetrachloroethene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Toluene	250	20		µg/L	20	9/30/2004 9:09:00 PM
trans-1,2-Dichloroethene	U	20		µg/L	20	9/30/2004 9:09:00 PM
trans-1,3-Dichloropropene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Trichloroethene	U	20		µg/L	20	9/30/2004 9:09:00 PM
Trichlorofluoromethane	U	20		µg/L	20	9/30/2004 9:09:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-04A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	20		µg/L	20	9/30/2004 9:09:00 PM
Vinyl chloride	1500	20		µg/L	20	9/30/2004 9:09:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-04B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	3.86	0.0200		mg/L	1	10/7/2004 3:51:37 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-04C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	U	0.100		mg/L	1	10/6/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-3
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-04D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	4.88	1.00		mg/L	1	9/30/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-05A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,1-Dichloroethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
2-Butanone	36	1.0		µg/L	1	9/30/2004 9:48:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
2-Chlorotoluene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
2-Hexanone	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
4-Methyl-2-pentanone	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Acetone	220	1.0		µg/L	1	9/30/2004 9:48:00 PM
Acrolein	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Acrylonitrile	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Benzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Bromobenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Bromochloromethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Bromodichloromethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Bromoform	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Bromomethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Carbon disulfide	U	1.0		µg/L	1	9/30/2004 9:48:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-05A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Chlorobenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Chloroethane	340	1.0		µg/L	1	9/30/2004 9:48:00 PM
Chloroform	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Chloromethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
cis-1,2-Dichloroethene	180	1.0		µg/L	1	9/30/2004 9:48:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Dibromochloromethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Dibromomethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Diisopropyl ether	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Ethanol	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Ethyl acetate	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Ethylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Freon-114	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Isopropyl acetate	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Isopropylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
m,p-Xylene	U	2.0		µg/L	1	9/30/2004 9:48:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Methylene chloride	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Naphthalene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
n-Butyl acetate	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
n-Butylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
n-Propyl acetate	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
n-Propylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
o-Xylene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Styrene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Tetrachloroethene	9.3	1.0		µg/L	1	9/30/2004 9:48:00 PM
Toluene	4.0	1.0		µg/L	1	9/30/2004 9:48:00 PM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Trichloroethene	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	9/30/2004 9:48:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-05A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		µg/L	1	9/30/2004 9:48:00 PM
Vinyl chloride	17	1.0		µg/L	1	9/30/2004 9:48:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-05B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	49.3	0.0200		mg/L	1	10/7/2004 3:54:54 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-05C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	0.186	0.100		mg/L	1	10/6/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	SMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-05D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	U	1.00		mg/L	1	9/30/2004

Qualifiers:	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-06A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,1,1-Trichloroethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,1,2,2-Tetrachloroethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,1,2-Trichloroethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,1-Dichloroethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,1-Dichloroethene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,1-Dichloropropene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2,3-Trichlorobenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2,3-Trichloropropane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2,4,5-Tetramethylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2,4-Trichlorobenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2,4-Trimethylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2-Dibromo-3-chloropropane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2-Dibromoethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2-Dichlorobenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2-Dichloroethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,2-Dichloropropane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,3,5-Trimethylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,3-Dichlorobenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,3-dichloropropane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
1,4-Dichlorobenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
2,2-Dichloropropane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
2-Butanone	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
2-Chloroethyl vinyl ether	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
2-Chlorotoluene	36	5.0		µg/L	5	9/30/2004 10:26:00 PM
2-Hexanone	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
4-Chlorotoluene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
4-Isopropyltoluene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
4-Methyl-2-pentanone	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Acetone	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Acrolein	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Acrylonitrile	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Benzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Bromobenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Bromochloromethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Bromodichloromethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Bromoform	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Bromomethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Carbon disulfide	U	5.0		µg/L	5	9/30/2004 10:26:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-06A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Chlorobenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Chlorodifluoromethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Chloroethane	2500	10		µg/L	10	10/5/2004 1:24:00 PM
Chloroform	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Chloromethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
cis-1,2-Dichloroethene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
cis-1,3-Dichloropropene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Dibromochloromethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Dibromomethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Dichlorodifluoromethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Diisopropyl ether	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Ethanol	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Ethyl acetate	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Ethylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Freon-114	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Hexachlorobutadiene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Isopropyl acetate	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Isopropylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
m,p-Xylene	U	10		µg/L	5	9/30/2004 10:26:00 PM
Methyl tert-butyl ether	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Methylene chloride	32	5.0	B	µg/L	5	9/30/2004 10:26:00 PM
Naphthalene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
n-Butyl acetate	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
n-Butylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
n-Propyl acetate	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
n-Propylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
o-Xylene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
p-Diethylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
p-Ethyltoluene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
sec-Butylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Styrene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
t-Butyl alcohol	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
tert-Butylbenzene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Tetrachloroethene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Toluene	40	5.0		µg/L	5	9/30/2004 10:26:00 PM
trans-1,2-Dichloroethene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
trans-1,3-Dichloropropene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Trichloroethene	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Trichlorofluoromethane	U	5.0		µg/L	5	9/30/2004 10:26:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-06A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	5.0		µg/L	5	9/30/2004 10:26:00 PM
Vinyl chloride	U	5.0		µg/L	5	9/30/2004 10:26:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-06B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	66.4	0.0200		mg/L	1	10/7/2004 3:58:49 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-06C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	0.0655	0.100	J	mg/L	1	10/6/2004

Qualifiers:	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	DMP-4
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-06D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	U	1.00		mg/L	1	9/30/2004

Qualifiers:	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-8
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-07A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,1-Dichloroethane	28	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,1-Dichloroethene	3.7	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
2-Butanone	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
2-Chlorotoluene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
2-Hexanone	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
4-Methyl-2-pentanone	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Acetone	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Acrolein	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Acrylonitrile	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Benzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Bromobenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Bromochloromethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Bromodichloromethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Bromoform	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Bromomethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Carbon disulfide	U	1.0		µg/L	1	9/30/2004 11:05:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-8
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-07A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Chlorobenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Chloroethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Chloroform	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Chloromethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
cis-1,2-Dichloroethene	180	1.0		µg/L	1	9/30/2004 11:05:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Dibromochloromethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Dibromomethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Diisopropyl ether	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Ethanol	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Ethyl acetate	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Ethylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Freon-114	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Isopropyl acetate	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Isopropylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
m,p-Xylene	U	2.0		µg/L	1	9/30/2004 11:05:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Methylene chloride	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Naphthalene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
n-Butyl acetate	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
n-Butylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
n-Propyl acetate	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
n-Propylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
o-Xylene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Styrene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Tetrachloroethene	8.3	1.0		µg/L	1	9/30/2004 11:05:00 PM
Toluene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Trichloroethene	90	1.0		µg/L	1	9/30/2004 11:05:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	9/30/2004 11:05:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-8
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-07A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		µg/L	1	9/30/2004 11:05:00 PM
Vinyl chloride	U	1.0		µg/L	1	9/30/2004 11:05:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-8
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-07B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	0.0600	0.0200		mg/L	1	10/7/2004 4:02:16 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-8
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-07C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	2.12	0.100		mg/L	1	10/6/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-8
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-07D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	48.6	1.00		mg/L	1	9/30/2004

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-12
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-08A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,1,1-Trichloroethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,1,2-Trichloroethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,1-Dichloroethane	150	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,1-Dichloroethene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,1-Dichloropropene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2,3-Trichloropropane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2-Dibromoethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2-Dichloroethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,2-Dichloropropane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,3-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,3-dichloropropane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
1,4-Dichlorobenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
2,2-Dichloropropane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
2-Butanone	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
2-Chlorotoluene	560	1.0		µg/L	1	9/30/2004 11:43:00 PM
2-Hexanone	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
4-Chlorotoluene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
4-Isopropyltoluene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
4-Methyl-2-pentanone	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Acetone	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Acrolein	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Acrylonitrile	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Benzene	2.0	1.0		µg/L	1	9/30/2004 11:43:00 PM
Bromobenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Bromochloromethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Bromodichloromethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Bromoform	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Bromomethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Carbon disulfide	U	1.0		µg/L	1	9/30/2004 11:43:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-12
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-08A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Chlorobenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Chlorodifluoromethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Chloroethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Chloroform	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Chloromethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
cis-1,2-Dichloroethene	210	1.0		µg/L	1	9/30/2004 11:43:00 PM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Dibromochloromethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Dibromomethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Dichlorodifluoromethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Diisopropyl ether	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Ethanol	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Ethyl acetate	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Ethylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Freon-114	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Hexachlorobutadiene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Isopropyl acetate	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Isopropylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
m,p-Xylene	U	2.0		µg/L	1	9/30/2004 11:43:00 PM
Methyl tert-butyl ether	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Methylene chloride	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Naphthalene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
n-Butyl acetate	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
n-Butylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
n-Propyl acetate	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
n-Propylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
o-Xylene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
p-Diethylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
p-Ethyltoluene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
sec-Butylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Styrene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
t-Butyl alcohol	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
tert-Butylbenzene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Tetrachloroethene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Toluene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Trichloroethene	23	1.0		µg/L	1	9/30/2004 11:43:00 PM
Trichlorofluoromethane	U	1.0		µg/L	1	9/30/2004 11:43:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-12
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-08A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		µg/L	1	9/30/2004 11:43:00 PM
Vinyl chloride	64	1.0		µg/L	1	9/30/2004 11:43:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-12
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-08B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	22.8	0.0200		mg/L	1	10/7/2004 4:04:22 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-12
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-08C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	0.451	0.100		mg/L	1	10/6/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-12
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-08D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	535	1.00		mg/L	1	9/30/2004

Qualifiers:	*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-13
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-09A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,1,1-Trichloroethane	96	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,1,2,2-Tetrachloroethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,1,2-Trichloroethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,1-Dichloroethane	520	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,1-Dichloroethene	160	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,1-Dichloropropene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2,3-Trichlorobenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2,3-Trichloropropane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2,4,5-Tetramethylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2,4-Trichlorobenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2,4-Trimethylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2-Dibromo-3-chloropropane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2-Dibromoethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2-Dichlorobenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2-Dichloroethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,2-Dichloropropane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,3,5-Trimethylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,3-Dichlorobenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,3-dichloropropane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
1,4-Dichlorobenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
2,2-Dichloropropane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
2-Butanone	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
2-Chloroethyl vinyl ether	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
2-Chlorotoluene	24	2.0		µg/L	2	10/1/2004 12:22:00 AM
2-Hexanone	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
4-Chlorotoluene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
4-Isopropyltoluene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
4-Methyl-2-pentanone	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Acetone	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Acrolein	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Acrylonitrile	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Benzene	14	2.0		µg/L	2	10/1/2004 12:22:00 AM
Bromobenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Bromochloromethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Bromodichloromethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Bromoform	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Bromomethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Carbon disulfide	U	2.0		µg/L	2	10/1/2004 12:22:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
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- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-13
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-09A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Chlorobenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Chlorodifluoromethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Chloroethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Chloroform	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Chloromethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
cis-1,2-Dichloroethene	1300	2.0		µg/L	2	10/1/2004 12:22:00 AM
cis-1,3-Dichloropropene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Dibromochloromethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Dibromomethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Dichlorodifluoromethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Diisopropyl ether	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Ethanol	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Ethyl acetate	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Ethylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Freon-114	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Hexachlorobutadiene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Isopropyl acetate	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Isopropylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
m,p-Xylene	U	4.0		µg/L	2	10/1/2004 12:22:00 AM
Methyl tert-butyl ether	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Methylene chloride	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Naphthalene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
n-Butyl acetate	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
n-Butylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
n-Propyl acetate	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
n-Propylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
o-Xylene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
p-Diethylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
p-Ethyltoluene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
sec-Butylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Styrene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
t-Butyl alcohol	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
tert-Butylbenzene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Tetrachloroethene	640	2.0		µg/L	2	10/1/2004 12:22:00 AM
Toluene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
trans-1,2-Dichloroethene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
trans-1,3-Dichloropropene	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Trichloroethene	1100	2.0		µg/L	2	10/1/2004 12:22:00 AM
Trichlorofluoromethane	U	2.0		µg/L	2	10/1/2004 12:22:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-13
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-09A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	2.0		µg/L	2	10/1/2004 12:22:00 AM
Vinyl chloride	150	2.0		µg/L	2	10/1/2004 12:22:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-13
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-09B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	0.945	0.0200		mg/L	1	10/7/2004 4:06:20 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-13
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-09C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	0.0264	0.100	J	mg/L	1	10/6/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-13
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-09D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	562	1.00		mg/L	1	9/30/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-14
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-10A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,1,1-Trichloroethane	1200	10		µg/L	10	10/1/2004 1:01:00 AM
1,1,2,2-Tetrachloroethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,1,2-Trichloroethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,1-Dichloroethane	7100	20		µg/L	20	10/5/2004 4:03:00 PM
1,1-Dichloroethene	270	10		µg/L	10	10/1/2004 1:01:00 AM
1,1-Dichloropropene	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2,3-Trichlorobenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2,3-Trichloropropane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2,4,5-Tetramethylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2,4-Trichlorobenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2,4-Trimethylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2-Dibromo-3-chloropropane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2-Dibromoethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2-Dichlorobenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2-Dichloroethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,2-Dichloropropane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,3,5-Trimethylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,3-Dichlorobenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,3-dichloropropane	U	10		µg/L	10	10/1/2004 1:01:00 AM
1,4-Dichlorobenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
2,2-Dichloropropane	U	10		µg/L	10	10/1/2004 1:01:00 AM
2-Butanone	790	10		µg/L	10	10/1/2004 1:01:00 AM
2-Chloroethyl vinyl ether	U	10		µg/L	10	10/1/2004 1:01:00 AM
2-Chlorotoluene	U	10		µg/L	10	10/1/2004 1:01:00 AM
2-Hexanone	U	10		µg/L	10	10/1/2004 1:01:00 AM
4-Chlorotoluene	U	10		µg/L	10	10/1/2004 1:01:00 AM
4-Isopropyltoluene	U	10		µg/L	10	10/1/2004 1:01:00 AM
4-Methyl-2-pentanone	U	10		µg/L	10	10/1/2004 1:01:00 AM
Acetone	1200	10		µg/L	10	10/1/2004 1:01:00 AM
Acrolein	U	10		µg/L	10	10/1/2004 1:01:00 AM
Acrylonitrile	U	10		µg/L	10	10/1/2004 1:01:00 AM
Benzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Bromobenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Bromochloromethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
Bromodichloromethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
Bromoform	U	10		µg/L	10	10/1/2004 1:01:00 AM
Bromomethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
Carbon disulfide	U	10		µg/L	10	10/1/2004 1:01:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-14
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-10A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	10		µg/L	10	10/1/2004 1:01:00 AM
Chlorobenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Chlorodifluoromethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
Chloroethane	5000	10		µg/L	10	10/1/2004 1:01:00 AM
Chloroform	U	10		µg/L	10	10/1/2004 1:01:00 AM
Chloromethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
cis-1,2-Dichloroethene	81	10		µg/L	10	10/1/2004 1:01:00 AM
cis-1,3-Dichloropropene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Dibromochloromethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
Dibromomethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
Dichlorodifluoromethane	U	10		µg/L	10	10/1/2004 1:01:00 AM
Diisopropyl ether	U	10		µg/L	10	10/1/2004 1:01:00 AM
Ethanol	U	10		µg/L	10	10/1/2004 1:01:00 AM
Ethyl acetate	U	10		µg/L	10	10/1/2004 1:01:00 AM
Ethylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Freon-114	U	10		µg/L	10	10/1/2004 1:01:00 AM
Hexachlorobutadiene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Isopropyl acetate	U	10		µg/L	10	10/1/2004 1:01:00 AM
Isopropylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
m,p-Xylene	U	20		µg/L	10	10/1/2004 1:01:00 AM
Methyl tert-butyl ether	U	10		µg/L	10	10/1/2004 1:01:00 AM
Methylene chloride	120	10		µg/L	10	10/1/2004 1:01:00 AM
Naphthalene	U	10		µg/L	10	10/1/2004 1:01:00 AM
n-Butyl acetate	U	10		µg/L	10	10/1/2004 1:01:00 AM
n-Butylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
n-Propyl acetate	U	10		µg/L	10	10/1/2004 1:01:00 AM
n-Propylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
o-Xylene	U	10		µg/L	10	10/1/2004 1:01:00 AM
p-Diethylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
p-Ethyltoluene	U	10		µg/L	10	10/1/2004 1:01:00 AM
sec-Butylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Styrene	U	10		µg/L	10	10/1/2004 1:01:00 AM
t-Butyl alcohol	U	10		µg/L	10	10/1/2004 1:01:00 AM
tert-Butylbenzene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Tetrachloroethene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Toluene	28	10		µg/L	10	10/1/2004 1:01:00 AM
trans-1,2-Dichloroethene	U	10		µg/L	10	10/1/2004 1:01:00 AM
trans-1,3-Dichloropropene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Trichloroethene	U	10		µg/L	10	10/1/2004 1:01:00 AM
Trichlorofluoromethane	U	10		µg/L	10	10/1/2004 1:01:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-14
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-10A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	10		µg/L	10	10/1/2004 1:01:00 AM
Vinyl chloride	470	10		µg/L	10	10/1/2004 1:01:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-14
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-10B **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOTAL IRON		**E200.7**		**(SW3010A)**		Analyst: **JP**
Iron	71.7	0.0200		mg/L	1	10/7/2004 4:08:25 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-14
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-10C **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE AS N		**E353.2**				Analyst: **BK**
Nitrogen, Nitrate-Nitrite	0.205	0.100		mg/L	1	10/6/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-14
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-10D **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE		**E375.4**				Analyst: **IP**
Sulfate	329	1.00		mg/L	1	9/30/2004

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-3S (45A Site)
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-11A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,1,1-Trichloroethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,1,2-Trichloroethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,1-Dichloroethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,1-Dichloroethene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,1-Dichloropropene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2,3-Trichloropropane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2-Dibromoethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2-Dichloroethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,3-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,3-dichloropropane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
1,4-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
2,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
2-Butanone	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
2-Chlorotoluene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
2-Hexanone	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
4-Chlorotoluene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
4-Isopropyltoluene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
4-Methyl-2-pentanone	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Acetone	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Acrolein	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Acrylonitrile	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Benzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Bromobenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Bromochloromethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Bromodichloromethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Bromoform	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Bromomethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Carbon disulfide	U	1.0		µg/L	1	10/1/2004 1:39:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
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- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-3S (45A Site)
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-11A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Chlorobenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Chlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Chloroethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Chloroform	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Chloromethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
cis-1,2-Dichloroethene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Dibromochloromethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Dibromomethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Dichlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Diisopropyl ether	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Ethanol	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Ethyl acetate	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Ethylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Freon-114	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Hexachlorobutadiene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Isopropyl acetate	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Isopropylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
m,p-Xylene	U	2.0		µg/L	1	10/1/2004 1:39:00 AM
Methyl tert-butyl ether	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Methylene chloride	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Naphthalene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
n-Butyl acetate	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
n-Butylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
n-Propyl acetate	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
n-Propylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
o-Xylene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
p-Diethylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
p-Ethyltoluene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
sec-Butylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Styrene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
t-Butyl alcohol	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
tert-Butylbenzene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Tetrachloroethene	4.6	1.0		µg/L	1	10/1/2004 1:39:00 AM
Toluene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Trichloroethene	72	1.0		µg/L	1	10/1/2004 1:39:00 AM
Trichlorofluoromethane	U	1.0		µg/L	1	10/1/2004 1:39:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-3S (45A Site)
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-11A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		µg/L	1	10/1/2004 1:39:00 AM
Vinyl chloride	U	1.0		µg/L	1	10/1/2004 1:39:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-4S (45A Site)
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-12A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,1,1-Trichloroethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,1,2-Trichloroethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,1-Dichloroethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,1-Dichloroethene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,1-Dichloropropene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2,3-Trichloropropane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2-Dibromoethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2-Dichloroethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,3-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,3-dichloropropane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
1,4-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
2,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
2-Butanone	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
2-Chlorotoluene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
2-Hexanone	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
4-Chlorotoluene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
4-Isopropyltoluene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
4-Methyl-2-pentanone	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Acetone	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Acrolein	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Acrylonitrile	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Benzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Bromobenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Bromochloromethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Bromodichloromethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Bromoform	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Bromomethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Carbon disulfide	U	1.0		µg/L	1	10/1/2004 4:53:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-4S (45A Site)
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-12A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Chlorobenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Chlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Chloroethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Chloroform	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Chloromethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
cis-1,2-Dichloroethene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Dibromochloromethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Dibromomethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Dichlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Diisopropyl ether	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Ethanol	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Ethyl acetate	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Ethylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Freon-114	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Hexachlorobutadiene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Isopropyl acetate	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Isopropylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
m,p-Xylene	U	2.0		µg/L	1	10/1/2004 4:53:00 AM
Methyl tert-butyl ether	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Methylene chloride	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Naphthalene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
n-Butyl acetate	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
n-Butylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
n-Propyl acetate	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
n-Propylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
o-Xylene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
p-Diethylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
p-Ethyltoluene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
sec-Butylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Styrene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
t-Butyl alcohol	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
tert-Butylbenzene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Tetrachloroethene	10	1.0		µg/L	1	10/1/2004 4:53:00 AM
Toluene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Trichloroethene	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Trichlorofluoromethane	U	1.0		µg/L	1	10/1/2004 4:53:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	MW-4S (45A Site)
Lab Order:	0409270	**Tag Number:**	3271
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/27/2004
Lab ID:	0409270-12A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		µg/L	1	10/1/2004 4:53:00 AM
Vinyl chloride	U	1.0		µg/L	1	10/1/2004 4:53:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	RW-1
Lab Order:	0409270	**Tag Number:**	3269
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-13A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,1,1-Trichloroethane	11	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,1,2-Trichloroethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,1-Dichloroethane	14	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,1-Dichloroethene	6.9	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,1-Dichloropropene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2,3-Trichloropropane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2-Dibromoethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2-Dichloroethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,3-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,3-dichloropropane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
1,4-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
2,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
2-Butanone	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
2-Chlorotoluene	23	1.0		µg/L	1	10/1/2004 5:31:00 AM
2-Hexanone	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
4-Chlorotoluene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
4-Isopropyltoluene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
4-Methyl-2-pentanone	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Acetone	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Acrolein	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Acrylonitrile	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Benzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Bromobenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Bromochloromethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Bromodichloromethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Bromoform	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Bromomethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Carbon disulfide	U	1.0		µg/L	1	10/1/2004 5:31:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	RW-1
Lab Order:	0409270	**Tag Number:**	3269
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-13A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Chlorobenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Chlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Chloroethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Chloroform	4.3	1.0		µg/L	1	10/1/2004 5:31:00 AM
Chloromethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
cis-1,2-Dichloroethene	190	1.0		µg/L	1	10/1/2004 5:31:00 AM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Dibromochloromethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Dibromomethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Dichlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Diisopropyl ether	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Ethanol	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Ethyl acetate	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Ethylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Freon-114	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Hexachlorobutadiene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Isopropyl acetate	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Isopropylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
m,p-Xylene	U	2.0		µg/L	1	10/1/2004 5:31:00 AM
Methyl tert-butyl ether	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Methylene chloride	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Naphthalene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
n-Butyl acetate	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
n-Butylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
n-Propyl acetate	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
n-Propylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
o-Xylene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
p-Diethylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
p-Ethyltoluene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
sec-Butylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Styrene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
t-Butyl alcohol	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
tert-Butylbenzene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Tetrachloroethene	170	1.0		µg/L	1	10/1/2004 5:31:00 AM
Toluene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Trichloroethene	190	1.0		µg/L	1	10/1/2004 5:31:00 AM
Trichlorofluoromethane	U	1.0		µg/L	1	10/1/2004 5:31:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	RW-1
Lab Order:	0409270	**Tag Number:**	3269
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-13A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		µg/L	1	10/1/2004 5:31:00 AM
Vinyl chloride	28	1.0		µg/L	1	10/1/2004 5:31:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	RW-3
Lab Order:	0409270	**Tag Number:**	3269
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-14A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,1,1-Trichloroethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,1,2-Trichloroethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,1-Dichloroethane	13	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,1-Dichloroethene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,1-Dichloropropene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2,3-Trichloropropane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2-Dibromoethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2-Dichloroethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,3-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,3-dichloropropane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
1,4-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
2,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
2-Butanone	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
2-Chlorotoluene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
2-Hexanone	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
4-Chlorotoluene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
4-Isopropyltoluene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
4-Methyl-2-pentanone	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Acetone	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Acrolein	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Acrylonitrile	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Benzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Bromobenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Bromochloromethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Bromodichloromethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Bromoform	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Bromomethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Carbon disulfide	U	1.0		µg/L	1	10/1/2004 6:10:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	RW-3
Lab Order:	0409270	**Tag Number:**	3269
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-14A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Chlorobenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Chlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Chloroethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Chloroform	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Chloromethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
cis-1,2-Dichloroethene	95	1.0		µg/L	1	10/1/2004 6:10:00 AM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Dibromochloromethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Dibromomethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Dichlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Diisopropyl ether	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Ethanol	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Ethyl acetate	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Ethylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Freon-114	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Hexachlorobutadiene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Isopropyl acetate	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Isopropylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
m,p-Xylene	U	2.0		µg/L	1	10/1/2004 6:10:00 AM
Methyl tert-butyl ether	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Methylene chloride	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Naphthalene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
n-Butyl acetate	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
n-Butylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
n-Propyl acetate	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
n-Propylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
o-Xylene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
p-Diethylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
p-Ethyltoluene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
sec-Butylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Styrene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
t-Butyl alcohol	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
tert-Butylbenzene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Tetrachloroethene	16	1.0		µg/L	1	10/1/2004 6:10:00 AM
Toluene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Trichloroethene	61	1.0		µg/L	1	10/1/2004 6:10:00 AM
Trichlorofluoromethane	U	1.0		µg/L	1	10/1/2004 6:10:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	RW-3
Lab Order:	0409270	**Tag Number:**	3269
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-14A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		µg/L	1	10/1/2004 6:10:00 AM
Vinyl chloride	U	1.0		µg/L	1	10/1/2004 6:10:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	RW-4
Lab Order:	0409270	**Tag Number:**	3269
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-15A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,1,1-Trichloroethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,1,2,2-Tetrachloroethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,1,2-Trichloroethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,1-Dichloroethane	79	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,1-Dichloroethene	8.0	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,1-Dichloropropene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2,3-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2,3-Trichloropropane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2,4,5-Tetramethylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2,4-Trichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2,4-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2-Dibromo-3-chloropropane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2-Dibromoethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2-Dichloroethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,3,5-Trimethylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,3-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,3-dichloropropane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
1,4-Dichlorobenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
2,2-Dichloropropane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
2-Butanone	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
2-Chloroethyl vinyl ether	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
2-Chlorotoluene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
2-Hexanone	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
4-Chlorotoluene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
4-Isopropyltoluene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
4-Methyl-2-pentanone	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Acetone	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Acrolein	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Acrylonitrile	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Benzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Bromobenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Bromochloromethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Bromodichloromethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Bromoform	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Bromomethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Carbon disulfide	U	1.0		µg/L	1	10/1/2004 6:48:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	RW-4
Lab Order:	0409270	**Tag Number:**	3269
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-15A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Chlorobenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Chlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Chloroethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Chloroform	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Chloromethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
cis-1,2-Dichloroethene	190	1.0		µg/L	1	10/1/2004 6:48:00 AM
cis-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Dibromochloromethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Dibromomethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Dichlorodifluoromethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Diisopropyl ether	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Ethanol	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Ethyl acetate	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Ethylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Freon-114	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Hexachlorobutadiene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Isopropyl acetate	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Isopropylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
m,p-Xylene	U	2.0		µg/L	1	10/1/2004 6:48:00 AM
Methyl tert-butyl ether	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Methylene chloride	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Naphthalene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
n-Butyl acetate	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
n-Butylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
n-Propyl acetate	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
n-Propylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
o-Xylene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
p-Diethylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
p-Ethyltoluene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
sec-Butylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Styrene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
t-Butyl alcohol	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
tert-Butylbenzene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Tetrachloroethene	35	1.0		µg/L	1	10/1/2004 6:48:00 AM
Toluene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
trans-1,2-Dichloroethene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
trans-1,3-Dichloropropene	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Trichloroethene	85	1.0		µg/L	1	10/1/2004 6:48:00 AM
Trichlorofluoromethane	U	1.0		µg/L	1	10/1/2004 6:48:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	RW-4
Lab Order:	0409270	**Tag Number:**	3269
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-15A **Date Received:** 9/28/2004	**Matrix:**	LIQUID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		µg/L	1	10/1/2004 6:48:00 AM
Vinyl chloride	U	1.0		µg/L	1	10/1/2004 6:48:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	Total Influent (45A Site)
Lab Order:	0409270	**Tag Number:**	
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-16A **Date Received:** 9/28/2004	**Matrix:**	AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
1,1,1,2-Tetrachloroethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,1,1-Trichloroethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,1,2,2-Tetrachloroethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,1,2-Trichloroethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,1-Dichloroethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,1-Dichloroethene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,1-Dichloropropene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2,3-Trichlorobenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2,3-Trichloropropane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2,4,5-Tetramethylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2,4-Trichlorobenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2,4-Trimethylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2-Dibromo-3-chloropropane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2-Dibromoethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2-Dichlorobenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2-Dichloroethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,2-Dichloropropane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,3,5-Trimethylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,3-Dichlorobenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,3-dichloropropane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
1,4-Dichlorobenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
2,2-Dichloropropane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
2-Butanone	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
2-Chloroethyl vinyl ether	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
2-Chlorotoluene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
2-Hexanone	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
4-Chlorotoluene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
4-Isopropyltoluene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
4-Methyl-2-pentanone	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Acetone	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Acrolein	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Acrylonitrile	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Benzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Bromobenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Bromochloromethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Bromodichloromethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Bromoform	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Bromomethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Carbon disulfide	U	1.0		ppbv	1	9/30/2004 7:12:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	Total Influent (45A Site)
Lab Order:	0409270	**Tag Number:**	
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-16A **Date Received:** 9/28/2004	**Matrix:**	AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Carbon tetrachloride	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Chlorobenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Chlorodifluoromethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Chloroethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Chloroform	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Chloromethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
cis-1,2-Dichloroethene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
cis-1,3-Dichloropropene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Dibromochloromethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Dibromomethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Dichlorodifluoromethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Diisopropyl ether	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Ethanol	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Ethyl acetate	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Ethylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Freon-114	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Hexachlorobutadiene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Isopropyl acetate	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Isopropylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
m,p-Xylene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Methyl tert-butyl ether	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Methylene chloride	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Naphthalene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
n-Butyl acetate	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
n-Butylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
n-Propyl acetate	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
n-Propylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
o-Xylene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
p-Diethylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
p-Ethyltoluene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
sec-Butylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Styrene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
t-Butyl alcohol	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
tert-Butylbenzene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Tetrachloroethene	2000	1.0		ppbv	1	9/30/2004 7:12:00 PM
Toluene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
trans-1,2-Dichloroethene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
trans-1,3-Dichloropropene	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Trichloroethene	16	1.0		ppbv	1	9/30/2004 7:12:00 PM
Trichlorofluoromethane	U	1.0		ppbv	1	9/30/2004 7:12:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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

American Analytical Laboratories, LLC.

Date: *11-Oct-04*

CLIENT:	Photocircuits Corporation	**Client Sample ID:**	Total Influent (45A Site)
Lab Order:	0409270	**Tag Number:**	
Project:	Photocircuits 31 Sea Cliff Ave. Glen Cove, N.Y.	**Collection Date:**	9/28/2004
Lab ID:	0409270-16A **Date Received:** 9/28/2004	**Matrix:**	AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES SW-846 METHOD 8260		**SW8260B**				Analyst: **LDS**
Vinyl acetate	U	1.0		ppbv	1	9/30/2004 7:12:00 PM
Vinyl chloride	U	1.0		ppbv	1	9/30/2004 7:12:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	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		

LABORATORY TEST RESULTS

Job Number: 241144

Date: 10/11/2004

CUSTOMER: American Analytical Labs | PROJECT: AMERICAN ANALYTICAL | ATTN: Remo Gigante

Customer Sample ID: 0409270-01C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-1
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	64.5			1.00	mg/L	10/05/04	mad

* In Description = Dry Wgt.

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

LABORATORY TEST RESULTS

Job Number: 241144

Date: 10/11/2004

CUSTOMER: American Analytical Labs | PROJECT: AMERICAN ANALYTICAL | ATTN: Remo Gigante

Customer Sample ID: 0409270-02C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-2
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	37.6			1.00	mg/L	10/05/04	mad

* In Description = Dry Wgt.

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

LABORATORY TEST RESULTS

Job Number: 241144

Date: 10/11/2004

CUSTOMER: American Analytical Labs | PROJECT: AMERICAN ANALYTICAL | ATTN: Remo Gigante

Customer Sample ID: 0409270-03C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-3
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	101			1.00	mg/L	10/05/04	mad

* In Description = Dry Wgt.

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

LABORATORY TEST RESULTS

Job Number: 241144

Date: 10/11/2004

CUSTOMER: American Analytical Labs | PROJECT: AMERICAN ANALYTICAL | ATTN: Remo Gigante

Customer Sample ID: 0409270-04C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-4
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	45.4			1.00	mg/L	10/05/04	mad

* In Description = Dry Wgt.

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

LABORATORY TEST RESULTS

Job Number: 241144

Date: 10/11/2004

CUSTOMER: American Analytical Labs | PROJECT: AMERICAN ANALYTICAL | ATTN: Remo Gigante

Customer Sample ID: 0409270-05C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-5
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	165			1.00	mg/L	10/05/04	mad

* In Description = Dry Wgt.

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CUSTOMER: American Analytical Labs | PROJECT: AMERICAN ANALYTICAL | ATTN: Remo Gigante

Customer Sample ID: 0409270-06C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-6
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	99.5			1.00	mg/L	10/05/04	mad

* In Description = Dry Wgt.

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Customer Sample ID: 0409270-07C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-7
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	2.71			1.00	mg/L	10/05/04	mad

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Customer Sample ID: 0409270-08C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-8
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	25.4			1.00	mg/L	10/05/04	mad

* In Description = Dry Wgt.

SEVERN TRENT STL

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Job Number: 241144

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CUSTOMER: American Analytical Labs | PROJECT: AMERICAN ANALYTICAL | ATTN: Remo Gigante

Customer Sample ID: 0409270-09C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-9
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	8.98			1.00	mg/L	10/05/04	mad

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 241144

Date: 10/11/2004

CUSTOMER: American Analytical Labs | PROJECT: AMERICAN ANALYTICAL | ATTN: Remo Gigante

Customer Sample ID: 0409270-10C
Date Sampled.....: 09/27/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 241144-10
Date Received.....: 10/04/2004
Time Received.....: 10:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 5310C	Total Organic Carbon (TOC) Organic Carbon, Total (TOC)	1470			40.0	mg/L	10/07/04	mad

* In Description = Dry Wgt.

SEVERN TRENT STL

NYSDOH 10142 NJDEP 73015 CTDOHS PH-0554 EPA NY049 PA 68-378 M-NY049

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