

**Dover Corporation**

**Vapor Intrusion Evaluation  
Report**

Former Binghamton Plastics Site

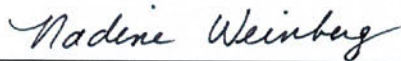
July 2, 2007







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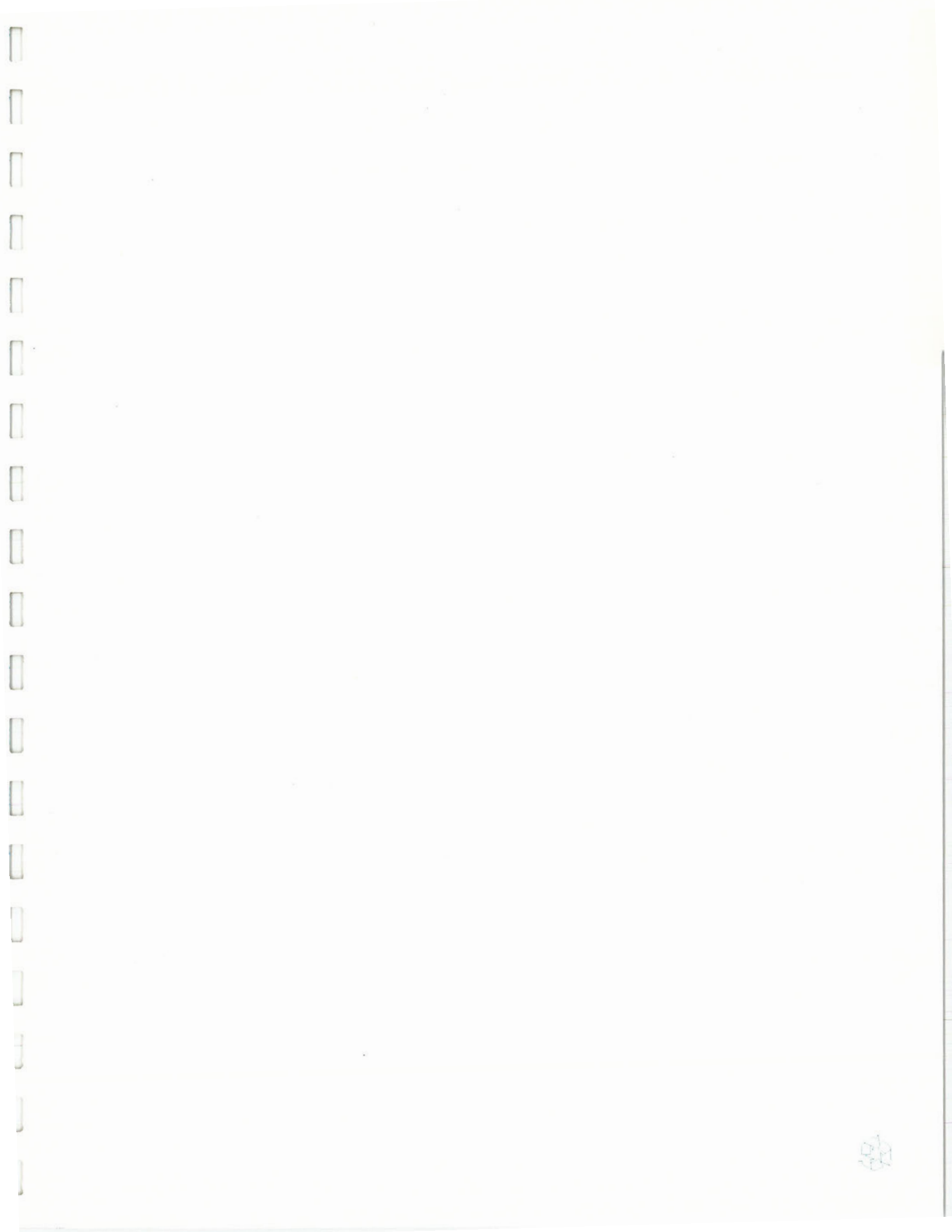
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Our Ref.:  
NJ000616.0002.00001

Date:  
July 2, 2007

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## 1. Introduction

This report summarizes the results of a vapor intrusion evaluation conducted at the former Binghamton Plastics Site (site) in Binghamton, New York. Figure 1 is the site location map. An evaluation of volatile organic compounds (VOCs) in subslab soil gas and indoor air at the site was requested by the New York State Department of Environmental Conservation (NYSDEC) in an August 19, 2005 letter to Dover Corporation. A work plan to evaluate the potential for vapor intrusion via the collection of subslab soil gas and indoor air samples was submitted to NYSDEC on March 13, 2006 and approved with December 8, 2006 and February 26, 2007 amendments.

A brief summary of the site background, a preliminary conceptual site model (CSM) for vapor intrusion, the sampling methodology, and results of subslab and indoor air sampling are discussed below.

## 2. Background

The former Binghamton Plastics Site is approximately two acres in size and features a one-story industrial building of approximately 45,000 square feet. The facility was constructed in 1956, with additions to the original building occurring in 1963, 1974, and 1982. From 1956 to the early 1980's the site was used for manufacturing operations by Binghamton Plastics. The facility was then sold to Universal Instruments who manufactured circuit boards at the site. Manufacturing activities ceased in the early 1990's. Between the early 1990's and 2001 the facility was used by McIntosh Laboratories for electronics repair operations. From 2002 to the present day, the site has been used by Team World, Inc. for silk screening, packaging, and storage of clothing. Past contamination at the site is attributed to leakage from a 1,000-gallon underground storage tank (UST), which had been used as a hydraulic oil reservoir and left in place by Binghamton Plastics. The tank was removed in 1986, though no documentation exists detailing the work performed at that time. The Phase III Investigation final report (Stetson-Harza 1992) indicated that approximately 650 gallons of hydraulic oil containing 1,1,1-trichloroethane (1,1,1-TCA) and trichloroethene (TCE) were found inside the tank.

## 3. Conceptual Site Model

A CSM was developed to support the interpretation of the soil gas, subslab soil gas, and indoor air sampling results at the site. As described below, the CSM combines

information on hydrogeology, potential vapor sources (i.e., constituents detected in groundwater), migration pathways, potential human receptors, and exposure routes.

### 3.1 Geology and Hydrogeology

The site subsurface is composed of weathered and unweathered till with the weathered till layer present from the surface to a depth of approximately 25 feet. The weathered till is comprised of brown clay and silt containing some poorly sorted sands and gravels. The weathered till layer is found throughout the site except near the southwestern corner of the building outside of the 1963 addition where the hydraulic oil UST was located. In this area, sands and gravels, with minor amounts of silt as a fill material, account for most of the soil to a depth of approximately 12 feet. The fill appears to taper upward and thins towards the limits of its aerial extent. In this area and other areas of the site, below the weathered till, the unweathered till is found. This soil unit is very similar to the unweathered till, except that the color is more olive-gray and there is a lesser content of sand and gravel.

The groundwater beneath the site can be separated into two distinct water-bearing zones: a shallow, perched zone and the underlying saturated zone. Perched groundwater is present 2 to 6 feet below ground surface (bgs), but it is limited in geographic extent and not hydrologically connected to the underlying saturated zone. The shallow perched unit is located on the southwestern side of the site and does not extend to the north, east or west sides of the site. The soil boring logs indicate that the perched water-body is associated with recharge and storage within the sands and gravel of the fill. Based on the soil boring logs for the site, the thickness of this perched unit does not appear to exceed 9 feet, coincident with the greatest thickness of the fill.

The deeper groundwater zone is a saturated interval apparently located somewhat coincident with the boundary between the weathered and unweathered till. This groundwater is found at a depth of 23 to 32 feet bgs.

Groundwater data for the site was collected starting in 1998 and a semi-annual monitoring program continues at present. Perched groundwater containing trichloroethane (TCA), TCE, tetrachloroethene (PCE), 1,1-dichloroethene (DCE), trans-1,2-dichloroethene (trans-1,2-DCE), cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride is located near the southwestern corner of the building. Although groundwater concentrations have declined over time, results from 2004 and 2005 indicate that several wells still contain residual VOCs above NYSDEC Ambient Water Quality Standards.

Soil gas data were collected in August 2001 as a preliminary step to evaluate a soil vapor extraction (SVE) treatment system for groundwater. The results indicated that chlorinated hydrocarbons and petroleum hydrocarbons including 1,1-dichloroethane (DCA), DCE, 1,2,4-trimethylbenzene, cis-1,2-DCE, PCE, TCE, and toluene were detected in soil gas below the building.

In 2005 and 2006, sodium permanganate was injected into several wells to enhance the degradation of chlorinated ethenes such as TCE and its daughter products. These treatments have reduced TCE concentrations in groundwater.

### 3.2 Site Reconnaissance and Building Conditions

Prior to collecting subslab soil gas and indoor air samples, a site reconnaissance was conducted inside the building. As part of the site reconnaissance, the New York State Department of Health (NYSDOH) (2006) Indoor Air Questionnaire and Building Inventory was completed (Appendix A). The objective of the site reconnaissance was to identify any sources of background VOCs. This was accomplished partially through the use of a parts per billion (ppb) RAE VOC detector. Because the building is actively used for the manufacture of silk screened t-shirts, bottles, and other products, widespread chemical use was evident inside the building. Cans of printing inks, silk screens, unused materials, and other print process items were noted throughout the building. Freshly printed shirts, water bottles, and other items were in boxes awaiting shipment at various locations around the building. Many boxes were stored or located in a packing and shipping station located in the northwest corner of the building. Items were also being printed in the southern portion of the building during the site reconnaissance and sampling events.

As shown in the Building Survey, ppb RAE readings exceeded 25 parts per million by volume (ppmv) at all locations inside the building. Readings ranged from 25 ppmv to over 200 ppmv in various areas inside the facility. In addition, bottles of various print process supplies were observed in the back corner of the main printing room containing a wide variety of chemicals including: xylene, 2-propoxyethanol, diacetyl alcohol, 2-butoxyethanol, and isopropyl alcohol. It should also be noted that a section of the building was being remodeled during the sampling event. This area was located in the northern half of the building. Some construction supplies were found in this location including all purpose joint compound containing ethylene vinyl acetate polymer, and an interior latex sealer containing acrylic vinyl polymer and ethylene glycol. Some surfaces in the area had also been recently painted.

### 3.3 Vapor Migration Pathways

Overall, historical groundwater concentrations and previous soil gas investigations indicate that there is a potential for diffusion of vapors from VOC-impacted perched groundwater into overlying soil gas including subslab soil gas. No preferential pathways have been identified; however, it is known that storm sewer and other utility lines are located on-site. Building heating, ventilation, and air conditioning (HVAC) systems may have an influence on the movement of vapors.

In addition, the active use of chemicals in the current building production processes is expected to significantly influence any indoor air concentrations. Indeed, it is expected that chemicals will be detected in indoor air due to current facility practices. These results are not indicative of a vapor intrusion issue.

## 4. Sampling Approach

Consistent with the approved work plan and amendments, soil gas, subslab soil gas, and indoor air samples were collected at the site on March 17 and March 18. A description of the sample locations, the site reconnaissance, and the sample methodology is provided below.

### 4.1 Sample Locations

A total of four soil gas, four subslab soil gas, and four indoor air samples were collected at the site. Although six soil gas samples were originally proposed in the work plan, due to weather conditions (i.e., heavy rains and spring melt) prior to the sampling event that caused water saturation of shallow and surface soil, it was not possible to collect a soil gas sample at two of the locations. The specific soil gas locations sampled and not sampled are identified on Figure 2. All soil gas samples were collected at a depth of approximately four feet bgs. All planned subslab soil gas and indoor air samples were collected during the sampling event, consistent with the approved work plan. These locations are also presented on Figure 2.

### 4.2 Sampling Methods

This section presents the sampling methods for collecting soil gas, subslab soil gas and indoor air samples at the site. Sampling logs for all sampling events are presented in Appendix B.

#### 4.2.1 Soil Gas

Soil gas samples were collected in accordance with NYSDOH (2006) *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (VI Guidance), and using the methods described in the approved work plan and amendments.

Soil gas sampling points were installed using a direct push drill rig employing decontaminated 1.25 inch diameter steel drive rods. After reaching the desired sampling depth, the assembly was retracted approximately six inches creating a sampling annulus. A decontaminated six-inch stainless steel screen attached to a new piece of Teflon tubing was lowered inside the probe rod to the bottom of the annular space. Clean sand was then filled in around the screen to a total depth of six inches above the screen. As material was added to the sample point, the probe rod was gradually retracted. Upon completion of the sand pack, dry bentonite chips were added to the sample point until it was flush with the ground surface. The bentonite chips were fully hydrated and allowed to sit undisturbed for approximately ten minutes before sampling began. To test the integrity of the sample probe installation a helium tracer test was administered prior to collecting each sample. This tracer test is detailed in the approved work plan amendment.

Upon successful completion of the helium tracer test and purge, a batch certified pre-cleaned six-liter SUMMA canisters provided by Columbia Analytical Services (CAS) in Simi Valley, California was used to collect the subslab soil gas sample. The SUMMA canister was attached and allowed to collect a sample using a flow controller set for a 30 minute period (i.e., 200 milliliters per minute [ml/min]). Samples were submitted to the CAS for analysis using U.S. Environmental Protection Agency (USEPA) Method TO-15.

All soil gas samples were collected in the early spring (March) following heavy rain and spring melting. As a result, the groundwater table was elevated and some soils were saturated. Water level was taken into consideration as sample points were installed. If water was present down-hole after the drill rig reached the desired depth (approximately 3 to 5 feet bgs), the sample location was moved. If water was encountered again, the sample depth was reduced to take the deepest possible sample possible without encountering water. Consistent with NYSDOH (2006) VI Guidance, and under the supervision of NYSDEC personnel (John Grathwol), samples were not taken at depths less than three feet bgs. Sampling personnel also verified each soil gas point was capable of yielding vapor at the rate required to properly collect the soil gas sample (200 ml/min). This was accomplished by

temporarily increasing the purge rate and verifying the purge pump did not strain to pump at a higher rate.

#### 4.2.2 Subslab Soil Gas

Temporary subslab soil gas probes were installed and samples were collected using the methods described in the approved work plan and amendments, and in accordance with the NYSDOH VI Guidance. For each sample, a hand held hammer drill was used to core a 3/8 inch hole through the concrete slab to approximately four inches into the subslab material. New Teflon tubing was then inserted below the concrete slab, approximately two inches into the subslab material. The tubing was sealed to the surrounding concrete slab using inert clay to ensure an air tight seal between the sample tubing and the concrete slab. Consistent with the work plan, a helium tracer test was completed prior to sampling each vapor point to test the integrity of the probe installation and all seals in the sample train. This tracer test is detailed in the approved work plan and amendments, and was conducted concurrently with purging each sample point. A low-flow pump was used to purge approximately three volumes of air through the probe and tubing at a purge rate of roughly 20 ml/min. Upon successful completion of the helium tracer test and purge, a batch certified pre-cleaned six-liter SUMMA canisters provided by CAS was used to collect the subslab soil gas sample. The SUMMA canister was attached and allowed to collect a sample using a flow controller set for an eight-hour period, consistent with the indoor air sample collection period. Samples were submitted to the CAS for analysis using USEPA Method TO-15.

#### 4.2.3 Indoor and Ambient Air

All indoor air and ambient air samples were collected in accordance with the approved work plan and amendments and NYSDOH (2006) VI Guidance using batch certified six-liter SUMMA canisters obtained from CAS. All SUMMA canisters were placed at approximately breathing height (3 to 5 feet above grade) by propping on stools or boxes. The canisters were calibrated to collect samples for an eight-hour period consistent with the subslab soil gas samples. Indoor and ambient air samples were submitted to CAS air lab for analysis using USEPA Method TO-15.

## 5.0 Results and Findings

This section presents the results of the soil gas, subslab soil gas, indoor air, and ambient air sampling, including a comparison of the data to relevant screening values.

All sampling results were also used to refine the CSM regarding potential vapor intrusion. Complete analytical results from the laboratory are provided in Appendix C.

### 5.1 Soil Gas, Subslab Soil Gas and Indoor Air Results

Tables 1, 2 and 3 present the results of the soil gas, subslab soil gas, and indoor air sampling, respectively. A total of 29 constituents were detected at least once in soil gas. Thirty-four constituents were detected in subslab soil gas. Twenty-one constituents were detected in indoor air. Ambient air sampling results are also summarized in Table 3. Nineteen constituents were detected at least once in ambient air.

### 5.2 Evaluation of Subslab Soil Gas and Indoor Air Results

The evaluation of subslab soil gas and indoor air results focuses on identifying those constituents, if any, which have the potential to migrate from the subsurface into indoor air. Although all Method TO-15 constituents were analyzed, based on the CSM, TCE, and PCE are the primary groundwater constituents of concern. During the site reconnaissance, other potential sources of chemicals into indoor air, in addition to groundwater, were identified, although it was not possible to remove any background sources prior to sampling.

The subslab soil gas and indoor air data were evaluated using the following steps.:

1. Identification of constituents of potential concern (COPCs) for the vapor intrusion pathway;
2. Comparison of COPC concentrations in subslab soil gas and indoor air to applicable NYSDOH air guidelines;
3. Comparison of COPC concentrations in indoor air to background concentrations identified by NYSDOH; and
4. Evaluation of subslab soil gas and indoor air data using the matrices provided in the NYSDOH VI Guidance.

Each of these steps is described below in detail.

#### 5.2.1 Selection of COPCs

The first step in the evaluation is to identify constituents potentially associated with the vapor intrusion pathway. Existing groundwater quality data are used as the starting

point for the selection of COPCs. Recent groundwater data are presented in Appendix A. A constituent was retained as a COPC under the following conditions: (1) the constituent was not analyzed for in groundwater, but was detected in soil gas or subslab soil gas; or (2) the constituent was detected in groundwater, and either soil gas, subslab soil gas or indoor air. Constituents were removed from further consideration if they were detected in indoor air, but not detected in either soil gas or subslab soil gas or if they were only detected in soil gas, but not subslab soil gas or indoor air. For these constituents, the vapor intrusion pathway is either incomplete or groundwater is not the source.

Table 4 presents the selection of COPCs starting with the full analyte list for USEPA Method TO-15. A total of 35 COPCs were identified at the site that could be associated with vapor intrusion. Of the COPCs identified, 19 constituents were detected in both subslab soil gas and indoor air. Of these 19 constituents, 17 were detected with a higher frequency in indoor air compared to subslab soil gas. Although this may be attributed to the higher detection limits associated with subslab soil gas, it may also suggest the presence of background sources.

#### 5.2.2 Comparison to Screening Levels

In the second step, all COPCs were further evaluated through a comparison to NYSDOH air guidelines. NYSDOH (2006) VI Guidance presents air guideline values for three VOCs: methylene chloride, TCE, and PCE. Table 5 presents the comparison of COPCs in subslab soil gas and indoor air to the air guidelines. As shown in Table 5, TCE, PCE and methylene chloride were detected above NYSDOH air guidelines in subslab soil gas and indoor air.

#### 5.2.3 Comparison to Background Concentrations

Third, COPCs in indoor air were compared to background indoor air concentrations reported by USEPA (2001) as part of the building assessment and survey evaluation (BASE) database. As recommended by NYSDOH (2006), the 90<sup>th</sup> percentile value was used for comparative purposes (Table 5). A total of 11 constituents were detected above background concentrations at least once in indoor air. Of these 11 constituents, most were not detected or were detected at lower concentrations in subslab soil gas. Although one subslab soil gas sample had elevated detection limits, the results suggest the presence of background sources to indoor air. A partial list of chemicals used in the facility was previously provided to NYSDEC (Appendix D).

#### 5.2.4 Evaluation of Data Using NYSDOH Matrices

PCE, 1,1,1-TCA, and TCE were also further evaluated using the matrices presented in NYSDOH (2006) VI Guidance. As described in the VI Guidance, Matrix 1 is applicable to TCE and Matrix 2 is applicable to PCE and 1,1,1-TCA. Although Matrix 1 is also applicable to carbon tetrachloride, this constituent was not detected in either subslab soil gas or indoor air and was not identified as a COPC for vapor intrusion.

Table 6 presents a comparison of paired subslab soil gas and indoor air results and the matrix recommended action. As shown on Table 6, mitigation may be necessary at all subslab soil gas locations.

### 5.3 Evaluation of Soil Gas Results

As described above, a total of four soil gas samples were taken on the western (two samples), southern (one sample) and eastern (one sample) sides of the on-site building. Of these samples, two (i.e., SG-1 and SG-6) had detected concentrations of TCE and PCE. PCE concentrations are all less than 100 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), however, TCE concentrations at both SG-1 and SG-6 exceeded the NYSDOH air guideline of  $5 \mu\text{g}/\text{m}^3$ . Sample locations SG-1 and SG-6 are located near the southwest corner of the building and the area associated with historical releases of TCE and PCE. These results are consistent with those found in subslab soil gas, which suggest that TCE and PCE are present in soil gas near the historical release areas. As a result, the soil gas data supports the subslab soil gas and indoor air results already collected at the building.

## 6.0 Summary and Conclusions

Soil gas, subslab soil gas, indoor air, and ambient air sampling results were used to investigate the potential for the vapor intrusion pathway to be complete at the site. As described in the CSM, groundwater sampling data indicate that perched groundwater beneath the site is impacted with VOCs, in particular TCE and PCE. VOCs in groundwater are expected to be the source of vapors below the slab. Consistent with the approved March 13, 2006 work plan and amendments, four soil gas, four subslab soil gas, four indoor air samples, and two outdoor ambient air samples were collected in March 2007.

The subslab soil gas and indoor air data were evaluated further to identify if vapor intrusion was potentially occurring at the site or if additional steps were necessary.

TCE and PCE were detected at high concentrations in subslab soil gas. In addition, TCE and PCE were detected in indoor air above NYSDOH air guidelines. Using the NYSDOH (2006) matrices, potential actions at each sampling location were predicted. Based on this analysis, the data suggest that mitigation may be warranted at all subslab soil gas and indoor air locations. However, the data also suggest that background sources are present in the building and that concentrations of some constituents, including methylene chloride, d-Limonene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, acetone, ethylbenzene, xylenes, n-nonane, and toluene, will not be affected by mitigation.

## **7.0 References**

NYSDOH. 2006. Guidance for Evaluating Soil Vapor Intrusion in the State of New York. New York State Department of Health, Center for Environmental Health, Bureau of Environmental Exposure Investigation. October.

Stetson-Harza. 1992. Dover Electronics Company DEM-East Phase III Investigation. December.

USEPA. 2001. Draft: A Standard EPA Protocol for Characterizing Indoor Air Quality in Large Buildings. U.S. Environmental Protection Agency, Office of Air and Radiation, Washington, D.C.



Table 1. Concentrations of Volatile Organic Compounds in Soil Gas  
Former Binghamton Plastics Site, Binghamton, New York

Compound	Sample ID:	SG-1	SG-2	SG-4	SG-6
	Sample Depth: Lab ID: Date: Units:	3-5 feet bgs (a) P2700781-010 3/15/2007 µg/m <sup>3</sup>	3-5 feet bgs (a) P2700781-011 3/15/2007 µg/m <sup>3</sup>	3-5 feet bgs (a) P2700781-012 3/15/2007 µg/m <sup>3</sup>	3-5 feet bgs (a) P2700781-013 3/15/2007 µg/m <sup>3</sup>
1,1,1-Trichloroethane		29	1.7 U	4.0	130
1,1,2,2-Tetrachloroethane		1.5 U	1.7 U	1.5 U	29 U
1,1,2-Trichloroethane		1.5 U	1.7 U	1.5 U	29 U
1,1-Dichloroethane		1.5 U	1.7 U	2.1	29 U
1,1-Dichloroethene		1.5 U	1.7 U	1.5 U	29 U
1,2,4-Trichlorobenzene		1.5 U	1.7 U	1.5 U	29 U
1,2,4-Trimethylbenzene		3.1	1.7 U	1.5 U	29 U
1,2-Dibromo-3-chloropropane		1.5 U	1.7 U	1.5 U	29 U
1,2-Dibromoethane		1.5 U	1.7 U	1.5 U	29 U
1,2-Dichloro-1,1,2,2-		1.5 U	1.7 U	1.5 U	29 U
1,2-Dichlorobenzene		1.5 U	1.7 U	1.5 U	29 U
1,2-Dichloroethane		1.5 U	1.7 U	1.5 U	29 U
1,2-Dichloropropane		1.5 U	1.7 U	1.5 U	29 U
1,3,5-Trimethylbenzene		1.5 U	1.7 U	1.5 U	29 U
1,3-Butadiene		1.5 U	11	12	29 U
1,3-Dichlorobenzene		1.5 U	1.7 U	1.5 U	29 U
1,4-Dichlorobenzene		6.1	1.7 U	1.5 U	29 U
1,4-Dioxane		1.5 U	1.7 U	1.5 U	29 U
2-Butanone (MEK)		6.9	14	9.0	29 U
2-Hexanone		1.9	1.7 U	1.5 U	29 U
2-Propanol (Isopropyl Alcohol)		26	15	15	29 U
3-Chloro-1-propene (Allyl Chloride)		1.5 U	1.7 U	1.5 U	29 U
4-Ethyltoluene		1.5 U	1.7 U	1.5 U	29 U
4-Methyl-2-pentanone		3.7	3.3	1.5 U	29 U
Acetone		27	55	50 M	150 U
Acetonitrile		1.5 U	1.7 U	1.5 U	29 U
Acrolein		1.5 U	3.1	3.3	29 U
Acrylonitrile		1.5 U	1.7 U	1.5 U	29 U
alpha-Pinene		1.5 U	1.7 U	2.1	29 U
Benzene		1.5	43	6.4	29 U
Benzyl Chloride		1.5 U	1.7 U	1.5 U	29 U
Bromodichloromethane		1.5 U	1.7 U	1.5 U	29 U
Bromoform		1.5 U	1.7 U	1.5 U	29 U
Bromomethane		1.5 U	1.7 U	1.5 U	29 U
Carbon Disulfide		1.8	17	5.0	29 U
Carbon Tetrachloride		1.5 U	1.7 U	1.5 U	29 U
Chlorobenzene		1.5 U	1.7 U	1.5 U	29 U
Chloroethane		1.5 U	1.7 U	1.5 U	29 U
Chloroform		6.4	1.7 U	1.5 U	29 U
Chloromethane		1.5 U	1.7 U	1.5 U	29 U
cis-1,2-Dichloroethene		1.5 U	1.7 U	1.5 U	29 U
cis-1,3-Dichloropropene		1.5 U	1.7 U	1.5 U	29 U
Cumene		1.5 U	1.7 U	1.5 U	29 U
Dibromochloromethane		1.5 U	1.7 U	1.5 U	29 U
Dichlorodifluoromethane (CFC 12)		1.9	3.2	2.2	29 U
d-Limonene		120	1.7 U	1.5 U	29 U
Ethanol		7.5 U	8.3 U	7.7 U	150 U
Ethylbenzene		1.5 U	1.7 U	1.8	29 U
Hexachlorobutadiene		1.5 U	1.7 U	1.5 U	29 U
m,p -Xylenes		4.3	4.1	6.5	29 U
Methyl tert-Butyl Ether		1.5 U	1.7 U	1.5 U	29 U
Methylene chloride		1.5 U	1.7 U	1.5 U	29 U
Naphthalene		1.5 U	1.7 U	1.5 U	29 U
n-Butyl Acetate		1.5 U	1.7 U	1.5 U	29 U
n-Hexane		2.4	120	5.6	29 U
n-Nonane		1.6	2.8	1.9	29 U
o-Xylene		1.6	2.1	2.3	29 U
Styrene		1.5 U	1.7 U	1.5 U	29 U
Tetrachloroethene		7.7	1.7 U	1.5 U	38
Toluene		9	98	18	29 U
trans-1,2-Dichloroethene		1.5 U	1.7 U	1.5 U	29 U
trans-1,3-Dichloropropene		1.5 U	1.7 U	1.5 U	29 U
Trichloroethene		130	1.7 U	1.5 U	460
Trichlorofluoromethane		1.5 U	1.7 U	1.7	29 U
Trichlorotrifluoroethane		15	1.7 U	1.5 U	2,600
Vinyl Acetate		2.1 M	1.7 U	7.5 M	29 U
Vinyl Chloride		1.5 U	1.7 U	3	29 U

Notes:

(a) Depending on site conditions; water table level

bgs = Below ground surface

M = Matrix interference; results may be biased high.

U = Compound was analyzed for, but not detected above the laboratory reporting limit.

µg/m<sup>3</sup> = micrograms per cubic meter

Table 2. Concentrations of Volatile Organic Compounds in Subslab Soil Gas.  
Former Binghamton Plastics Site, Binghamton, New York

Compound	Sample ID:	SS-1	SS-2	SS-3	SS-4
	Lab ID: Date: Units:	P2700781-001 3/15/2007 µg/m <sup>3</sup>	P2700781-002 3/15/2007 µg/m <sup>3</sup>	P2700781-003 3/15/2007 µg/m <sup>3</sup>	P2700781-004 3/15/2007 µg/m <sup>3</sup>
1,1,1-Trichloroethane		890 U	130	9.1	39
1,1,2,2-Tetrachloroethane		890 U	74 U	1.3 U	1.3 U
1,1,2-Trichloroethane		890 U	74 U	1.3 U	1.3 U
1,1-Dichloroethane		890 U	74 U	1.4	5.2
1,1-Dichloroethene		890 U	74 U	1.3 U	1.3 U
1,2,4-Trichlorobenzene		890 U	74 U	1.3 U	1.3 U
1,2,4-Trimethylbenzene		890 U	74 U	1.3 U	11
1,2-Dibromo-3-chloropropane		890 U	74 U	1.3 U	1.3 U
1,2-Dibromoethane		890 U	74 U	1.3 U	1.3 U
1,2-Dichloro-1,1,2,2-		890 U	74 U	1.3 U	1.3 U
1,2-Dichlorobenzene		890 U	74 U	1.3 U	1.3 U
1,2-Dichloroethane		890 U	74 U	1.3 U	1.3 U
1,2-Dichloropropane		890 U	74 U	1.3 U	1.3 U
1,3,5-Trimethylbenzene		890 U	74 U	1.3 U	4.2
1,3-Butadiene		890 U	74 U	1.3 U	1.3 U
1,3-Dichlorobenzene		890 U	74 U	1.3 U	1.3 U
1,4-Dichlorobenzene		890 U	74 U	1.3 U	1.3 U
1,4-Dioxane		890 U	74 U	70	1.3 U
2-Butanone (MEK)		890 U	74 U	3.1	13
2-Hexanone		890 U	74 U	1.3 U	7.4
2-Propanol (Isopropyl Alcohol)		890 U	74 U	15	830
3-Chloro-1-propene (Allyl Chloride)		890 U	74 U	1.3 U	1.3 U
4-Ethyltoluene		890 U	74 U	1.3 U	4.0
4-Methyl-2-pentanone		890 U	74 U	4.8	2.1
Acetone		4,500 U	370 U	25 M	650
Acetonitrile		890 U	74 U	1.3 U	6.5
Acrolein		890 U	74 U	2.1	7.3
Acrylonitrile		890 U	74 U	1.3 U	1.3 U
alpha-Pinene		890 U	74 U	1.3 U	1.6
Benzene		890 U	74 U	1.3 U	7.3
Benzyl Chloride		890 U	74 U	1.3 U	1.3 U
Bromodichloromethane		890 U	74 U	1.3 U	1.3 U
Bromoform		890 U	74 U	1.3 U	1.3 U
Bromomethane		890 U	74 U	1.3 U	1.3 U
Carbon Disulfide		890 U	74 U	6.3	17
Carbon Tetrachloride		890 U	74 U	1.3 U	1.3 U
Chlorobenzene		890 U	74 U	1.3 U	1.3 U
Chloroethane		890 U	74 U	1.3 U	1.3 U
Chloroform		890 U	74 U	1.3 U	1.3 U
Chloromethane		890 U	74 U	1.3 U	1.3 U
cis-1,2-Dichloroethene		2,000	74 U	3.1	1.3 U
cis-1,3-Dichloropropene		890 U	74 U	1.3 U	1.3 U
Cumene		890 U	74 U	1.3 U	1.4
Dibromochloromethane		890 U	74 U	1.3 U	1.3 U
Dichlorodifluoromethane (CFC 12)		890 U	74 U	4.1	23
d-Limonene		890 U	74 U	1.3 U	15
Ethanol		4,500 U	370 U	6.7 U	19
Ethylbenzene		890 U	74 U	2.1	29
Hexachlorobutadiene		890 U	74 U	1.3 U	1.3 U
m,p-Xylenes		890 U	74 U	8.3	100
Methyl tert-Butyl Ether		890 U	74 U	1.3 U	1.3 U
Methylene chloride		890 U	74 U	4.9	100
Naphthalene		890 U	74 U	1.3 U	3.7
n-Butyl Acetate		890 U	74 U	1.3 U	1.3 U
n-Hexane		890 U	74 U	1.3 U	38
n-Nonane		890 U	74 U	1.3 U	16
o-Xylene		890 U	74 U	2.2	29
Styrene		890 U	74 U	1.3 U	1.3 U
Tetrachloroethene		890 U	74 U	200	260
Toluene		890 U	74 U	1.6	14
trans-1,2-Dichloroethene		890 U	74 U	1.3 U	1.3 U
trans-1,3-Dichloropropene		890 U	74 U	1.3 U	1.3 U
Trichloroethene		130,000	5,900	66	57
Trichlorofluoromethane		890 U	74 U	1.4	1.5
Trichlorotrifluoroethane		890 U	550	7.1	330
Vinyl Acetate		890 U	74 U	3.6	18
Vinyl Chloride		890 U	74 U	1.3 U	1.3 U

Notes:

M = Matrix interference; results may be biased high.

U = Compound was analyzed for, but not detected above the laboratory reporting limit.

µg/m<sup>3</sup> = micrograms per cubic meter

Table 3. Concentrations of Volatile Organic Compounds in Indoor Air and Ambient Air  
Former Binghamton Plastics Site, Binghamton, New York

Compound	Sample ID:	AA-1	AA-1 DUP	IA-1	IA-2	IA-3	IA-4
	Lab ID: Date: Units:	P2700781-005 3/15/2007 µg/m <sup>3</sup>	P2700781-005DUP 3/15/2007 µg/m <sup>3</sup>	P2700781-006 3/15/2007 µg/m <sup>3</sup>	P2700781-007 3/15/2007 µg/m <sup>3</sup>	P2700781-008 3/15/2007 µg/m <sup>3</sup>	P2700781-009 3/15/2007 µg/m <sup>3</sup>
1,1,1-Trichloroethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,1,2,2-Tetrachloroethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,1,2-Trichloroethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,1-Dichloroethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,1-Dichloroethene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,2,4-Trichlorobenzene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,2,4-Trimethylbenzene		1.3	1.3	320	270	300	400
1,2-Dibromo-3-chloropropane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,2-Dibromoethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,2-Dichloro-1,1,2,2-		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,2-Dichlorobenzene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,2-Dichloroethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,2-Dichloropropane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,3,5-Trimethylbenzene		0.70 U	0.70 U	97	85	90	120
1,3-Butadiene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,3-Dichlorobenzene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,4-Dichlorobenzene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
1,4-Dioxane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
2-Butanone (MEK)		2.5	2.4	12	12 U	15 U	32 U
2-Hexanone		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
2-Propanol (Isopropyl Alcohol)		22	21	6,100	6,400	7,800	9,900
3-Chloro-1-propene (Allyl Chloride)		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
4-Ethyltoluene		0.70 U	0.70 U	110	97	100	140
4-Methyl-2-pentanone		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Acetone		24	23	1,300	1,300	1,400	1,500
Acetonitrile		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Acrolein		2.0	2	8.6 U	12 U	15 U	32 U
Acrylonitrile		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
alpha-Pinene		0.70 U	0.70 U	14	13	15 U	32 U
Benzene		0.97	0.92	8.6 U	12 U	15 U	32 U
Benzyl Chloride		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Bromodichloromethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Bromoform		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Bromomethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Carbon Disulfide		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Carbon Tetrachloride		0.42	0.41	1.7 U	2.4 U	3.0 U	6.4 U
Chlorobenzene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Chloroethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Chloroform		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Chloromethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
cis-1,2-Dichloroethene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
cis-1,3-Dichloropropene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Cumene		0.70 U	0.70 U	24	23	26	35
Dibromochloromethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Dichlorodifluoromethane (CFC 12)		2.1	2	8.6 U	12 U	15 U	32 U
d-Limonene		0.70 U	0.70 U	430	400	380	430
Ethanol		12	11	190	180	200	320 U
Ethylbenzene		4.8	4.7	960	960	1,200	1,300
Hexachlorobutadiene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
m,p-Xylenes		18	18	3,500	3,500	4,500	4,800
Methyl tert-Butyl Ether		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Methylene chloride		2.6	2.5	700	580	590	660
Naphthalene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
n-Butyl Acetate		0.70 U	0.70 U	32	32	44	84
n-Hexane		0.72	0.71	55	47	42	44
n-Nonane		1.1	1.2	280	240	250	280
o-Xylene		5.0	4.8	990	980	1,300	1,300
Styrene		0.70 U	0.70 U	11	12 U	15 U	32 U
Tetrachloroethene		1.2	1.2	190	160	160	180
Toluene		4.4	4.3	86	86	100	110
trans-1,2-Dichloroethene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
trans-1,3-Dichloropropene		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Trichloroethene		0.14 U	0.14 U	10	9.7	11	11
Trichlorofluoromethane		1.1	1	8.6 U	12 U	15 U	32 U
Trichlorotrifluoroethane		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U
Vinyl Acetate		5.9	5.6	17 U	24 U	30 U	64 U
Vinyl Chloride		0.70 U	0.70 U	8.6 U	12 U	15 U	32 U

Notes:

U = Compound was analyzed for, but not detected above the laboratory reporting limit.

µg/m<sup>3</sup> = micrograms per cubic meter

Table 4. Identification of COPCs Associated with Potential Vapor Intrusion  
Former Binghamton Plastics Site, Binghamton, New York

Compound	Groundwater Detected	Soil Gas Data		Subslab Data		Indoor Air Data		Ambient Air Data		COPC
		FOD	Detected	FOD	Detected	FOD	Detected	FOD	Detected	
1,1,1-Trichloroethane	X	3 / 4	X	3 / 4	X	0 / 4	ND	0 / 1	ND	Y
1,1,2,2-Tetrachloroethane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,1,2-Trichloroethane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,1-Dichloroethane	X	1 / 4	X	2 / 4	X	0 / 4	ND	0 / 1	ND	Y
1,1-Dichloroethene	X	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,2,4-Trichlorobenzene	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,2,4-Trimethylbenzene	NA	1 / 4	X	1 / 4	X	4 / 4	X	1 / 1	X	Y
1,2-Dibromo-3-chloropropane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,2-Dibromoethane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,2-Dichlorobenzene	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,2-Dichloroethane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,2-Dichloropropane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,3,5-Trimethylbenzene	NA	0 / 4	ND	1 / 4	X	4 / 4	X	0 / 1	ND	Y
1,3-Butadiene	NA	2 / 4	X	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,3-Dichlorobenzene	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,4-Dichlorobenzene	NA	1 / 4	X	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
1,4-Dioxane	NA	0 / 4	ND	1 / 4	X	0 / 4	ND	0 / 1	ND	Y
2-Butanone (MEK)	NA	3 / 4	X	2 / 4	X	1 / 4	X	1 / 1	X	Y
2-Hexanone	NA	1 / 4	X	1 / 4	X	0 / 4	ND	0 / 1	ND	Y
2-Propanol (Isopropyl Alcohol)	NA	3 / 4	X	2 / 4	X	4 / 4	X	1 / 1	X	Y
3-Chloro-1-propene (Allyl Chloride)	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
4-Ethyltoluene	NA	0 / 4	ND	1 / 4	X	4 / 4	X	0 / 1	ND	Y
4-Methyl-2-pentanone	NA	2 / 4	X	2 / 4	X	0 / 4	ND	0 / 1	ND	Y
Acetone	NA	3 / 4	X	2 / 4	X	4 / 4	X	1 / 1	X	Y
Acetonitrile	NA	0 / 4	ND	1 / 4	X	0 / 4	ND	0 / 1	ND	Y
Acrolein	NA	2 / 4	X	2 / 4	X	0 / 4	ND	1 / 1	X	Y
Acrylonitrile	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
alpha-Pinene	NA	1 / 4	X	1 / 4	X	2 / 4	X	0 / 1	ND	Y
Benzene	NA	3 / 4	X	1 / 4	X	0 / 4	ND	1 / 1	X	Y
Benzyl Chloride	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Bromodichloromethane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Bromoform	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Bromomethane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Carbon Disulfide	NA	3 / 4	X	2 / 4	X	0 / 4	ND	0 / 1	ND	Y
Carbon Tetrachloride	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	1 / 1	X	N
Chlorobenzene	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Chloroethane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Chloroform	NA	1 / 4	X	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Chloromethane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
cis-1,2-Dichloroethene	X	0 / 4	ND	2 / 4	X	0 / 4	ND	0 / 1	ND	Y
cis-1,3-Dichloropropene	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Cumene	NA	0 / 4	ND	1 / 4	X	4 / 4	X	0 / 1	ND	Y
Dibromochloromethane	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Dichlorodifluoromethane (CFC 12)	NA	3 / 4	X	2 / 4	X	0 / 4	ND	1 / 1	X	Y
d-Limonene	NA	1 / 4	X	1 / 4	X	4 / 4	X	0 / 1	ND	Y
Ethanol	NA	0 / 4	ND	1 / 4	X	3 / 4	X	1 / 1	X	Y
Ethylbenzene	NA	1 / 4	X	2 / 4	X	4 / 4	X	1 / 1	X	Y
Hexachlorobutadiene	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
m,p-Xylenes	NA	3 / 4	X	2 / 4	X	4 / 4	X	1 / 1	X	Y
Methyl tert-Butyl Ether	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Methylene chloride	NA	0 / 4	ND	2 / 4	X	4 / 4	X	1 / 1	X	Y
Naphthalene	NA	0 / 4	ND	1 / 4	X	0 / 4	ND	0 / 1	ND	Y
n-Butyl Acetate	NA	0 / 4	ND	0 / 4	ND	4 / 4	X	0 / 1	ND	N
n-Hexane	NA	3 / 4	X	1 / 4	X	4 / 4	X	1 / 1	X	Y
n-Nonane	NA	3 / 4	X	1 / 4	X	4 / 4	X	1 / 1	X	Y
o-Xylene	NA	3 / 4	X	2 / 4	X	4 / 4	X	1 / 1	X	Y
Styrene	NA	0 / 4	ND	0 / 4	ND	1 / 4	X	0 / 1	ND	N
Tetrachloroethane	X	2 / 4	X	2 / 4	X	4 / 4	X	1 / 1	X	Y
Toluene	NA	3 / 4	X	2 / 4	X	4 / 4	X	1 / 1	X	Y
trans-1,2-Dichloroethene	X	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
trans-1,3-Dichloropropene	NA	0 / 4	ND	0 / 4	ND	0 / 4	ND	0 / 1	ND	N
Trichloroethene	X	2 / 4	X	4 / 4	X	4 / 4	X	0 / 1	ND	Y
Trichlorofluoromethane	NA	1 / 4	X	2 / 4	X	0 / 4	ND	1 / 1	X	Y
Trichlorotrifluoroethane	NA	2 / 4	X	3 / 4	X	0 / 4	ND	0 / 1	ND	Y
Vinyl Acetate	NA	2 / 4	X	2 / 4	X	0 / 4	ND	1 / 1	X	Y
Vinyl Chloride	X	1 / 4	X	0 / 4	ND	0 / 4	ND	0 / 1	ND	Y

Notes:

COPC = Constituent of potential concern

FOD = Frequency of detection

N = No

NA = Constituent not analyzed

ND = Constituent not detected

Y = Yes

Table 5. Comparison of Subslab Soil Gas and Indoor Air Results for COPCs to NYSDOH Air Guidelines and Background Values  
Former Binghamton Plastics Site, Binghamton, New York

Compound	NYSDOH	NYSDOH	Sample ID: Lab ID: Date: Units:	AA-1	AA-1 DUP	IA-1	IA-2	IA-3
	Air Guideline Value µg/m <sup>3</sup>	Background Value µg/m <sup>3</sup>		P2700781-005 3/15/2007 µg/m <sup>3</sup>	P2700781-005DUP 3/15/2007 µg/m <sup>3</sup>	P2700781-006 3/15/2007 µg/m <sup>3</sup>	P2700781-007 3/15/2007 µg/m <sup>3</sup>	P2700781-008 3/15/2007 µg/m <sup>3</sup>
1,1,1-Trichloroethane		3.1		0.70 U	0.70 U	8.6 U	12 U	15 U
1,1-Dichloroethane		<0.25		0.70 U	0.70 U	8.6 U	12 U	15 U
1,2,4-Trimethylbenzene		9.5		1.3	1.3	<b>320</b>	<b>270</b>	<b>300</b>
1,3,5-Trimethylbenzene		3.6		0.70 U	0.70 U	<b>97</b>	<b>85</b>	<b>90</b>
1,4-Dioxane		--		0.70 U	0.70 U	8.6 U	12 U	15 U
2-Butanone (MEK)		16		2.5	2.4	12	12 U	15 U
2-Hexanone		--		0.70 U	0.70 U	8.6 U	12 U	15 U
2-Propanol (Isopropyl Alcohol)		--		22	21	6,100	6,400	7,800
4-Ethyltoluene		--		0.70 U	0.70 U	110	97	100
4-Methyl-2-pentanone		2.2		0.70 U	0.70 U	8.6 U	12 U	15 U
Acetone		110		24	23	<b>1,300</b>	<b>1,300</b>	<b>1,400</b>
Acetonitrile		--		0.70 U	0.70 U	8.6 U	12 U	15 U
Acrolein		--		2.0	2	8.6 U	12 U	15 U
alpha-Pinene		14		0.70 U	0.70 U	14	13	15 U
Benzene		15		0.97	0.92	8.6 U	12 U	15 U
Carbon Disulfide		--		0.70 U	0.70 U	8.6 U	12 U	15 U
cis-1,2-Dichloroethene		<0.25		0.70 U	0.70 U	8.6 U	12 U	15 U
Cumene		0.9		0.70 U	0.70 U	<b>24</b>	<b>23</b>	<b>26</b>
Dichlorodifluoromethane (CFC 12)		15		2.1	2	8.6 U	12 U	15 U
d-Limonene		24		0.70 U	0.70 U	<b>430</b>	<b>400</b>	<b>380</b>
Ethanol		1400		12	11	190	180	200
Ethylbenzene		7.3		4.8	4.7	<b>960</b>	<b>960</b>	<b>1,200</b>
m,p -Xylenes		12		<b>18</b>	<b>18</b>	<b>3,500</b>	<b>3,500</b>	<b>4,500</b>
Methylene chloride	60	22		2.6	2.5	<b>700</b>	<b>580</b>	<b>590</b>
Naphthalene		--		0.70 U	0.70 U	8.6 U	12 U	15 U
n-Hexane		18		0.72	0.71	<b>55</b>	<b>47</b>	<b>42</b>
n-Nonane		8.8		1.1	1.2	<b>280</b>	<b>240</b>	<b>250</b>
o-Xylene		7.6		5.0	4.8	<b>990</b>	<b>980</b>	<b>1,300</b>
Tetrachloroethene	100	2.9		1.2	1.2	<b>190</b>	<b>160</b>	<b>160</b>
Toluene		58		4.4	4.3	<b>86</b>	<b>86</b>	<b>100</b>
Trichloroethene	5	0.5		0.14 U	0.14 U	<b>10</b>	<b>9.7</b>	<b>11</b>
Trichlorofluoromethane		17		1.1	1	8.6 U	12 U	15 U
Trichlorotrifluoroethane		1.8		0.70 U	0.70 U	8.6 U	12 U	15 U
Vinyl Acetate		--		5.9	5.6	17 U	24 U	30 U
Vinyl Chloride		<0.25		0.70 U	0.70 U	8.6 U	12 U	15 U

Notes:

Cells exceeding the NYSDOH Air Guideline are shaded gray.

Cells exceeding the NYSDOH Background Value are boldfaced.

COPC = Constituent of potential concern

M = Matrix interference; results may be biased high.

NYSDOH = New York State Department of Health

U = Compound was analyzed for, but not detected above the laboratory reporting limit.

µg/m<sup>3</sup> = micrograms per cubic meter

Table 5. Comparison of Subslab Soil Gas and Indoor Air Results for COPCs to NYSDOH Air Guidelines and Background Values  
Former Binghamton Plastics Site, Binghamton, New York

Compound	NYSDOH Air Guideline Value µg/m <sup>3</sup>	NYSDOH Background Value µg/m <sup>3</sup>	Sample ID: Lab ID: Date: Units:	IA-4	SS-1	SS-2	SS-3	SS-4
				P2700781-009 3/15/2007 µg/m <sup>3</sup>	P2700781-001 3/15/2007 µg/m <sup>3</sup>	P2700781-002 3/15/2007 µg/m <sup>3</sup>	P2700781-003 3/15/2007 µg/m <sup>3</sup>	P2700781-004 3/15/2007 µg/m <sup>3</sup>
1,1,1-Trichloroethane		3.1		32 U	890 U	<b>130</b>	<b>9.1</b>	<b>39</b>
1,1-Dichloroethane		<0.25		32 U	890 U	74 U	<b>1.4</b>	<b>5.2</b>
1,2,4-Trimethylbenzene		9.5		<b>400</b>	890 U	74 U	1.3 U	<b>11</b>
1,3,5-Trimethylbenzene		3.6		<b>120</b>	890 U	74 U	1.3 U	<b>4.2</b>
1,4-Dioxane		--		32 U	890 U	74 U	70	1.3 U
2-Butanone (MEK)		16		32 U	890 U	74 U	3.1	13
2-Hexanone		--		32 U	890 U	74 U	1.3 U	7.4
2-Propanol (Isopropyl Alcohol)		--		9,900	890 U	74 U	15	830
4-Ethyltoluene		--		140	890 U	74 U	1.3 U	4.0
4-Methyl-2-pentanone		2.2		32 U	890 U	74 U	<b>4.8</b>	2.1
Acetone		110		<b>1,500</b>	4,500 U	370 U	25 M	<b>650</b>
Acetonitrile		--		32 U	890 U	74 U	1.3 U	6.5
Acrolein		--		32 U	890 U	74 U	2.1	7.3
alpha-Pinene		14		32 U	890 U	74 U	1.3 U	1.6
Benzene		15		32 U	890 U	74 U	1.3 U	7.3
Carbon Disulfide		--		32 U	890 U	74 U	6.3	17
cis-1,2-Dichloroethene		<0.25		32 U	<b>2,000</b>	74 U	<b>3.1</b>	1.3 U
Cumene		0.9		<b>35</b>	890 U	74 U	1.3 U	<b>1.4</b>
Dichlorodifluoromethane (CFC 12)		15		32 U	890 U	74 U	4.1	<b>23</b>
d-Limonene		24		<b>430</b>	890 U	74 U	1.3 U	15
Ethanol		1400		320 U	4,500 U	370 U	6.7 U	19
Ethylbenzene		7.3		<b>1,300</b>	890 U	74 U	2.1	<b>29</b>
m,p -Xylenes		12		<b>4,800</b>	890 U	74 U	8.3	<b>100</b>
Methylene chloride	60	22		<b>660</b>	890 U	74 U	4.9	<b>100</b>
Naphthalene		--		32 U	890 U	74 U	1.3 U	3.7
n-Hexane		18		<b>44</b>	890 U	74 U	1.3 U	<b>38</b>
n-Nonane		8.8		<b>280</b>	890 U	74 U	1.3 U	<b>16</b>
o-Xylene		7.6		<b>1,300</b>	890 U	74 U	2.2	<b>29</b>
Tetrachloroethene	100	2.9		<b>180</b>	890 U	74 U	<b>200</b>	<b>260</b>
Toluene		58		<b>110</b>	890 U	74 U	1.6	14
Trichloroethene	5	0.5		<b>11</b>	<b>130,000</b>	<b>5,900</b>	<b>66</b>	<b>57</b>
Trichlorofluoromethane		17		32 U	890 U	74 U	1.4	1.5
Trichlorotrifluoroethane		1.8		32 U	890 U	<b>550</b>	<b>7.1</b>	<b>330</b>
Vinyl Acetate		--		64 U	890 U	74 U	3.6	18
Vinyl Chloride		<0.25		32 U	890 U	74 U	1.3 U	1.3 U

Notes:

Cells exceeding the NYSDOH Air Guideline are shaded gray.

Cells exceeding the NYSDOH Background Value are boldfaced.

COPC = Constituent of potential concern

M = Matrix interference; results may be biased high.

NYSDOH = New York State Department of Health

U = Compound was analyzed for, but not detected above the laboratory reporting limit.

µg/m<sup>3</sup> = micrograms per cubic meter

Table 6. NYSDOH Matrix Evaluation for TCE, PCE, and 1,1,1-TCA  
Former Binghamton Plastics Site, Binghamton, New York

Matrix 1			
Compound	Subslab Concentration µg/m <sup>3</sup>	Indoor Air Concentration µg/m <sup>3</sup>	Matrix Result
Sample Point 1 Trichloroethene	130,000	10	Mitigate
Sample Point 2 Trichloroethene	5,900	9.7	Mitigate
Sample Point 3 Trichloroethene	66	11	Mitigate
Sample Point 4 Trichloroethene	57	11	Mitigate

Matrix 2			
Compound	Subslab Concentration µg/m <sup>3</sup>	Indoor Air Concentration µg/m <sup>3</sup>	Matrix Result
Sample Point 1 1,1,1-Trichloroethane	445	4.3	Monitor/Mitigate
Tetrachloroethene	445	190	Mitigate
Sample Point 2 1,1,1-Trichloroethane	130	6	Monitor/Mitigate
Tetrachloroethene	37	160	Mitigate
Sample Point 3 1,1,1-Trichloroethane	9.1	7.5	Background (a)
Tetrachloroethene	200	160	Mitigate
Sample Point 4 1,1,1-Trichloroethane	39	16	Background (a)
Tetrachloroethene	260	180	Mitigate

Notes:

(a) Take reasonable and practical actions to identify source(s) and reduce exposures.

Italicized values are one-half the detection limit.

NYSDOH = New York State Department of Health

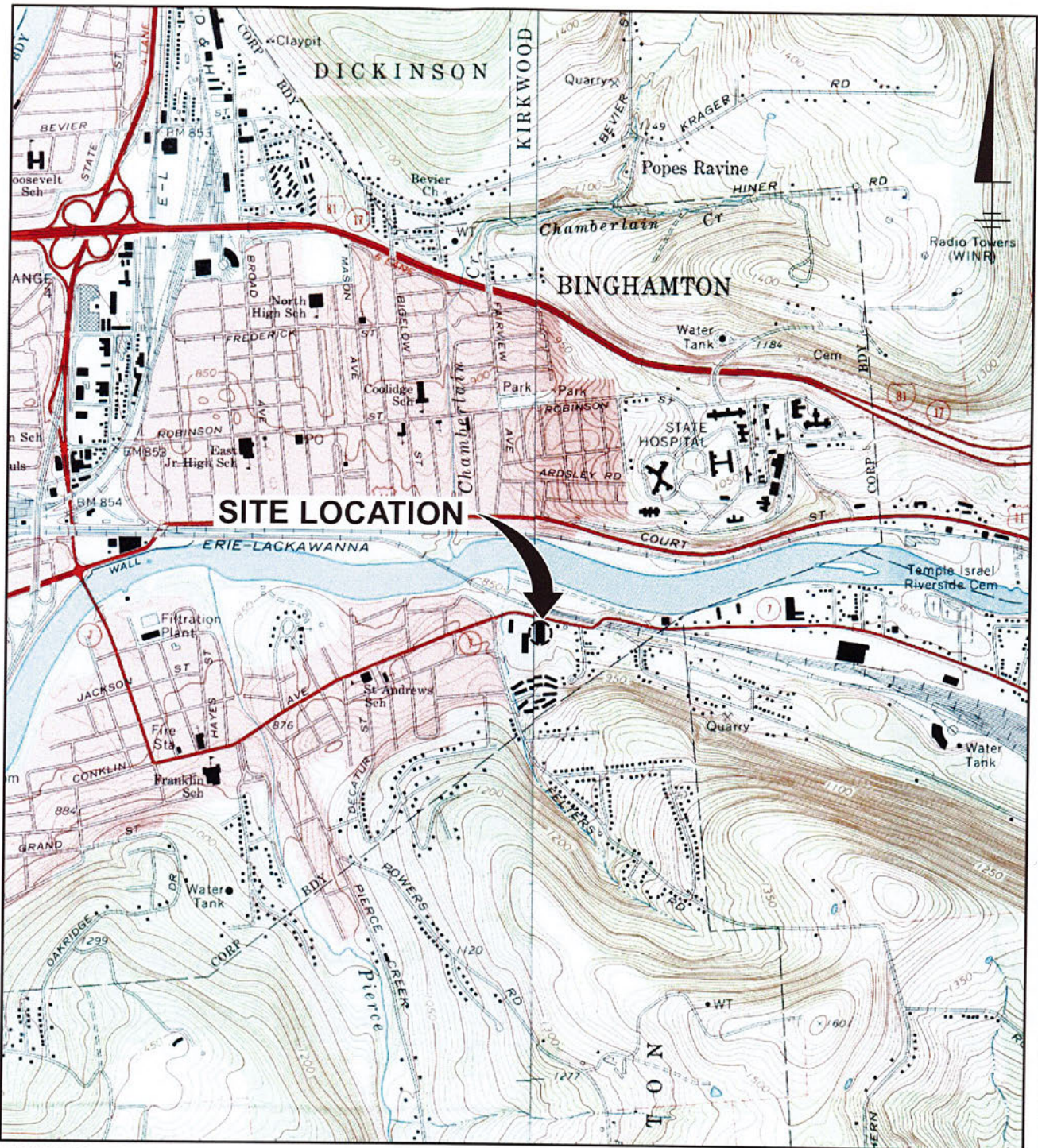
PCE = tetrachloroethene

1,1,1-TCA = 1,1,1-trichloroethane

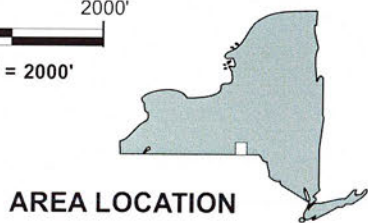
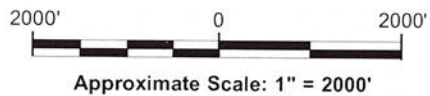
TCE = trichloroethene

µg/m<sup>3</sup> = micrograms per cubic meter





REFERENCE: Base Map Source USGS 7.5 Minute Quads. Series Binghamton East and West, New York, 1968, Photorevised 1976.



AREA LOCATION

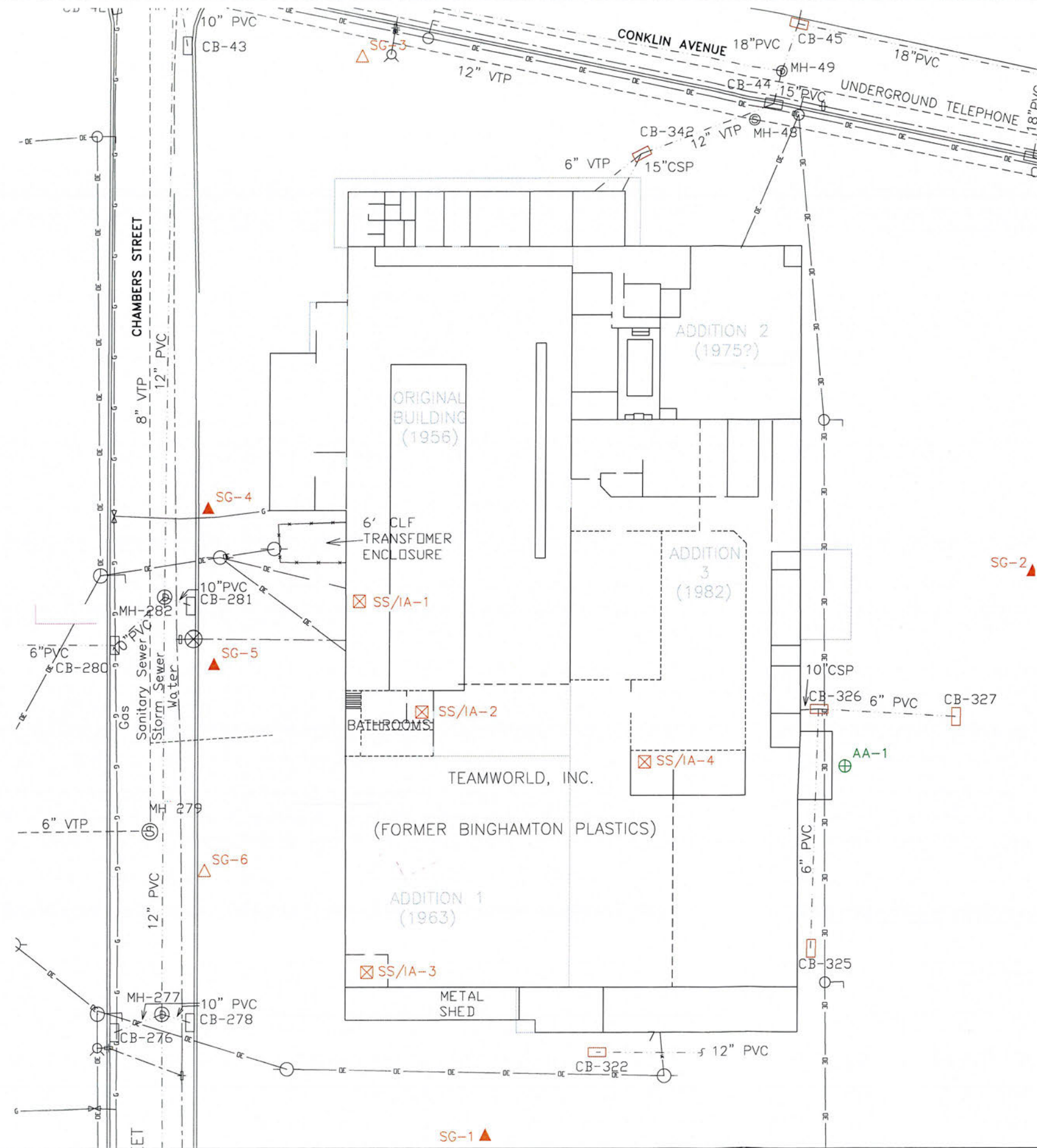
UNIVERSAL INSTRUMENTS CORPORATION  
 BINGHAMTON, NEW YORK  
**VAPOR INTRUSION EVALUATION REPORT**

**SITE LOCATION**



FIGURE  
**1**

CRA-85-1Y, 1F, LAYER: ON\*, OFF=REF SB, DWG  
 G:\CADD\PROJECTS\WP\N\000016\N\000001.dwg    SAVER: 6/7/2007 3:11 PM    LAYOUT: layout1    PAGESETUP: -----    PENTABLE: PL, FULL, CTB    PRINTED: 6/7/2007 3:11 PM    BY: FFAITO  
 PROJECT NAME:     
 NOTES:   




**LEGEND**

-  UTILITY POLE
-  UTILITY POLE W/LIGHT
-  STORM MANHOLE
-  CATCH BASIN
-  SANITARY MANHOLE
-  POST INDICATOR VALVE
-  HYDRANT
-  WATER VALVE
-  GAS VALVE
-  FORMER WALL
-  SUBSLAB AND INDOOR AIR SAMPLING LOCATIONS
-  SOIL GAS SAMPLING LOCATIONS (SAMPLED)
-  SOIL GAS SAMPLING LOCATIONS (NOT SAMPLED)
-  AMBIENT AIR

**NOTE:**

THIS DRAWING TAKEN FROM PLATE 1 OF THE REMEDIAL INVESTIGATION REPORT DATED JUNE 2000 BY SHIELD ENVIRONMENTAL ASSOCIATES, INC. LEXINGTON, KENTUCKY.



UNIVERSAL INSTRUMENTS CORPORATION BINGHAMTON, NEW YORK <b>VAPOR INTRUSION EVALUATION REPORT</b>	
<b>SOIL GAS, SUBSLAB SOIL GAS AND          INDOOR AIR SAMPLING LOCATIONS</b>	
 <small>Infrastructure, environment, facilities</small>	FIGURE <b>2</b>





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**Appendix A**

Indoor Air Quality Questionnaire and  
Building Inventory

NEW YORK STATE DEPARTMENT OF HEALTH  
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY  
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Margaret Barteo/Mitch Wades<sup>man</sup> Date/Time Prepared \_\_\_\_\_

Preparer's Affiliation ARCADIS Phone No. 609.860.0990/

Purpose of Investigation \_\_\_\_\_

**1. OCCUPANT:**

Interviewed: Y/N

Last Name: Cox First Name: Don

Address: 498 Conklin Avenue

County: \_\_\_\_\_

Home Phone: n/a Office Phone: 607.352.1411

Number of Occupants/persons at this location \_\_\_\_\_ Age of Occupants \_\_\_\_\_

**2. OWNER OR LANDLORD:** (Check if same as occupant \_\_\_)

Interviewed: Y/N

Last Name: Wozniak First Name: Steve Chamber Street Develop-  
ment  
LLC

Address: 498 Conklin Avenue

County: \_\_\_\_\_

Home Phone: n/a Office Phone: 607.352.1405

**3. BUILDING CHARACTERISTICS**

Type of Building: (Circle appropriate response)

- Residential      School      Commercial/Multi-use  
Industrial      Church      Other: \_\_\_\_\_

If the property is residential, type? (Circle appropriate response)

n/a

- |              |                 |                   |
|--------------|-----------------|-------------------|
| Ranch        | 2-Family        | 3-Family          |
| Raised Ranch | Split Level     | Colonial          |
| Cape Cod     | Contemporary    | Mobile Home       |
| Duplex       | Apartment House | Townhouses/Condos |
| Modular      | Log Home        | Other: _____      |

If multiple units, how many? \_\_\_\_\_

If the property is commercial, type?

Business Type(s) printing / design of T-shirts, clothing, bottles

Does it include residences (i.e., multi-use)? Y / N If yes, how many? \_\_\_\_\_

Other characteristics:

Number of floors 1 1/2

Building age ~50 yrs

Is the building insulated? Y / N  
(parts)

How air tight? Tight / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Airflow near source

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Outdoor air infiltration

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Infiltration into air ducts

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

- a. Above grade construction: wood frame concrete stone brick
- b. Basement type: full crawlspace slab other \_\_\_\_\_
- n/a c. Basement floor: concrete dirt stone other \_\_\_\_\_
- n/a d. Basement floor: uncovered covered covered with \_\_\_\_\_
- e. Concrete floor: unsealed sealed sealed with \_\_\_\_\_
- f. Foundation walls: poured block stone other steel panels
- g. Foundation walls: unsealed sealed sealed with \_\_\_\_\_
- n/a h. The basement is: wet damp dry moldy
- n/a i. The basement is: finished unfinished partially finished
- j. Sump present? Y (N)
- k. Water in sump? Y / N / not applicable

Basement/Lowest level depth below grade: \_\_\_\_\_ (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

\*\*

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply - note primary)

\*\*

- Hot air circulation
- Space Heaters
- Electric baseboard
- Heat pump
- Stream radiation
- Wood stove
- Hot water baseboard
- Radiant floor
- Outdoor wood boiler
- Other roof top units  
forced hot air

The primary type of fuel used is:

\*\*

- Natural Gas
- Electric
- Wood
- Fuel Oil
- Propane
- Coal
- Kerosene
- Solar

Domestic hot water tank fueled by: \_\_\_\_\_

Boiler/furnace located in: Basement Outdoors Main Floor Other n/a

Air conditioning: Central Air, Window units Open Windows None

roof top units for air's heat

Are there air distribution ducts present?  Y  N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

---



---



---

7. OCCUPANCY

Is basement/lowest level occupied?    Full-time    Occasionally    Seldom    Almost Never

Level                      General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement	<u>n/a</u>
1 <sup>st</sup> Floor	<u>showroom, offices manufacturing/printing</u>
2 <sup>nd</sup> Floor	<u>ite storage office (IT)</u>
3 <sup>rd</sup> Floor	<u>n/a</u>
4 <sup>th</sup> Floor	<u>n/a</u>

\*\*

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage?

Y  N <sup>1 (in use)</sup> 2 loading docks

b. Does the garage have a separate heating unit?

Y/N/ NA 2 unit heaters

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car)

Y/N/ NA Please specify trucks @ docks

d. Has the building ever had a fire?

Y  N When? \_\_\_\_\_

e. Is a kerosene or unvented gas space heater present?

Y  N Where? unit heaters use natural gas

f. Is there a workshop or hobby/craft area?

Y  N Where & Type? back area of bldg

g. Is there smoking in the building?

Y  N How frequently? \_\_\_\_\_

h. Have cleaning products been used recently?

Y  N When & Type? before shifts every day

i. Have cosmetic products been used recently?

Y/N When & Type? \_\_\_\_\_

latex  
oil-based?  
enamel

remodeling  
added offices

\*\*

j. Has painting/staining been done in the last 6 months?

Y /  N Where & When? August to last month

\*\*

k. Is there new carpet, drapes or other textiles?

Y /  N Where & When? August to last month

l. Have air fresheners been used recently?

Y /  N When & Type? \_\_\_\_\_

m. Is there a kitchen exhaust fan?

Y /  N If yes, where vented? \_\_\_\_\_

n. Is there a bathroom exhaust fan?

Y /  N If yes, where vented? roof

o. Is there a clothes dryer?

Y /  N If yes, is it vented outside?  Y /  N

\*\*

p. Has there been a pesticide application?

Y /  N When & Type? \_\_\_\_\_

\*\*

Are there odors in the building?

If yes, please describe:  Y /  N due to remodeling, painting, priming

\*\*

Do any of the building occupants use solvents at work?

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist)  Y /  N

If yes, what types of solvents are used? \_\_\_\_\_

If yes, are their clothes washed at work?

Y /  N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

No

Unknown

business  
casual

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: \_\_\_\_\_

Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:  Public Water Drilled Well Driven Well Dug Well Other: \_\_\_\_\_

Sewage Disposal:  Public Sewer Septic Tank Leach Field Dry Well Other: \_\_\_\_\_

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: \_\_\_\_\_

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

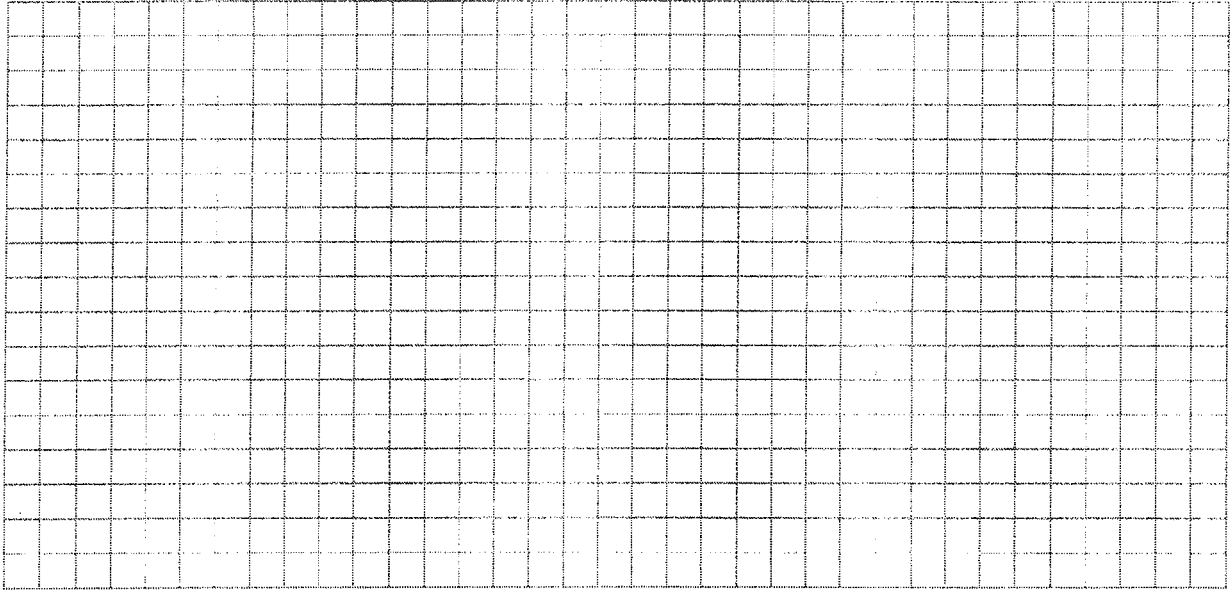
d. Relocation package provided and explained to residents? Y / N

**11. FLOOR PLANS**

**Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.**

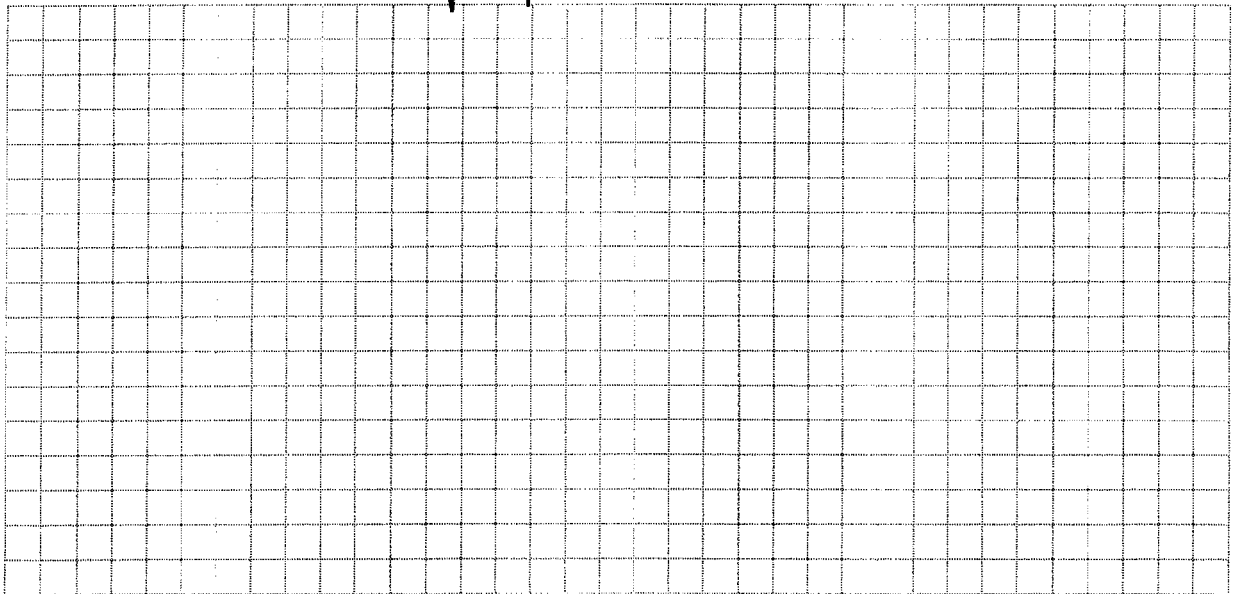
**Basement:**

*n/a*



**First Floor:**

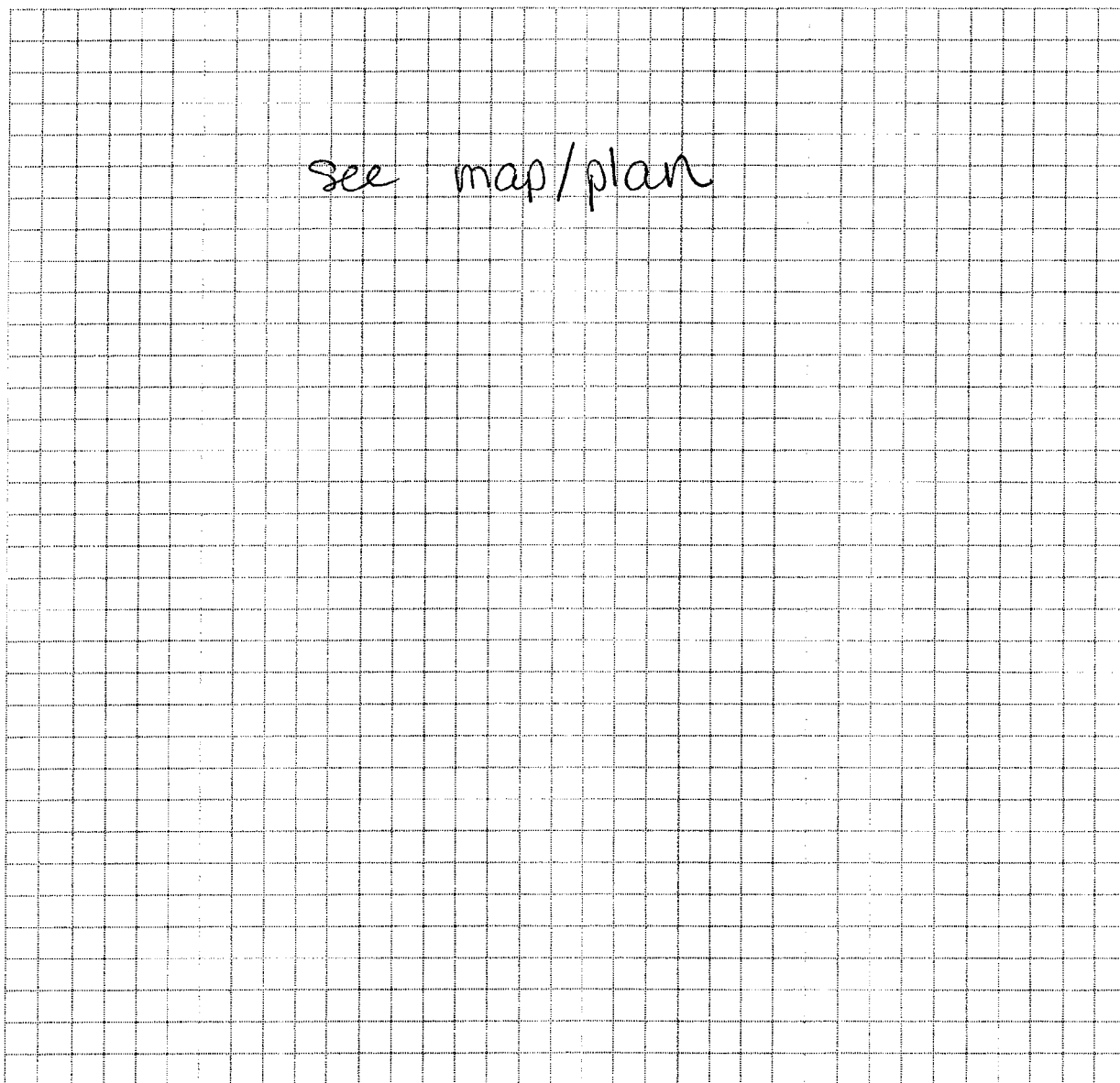
*see map/plan*



**12. OUTDOOR PLOT**

**Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.**

**Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.**



13. PRODUCT INVENTORY FORM

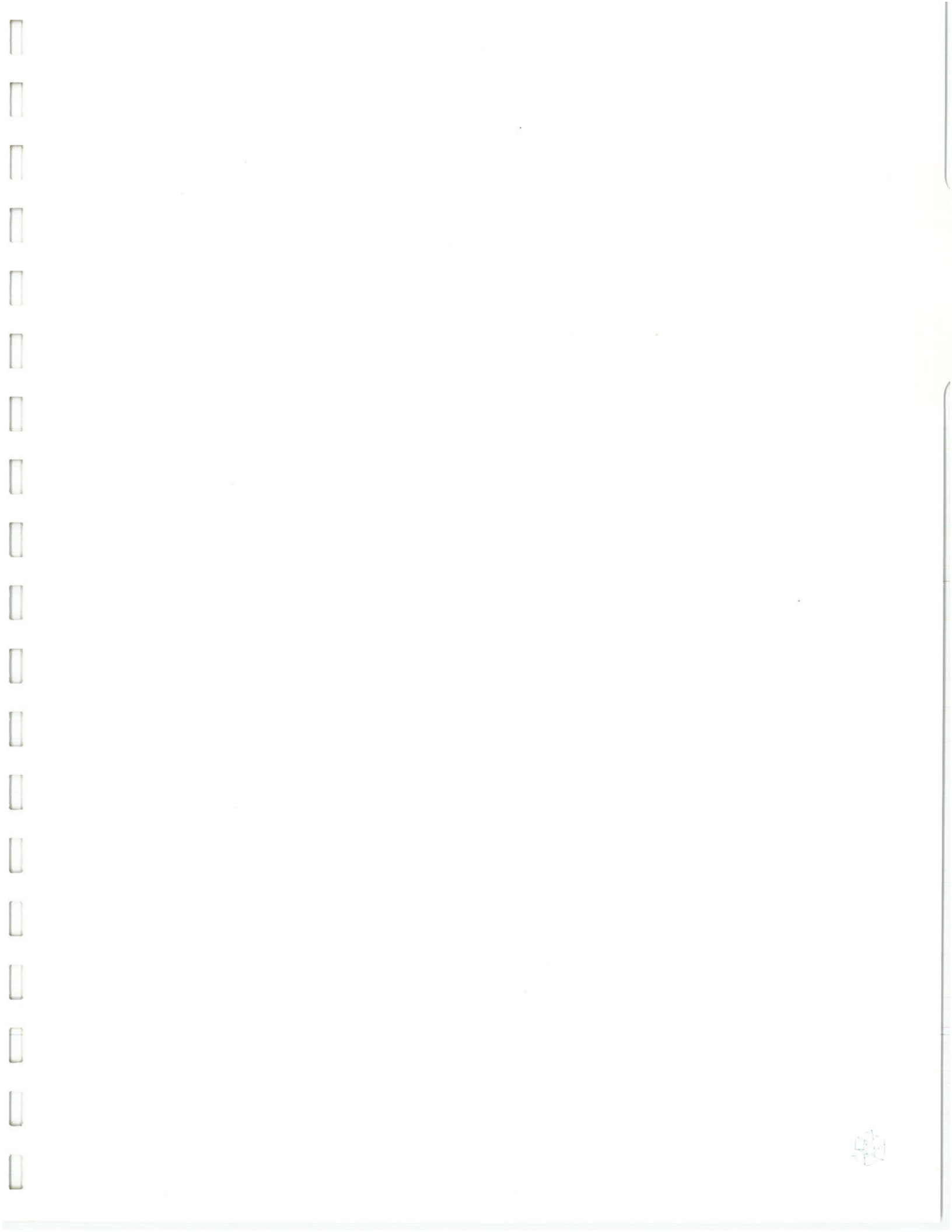
Make & Model of field instrument used: ppb RAE

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y/N
screening room	alcohol		U/uo	alcohol		N
	universal screen wash		U/uo	ethers, ? amoxyethanol, dimethylbenzene, ethylbenzene		N
middle of front porch	milk		U/uo			N
screening room	sodium hydroxide		U	sodium hydroxide		N
screening room	adhesive (screen)		U			N
dining room	inks		U/uo			N
	adhesives		U/uo			N
cabinet in drying room	mineral spirits		uo	pet distillates		N
	dichloromethane		uo	dichloromethane		N
	retarder		uo	alcohol, petroleum hydrocarbons		N
	screen cleaner		uo			N
entrance room	sizing spray		U/uo	glycol, pet hydrocarbons		N
	static guard		U/uo	ethyl alcohol, propane, butane		N

\* Describe the condition of the product containers as Unopened (UO), Used (U), or Deteriorated (D)  
 \*\* Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

\* ingredients from MSDS of typical products  
 \* Natchar MSDS used for universal screen wash, milk, retarder



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**Appendix B**

Sampling Logs



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**Subslab Sample Log**

Sample ID:	SS-1	Project Name:	Binghamton, Lower
Date:	3/15/07	Location:	Binghamton, NY
Project No:	US000599.0001.0002	Misc. Equipment:	
Samplers:	M. Barthe, M. Wadswan	Time On/Off:	1000/1804

**DESCRIPTION OF SAMPLE LOCATION:**

Current Building Type: Residential  **Commercial**  Industrial   
 Building Construction Characteristics (e.g., rancher, apartment): 1-story slab on grade  
 General Description of Building Materials (e.g., concrete, cinder block): tile  
 Slab Thickness:

**PROBE INSTALLATION**

Date:	3/15/07	Method:	hammer drill
Diameter:	3/8"	Depth:	2" below slab
Packing Material:	clay		

**PURGE**

Date:	3/15/07	Rate:	20 ml/min
Time:	3 minutes 09SS	Volume:	60 ml

**INSTRUMENT READINGS**

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PID (ppb)
1000	29	45°F	88%	29.90 in	12 mph		
1804	-3						

**SUMMA CANISTER INFORMATION**

Summa Can :	1 L	<b>6 L</b>	Other	Flow Rate:
Flow Regulator No:	6-8-14			
Canister ID:	SC00319			

**GENERAL OBSERVATIONS/NOTES:**

He shroud - start 76070  
 No He in purge



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## Subslab Sample Log

Sample ID	SS-2	Project Name	Binghamton Tower
Date	3/15/07	Location	Binghamton, NY
Project No.		Misc. Equipment	
Samples	M Batten, M Wicksman	Time On/Off	1045/1840

## DESCRIPTION OF SAMPLE LOCATION:

Current Building Type:	Residential	<u>Commercial</u>	Industrial
Building Construction Characteristics (e.g., rancher, apartment):	1 story slab on grade		
General Description of Building Materials (e.g., concrete, cinder block):	tile floor		
Slab Thickness:	9"		

## PROBE INSTALLATION

Date	3/15/07	Method	hammer drill
Diameter	3/8	Depth	2" below slab
Backing Material	clay		

## PURGE

Date	3/15/07	Rate	20 ml/min
Time	1042	Volume	60 ml

## INSTRUMENT READINGS

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PE (ppb)
1045	-28	45°F	88%	29.90 in.	12 mph		
1840	-1						

## SUMMA CANISTER INFORMATION

Summa Can :	1 L	<u>6 L</u>	Other	Flow Rate:
Flow Regulator No:	6-8-001	Gauge	MUG-00287	
Canister ID:	SC00287			

## GENERAL OBSERVATIONS/NOTES:

He should - start 60% end 42% no He in purge (<1%)
---



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## Subslab Sample Log

Sample ID	SS-3	Project Name	Binghamton, Uver
Date	3/15/07	Location	Binghamton, NY
Project No.		Misc. Equipment	
Samplers	M. Balcer, M. Woodsman	Time On/Off	1105/1902

## DESCRIPTION OF SAMPLE LOCATION:

Current Building Type:	Residential	<u>Commercial</u>	Industrial
Building Construction Characteristics (e.g., rancher, apartment):	1 story - slab on grade		
General Description of Building Materials (e.g., concrete, cinder block):	tile floor		
Slab Thickness:	8"		

## PROBE INSTALLATION

Date	3/15/07	Method	hammer drill
Diameter	3/8"	Depth	2" below slab
Packing Material	clay		

## PURGE

Date	3/15/07	Purge Rate	20 ml/min 3 min
Time	1100	Volume	40 ml

## INSTRUMENT READINGS

Time	Canister Pressure (inches of Hg)	Temperature (F/C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PID (ppb)
1105	-29" H <sub>2</sub>	45°C	88%	29.90 in.	12 mph		
1902	-4						

## SUMMA CANISTER INFORMATION

Summa Can :	1L	<u>6L</u>	Other	Flow Rate:
Flow Regulator No:	6-8-20			
Canister ID:	SC00760			

## GENERAL OBSERVATIONS/NOTES:

Initial He in showed 63%
NO He in Purge
Final He in showed 54%



ARCADIS

## Subslab Sample Log

Sample ID:	SS-4	Project Name:	Binghamton Diner
Date:	3/18/07	Location:	Binghamton, NY
Project No:		Misc. Equipment:	
Samples:	M. Prater M. Wadswan	Time On/Off:	1128/1930

## DESCRIPTION OF SAMPLE LOCATION:

Current Building Type:	Residential	<u>Commercial</u>	Industrial
Building Construction Characteristics (e.g., rancher, apartment):	1 story slab on grade		
General Description of Building Materials (e.g., concrete, cinder block):	tile floor		
Slab Thickness:	6"		

## PROBE INSTALLATION

Date:	3/18/07	Method:	hammer drill
Diameter:	3/8"	Depth:	6"
Packing Material:	clay		

## PURGE

Date:	3/18/07	Rate:	20 ml/min
Time:	1123	Volume:	60 ml

## INSTRUMENT READINGS

Time	Canister Pressure (Inches of Hg)	Temperature (F/°C)	Relative Humidity (%)	Barometric Pressure (Inches of Hg)	Air Speed (mph)	Pressure Differential (Inches of H <sub>2</sub> O)	PID (ppb)
1128	-30±	48°F	88%	29.90 in	12 mph		
1930	-4						

## SUMMA CANISTER INFORMATION

Summa Can :	1 L	<u>6 L</u>	Other	Flow Rate:
Flow Regulator No:	6-8-25			
Canister ID:	SC00274			

## GENERAL OBSERVATIONS/NOTES:

He leak check should start - 65% and - 53%
No He in purge



ARCADIS

Indoor/Ambient Air Sample Log

Sample ID:	AA-1	Project Name:	Binghamton, Dover
Date:	3/15/07	Location:	Binghamton, NY
Project No.:	NS000579.0001.0002	Misc. Equipment:	
Samplers:	M. Bartee, M. Wachsman	Time On/Off:	0927 / 1730

DESCRIPTION OF SAMPLE LOCATION:

Current Building Type: Residential  Commercial  Industrial

Building Construction Characteristics (e.g., rancher, apartment): 1 story + 1st flr, slab on grade

General Description of Building Materials (e.g., concrete, cinder block): concrete, metal siding

Floor Level: Basement  1st Floor  Other

Sample Intake Height: ~ 4.5 ft

Room size ft x ft:

INSTRUMENT READINGS

Time	Gauge Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air Speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PH
0927	-28	45°F	88%	29.90 in	12 mph		
1730	-5						

SUMMA CANISTER INFORMATION

Summa Can size: 1L  6L  Other

Flow Regulator No: FLO050S Gauge @ AV600507

Canister ID: AC00470

Flow Rate:

GENERAL OBSERVATIONS/NOTES:

1050 - snowing outside



ARCADIS

### Indoor/Ambient Air Sample Log

Sample ID:	IA-1	Project Name:	Binghamton, Dover
Date:	3/15/07	Location:	Binghamton, NY
Project No.:	NS000579.0001.0002	Misc. Equipment:	
Sampler:	M. Pardee, M. Wadsworth	Time On/Off:	1004/1804

#### DESCRIPTION OF SAMPLE LOCATION:

Current Building Type: Residential Commercial Industrial

Building Construction Characteristics (e.g., rancher, apartment): one story slab on grade, 1st flie

General Description of Building Materials (e.g., concrete, cinder block): concrete slab, metal siding

Floor Level: Basement 1st Floor Other

Sample Intake Height: ~ 3ft-4ft

Room size ft x ft:

#### INSTRUMENT READINGS

Time	Canister Pressure (Inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (Inches of Hg)	Air speed (mph)	Pressure Differential (Inches of H <sub>2</sub> O)	PID (ppb)
1004	-29	45°F	88%	29.90 in	12mph		
1804	-8						

#### SUMMA CANISTER INFORMATION

Summa Can size: 1L 6L Other

Flow Regulator No: FC00350 Gauge AVG 00464

Canister ID: AC01218

Flow Rate:

#### GENERAL OBSERVATIONS/NOTES:

open area in boxes/shelves area



ARCADIS

Indoor/Ambient Air Sample Log

Sample ID:	IA-2	Project Name:	Binghamton, Dover
Date:	3/15/07	Location:	Binghamton, NY
Project No.:	NS000879.0001.00002	Misc. Equipment:	
Sampler:	M. Burtree, M. Woodsman	Time On/Off:	1046/1840

DESCRIPTION OF SAMPLE LOCATION:

Current Building Type: Residential  Commercial  Industrial

Building Construction Characteristics (e.g., rancher, apartment): 1 story, slab on grade, <sup>1st flr office</sup>

General Description of Building Materials (e.g., concrete, cinder block): concrete, metal siding

Floor Level: Basement  1st Floor  Other

Sample Intake Height: 4 A

Room size ft x ft: 10 x 10

INSTRUMENT READINGS

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air Speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	RPD (ppb)
1046	-29	45°F	88%	29.90 in	12 mph		
1840	-15						

SUMMA CANISTER INFORMATION

Summa Can size: 1L  6L  Other

Flow Regulator No: FC005710

Canister ID: AC010110 Gauge AUG 00499

Flow Rate:

GENERAL OBSERVATIONS/NOTES:



ARCADIS

Indoor/Ambient Air Sample Log

Sample ID:	IA-3	Project Name:	Binghamton, Dover
Date:	3/15/07	Location:	Binghamton, NY
Project No.:	MS000579.0001.0002	Misc. Equipment:	
Samplers:	M. Pearce, M. Wadswan	Time On/Off:	1106/1907

DESCRIPTION OF SAMPLE LOCATION:

Current Building Type: Residential  Commercial  Industrial

Building Construction Characteristics (e.g., rancher, apartment): 1 story 1 loft above, slab on grade

General Description of Building Materials (e.g., concrete, cinder block): concrete, metal siding

Floor Level: Basement  1st Floor  Other

Sample Intake Height:

Room size ft x ft:

INSTRUMENT READINGS

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PID (ppb)
1106	-29	45°F	88%	29.90 in	12 mph		
1907	-6						

SUMMA CANISTER INFORMATION

Summa Can size: 1 L  6 L  Other

Flow Regulator No:

Canister ID: ACO1367 Gauge AU600886

Flow Rate: FC00458

GENERAL OBSERVATIONS/NOTES:



ARCADIS

### Indoor/Ambient Air Sample Log

Sample ID:	1A-4	Project Name:	Binghamton, Dover
Date:	3/15/07	Location:	Binghamton, NY
Project No.:	NS000579.0001.00002	Misc. Equipment:	
Samplers:	M. Bartee, M. Waksman	Time On/Off:	1130/1930

#### DESCRIPTION OF SAMPLE LOCATION:

Current Building Type: Residential  Commercial  Industrial

Building Construction Characteristics (e.g., rancher, apartment): 1 story + loft above, slabs on grade

General Description of Building Materials (e.g., concrete, cinder block): concrete, metal siding

Floor Level: Basement  1st Floor  Other

Sample Intake Height:

Room size ft x ft:

#### INSTRUMENT READINGS

Time	Canister Pressure (inches of Hg)	Temperature (F. or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of Hg)	PH
1130	-29	45°F	88%	29.90 in	12 mph		
1930	-7						

#### SUMMA CANISTER INFORMATION

Summa Can size:	1L	<u>6L</u>	Other
Flow Regulator No:	KCO0368		
Canister ID:	AC612SI	Gauge	MB00311
Flow Rate:			

#### GENERAL OBSERVATIONS/NOTES:



ARCADIS

## Soil Gas Sample Log

Sample ID	SG-1	Project Name	Binghamton Dover
Date	3/13/07	Location	Binghamton NY
Project No.	NS000579.0001.0002	Misc. Equipment	
Samplers	M. Burtree, M. Wachsman	Time On/Off	1338/

## PROBE INSTALLATION

Date	3/13/07	Method	Geoprobe
Diameter		Depth	3-5 ft logs
Packing Material	clay	Soil Type	
Est. Depth to Water		Soil Info	

## PURGE

Date	3/13/07	Rate	
Time	1332 - 1335 (3 min)	Volume	

## INSTRUMENT READINGS

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air Speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PID (ppb)
1338	-30+	48°F	88%	29.90 in	12mph		
1408	not recorded						

## SUMMA CANISTER INFORMATION

Summa Can size:	1 L	(6 L)	Other	Flow Rate:
Flow Regulator No:	6V-.8-081			
Canister ID:	SC00816			

## GENERAL OBSERVATIONS/NOTES:

He shroud - start 67% end 46% no He in shroud
---



ARCADIS

## Soil Gas Sample Log

Sample ID	SG-2	Project Name	Binghamton Dover
Date	3/13/07	Location	Binghamton, NY
Project No	NS000579.0001.0002	Misc. Equipment	
Samplers	M. Bartee, M. Wadesman	Time On/Off	1759/1822

## PROBE INSTALLATION

Date	3/13/07	Method	Geoprobe
Diameter		Depth	3-5 ft hgs
Packing Material	clay	Soil Type	
Est. Depth to Water		Soil Infor.	

## PURGE

Date	3/13/07	Rate	
Time	1746	Volume	

## INSTRUMENT READINGS

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PID (ppb)
1752	-29	45°F	88%	29.90 in	12 mph	→	
1755						→	
1759	not recorded						
1822	not recorded						

leak indicated  
can changed  
can missing, changed

## SUMMA CANISTER INFORMATION

Summa Can size:	1 L	(6 L)	Other	Flow Rate:
Flow Regulator No:	6V-D.S-096			
Canister ID:	SC00889			

Final  
apparatus

## GENERAL OBSERVATIONS/NOTES:

initial location → drilled @ 1416, leak check, 1/2 in shroud - start 60%  
flow meter stopped, purge continued beyond 3 min, sample could  
not be collected  
new location in corner of parking lot, 1/2 in shroud - start 64%, end 31%

2 cans w/ leaks SC00091  
SC00810

leak attributed to initial flow controller/gauge 6V-D.S-108 /AVG-00344



ARCADIS

## Soil Gas Sample Log

Sample ID	SG-3	Project Name	Binghamton Dover
Date	3/13/07	Location	Binghamton NY
Project No	NS000579.0001.0002	Misc Equipment	
Samplers	M Barthelemy, M Wadsworth	Time On/Off	could not be collected

## PROBE INSTALLATION

Date	3/13/07	Method	Geoprobe
Diameter		Depth	3-5 ft logs
Packing Material	clay	Soil Type	
Est. Depth to Water		Soil Info	

## PURGE

Date	3/13/07	Rate	
Time	1507	Volume	

## INSTRUMENT READINGS

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PID (ppb)
Sample	could not be collected						

## SUMMA CANISTER INFORMATION

Summa Can size:	1 L	6 L	Other	Flow Rate:
Flow Regulator No:				
Canister ID:				

## GENERAL OBSERVATIONS/NOTES:

ground saturated (squishy) in vicinity of sample location  
 could not pull vapor into sampling apparatus  
 pump: 10 0.7 ml  
 sample apparatus left in place for future sample attempt 1717



ARCADIS

## Soil Gas Sample Log

Sample ID	SG-4	Project Name	Binghamton Cover
Date	3/15/07	Location	Binghamton NY
Project No.	NJ000579.0001.0002	Misc. Equipment	
Samplers	M. Burtree, M. Widdeman	Time On/Off	1347/1617

## PROBE INSTALLATION

Date	3/15/07	Method	Geoprobe
Diameter		Depth	3-5 ft bgs
Packing Material	clay	Soil Type	
Est. Depth to Water		Soil Info.	

## PURGE

Date	3/15/07	Rate	
Time	1340-1342	Volume	

## INSTRUMENT READINGS

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PID (ppb)
1347	-30 r	45° F	88%	29.90	12 mph		
1617	-10						

## SUMMA CANISTER INFORMATION

Summa Can size:	1 L	6 L	Other	Flow Rate:
Flow Regulator No:	6V-DIS-094			
Canister ID:	SC00706			

## GENERAL OBSERVATIONS/NOTES:

couldnt thread screen into tip, so capped & submerged, sand, bentonite  
 He shield - start 6790  
 end 3670  
 no lte in purge



ARCADIS

**Soil Gas Sample Log**

Sample ID	SG-S	Project Name	Binghamton Dover
Date	3/18/07	Location	Binghamton NY
Project No.	NS000879.0001.0002	Misc. Equipment	
Samplers	M. Barteo, M. Wadsworth	Time On/Off	not sampled

**PROBE INSTALLATION**

Date	3/18/07	Method	Geoprobe
Diameter		Depth	3-S ft bgs
Packing Material		Soil Type	
Est. Depth to Water		Soil Info.	

**PURGE**

Date		Rate	
Time		Volume	

**INSTRUMENT READINGS**

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PID (ppb)

**SUMMA CANISTER INFORMATION**

Summa Can size:	1 L	6 L	Other	Flow Rate:
Flow Regulator No:				
Canister ID:				

**GENERAL OBSERVATIONS/NOTES:**

saturated soil - water in hole sample could not be collected
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ARCADIS

**Soil Gas Sample Log**

Sample ID	SG-6	Project Name	Binghamton Dover
Date	3/15/07	Location	Binghamton NY
Project No	NS000579.0001.0002	Misc. Equipment	
Samplers	M. Baizer, M. Wadzman	Time On/Off	1647 / 1717

**PROBE INSTALLATION**

Date	3/15/07	Method	Geoprobe
Diameter		Depth	3-5 ft bgs
Packing Material	clay	Soil Type	J
Est. Depth to Water		Soil Info.	

**PURGE**

Date	3/15/07	Rate	
Time	1645 - 1647	Volume	

**INSTRUMENT READINGS**

Time	Canister Pressure (inches of Hg)	Temperature (F or C)	Relative Humidity (%)	Barometric Pressure (inches of Hg)	Air speed (mph)	Pressure Differential (inches of H <sub>2</sub> O)	PID (ppb)
1647	-29	45° F	88%	29.90 in	12 mph		
1717	-5						

**SUMMA CANISTER INFORMATION**

Summa Can size:	1 L	(6 L)	Other	Flow Rate:
Flow Regulator No:	GV-05-121			
Canister ID:	SC00606	MG00262		

**GENERAL OBSERVATIONS/NOTES:**

He shroud - start 64 % end 48 %
------------------------------------



ARCADIS

**Appendix C**

Laboratory Analytical Data

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00319

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/4/07  
**Volume(s) Analyzed:** 0.0015 Liter(s)  
 0.00040 Liter(s)

Pi 1 = -0.9      Pf 1 = 3.8

Can D.F. = 1.34

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	890	ND	180	
74-87-3	Chloromethane	ND	890	ND	430	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	890	ND	130	
75-01-4	Vinyl Chloride	ND	890	ND	350	
106-99-0	1,3-Butadiene	ND	890	ND	400	
74-83-9	Bromomethane	ND	890	ND	230	
75-00-3	Chloroethane	ND	890	ND	340	
64-17-5	Ethanol	ND	4,500	ND	2,400	
75-05-8	Acetonitrile	ND	890	ND	530	
107-02-8	Acrolein	ND	890	ND	390	
67-64-1	Acetone	ND	4,500	ND	1,900	
75-69-4	Trichlorofluoromethane	ND	890	ND	160	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	890	ND	360	
107-13-1	Acrylonitrile	ND	890	ND	410	
75-35-4	1,1-Dichloroethene	ND	890	ND	230	
75-09-2	Methylene chloride	ND	890	ND	260	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	890	ND	290	
76-13-1	Trichlorotrifluoroethane	ND	890	ND	120	
75-15-0	Carbon Disulfide	ND	890	ND	290	
156-60-5	trans-1,2-Dichloroethene	ND	890	ND	230	
75-34-3	1,1-Dichloroethane	ND	890	ND	220	
1634-04-4	Methyl tert-Butyl Ether	ND	890	ND	250	
108-05-4	Vinyl Acetate	ND	890	ND	250	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00319

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/4/07  
**Volume(s) Analyzed:** 0.0015 Liter(s)  
 0.00040 Liter(s)

Pi 1 = -0.9      Pf 1 = 3.8

Can D.F. = 1.34

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	890	ND	300	
156-59-2	cis-1,2-Dichloroethene	2,000	890	520	230	
110-54-3	n-Hexane	ND	890	ND	250	
67-66-3	Chloroform	ND	890	ND	180	
107-06-2	1,2-Dichloroethane	ND	890	ND	220	
71-55-6	1,1,1-Trichloroethane	ND	890	ND	160	
71-43-2	Benzene	ND	890	ND	280	
56-23-5	Carbon Tetrachloride	ND	890	ND	140	
78-87-5	1,2-Dichloropropane	ND	890	ND	190	
75-27-4	Bromodichloromethane	ND	890	ND	130	
79-01-6	Trichloroethene	130,000	890	24,000	170	
123-91-1	1,4-Dioxane	ND	890	ND	250	
10061-01-5	cis-1,3-Dichloropropene	ND	890	ND	200	
108-10-1	4-Methyl-2-pentanone	ND	890	ND	220	
10061-02-6	trans-1,3-Dichloropropene	ND	890	ND	200	
79-00-5	1,1,2-Trichloroethane	ND	890	ND	160	
108-88-3	Toluene	ND	890	ND	240	
591-78-6	2-Hexanone	ND	890	ND	220	
124-48-1	Dibromochloromethane	ND	890	ND	100	
106-93-4	1,2-Dibromoethane	ND	890	ND	120	
123-86-4	n-Butyl Acetate	ND	890	ND	190	
127-18-4	Tetrachloroethene	ND	890	ND	130	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00319

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/4/07  
**Volume(s) Analyzed:** 0.0015 Liter(s)  
 0.00040 Liter(s)

Pi 1 = -0.9      Pf 1 = 3.8

Can D.F. = 1.34

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	890	ND	190	
100-41-4	Ethylbenzene	ND	890	ND	210	
179601-23-1	<i>m,p</i> -Xylenes	ND	890	ND	210	
75-25-2	Bromoform	ND	890	ND	86	
100-42-5	Styrene	ND	890	ND	210	
95-47-6	<i>o</i> -Xylene	ND	890	ND	210	
111-84-2	<i>n</i> -Nonane	ND	890	ND	170	
79-34-5	1,1,2,2-Tetrachloroethane	ND	890	ND	130	
98-82-8	Cumene	ND	890	ND	180	
80-56-8	alpha-Pinene	ND	890	ND	160	
622-96-8	4-Ethyltoluene	ND	890	ND	180	
108-67-8	1,3,5-Trimethylbenzene	ND	890	ND	180	
95-63-6	1,2,4-Trimethylbenzene	ND	890	ND	180	
100-44-7	Benzyl Chloride	ND	890	ND	170	
541-73-1	1,3-Dichlorobenzene	ND	890	ND	150	
106-46-7	1,4-Dichlorobenzene	ND	890	ND	150	
95-50-1	1,2-Dichlorobenzene	ND	890	ND	150	
5989-27-5	<i>d</i> -Limonene	ND	890	ND	160	
96-12-8	1,2-Dibromo-3-chloropropane	ND	890	ND	92	
120-82-1	1,2,4-Trichlorobenzene	ND	890	ND	120	
91-20-3	Naphthalene	ND	890	ND	170	
87-68-3	Hexachlorobutadiene	ND	890	ND	84	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-2  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-002

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: SC00287

Date Collected: 3/15/07  
 Date Received: 3/21/07  
 Date(s) Analyzed: 4/4/07  
 Volume(s) Analyzed: 0.017 Liter(s)

Pi 1 = -0.3      Pf 1 = 3.5

Can D.F. = 1.26

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	74	ND	15	
74-87-3	Chloromethane	ND	74	ND	36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	74	ND	11	
75-01-4	Vinyl Chloride	ND	74	ND	29	
106-99-0	1,3-Butadiene	ND	74	ND	34	
74-83-9	Bromomethane	ND	74	ND	19	
75-00-3	Chloroethane	ND	74	ND	28	
64-17-5	Ethanol	ND	370	ND	200	
75-05-8	Acetonitrile	ND	74	ND	44	
107-02-8	Acrolein	ND	74	ND	32	
67-64-1	Acetone	ND	370	ND	160	
75-69-4	Trichlorofluoromethane	ND	74	ND	13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	74	ND	30	
107-13-1	Acrylonitrile	ND	74	ND	34	
75-35-4	1,1-Dichloroethene	ND	74	ND	19	
75-09-2	Methylene chloride	ND	74	ND	21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	74	ND	24	
76-13-1	Trichlorotrifluoroethane	550	74	72	9.7	
75-15-0	Carbon Disulfide	ND	74	ND	24	
156-60-5	trans-1,2-Dichloroethene	ND	74	ND	19	
75-34-3	1,1-Dichloroethane	ND	74	ND	18	
1634-04-4	Methyl tert-Butyl Ether	ND	74	ND	21	
108-05-4	Vinyl Acetate	ND	74	ND	21	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-2  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-002

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00287

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/4/07  
**Volume(s) Analyzed:** 0.017 Liter(s)

Pi 1 = -0.3      Pf 1 = 3.5

Can D.F. = 1.26

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	74	ND	25	
156-59-2	cis-1,2-Dichloroethene	ND	74	ND	19	
110-54-3	n-Hexane	ND	74	ND	21	
67-66-3	Chloroform	ND	74	ND	15	
107-06-2	1,2-Dichloroethane	ND	74	ND	18	
71-55-6	1,1,1-Trichloroethane	130	74	24	14	
71-43-2	Benzene	ND	74	ND	23	
56-23-5	Carbon Tetrachloride	ND	74	ND	12	
78-87-5	1,2-Dichloropropane	ND	74	ND	16	
75-27-4	Bromodichloromethane	ND	74	ND	11	
79-01-6	Trichloroethene	5,900	74	1,100	14	
123-91-1	1,4-Dioxane	ND	74	ND	21	
10061-01-5	cis-1,3-Dichloropropene	ND	74	ND	16	
108-10-1	4-Methyl-2-pentanone	ND	74	ND	18	
10061-02-6	trans-1,3-Dichloropropene	ND	74	ND	16	
79-00-5	1,1,2-Trichloroethane	ND	74	ND	14	
108-88-3	Toluene	ND	74	ND	20	
591-78-6	2-Hexanone	ND	74	ND	18	
124-48-1	Dibromochloromethane	ND	74	ND	8.7	
106-93-4	1,2-Dibromoethane	ND	74	ND	9.6	
123-86-4	n-Butyl Acetate	ND	74	ND	16	
127-18-4	Tetrachloroethene	ND	74	ND	11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-2  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-002

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00287

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/4/07  
**Volume(s) Analyzed:** 0.017 Liter(s)

Pi 1 = -0.3      Pf 1 = 3.5

Can D.F. = 1.26

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	74	ND	16	
100-41-4	Ethylbenzene	ND	74	ND	17	
179601-23-1	<i>m,p</i> -Xylenes	ND	74	ND	17	
75-25-2	Bromoform	ND	74	ND	7.2	
100-42-5	Styrene	ND	74	ND	17	
95-47-6	<i>o</i> -Xylene	ND	74	ND	17	
111-84-2	<i>n</i> -Nonane	ND	74	ND	14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	74	ND	11	
98-82-8	Cumene	ND	74	ND	15	
80-56-8	alpha-Pinene	ND	74	ND	13	
622-96-8	4-Ethyltoluene	ND	74	ND	15	
108-67-8	1,3,5-Trimethylbenzene	ND	74	ND	15	
95-63-6	1,2,4-Trimethylbenzene	ND	74	ND	15	
100-44-7	Benzyl Chloride	ND	74	ND	14	
541-73-1	1,3-Dichlorobenzene	ND	74	ND	12	
106-46-7	1,4-Dichlorobenzene	ND	74	ND	12	
95-50-1	1,2-Dichlorobenzene	ND	74	ND	12	
5989-27-5	<i>d</i> -Limonene	ND	74	ND	13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	74	ND	7.7	
120-82-1	1,2,4-Trichlorobenzene	ND	74	ND	10	
91-20-3	Naphthalene	ND	74	ND	14	
87-68-3	Hexachlorobutadiene	ND	74	ND	7.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-3  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-003

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00260

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07 & 4/5/07  
**Volume(s) Analyzed:** 1.00 Liter(s)  
 0.20 Liter(s)

Pi 1 = -0.9      Pf 1 = 3.6

Can D.F. = 1.33

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	4.1	1.3	0.83	0.27	
74-87-3	Chloromethane	ND	1.3	ND	0.64	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.3	ND	0.19	
75-01-4	Vinyl Chloride	ND	1.3	ND	0.52	
106-99-0	1,3-Butadiene	ND	1.3	ND	0.60	
74-83-9	Bromomethane	ND	1.3	ND	0.34	
75-00-3	Chloroethane	ND	1.3	ND	0.50	
64-17-5	Ethanol	ND	6.7	ND	3.5	
75-05-8	Acetonitrile	ND	1.3	ND	0.79	
107-02-8	Acrolein	2.1	1.3	0.90	0.58	
67-64-1	Acetone	25	6.7	10	2.8	M
75-69-4	Trichlorofluoromethane	1.4	1.3	0.25	0.24	
67-63-0	2-Propanol (Isopropyl Alcohol)	15	1.3	6.2	0.54	
107-13-1	Acrylonitrile	ND	1.3	ND	0.61	
75-35-4	1,1-Dichloroethene	ND	1.3	ND	0.34	
75-09-2	Methylene chloride	4.9	1.3	1.4	0.38	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.3	ND	0.43	
76-13-1	Trichlorotrifluoroethane	7.1	1.3	0.92	0.17	
75-15-0	Carbon Disulfide	6.3	1.3	2.0	0.43	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	ND	0.34	
75-34-3	1,1-Dichloroethane	1.4	1.3	0.35	0.33	
1634-04-4	Methyl tert-Butyl Ether	ND	1.3	ND	0.37	
108-05-4	Vinyl Acetate	3.6	1.3	1.0	0.38	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

M = Matrix interference; results may be biased high.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-3  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-003

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00260

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07 & 4/5/07  
**Volume(s) Analyzed:** 1.00 Liter(s)  
 0.20 Liter(s)

Pi 1 = -0.9      Pf 1 = 3.6

Can D.F. = 1.33

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	3.1	1.3	1.1	0.45	
156-59-2	cis-1,2-Dichloroethene	3.1	1.3	0.78	0.34	
110-54-3	n-Hexane	ND	1.3	ND	0.38	
67-66-3	Chloroform	ND	1.3	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	1.3	ND	0.33	
71-55-6	1,1,1-Trichloroethane	9.1	1.3	1.7	0.24	
71-43-2	Benzene	ND	1.3	ND	0.42	
56-23-5	Carbon Tetrachloride	ND	1.3	ND	0.21	
78-87-5	1,2-Dichloropropane	ND	1.3	ND	0.29	
75-27-4	Bromodichloromethane	ND	1.3	ND	0.20	
79-01-6	Trichloroethene	66	1.3	12	0.25	
123-91-1	1,4-Dioxane	70	1.3	19	0.37	
10061-01-5	cis-1,3-Dichloropropene	ND	1.3	ND	0.29	
108-10-1	4-Methyl-2-pentanone	4.8	1.3	1.2	0.32	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	ND	0.29	
79-00-5	1,1,2-Trichloroethane	ND	1.3	ND	0.24	
108-88-3	Toluene	1.6	1.3	0.43	0.35	
591-78-6	2-Hexanone	ND	1.3	ND	0.32	
124-48-1	Dibromochloromethane	ND	1.3	ND	0.16	
106-93-4	1,2-Dibromoethane	ND	1.3	ND	0.17	
123-86-4	n-Butyl Acetate	ND	1.3	ND	0.28	
127-18-4	Tetrachloroethene	200	1.3	30	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-3  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-003

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00260

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07 & 4/5/07  
**Volume(s) Analyzed:** 1.00 Liter(s)  
 0.20 Liter(s)

Pi 1 = -0.9      Pf 1 = 3.6

Can D.F. = 1.33

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	1.3	ND	0.29	
100-41-4	Ethylbenzene	2.1	1.3	0.49	0.31	
179601-23-1	<i>m,p</i> -Xylenes	8.3	1.3	1.9	0.31	
75-25-2	Bromoform	ND	1.3	ND	0.13	
100-42-5	Styrene	ND	1.3	ND	0.31	
95-47-6	<i>o</i> -Xylene	2.2	1.3	0.51	0.31	
111-84-2	<i>n</i> -Nonane	ND	1.3	ND	0.25	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.3	ND	0.19	
98-82-8	Cumene	ND	1.3	ND	0.27	
80-56-8	alpha-Pinene	ND	1.3	ND	0.24	
622-96-8	4-Ethyltoluene	ND	1.3	ND	0.27	
108-67-8	1,3,5-Trimethylbenzene	ND	1.3	ND	0.27	
95-63-6	1,2,4-Trimethylbenzene	ND	1.3	ND	0.27	
100-44-7	Benzyl Chloride	ND	1.3	ND	0.26	
541-73-1	1,3-Dichlorobenzene	ND	1.3	ND	0.22	
106-46-7	1,4-Dichlorobenzene	ND	1.3	ND	0.22	
95-50-1	1,2-Dichlorobenzene	ND	1.3	ND	0.22	
5989-27-5	d-Limonene	ND	1.3	ND	0.24	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.3	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	ND	0.18	
91-20-3	Naphthalene	ND	1.3	ND	0.25	
87-68-3	Hexachlorobutadiene	ND	1.3	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-4  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-004

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00274

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)  
 0.10 Liter(s)

Pi 1 = -1.0      Pf 1 = 3.6

Can D.F. = 1.34

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	23	1.3	4.7	0.27	
74-87-3	Chloromethane	ND	1.3	ND	0.65	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.3	ND	0.19	
75-01-4	Vinyl Chloride	ND	1.3	ND	0.52	
106-99-0	1,3-Butadiene	ND	1.3	ND	0.61	
74-83-9	Bromomethane	ND	1.3	ND	0.35	
75-00-3	Chloroethane	ND	1.3	ND	0.51	
64-17-5	Ethanol	19	6.7	10	3.6	
75-05-8	Acetonitrile	6.5	1.3	3.9	0.80	
107-02-8	Acrolein	7.3	1.3	3.2	0.58	
67-64-1	Acetone	650	6.7	270	2.8	
75-69-4	Trichlorofluoromethane	1.5	1.3	0.26	0.24	
67-63-0	2-Propanol (Isopropyl Alcohol)	830	1.3	340	0.55	
107-13-1	Acrylonitrile	ND	1.3	ND	0.62	
75-35-4	1,1-Dichloroethene	ND	1.3	ND	0.34	
75-09-2	Methylene chloride	100	1.3	29	0.39	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.3	ND	0.43	
76-13-1	Trichlorotrifluoroethane	330	1.3	43	0.17	
75-15-0	Carbon Disulfide	17	1.3	5.5	0.43	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	ND	0.34	
75-34-3	1,1-Dichloroethane	5.2	1.3	1.3	0.33	
1634-04-4	Methyl tert-Butyl Ether	ND	1.3	ND	0.37	
108-05-4	Vinyl Acetate	18	1.3	5.2	0.38	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-4  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-004

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00274

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)  
 0.10 Liter(s)

Pi 1 = -1.0      Pf 1 = 3.6

Can D.F. = 1.34

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	13	1.3	4.5	0.45	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	ND	0.34	
110-54-3	n-Hexane	38	1.3	11	0.38	
67-66-3	Chloroform	ND	1.3	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	1.3	ND	0.33	
71-55-6	1,1,1-Trichloroethane	39	1.3	7.1	0.25	
71-43-2	Benzene	7.3	1.3	2.3	0.42	
56-23-5	Carbon Tetrachloride	ND	1.3	ND	0.21	
78-87-5	1,2-Dichloropropane	ND	1.3	ND	0.29	
75-27-4	Bromodichloromethane	ND	1.3	ND	0.20	
79-01-6	Trichloroethene	57	1.3	11	0.25	
123-91-1	1,4-Dioxane	ND	1.3	ND	0.37	
10061-01-5	cis-1,3-Dichloropropene	ND	1.3	ND	0.30	
108-10-1	4-Methyl-2-pentanone	2.1	1.3	0.52	0.33	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	ND	0.30	
79-00-5	1,1,2-Trichloroethane	ND	1.3	ND	0.25	
108-88-3	Toluene	14	1.3	3.6	0.36	
591-78-6	2-Hexanone	7.4	1.3	1.8	0.33	
124-48-1	Dibromochloromethane	ND	1.3	ND	0.16	
106-93-4	1,2-Dibromoethane	ND	1.3	ND	0.17	
123-86-4	n-Butyl Acetate	ND	1.3	ND	0.28	
127-18-4	Tetrachloroethene	260	1.3	38	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SS-4  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-004

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00274

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)  
 0.10 Liter(s)

Pi 1 = -1.0      Pf 1 = 3.6

Can D.F. = 1.34

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	1.3	ND	0.29	
100-41-4	Ethylbenzene	29	1.3	6.7	0.31	
179601-23-1	<i>m,p</i> -Xylenes	100	1.3	23	0.31	
75-25-2	Bromoform	ND	1.3	ND	0.13	
100-42-5	Styrene	ND	1.3	ND	0.31	
95-47-6	<i>o</i> -Xylene	29	1.3	6.6	0.31	
111-84-2	<i>n</i> -Nonane	16	1.3	3.0	0.26	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.3	ND	0.20	
98-82-8	Cumene	1.4	1.3	0.28	0.27	
80-56-8	alpha-Pinene	1.6	1.3	0.28	0.24	
622-96-8	4-Ethyltoluene	4.0	1.3	0.82	0.27	
108-67-8	1,3,5-Trimethylbenzene	4.2	1.3	0.86	0.27	
95-63-6	1,2,4-Trimethylbenzene	11	1.3	2.2	0.27	
100-44-7	Benzyl Chloride	ND	1.3	ND	0.26	
541-73-1	1,3-Dichlorobenzene	ND	1.3	ND	0.22	
106-46-7	1,4-Dichlorobenzene	ND	1.3	ND	0.22	
95-50-1	1,2-Dichlorobenzene	ND	1.3	ND	0.22	
5989-27-5	<i>d</i> -Limonene	15	1.3	2.7	0.24	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.3	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	ND	0.18	
91-20-3	Naphthalene	3.7	1.3	0.70	0.26	
87-68-3	Hexachlorobutadiene	ND	1.3	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** AA-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-005

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: AC00470

Date Collected: 3/15/07  
 Date Received: 3/21/07  
 Date(s) Analyzed: 3/30/07  
 Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -1.7      Pf 1 = 3.5

Can D.F. = 1.40

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.70	0.42	0.14	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.70	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.70	ND	0.27	
106-99-0	1,3-Butadiene	ND	0.70	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.27	
64-17-5	Ethanol	12	7.0	6.2	3.7	
75-05-8	Acetonitrile	ND	0.70	ND	0.42	
107-02-8	Acrolein	2.0	0.70	0.88	0.31	
67-64-1	Acetone	24	7.0	9.9	2.9	
75-69-4	Trichlorofluoromethane	1.1	0.70	0.19	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	22	0.70	8.8	0.28	
107-13-1	Acrylonitrile	ND	0.70	ND	0.32	
75-35-4	1,1-Dichloroethene	ND	0.70	ND	0.18	
75-09-2	Methylene chloride	2.6	0.70	0.74	0.20	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.70	ND	0.22	
76-13-1	Trichlorotrifluoroethane	ND	0.70	ND	0.091	
75-15-0	Carbon Disulfide	ND	0.70	ND	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	0.70	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.70	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.70	ND	0.19	
108-05-4	Vinyl Acetate	5.9	1.4	1.7	0.40	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** AA-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-005

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00470

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/30/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -1.7      Pf 1 = 3.5

Can D.F. = 1.40

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	2.5	0.70	0.83	0.24	
156-59-2	cis-1,2-Dichloroethene	ND	0.70	ND	0.18	
110-54-3	n-Hexane	0.72	0.70	0.21	0.20	
67-66-3	Chloroform	ND	0.70	ND	0.14	
107-06-2	1,2-Dichloroethane	ND	0.70	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.70	ND	0.13	
71-43-2	Benzene	0.97	0.70	0.30	0.22	
56-23-5	Carbon Tetrachloride	0.42	0.14	0.067	0.022	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.70	ND	0.10	
79-01-6	Trichloroethene	ND	0.14	ND	0.026	
123-91-1	1,4-Dioxane	ND	0.70	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	0.70	ND	0.17	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.70	ND	0.13	
108-88-3	Toluene	4.4	0.70	1.2	0.19	
591-78-6	2-Hexanone	ND	0.70	ND	0.17	
124-48-1	Dibromochloromethane	ND	0.70	ND	0.082	
106-93-4	1,2-Dibromoethane	ND	0.70	ND	0.091	
123-86-4	n-Butyl Acetate	ND	0.70	ND	0.15	
127-18-4	Tetrachloroethene	1.2	0.70	0.18	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** AA-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-005

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00470

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/30/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -1.7      Pf 1 = 3.5

Can D.F. = 1.40

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	0.70	ND	0.15	
100-41-4	Ethylbenzene	4.8	0.70	1.1	0.16	
179601-23-1	<i>m,p</i> -Xylenes	18	0.70	4.2	0.16	
75-25-2	Bromoform	ND	0.70	ND	0.068	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	<i>o</i> -Xylene	5.0	0.70	1.2	0.16	
111-84-2	<i>n</i> -Nonane	1.1	0.70	0.21	0.13	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.70	ND	0.10	
98-82-8	Cumene	ND	0.70	ND	0.14	
80-56-8	alpha-Pinene	ND	0.70	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.70	ND	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.70	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	1.3	0.70	0.27	0.14	
100-44-7	Benzyl Chloride	ND	0.70	ND	0.14	
541-73-1	1,3-Dichlorobenzene	ND	0.70	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.70	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.70	ND	0.12	
5989-27-5	<i>d</i> -Limonene	ND	0.70	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.70	ND	0.072	
120-82-1	1,2,4-Trichlorobenzene	ND	0.70	ND	0.094	
91-20-3	Naphthalene	ND	0.70	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.70	ND	0.066	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** AA-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-005DUP

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00470

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/30/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -1.7      Pf 1 = 3.5

Can D.F. = 1.40

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.70	0.41	0.14	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.70	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.70	ND	0.27	
106-99-0	1,3-Butadiene	ND	0.70	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.27	
64-17-5	Ethanol	11	7.0	5.9	3.7	
75-05-8	Acetonitrile	ND	0.70	ND	0.42	
107-02-8	Acrolein	2.0	0.70	0.87	0.31	
67-64-1	Acetone	23	7.0	9.7	2.9	
75-69-4	Trichlorofluoromethane	1.0	0.70	0.19	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	21	0.70	8.6	0.28	
107-13-1	Acrylonitrile	ND	0.70	ND	0.32	
75-35-4	1,1-Dichloroethene	ND	0.70	ND	0.18	
75-09-2	Methylene chloride	2.5	0.70	0.73	0.20	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.70	ND	0.22	
76-13-1	Trichlorotrifluoroethane	ND	0.70	ND	0.091	
75-15-0	Carbon Disulfide	ND	0.70	ND	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	0.70	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.70	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.70	ND	0.19	
108-05-4	Vinyl Acetate	5.6	1.4	1.6	0.40	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** AA-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-005DUP

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00470

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/30/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -1.7      Pf 1 = 3.5

Can D.F. = 1.40

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	2.4	0.70	0.80	0.24	
156-59-2	cis-1,2-Dichloroethene	ND	0.70	ND	0.18	
110-54-3	n-Hexane	0.71	0.70	0.20	0.20	
67-66-3	Chloroform	ND	0.70	ND	0.14	
107-06-2	1,2-Dichloroethane	ND	0.70	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.70	ND	0.13	
71-43-2	Benzene	0.92	0.70	0.29	0.22	
56-23-5	Carbon Tetrachloride	0.41	0.14	0.065	0.022	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.70	ND	0.10	
79-01-6	Trichloroethene	ND	0.14	ND	0.026	
123-91-1	1,4-Dioxane	ND	0.70	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	0.70	ND	0.17	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.70	ND	0.13	
108-88-3	Toluene	4.3	0.70	1.1	0.19	
591-78-6	2-Hexanone	ND	0.70	ND	0.17	
124-48-1	Dibromochloromethane	ND	0.70	ND	0.082	
106-93-4	1,2-Dibromoethane	ND	0.70	ND	0.091	
123-86-4	n-Butyl Acetate	ND	0.70	ND	0.15	
127-18-4	Tetrachloroethene	1.2	0.70	0.17	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** AA-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-005DUP

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC00470

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/30/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -1.7      Pf 1 = 3.5

Can D.F. = 1.40

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	0.70	ND	0.15	
100-41-4	Ethylbenzene	4.7	0.70	1.1	0.16	
179601-23-1	<i>m,p</i> -Xylenes	18	0.70	4.1	0.16	
75-25-2	Bromoform	ND	0.70	ND	0.068	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	<i>o</i> -Xylene	4.8	0.70	1.1	0.16	
111-84-2	<i>n</i> -Nonane	1.2	0.70	0.22	0.13	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.70	ND	0.10	
98-82-8	Cumene	ND	0.70	ND	0.14	
80-56-8	alpha-Pinene	ND	0.70	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.70	ND	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.70	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	1.3	0.70	0.26	0.14	
100-44-7	Benzyl Chloride	ND	0.70	ND	0.14	
541-73-1	1,3-Dichlorobenzene	ND	0.70	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.70	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.70	ND	0.12	
5989-27-5	<i>d</i> -Limonene	ND	0.70	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.70	ND	0.072	
120-82-1	1,2,4-Trichlorobenzene	ND	0.70	ND	0.094	
91-20-3	Naphthalene	ND	0.70	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.70	ND	0.066	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-006

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01218

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/31/07 & 4/2/07  
**Volume(s) Analyzed:** 0.10 Liter(s)  
 0.0050 Liter(s)

Pi 1 = -3.5      Pf 1 = 4.4

Can D.F. = 1.71

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	8.6	ND	1.7	
74-87-3	Chloromethane	ND	8.6	ND	4.1	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	8.6	ND	1.2	
75-01-4	Vinyl Chloride	ND	8.6	ND	3.3	
106-99-0	1,3-Butadiene	ND	8.6	ND	3.9	
74-83-9	Bromomethane	ND	8.6	ND	2.2	
75-00-3	Chloroethane	ND	8.6	ND	3.2	
64-17-5	Ethanol	190	86	100	45	
75-05-8	Acetonitrile	ND	8.6	ND	5.1	
107-02-8	Acrolein	ND	8.6	ND	3.7	
67-64-1	Acetone	1,300	86	570	36	
75-69-4	Trichlorofluoromethane	ND	8.6	ND	1.5	
67-63-0	2-Propanol (Isopropyl Alcohol)	6,100	8.6	2,500	3.5	
107-13-1	Acrylonitrile	ND	8.6	ND	3.9	
75-35-4	1,1-Dichloroethene	ND	8.6	ND	2.2	
75-09-2	Methylene chloride	700	8.6	200	2.5	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	8.6	ND	2.7	
76-13-1	Trichlorotrifluoroethane	ND	8.6	ND	1.1	
75-15-0	Carbon Disulfide	ND	8.6	ND	2.7	
156-60-5	trans-1,2-Dichloroethene	ND	8.6	ND	2.2	
75-34-3	1,1-Dichloroethane	ND	8.6	ND	2.1	
1634-04-4	Methyl tert-Butyl Ether	ND	8.6	ND	2.4	
108-05-4	Vinyl Acetate	ND	17	ND	4.9	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-006

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01218

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/31/07 & 4/2/07  
**Volume(s) Analyzed:** 0.10 Liter(s)  
 0.0050 Liter(s)

Pi 1 = -3.5      Pf 1 = 4.4

Can D.F. = 1.71

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	12	8.6	4.2	2.9	
156-59-2	cis-1,2-Dichloroethene	ND	8.6	ND	2.2	
110-54-3	n-Hexane	55	8.6	16	2.4	
67-66-3	Chloroform	ND	8.6	ND	1.8	
107-06-2	1,2-Dichloroethane	ND	8.6	ND	2.1	
71-55-6	1,1,1-Trichloroethane	ND	8.6	ND	1.6	
71-43-2	Benzene	ND	8.6	ND	2.7	
56-23-5	Carbon Tetrachloride	ND	1.7	ND	0.27	
78-87-5	1,2-Dichloropropane	ND	8.6	ND	1.9	
75-27-4	Bromodichloromethane	ND	8.6	ND	1.3	
79-01-6	Trichloroethene	10	1.7	1.9	0.32	
123-91-1	1,4-Dioxane	ND	8.6	ND	2.4	
10061-01-5	cis-1,3-Dichloropropene	ND	8.6	ND	1.9	
108-10-1	4-Methyl-2-pentanone	ND	8.6	ND	2.1	
10061-02-6	trans-1,3-Dichloropropene	ND	8.6	ND	1.9	
79-00-5	1,1,2-Trichloroethane	ND	8.6	ND	1.6	
108-88-3	Toluene	86	8.6	23	2.3	
591-78-6	2-Hexanone	ND	8.6	ND	2.1	
124-48-1	Dibromochloromethane	ND	8.6	ND	1.0	
106-93-4	1,2-Dibromoethane	ND	8.6	ND	1.1	
123-86-4	n-Butyl Acetate	32	8.6	6.8	1.8	
127-18-4	Tetrachloroethene	190	8.6	29	1.3	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-006

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01218

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/31/07 & 4/2/07  
**Volume(s) Analyzed:** 0.10 Liter(s)  
 0.0050 Liter(s)

Pi 1 = -3.5      Pf 1 = 4.4

Can D.F. = 1.71

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	8.6	ND	1.9	
100-41-4	Ethylbenzene	960	8.6	220	2.0	
179601-23-1	<i>m,p</i> -Xylenes	3,500	8.6	800	2.0	
75-25-2	Bromoform	ND	8.6	ND	0.83	
100-42-5	Styrene	11	8.6	2.6	2.0	
95-47-6	<i>o</i> -Xylene	990	8.6	230	2.0	
111-84-2	<i>n</i> -Nonane	280	8.6	53	1.6	
79-34-5	1,1,2,2-Tetrachloroethane	ND	8.6	ND	1.2	
98-82-8	Cumene	24	8.6	4.9	1.7	
80-56-8	alpha-Pinene	14	8.6	2.6	1.5	
622-96-8	4-Ethyltoluene	110	8.6	22	1.7	
108-67-8	1,3,5-Trimethylbenzene	97	8.6	20	1.7	
95-63-6	1,2,4-Trimethylbenzene	320	8.6	65	1.7	
100-44-7	Benzyl Chloride	ND	8.6	ND	1.7	
541-73-1	1,3-Dichlorobenzene	ND	8.6	ND	1.4	
106-46-7	1,4-Dichlorobenzene	ND	8.6	ND	1.4	
95-50-1	1,2-Dichlorobenzene	ND	8.6	ND	1.4	
5989-27-5	d-Limonene	430	8.6	77	1.5	
96-12-8	1,2-Dibromo-3-chloropropane	ND	8.6	ND	0.88	
120-82-1	1,2,4-Trichlorobenzene	ND	8.6	ND	1.2	
91-20-3	Naphthalene	ND	8.6	ND	1.6	
87-68-3	Hexachlorobutadiene	ND	8.6	ND	0.80	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-2  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-007

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01016

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/31/07 & 4/5/07  
**Volume(s) Analyzed:** 0.10 Liter(s)  
 0.025 Liter(s)

Pi 1 = -7.1      Pf 1 = 3.6

Can D.F. = 2.41

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	12	ND	2.4	
74-87-3	Chloromethane	ND	12	ND	5.8	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	12	ND	1.7	
75-01-4	Vinyl Chloride	ND	12	ND	4.7	
106-99-0	1,3-Butadiene	ND	12	ND	5.4	
74-83-9	Bromomethane	ND	12	ND	3.1	
75-00-3	Chloroethane	ND	12	ND	4.6	
64-17-5	Ethanol	180	120	94	64	
75-05-8	Acetonitrile	ND	12	ND	7.2	
107-02-8	Acrolein	ND	12	ND	5.3	
67-64-1	Acetone	1,300	120	540	51	
75-69-4	Trichlorofluoromethane	ND	12	ND	2.1	
67-63-0	2-Propanol (Isopropyl Alcohol)	6,400	12	2,600	4.9	
107-13-1	Acrylonitrile	ND	12	ND	5.6	
75-35-4	1,1-Dichloroethene	ND	12	ND	3.0	
75-09-2	Methylene chloride	580	12	170	3.5	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	12	ND	3.9	
76-13-1	Trichlorotrifluoroethane	ND	12	ND	1.6	
75-15-0	Carbon Disulfide	ND	12	ND	3.9	
156-60-5	trans-1,2-Dichloroethene	ND	12	ND	3.0	
75-34-3	1,1-Dichloroethane	ND	12	ND	3.0	
1634-04-4	Methyl tert-Butyl Ether	ND	12	ND	3.3	
108-05-4	Vinyl Acetate	ND	24	ND	6.8	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-2  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-007

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01016

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/31/07 & 4/5/07  
**Volume(s) Analyzed:** 0.10 Liter(s)  
 0.025 Liter(s)

Pi 1 = -7.1      Pf 1 = 3.6

Can D.F. = 2.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	12	ND	4.1	
156-59-2	cis-1,2-Dichloroethene	ND	12	ND	3.0	
110-54-3	n-Hexane	47	12	13	3.4	
67-66-3	Chloroform	ND	12	ND	2.5	
107-06-2	1,2-Dichloroethane	ND	12	ND	3.0	
71-55-6	1,1,1-Trichloroethane	ND	12	ND	2.2	
71-43-2	Benzene	ND	12	ND	3.8	
56-23-5	Carbon Tetrachloride	ND	2.4	ND	0.38	
78-87-5	1,2-Dichloropropane	ND	12	ND	2.6	
75-27-4	Bromodichloromethane	ND	12	ND	1.8	
79-01-6	Trichloroethene	9.7	2.4	1.8	0.45	
123-91-1	1,4-Dioxane	ND	12	ND	3.3	
10061-01-5	cis-1,3-Dichloropropene	ND	12	ND	2.7	
108-10-1	4-Methyl-2-pentanone	ND	12	ND	2.9	
10061-02-6	trans-1,3-Dichloropropene	ND	12	ND	2.7	
79-00-5	1,1,2-Trichloroethane	ND	12	ND	2.2	
108-88-3	Toluene	86	12	23	3.2	
591-78-6	2-Hexanone	ND	12	ND	2.9	
124-48-1	Dibromochloromethane	ND	12	ND	1.4	
106-93-4	1,2-Dibromoethane	ND	12	ND	1.6	
123-86-4	n-Butyl Acetate	32	12	6.8	2.5	
127-18-4	Tetrachloroethene	160	12	24	1.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-2  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-007

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01016

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 3/31/07 & 4/5/07  
**Volume(s) Analyzed:** 0.10 Liter(s)  
 0.025 Liter(s)

Pi 1 = -7.1      Pf 1 = 3.6

Can D.F. = 2.41

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	12	ND	2.6	
100-41-4	Ethylbenzene	960	12	220	2.8	
179601-23-1	<i>m,p</i> -Xylenes	3,500	12	810	2.8	
75-25-2	Bromoform	ND	12	ND	1.2	
100-42-5	Styrene	ND	12	ND	2.8	
95-47-6	<i>o</i> -Xylene	980	12	230	2.8	
111-84-2	<i>n</i> -Nonane	240	12	45	2.3	
79-34-5	1,1,2,2-Tetrachloroethane	ND	12	ND	1.8	
98-82-8	Cumene	23	12	4.6	2.5	
80-56-8	alpha-Pinene	13	12	2.3	2.2	
622-96-8	4-Ethyltoluene	97	12	20	2.5	
108-67-8	1,3,5-Trimethylbenzene	85	12	17	2.5	
95-63-6	1,2,4-Trimethylbenzene	270	12	56	2.5	
100-44-7	Benzyl Chloride	ND	12	ND	2.3	
541-73-1	1,3-Dichlorobenzene	ND	12	ND	2.0	
106-46-7	1,4-Dichlorobenzene	ND	12	ND	2.0	
95-50-1	1,2-Dichlorobenzene	ND	12	ND	2.0	
5989-27-5	<i>d</i> -Limonene	400	12	72	2.2	
96-12-8	1,2-Dibromo-3-chloropropane	ND	12	ND	1.2	
120-82-1	1,2,4-Trichlorobenzene	ND	12	ND	1.6	
91-20-3	Naphthalene	ND	12	ND	2.3	
87-68-3	Hexachlorobutadiene	ND	12	ND	1.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-3  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-008

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01367

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 0.050 Liter(s)  
 0.010 Liter(s)

Pi 1 = -2.6      Pf 1 = 3.5

Can D.F. = 1.50

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	15	ND	3.0	
74-87-3	Chloromethane	ND	15	ND	7.3	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	15	ND	2.1	
75-01-4	Vinyl Chloride	ND	15	ND	5.9	
106-99-0	1,3-Butadiene	ND	15	ND	6.8	
74-83-9	Bromomethane	ND	15	ND	3.9	
75-00-3	Chloroethane	ND	15	ND	5.7	
64-17-5	Ethanol	200	150	110	80	
75-05-8	Acetonitrile	ND	15	ND	8.9	
107-02-8	Acrolein	ND	15	ND	6.5	
67-64-1	Acetone	1,400	150	590	63	
75-69-4	Trichlorofluoromethane	ND	15	ND	2.7	
67-63-0	2-Propanol (Isopropyl Alcohol)	7,800	15	3,200	6.1	
107-13-1	Acrylonitrile	ND	15	ND	6.9	
75-35-4	1,1-Dichloroethene	ND	15	ND	3.8	
75-09-2	Methylene chloride	590	15	170	4.3	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	15	ND	4.8	
76-13-1	Trichlorotrifluoroethane	ND	15	ND	2.0	
75-15-0	Carbon Disulfide	ND	15	ND	4.8	
156-60-5	trans-1,2-Dichloroethene	ND	15	ND	3.8	
75-34-3	1,1-Dichloroethane	ND	15	ND	3.7	
1634-04-4	Methyl tert-Butyl Ether	ND	15	ND	4.2	
108-05-4	Vinyl Acetate	ND	30	ND	8.5	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-3  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-008

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01367

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 0.050 Liter(s)  
 0.010 Liter(s)

Pi 1 = -2.6      Pf 1 = 3.5

Can D.F. = 1.50

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	15	ND	5.1	
156-59-2	cis-1,2-Dichloroethene	ND	15	ND	3.8	
110-54-3	n-Hexane	42	15	12	4.3	
67-66-3	Chloroform	ND	15	ND	3.1	
107-06-2	1,2-Dichloroethane	ND	15	ND	3.7	
71-55-6	1,1,1-Trichloroethane	ND	15	ND	2.8	
71-43-2	Benzene	ND	15	ND	4.7	
56-23-5	Carbon Tetrachloride	ND	3.0	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	15	ND	3.2	
75-27-4	Bromodichloromethane	ND	15	ND	2.2	
79-01-6	Trichloroethene	11	3.0	2.1	0.56	
123-91-1	1,4-Dioxane	ND	15	ND	4.2	
10061-01-5	cis-1,3-Dichloropropene	ND	15	ND	3.3	
108-10-1	4-Methyl-2-pentanone	ND	15	ND	3.7	
10061-02-6	trans-1,3-Dichloropropene	ND	15	ND	3.3	
79-00-5	1,1,2-Trichloroethane	ND	15	ND	2.8	
108-88-3	Toluene	100	15	27	4.0	
591-78-6	2-Hexanone	ND	15	ND	3.7	
124-48-1	Dibromochloromethane	ND	15	ND	1.8	
106-93-4	1,2-Dibromoethane	ND	15	ND	2.0	
123-86-4	n-Butyl Acetate	44	15	9.3	3.2	
127-18-4	Tetrachloroethene	160	15	24	2.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-3  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-008

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01367

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 0.050 Liter(s)  
 0.010 Liter(s)

Pi 1 = -2.6      Pf 1 = 3.5

Can D.F. = 1.50

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	15	ND	3.3	
100-41-4	Ethylbenzene	1,200	15	280	3.5	
179601-23-1	<i>m,p</i> -Xylenes	4,500	15	1,000	3.5	
75-25-2	Bromoform	ND	15	ND	1.5	
100-42-5	Styrene	ND	15	ND	3.5	
95-47-6	<i>o</i> -Xylene	1,300	15	290	3.5	
111-84-2	n-Nonane	250	15	47	2.9	
79-34-5	1,1,2,2-Tetrachloroethane	ND	15	ND	2.2	
98-82-8	Cumene	26	15	5.4	3.1	
80-56-8	alpha-Pinene	ND	15	ND	2.7	
622-96-8	4-Ethyltoluene	100	15	21	3.1	
108-67-8	1,3,5-Trimethylbenzene	90	15	18	3.1	
95-63-6	1,2,4-Trimethylbenzene	300	15	60	3.1	
100-44-7	Benzyl Chloride	ND	15	ND	2.9	
541-73-1	1,3-Dichlorobenzene	ND	15	ND	2.5	
106-46-7	1,4-Dichlorobenzene	ND	15	ND	2.5	
95-50-1	1,2-Dichlorobenzene	ND	15	ND	2.5	
5989-27-5	d-Limonene	380	15	68	2.7	
96-12-8	1,2-Dibromo-3-chloropropane	ND	15	ND	1.6	
120-82-1	1,2,4-Trichlorobenzene	ND	15	ND	2.0	
91-20-3	Naphthalene	ND	15	ND	2.9	
87-68-3	Hexachlorobutadiene	ND	15	ND	1.4	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-4  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-009

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01251

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 0.025 Liter(s)  
 0.0050 Liter(s)

Pi 1 = -3.2      Pf 1 = 3.7

Can D.F. = 1.60

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	32	ND	6.5	
74-87-3	Chloromethane	ND	32	ND	16	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	32	ND	4.6	
75-01-4	Vinyl Chloride	ND	32	ND	13	
106-99-0	1,3-Butadiene	ND	32	ND	14	
74-83-9	Bromomethane	ND	32	ND	8.2	
75-00-3	Chloroethane	ND	32	ND	12	
64-17-5	Ethanol	ND	320	ND	170	
75-05-8	Acetonitrile	ND	32	ND	19	
107-02-8	Acrolein	ND	32	ND	14	
67-64-1	Acetone	1,500	320	640	130	
75-69-4	Trichlorofluoromethane	ND	32	ND	5.7	
67-63-0	2-Propanol (Isopropyl Alcohol)	9,900	32	4,000	13	
107-13-1	Acrylonitrile	ND	32	ND	15	
75-35-4	1,1-Dichloroethene	ND	32	ND	8.1	
75-09-2	Methylene chloride	660	32	190	9.2	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	32	ND	10	
76-13-1	Trichlorotrifluoroethane	ND	32	ND	4.2	
75-15-0	Carbon Disulfide	ND	32	ND	10	
156-60-5	trans-1,2-Dichloroethene	ND	32	ND	8.1	
75-34-3	1,1-Dichloroethane	ND	32	ND	7.9	
1634-04-4	Methyl tert-Butyl Ether	ND	32	ND	8.9	
108-05-4	Vinyl Acetate	ND	64	ND	18	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-4  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-009

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01251

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 0.025 Liter(s)  
 0.0050 Liter(s)

Pi 1 = -3.2      Pf 1 = 3.7

Can D.F. = 1.60

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	32	ND	11	
156-59-2	cis-1,2-Dichloroethene	ND	32	ND	8.1	
110-54-3	n-Hexane	<b>44</b>	32	<b>13</b>	9.1	
67-66-3	Chloroform	ND	32	ND	6.6	
107-06-2	1,2-Dichloroethane	ND	32	ND	7.9	
71-55-6	1,1,1-Trichloroethane	ND	32	ND	5.9	
71-43-2	Benzene	ND	32	ND	10	
56-23-5	Carbon Tetrachloride	ND	6.4	ND	1.0	
78-87-5	1,2-Dichloropropane	ND	32	ND	6.9	
75-27-4	Bromodichloromethane	ND	32	ND	4.8	
79-01-6	Trichloroethene	<b>11</b>	6.4	<b>2.1</b>	1.2	
123-91-1	1,4-Dioxane	ND	32	ND	8.9	
10061-01-5	cis-1,3-Dichloropropene	ND	32	ND	7.1	
108-10-1	4-Methyl-2-pentanone	ND	32	ND	7.8	
10061-02-6	trans-1,3-Dichloropropene	ND	32	ND	7.1	
79-00-5	1,1,2-Trichloroethane	ND	32	ND	5.9	
108-88-3	Toluene	<b>110</b>	32	<b>29</b>	8.5	
591-78-6	2-Hexanone	ND	32	ND	7.8	
124-48-1	Dibromochloromethane	ND	32	ND	3.8	
106-93-4	1,2-Dibromoethane	ND	32	ND	4.2	
123-86-4	n-Butyl Acetate	<b>84</b>	32	<b>18</b>	6.7	
127-18-4	Tetrachloroethene	<b>180</b>	32	<b>26</b>	4.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** IA-4  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-009

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** AC01251

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 0.025 Liter(s)  
 0.0050 Liter(s)

Pi 1 = -3.2      Pf 1 = 3.7

Can D.F. = 1.60

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	32	ND	7.0	
100-41-4	Ethylbenzene	1,300	32	290	7.4	
179601-23-1	<i>m,p</i> -Xylenes	4,800	32	1,100	7.4	
75-25-2	Bromoform	ND	32	ND	3.1	
100-42-5	Styrene	ND	32	ND	7.5	
95-47-6	<i>o</i> -Xylene	1,300	32	300	7.4	
111-84-2	n-Nonane	280	32	54	6.1	
79-34-5	1,1,2,2-Tetrachloroethane	ND	32	ND	4.7	
98-82-8	Cumene	35	32	7.1	6.5	
80-56-8	alpha-Pinene	ND	32	ND	5.7	
622-96-8	4-Ethyltoluene	140	32	28	6.5	
108-67-8	1,3,5-Trimethylbenzene	120	32	25	6.5	
95-63-6	1,2,4-Trimethylbenzene	400	32	82	6.5	
100-44-7	Benzyl Chloride	ND	32	ND	6.2	
541-73-1	1,3-Dichlorobenzene	ND	32	ND	5.3	
106-46-7	1,4-Dichlorobenzene	ND	32	ND	5.3	
95-50-1	1,2-Dichlorobenzene	ND	32	ND	5.3	
5989-27-5	d-Limonene	430	32	78	5.7	
96-12-8	1,2-Dibromo-3-chloropropane	ND	32	ND	3.3	
120-82-1	1,2,4-Trichlorobenzene	ND	32	ND	4.3	
91-20-3	Naphthalene	ND	32	ND	6.1	
87-68-3	Hexachlorobutadiene	ND	32	ND	3.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-010

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00816

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07 & 4/5/07  
**Volume(s) Analyzed:** 1.00 Liter(s)  
 0.10 Liter(s)

Pi 1 = -2.5      Pf 1 = 3.5

Can D.F. = 1.49

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	1.9	1.5	0.38	0.30	
74-87-3	Chloromethane	ND	1.5	ND	0.72	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.5	ND	0.21	
75-01-4	Vinyl Chloride	ND	1.5	ND	0.58	
106-99-0	1,3-Butadiene	ND	1.5	ND	0.67	
74-83-9	Bromomethane	ND	1.5	ND	0.38	
75-00-3	Chloroethane	ND	1.5	ND	0.56	
64-17-5	Ethanol	ND	7.5	ND	4.0	
75-05-8	Acetonitrile	ND	1.5	ND	0.89	
107-02-8	Acrolein	ND	1.5	ND	0.65	
67-64-1	Acetone	27	7.5	12	3.1	
75-69-4	Trichlorofluoromethane	ND	1.5	ND	0.27	
67-63-0	2-Propanol (Isopropyl Alcohol)	26	1.5	10	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.69	
75-35-4	1,1-Dichloroethene	ND	1.5	ND	0.38	
75-09-2	Methylene chloride	ND	1.5	ND	0.43	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.5	ND	0.48	
76-13-1	Trichlorotrifluoroethane	15	1.5	2.0	0.19	
75-15-0	Carbon Disulfide	1.8	1.5	0.57	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	1.5	ND	0.38	
75-34-3	1,1-Dichloroethane	ND	1.5	ND	0.37	
1634-04-4	Methyl tert-Butyl Ether	ND	1.5	ND	0.41	
108-05-4	Vinyl Acetate	2.1	1.5	0.61	0.42	M

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

M = Matrix interference; results may be biased high.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-010

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00816

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07 & 4/5/07  
**Volume(s) Analyzed:** 1.00 Liter(s)  
 0.10 Liter(s)

Pi 1 = -2.5      Pf 1 = 3.5

Can D.F. = 1.49

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	6.9	1.5	2.3	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	1.5	ND	0.38	
110-54-3	n-Hexane	2.4	1.5	0.69	0.42	
67-66-3	Chloroform	6.4	1.5	1.3	0.31	
107-06-2	1,2-Dichloroethane	ND	1.5	ND	0.37	
71-55-6	1,1,1-Trichloroethane	29	1.5	5.3	0.27	
71-43-2	Benzene	1.5	1.5	0.48	0.47	
56-23-5	Carbon Tetrachloride	ND	1.5	ND	0.24	
78-87-5	1,2-Dichloropropane	ND	1.5	ND	0.32	
75-27-4	Bromodichloromethane	ND	1.5	ND	0.22	
79-01-6	Trichloroethene	130	1.5	24	0.28	
123-91-1	1,4-Dioxane	ND	1.5	ND	0.41	
10061-01-5	cis-1,3-Dichloropropene	ND	1.5	ND	0.33	
108-10-1	4-Methyl-2-pentanone	3.7	1.5	0.90	0.36	
10061-02-6	trans-1,3-Dichloropropene	ND	1.5	ND	0.33	
79-00-5	1,1,2-Trichloroethane	ND	1.5	ND	0.27	
108-88-3	Toluene	9.0	1.5	2.4	0.40	
591-78-6	2-Hexanone	1.9	1.5	0.47	0.36	
124-48-1	Dibromochloromethane	ND	1.5	ND	0.17	
106-93-4	1,2-Dibromoethane	ND	1.5	ND	0.19	
123-86-4	n-Butyl Acetate	ND	1.5	ND	0.31	
127-18-4	Tetrachloroethene	7.7	1.5	1.1	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-1  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-010

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00816

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07 & 4/5/07  
**Volume(s) Analyzed:** 1.00 Liter(s)  
 0.10 Liter(s)

Pi 1 = -2.5      Pf 1 = 3.5

Can D.F. = 1.49

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	1.5	ND	0.32	
100-41-4	Ethylbenzene	ND	1.5	ND	0.34	
179601-23-1	<i>m,p</i> -Xylenes	4.3	1.5	0.99	0.34	
75-25-2	Bromoform	ND	1.5	ND	0.14	
100-42-5	Styrene	ND	1.5	ND	0.35	
95-47-6	<i>o</i> -Xylene	1.6	1.5	0.37	0.34	
111-84-2	<i>n</i> -Nonane	1.6	1.5	0.30	0.28	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.5	ND	0.22	
98-82-8	Cumene	ND	1.5	ND	0.30	
80-56-8	alpha-Pinene	ND	1.5	ND	0.27	
622-96-8	4-Ethyltoluene	ND	1.5	ND	0.30	
108-67-8	1,3,5-Trimethylbenzene	ND	1.5	ND	0.30	
95-63-6	1,2,4-Trimethylbenzene	3.1	1.5	0.63	0.30	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	1.5	ND	0.25	
106-46-7	1,4-Dichlorobenzene	6.1	1.5	1.0	0.25	
95-50-1	1,2-Dichlorobenzene	ND	1.5	ND	0.25	
5989-27-5	<i>d</i> -Limonene	120	1.5	21	0.27	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.5	ND	0.15	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	1.5	ND	0.28	
87-68-3	Hexachlorobutadiene	ND	1.5	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-2  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-011

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00859

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.7      Pf 1 = 3.5

Can D.F. = 1.65

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	3.2	1.7	0.64	0.33	
74-87-3	Chloromethane	ND	1.7	ND	0.80	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	ND	1.7	ND	0.65	
106-99-0	1,3-Butadiene	11	1.7	4.8	0.75	
74-83-9	Bromomethane	ND	1.7	ND	0.43	
75-00-3	Chloroethane	ND	1.7	ND	0.63	
64-17-5	Ethanol	ND	8.3	ND	4.4	
75-05-8	Acetonitrile	ND	1.7	ND	0.98	
107-02-8	Acrolein	3.1	1.7	1.4	0.72	
67-64-1	Acetone	55	8.3	23	3.5	
75-69-4	Trichlorofluoromethane	ND	1.7	ND	0.29	
67-63-0	2-Propanol (Isopropyl Alcohol)	15	1.7	6.2	0.67	
107-13-1	Acrylonitrile	ND	1.7	ND	0.76	
75-35-4	1,1-Dichloroethene	ND	1.7	ND	0.42	
75-09-2	Methylene chloride	ND	1.7	ND	0.48	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.7	ND	0.53	
76-13-1	Trichlorotrifluoroethane	ND	1.7	ND	0.22	
75-15-0	Carbon Disulfide	17	1.7	5.3	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	1.7	ND	0.42	
75-34-3	1,1-Dichloroethane	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	ND	0.46	
108-05-4	Vinyl Acetate	ND	1.7	ND	0.47	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-2  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-011

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00859

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.7      Pf 1 = 3.5

Can D.F. = 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	14	1.7	4.8	0.56	
156-59-2	cis-1,2-Dichloroethene	ND	1.7	ND	0.42	
110-54-3	n-Hexane	120	1.7	34	0.47	
67-66-3	Chloroform	ND	1.7	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	1.7	ND	0.41	
71-55-6	1,1,1-Trichloroethane	ND	1.7	ND	0.30	
71-43-2	Benzene	43	1.7	13	0.52	
56-23-5	Carbon Tetrachloride	ND	1.7	ND	0.26	
78-87-5	1,2-Dichloropropane	ND	1.7	ND	0.36	
75-27-4	Bromodichloromethane	ND	1.7	ND	0.25	
79-01-6	Trichloroethene	ND	1.7	ND	0.31	
123-91-1	1,4-Dioxane	ND	1.7	ND	0.46	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	ND	0.36	
108-10-1	4-Methyl-2-pentanone	3.3	1.7	0.82	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	ND	0.36	
79-00-5	1,1,2-Trichloroethane	ND	1.7	ND	0.30	
108-88-3	Toluene	98	1.7	26	0.44	
591-78-6	2-Hexanone	ND	1.7	ND	0.40	
124-48-1	Dibromochloromethane	ND	1.7	ND	0.19	
106-93-4	1,2-Dibromoethane	ND	1.7	ND	0.21	
123-86-4	n-Butyl Acetate	ND	1.7	ND	0.35	
127-18-4	Tetrachloroethene	ND	1.7	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-2  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-011

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00859

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -3.7      Pf 1 = 3.5

Can D.F. = 1.65

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	1.7	ND	0.36	
100-41-4	Ethylbenzene	ND	1.7	ND	0.38	
179601-23-1	<i>m,p</i> -Xylenes	4.1	1.7	0.95	0.38	
75-25-2	Bromoform	ND	1.7	ND	0.16	
100-42-5	Styrene	ND	1.7	ND	0.39	
95-47-6	<i>o</i> -Xylene	2.1	1.7	0.48	0.38	
111-84-2	<i>n</i> -Nonane	2.8	1.7	0.53	0.31	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	ND	0.24	
98-82-8	Cumene	ND	1.7	ND	0.34	
80-56-8	alpha-Pinene	ND	1.7	ND	0.30	
622-96-8	4-Ethyltoluene	ND	1.7	ND	0.34	
108-67-8	1,3,5-Trimethylbenzene	ND	1.7	ND	0.34	
95-63-6	1,2,4-Trimethylbenzene	ND	1.7	ND	0.34	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	1.7	ND	0.27	
106-46-7	1,4-Dichlorobenzene	ND	1.7	ND	0.27	
95-50-1	1,2-Dichlorobenzene	ND	1.7	ND	0.27	
5989-27-5	<i>d</i> -Limonene	ND	1.7	ND	0.30	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	1.7	ND	0.31	
87-68-3	Hexachlorobutadiene	ND	1.7	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-4  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-012

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00706

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.8      Pf 1 = 3.5

Can D.F. = 1.53

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	2.2	1.5	0.44	0.31	
74-87-3	Chloromethane	ND	1.5	ND	0.74	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.5	ND	0.22	
75-01-4	Vinyl Chloride	3.0	1.5	1.2	0.60	
106-99-0	1,3-Butadiene	12	1.5	5.5	0.69	
74-83-9	Bromomethane	ND	1.5	ND	0.39	
75-00-3	Chloroethane	ND	1.5	ND	0.58	
64-17-5	Ethanol	ND	7.7	ND	4.1	
75-05-8	Acetonitrile	ND	1.5	ND	0.91	
107-02-8	Acrolein	3.3	1.5	1.4	0.67	
67-64-1	Acetone	50	7.7	21	3.2	M
75-69-4	Trichlorofluoromethane	1.7	1.5	0.30	0.27	
67-63-0	2-Propanol (Isopropyl Alcohol)	15	1.5	6.0	0.62	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	1.5	ND	0.39	
75-09-2	Methylene chloride	ND	1.5	ND	0.44	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.5	ND	0.49	
76-13-1	Trichlorotrifluoroethane	ND	1.5	ND	0.20	
75-15-0	Carbon Disulfide	5.0	1.5	1.6	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	1.5	ND	0.39	
75-34-3	1,1-Dichloroethane	2.1	1.5	0.53	0.38	
1634-04-4	Methyl tert-Butyl Ether	ND	1.5	ND	0.42	
108-05-4	Vinyl Acetate	7.5	1.5	2.1	0.43	M

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

M = Matrix interference; results may be biased high.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-4  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-012

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:  
 Container ID: SC00706

Date Collected: 3/15/07  
 Date Received: 3/21/07  
 Date(s) Analyzed: 4/2/07  
 Volume(s) Analyzed: 1.00 Liter(s)

Pi 1 = -2.8      Pf 1 = 3.5

Can D.F. = 1.53

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	9.0	1.5	3.1	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	1.5	ND	0.39	
110-54-3	n-Hexane	5.6	1.5	1.6	0.43	
67-66-3	Chloroform	ND	1.5	ND	0.31	
107-06-2	1,2-Dichloroethane	ND	1.5	ND	0.38	
71-55-6	1,1,1-Trichloroethane	4.0	1.5	0.74	0.28	
71-43-2	Benzene	6.4	1.5	2.0	0.48	
56-23-5	Carbon Tetrachloride	ND	1.5	ND	0.24	
78-87-5	1,2-Dichloropropane	ND	1.5	ND	0.33	
75-27-4	Bromodichloromethane	ND	1.5	ND	0.23	
79-01-6	Trichloroethene	ND	1.5	ND	0.28	
123-91-1	1,4-Dioxane	ND	1.5	ND	0.42	
10061-01-5	cis-1,3-Dichloropropene	ND	1.5	ND	0.34	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	1.5	ND	0.34	
79-00-5	1,1,2-Trichloroethane	ND	1.5	ND	0.28	
108-88-3	Toluene	18	1.5	4.9	0.41	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	1.5	ND	0.18	
106-93-4	1,2-Dibromoethane	ND	1.5	ND	0.20	
123-86-4	n-Butyl Acetate	ND	1.5	ND	0.32	
127-18-4	Tetrachloroethene	ND	1.5	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-4  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-012

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitou  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00706

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

Pi 1 = -2.8      Pf 1 = 3.5

Can D.F. = 1.53

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	1.5	ND	0.33	
100-41-4	Ethylbenzene	1.8	1.5	0.41	0.35	
179601-23-1	<i>m,p</i> -Xylenes	6.5	1.5	1.5	0.35	
75-25-2	Bromoform	ND	1.5	ND	0.15	
100-42-5	Styrene	ND	1.5	ND	0.36	
95-47-6	<i>o</i> -Xylene	2.3	1.5	0.53	0.35	
111-84-2	<i>n</i> -Nonane	1.9	1.5	0.36	0.29	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.5	ND	0.22	
98-82-8	Cumene	ND	1.5	ND	0.31	
80-56-8	alpha-Pinene	2.1	1.5	0.37	0.27	
622-96-8	4-Ethyltoluene	ND	1.5	ND	0.31	
108-67-8	1,3,5-Trimethylbenzene	ND	1.5	ND	0.31	
95-63-6	1,2,4-Trimethylbenzene	ND	1.5	ND	0.31	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	1.5	ND	0.25	
106-46-7	1,4-Dichlorobenzene	ND	1.5	ND	0.25	
95-50-1	1,2-Dichlorobenzene	ND	1.5	ND	0.25	
5989-27-5	<i>d</i> -Limonene	ND	1.5	ND	0.27	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.5	ND	0.16	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	1.5	ND	0.29	
87-68-3	Hexachlorobutadiene	ND	1.5	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-6  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-013

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00606

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/5/07  
**Volume(s) Analyzed:** 0.050 Liter(s)

Pi 1 = -2.3      Pf 1 = 3.5

Can D.F. = 1.47

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	29	ND	5.9	
74-87-3	Chloromethane	ND	29	ND	14	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	29	ND	4.2	
75-01-4	Vinyl Chloride	ND	29	ND	12	
106-99-0	1,3-Butadiene	ND	29	ND	13	
74-83-9	Bromomethane	ND	29	ND	7.6	
75-00-3	Chloroethane	ND	29	ND	11	
64-17-5	Ethanol	ND	150	ND	78	
75-05-8	Acetonitrile	ND	29	ND	18	
107-02-8	Acrolein	ND	29	ND	13	
67-64-1	Acetone	ND	150	ND	62	
75-69-4	Trichlorofluoromethane	ND	29	ND	5.2	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	29	ND	12	
107-13-1	Acrylonitrile	ND	29	ND	14	
75-35-4	1,1-Dichloroethene	ND	29	ND	7.4	
75-09-2	Methylene chloride	ND	29	ND	8.5	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	29	ND	9.4	
76-13-1	Trichlorotrifluoroethane	2,600	29	340	3.8	
75-15-0	Carbon Disulfide	ND	29	ND	9.4	
156-60-5	trans-1,2-Dichloroethene	ND	29	ND	7.4	
75-34-3	1,1-Dichloroethane	ND	29	ND	7.3	
1634-04-4	Methyl tert-Butyl Ether	ND	29	ND	8.2	
108-05-4	Vinyl Acetate	ND	29	ND	8.4	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-6  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-013

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00606

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/5/07  
**Volume(s) Analyzed:** 0.050 Liter(s)

Pi 1 = -2.3      Pf 1 = 3.5

Can D.F. = 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	29	ND	10	
156-59-2	cis-1,2-Dichloroethene	ND	29	ND	7.4	
110-54-3	n-Hexane	ND	29	ND	8.3	
67-66-3	Chloroform	ND	29	ND	6.0	
107-06-2	1,2-Dichloroethane	ND	29	ND	7.3	
71-55-6	1,1,1-Trichloroethane	130	29	25	5.4	
71-43-2	Benzene	ND	29	ND	9.2	
56-23-5	Carbon Tetrachloride	ND	29	ND	4.7	
78-87-5	1,2-Dichloropropane	ND	29	ND	6.4	
75-27-4	Bromodichloromethane	ND	29	ND	4.4	
79-01-6	Trichloroethene	460	29	86	5.5	
123-91-1	1,4-Dioxane	ND	29	ND	8.2	
10061-01-5	cis-1,3-Dichloropropene	ND	29	ND	6.5	
108-10-1	4-Methyl-2-pentanone	ND	29	ND	7.2	
10061-02-6	trans-1,3-Dichloropropene	ND	29	ND	6.5	
79-00-5	1,1,2-Trichloroethane	ND	29	ND	5.4	
108-88-3	Toluene	ND	29	ND	7.8	
591-78-6	2-Hexanone	ND	29	ND	7.2	
124-48-1	Dibromochloromethane	ND	29	ND	3.5	
106-93-4	1,2-Dibromoethane	ND	29	ND	3.8	
123-86-4	n-Butyl Acetate	ND	29	ND	6.2	
127-18-4	Tetrachloroethene	38	29	5.6	4.3	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** SG-6  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P2700781-013

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**  
**Container ID:** SC00606

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date(s) Analyzed:** 4/5/07  
**Volume(s) Analyzed:** 0.050 Liter(s)

Pi 1 = -2.3      Pf 1 = 3.5

Can D.F. = 1.47

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	29	ND	6.4	
100-41-4	Ethylbenzene	ND	29	ND	6.8	
179601-23-1	<i>m,p</i> -Xylenes	ND	29	ND	6.8	
75-25-2	Bromoform	ND	29	ND	2.8	
100-42-5	Styrene	ND	29	ND	6.9	
95-47-6	<i>o</i> -Xylene	ND	29	ND	6.8	
111-84-2	<i>n</i> -Nonane	ND	29	ND	5.6	
79-34-5	1,1,2,2-Tetrachloroethane	ND	29	ND	4.3	
98-82-8	Cumene	ND	29	ND	6.0	
80-56-8	alpha-Pinene	ND	29	ND	5.3	
622-96-8	4-Ethyltoluene	ND	29	ND	6.0	
108-67-8	1,3,5-Trimethylbenzene	ND	29	ND	6.0	
95-63-6	1,2,4-Trimethylbenzene	ND	29	ND	6.0	
100-44-7	Benzyl Chloride	ND	29	ND	5.7	
541-73-1	1,3-Dichlorobenzene	ND	29	ND	4.9	
106-46-7	1,4-Dichlorobenzene	ND	29	ND	4.9	
95-50-1	1,2-Dichlorobenzene	ND	29	ND	4.9	
5989-27-5	<i>d</i> -Limonene	ND	29	ND	5.3	
96-12-8	1,2-Dibromo-3-chloropropane	ND	29	ND	3.0	
120-82-1	1,2,4-Trichlorobenzene	ND	29	ND	4.0	
91-20-3	Naphthalene	ND	29	ND	5.6	
87-68-3	Hexachlorobutadiene	ND	29	ND	2.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070330-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 3/30/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	0.50	ND	0.22	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	0.50	ND	0.20	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	0.50	ND	0.16	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	1.0	ND	0.28	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070330-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 3/30/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	0.50	ND	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070330-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 3/30/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	<i>m,p</i> -Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	<i>o</i> -Xylene	ND	0.50	ND	0.12	
111-84-2	<i>n</i> -Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070402-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	0.50	ND	0.22	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	0.50	ND	0.20	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	0.50	ND	0.16	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	1.0	ND	0.28	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070402-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 4/2/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	0.50	ND	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070402-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Analyst: Chris Parnell  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date(s) Analyzed: 4/2/07  
 Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	<i>m,p</i> -Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	<i>o</i> -Xylene	ND	0.50	ND	0.12	
111-84-2	<i>n</i> -Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070404-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date(s) Analyzed: 4/4/07  
 Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	0.50	ND	0.22	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	0.50	ND	0.20	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	0.50	ND	0.16	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	1.0	ND	0.28	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070404-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 4/4/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	0.50	ND	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070404-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 4/4/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	<i>m,p</i> -Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	<i>o</i> -Xylene	ND	0.50	ND	0.12	
111-84-2	<i>n</i> -Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	<i>d</i> -Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date(s) Analyzed: 4/5/07  
 Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	0.50	ND	0.22	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	0.50	ND	0.20	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	0.50	ND	0.16	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	1.0	ND	0.28	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date(s) Analyzed: 4/5/07  
 Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	0.50	ND	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 4/5/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	<i>m,p</i> -Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	<i>o</i> -Xylene	ND	0.50	ND	0.12	
111-84-2	<i>n</i> -Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 4/5/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	1.0	ND	0.20	
74-87-3	Chloromethane	ND	1.0	ND	0.48	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.0	ND	0.14	
75-01-4	Vinyl Chloride	ND	1.0	ND	0.39	
106-99-0	1,3-Butadiene	ND	1.0	ND	0.45	
74-83-9	Bromomethane	ND	1.0	ND	0.26	
75-00-3	Chloroethane	ND	1.0	ND	0.38	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	1.0	ND	0.60	
107-02-8	Acrolein	ND	1.0	ND	0.44	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	1.0	ND	0.18	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	1.0	ND	0.25	
75-09-2	Methylene chloride	ND	1.0	ND	0.29	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.0	ND	0.32	
76-13-1	Trichlorotrifluoroethane	ND	1.0	ND	0.13	
75-15-0	Carbon Disulfide	ND	1.0	ND	0.32	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ND	0.25	
75-34-3	1,1-Dichloroethane	ND	1.0	ND	0.25	
1634-04-4	Methyl tert-Butyl Ether	ND	1.0	ND	0.28	
108-05-4	Vinyl Acetate	ND	1.0	ND	0.28	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date(s) Analyzed:** 4/5/07  
**Volume(s) Analyzed:** 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ND	0.25	
110-54-3	n-Hexane	ND	1.0	ND	0.28	
67-66-3	Chloroform	ND	1.0	ND	0.20	
107-06-2	1,2-Dichloroethane	ND	1.0	ND	0.25	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ND	0.18	
71-43-2	Benzene	ND	1.0	ND	0.31	
56-23-5	Carbon Tetrachloride	ND	1.0	ND	0.16	
78-87-5	1,2-Dichloropropane	ND	1.0	ND	0.22	
75-27-4	Bromodichloromethane	ND	1.0	ND	0.15	
79-01-6	Trichloroethene	ND	1.0	ND	0.19	
123-91-1	1,4-Dioxane	ND	1.0	ND	0.28	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ND	0.22	
108-10-1	4-Methyl-2-pentanone	ND	1.0	ND	0.24	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ND	0.22	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ND	0.18	
108-88-3	Toluene	ND	1.0	ND	0.27	
591-78-6	2-Hexanone	ND	1.0	ND	0.24	
124-48-1	Dibromochloromethane	ND	1.0	ND	0.12	
106-93-4	1,2-Dibromoethane	ND	1.0	ND	0.13	
123-86-4	n-Butyl Acetate	ND	1.0	ND	0.21	
127-18-4	Tetrachloroethene	ND	1.0	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Method Blank  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date(s) Analyzed: 4/5/07  
 Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	Data Qualifier
108-90-7	Chlorobenzene	ND	1.0	ND	0.22	
100-41-4	Ethylbenzene	ND	1.0	ND	0.23	
179601-23-1	<i>m,p</i> -Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	1.0	ND	0.097	
100-42-5	Styrene	ND	1.0	ND	0.23	
95-47-6	<i>o</i> -Xylene	ND	1.0	ND	0.23	
111-84-2	<i>n</i> -Nonane	ND	1.0	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ND	0.15	
98-82-8	Cumene	ND	1.0	ND	0.20	
80-56-8	alpha-Pinene	ND	1.0	ND	0.18	
622-96-8	4-Ethyltoluene	ND	1.0	ND	0.20	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ND	0.20	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ND	0.20	
100-44-7	Benzyl Chloride	ND	1.0	ND	0.19	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ND	0.17	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ND	0.17	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ND	0.17	
5989-27-5	d-Limonene	ND	1.0	ND	0.18	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	ND	0.10	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ND	0.13	
91-20-3	Naphthalene	ND	1.0	ND	0.19	
87-68-3	Hexachlorobutadiene	ND	1.0	ND	0.094	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 1

**Client:** ARCADIS U.S., Inc.  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781

**Surrogate Spike Recovery Results**

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
 Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell/Liliana Marghitou  
**Sampling Media:** Summa Canister(s)  
**Test Notes:**

**Date Collected:** 3/15/07  
**Date Received:** 3/21/07  
**Date Analyzed:** 3/30 - 4/5/07

Client Sample ID	CAS Sample ID	1,2-Dichloroethane-d4		Toluene-d8		Bromofluorobenzene		Data Qualifier
		% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	
Method Blank	P070330-MB	93	70-130	99	70-130	107	70-130	
Method Blank	P070402-MB	93	70-130	99	70-130	111	70-130	
Method Blank	P070404-MB	95	70-130	100	70-130	102	70-130	
Method Blank	P070405-MB	102	70-130	98	70-130	99	70-130	
Method Blank	P070405-MB	96	70-130	97	70-130	102	70-130	
Lab Control Sample	P070330-LCS	94	70-130	100	70-130	107	70-130	
Lab Control Sample	P070402-LCS	92	70-130	100	70-130	111	70-130	
Lab Control Sample	P070404-LCS	96	70-130	101	70-130	103	70-130	
Lab Control Sample	P070405-LCS	99	70-130	100	70-130	103	70-130	
Lab Control Sample	P070405-LCS	102	70-130	96	70-130	102	70-130	
SS-1	P2700781-001	99	70-130	99	70-130	101	70-130	
SS-2	P2700781-002	102	70-130	97	70-130	99	70-130	
SS-3	P2700781-003	91	70-130	98	70-130	112	70-130	
SS-4	P2700781-004	89	70-130	93	70-130	107	70-130	
AA-1	P2700781-005	94	70-130	99	70-130	105	70-130	
AA-1	P2700781-005DUP	93	70-130	99	70-130	105	70-130	
IA-1	P2700781-006	96	70-130	96	70-130	101	70-130	
IA-2	P2700781-007	96	70-130	97	70-130	103	70-130	
IA-3	P2700781-008	94	70-130	94	70-130	111	70-130	
IA-4	P2700781-009	94	70-130	95	70-130	111	70-130	
SG-1	P2700781-010	88	70-130	97	70-130	112	70-130	
SG-2	P2700781-011	94	70-130	94	70-130	110	70-130	
SG-4	P2700781-012	89	70-130	95	70-130	109	70-130	
SG-6	P2700781-013	102	70-130	97	70-130	101	70-130	

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070330-LCS

**Laboratory Control Sample (LCS) Summary**

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 3/30/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	25.5	22.7	89	68-124	
74-87-3	Chloromethane	24.3	22.1	91	65-120	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	25.5	26.9	105	47-130	
75-01-4	Vinyl Chloride	24.8	24.9	100	67-127	
106-99-0	1,3-Butadiene	26.0	24.8	95	65-118	
74-83-9	Bromomethane	25.0	20.0	80	65-134	
75-00-3	Chloroethane	25.0	27.3	109	71-121	
64-17-5	Ethanol	22.3	24.9	112	66-133	
75-05-8	Acetonitrile	23.3	25.3	109	64-124	
107-02-8	Acrolein	23.3	25.2	108	61-121	
67-64-1	Acetone	26.5	23.9	90	62-113	
75-69-4	Trichlorofluoromethane	24.3	25.9	107	68-130	
67-63-0	2-Propanol (Isopropyl Alcohol)	24.5	24.9	102	72-119	
107-13-1	Acrylonitrile	25.5	30.2	118	71-129	
75-35-4	1,1-Dichloroethene	27.3	31.5	115	74-126	
75-09-2	Methylene chloride	26.8	26.1	97	68-120	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	26.0	27.8	107	61-128	
76-13-1	Trichlorotrifluoroethane	27.0	27.4	101	68-127	
75-15-0	Carbon Disulfide	25.0	27.1	108	69-126	
156-60-5	trans-1,2-Dichloroethene	26.3	30.1	114	76-124	
75-34-3	1,1-Dichloroethane	26.3	26.7	102	75-120	
1634-04-4	Methyl tert-Butyl Ether	26.3	24.6	94	68-123	
108-05-4	Vinyl Acetate	24.3	25.0	103	56-139	

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070330-LCS

0  
0

**Laboratory Control Sample (LCS) Summary**

0

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 3/30/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
78-93-3	2-Butanone (MEK)	26.8	27.6	103	74-126	
156-59-2	cis-1,2-Dichloroethene	26.5	29.5	111	77-122	
110-54-3	n-Hexane	26.8	25.4	95	72-119	
67-66-3	Chloroform	30.0	30.4	101	75-119	
107-06-2	1,2-Dichloroethane	26.0	27.9	107	74-125	
71-55-6	1,1,1-Trichloroethane	26.3	25.0	95	75-129	
71-43-2	Benzene	26.3	27.0	103	69-118	
56-23-5	Carbon Tetrachloride	25.8	26.9	104	72-139	
78-87-5	1,2-Dichloropropane	26.0	27.5	106	75-122	
75-27-4	Bromodichloromethane	27.5	30.0	109	79-125	
79-01-6	Trichloroethene	27.3	31.3	115	74-123	
123-91-1	1,4-Dioxane	27.3	32.3	118	80-128	
10061-01-5	cis-1,3-Dichloropropene	26.0	28.8	111	81-126	
108-10-1	4-Methyl-2-pentanone	26.5	29.4	111	78-132	
10061-02-6	trans-1,3-Dichloropropene	27.8	30.8	111	80-130	
79-00-5	1,1,2-Trichloroethane	25.8	28.5	110	76-123	
108-88-3	Toluene	26.0	25.7	99	74-124	
591-78-6	2-Hexanone	26.0	30.5	117	77-140	
124-48-1	Dibromochloromethane	26.5	30.2	114	81-139	
106-93-4	1,2-Dibromoethane	26.0	29.6	114	77-133	
123-86-4	n-Butyl Acetate	25.0	30.6	122	71-146	
127-18-4	Tetrachloroethene	25.8	26.5	103	71-135	

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070330-LCS

**Laboratory Control Sample (LCS) Summary**

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 3/30/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
108-90-7	Chlorobenzene	26.0	26.7	103	76-126	
100-41-4	Ethylbenzene	25.8	29.9	116	77-127	
179601-23-1	m,p-Xylenes	61.5	71.6	116	77-128	
75-25-2	Bromoform	31.3	35.8	114	77-143	
100-42-5	Styrene	25.8	34.2	133	71-139	
95-47-6	o-Xylene	29.0	34.3	118	76-128	
111-84-2	n-Nonane	25.0	28.3	113	73-131	
79-34-5	1,1,2,2-Tetrachloroethane	29.3	29.7	101	79-130	
98-82-8	Cumene	26.0	30.1	116	77-128	
80-56-8	alpha-Pinene	25.3	26.6	105	66-140	
622-96-8	4-Ethyltoluene	26.3	30.9	117	74-132	
108-67-8	1,3,5-Trimethylbenzene	25.5	30.5	120	72-134	
95-63-6	1,2,4-Trimethylbenzene	26.0	31.2	120	74-134	
100-44-7	Benzyl Chloride	25.5	32.0	125	72-174	
541-73-1	1,3-Dichlorobenzene	25.3	29.7	117	73-137	
106-46-7	1,4-Dichlorobenzene	26.0	30.4	117	71-136	
95-50-1	1,2-Dichlorobenzene	25.5	30.2	118	70-140	
5989-27-5	d-Limonene	25.3	32.2	127	20-202	
96-12-8	1,2-Dibromo-3-chloropropane	24.8	32.2	130	77-157	
120-82-1	1,2,4-Trichlorobenzene	26.8	36.8	137	68-154	
91-20-3	Naphthalene	26.0	37.0	142	63-160	
87-68-3	Hexachlorobutadiene	26.5	32.3	122	61-147	

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070402-LCS

**Laboratory Control Sample (LCS) Summary**

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 4/2/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	25.5	22.5	88	68-124	
74-87-3	Chloromethane	24.3	23.2	95	65-120	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	25.5	26.3	103	47-130	
75-01-4	Vinyl Chloride	24.8	24.6	99	67-127	
106-99-0	1,3-Butadiene	26.0	26.9	103	65-118	
74-83-9	Bromomethane	25.0	19.9	80	65-134	
75-00-3	Chloroethane	25.0	25.0	100	71-121	
64-17-5	Ethanol	22.3	23.9	107	66-133	
75-05-8	Acetonitrile	23.3	22.7	97	64-124	
107-02-8	Acrolein	23.3	24.7	106	61-121	
67-64-1	Acetone	26.5	23.5	89	62-113	
75-69-4	Trichlorofluoromethane	24.3	24.2	100	68-130	
67-63-0	2-Propanol (Isopropyl Alcohol)	24.5	25.1	102	72-119	
107-13-1	Acrylonitrile	25.5	27.6	108	71-129	
75-35-4	1,1-Dichloroethene	27.3	27.8	102	74-126	
75-09-2	Methylene chloride	26.8	23.2	87	68-120	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	26.0	26.3	101	61-128	
76-13-1	Trichlorotrifluoroethane	27.0	27.9	103	68-127	
75-15-0	Carbon Disulfide	25.0	24.8	99	69-126	
156-60-5	trans-1,2-Dichloroethene	26.3	26.7	102	76-124	
75-34-3	1,1-Dichloroethane	26.3	24.8	94	75-120	
1634-04-4	Methyl tert-Butyl Ether	26.3	26.0	99	68-123	
108-05-4	Vinyl Acetate	24.3	27.3	112	56-139	

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070402-LCS

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**Laboratory Control Sample (LCS) Summary**

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**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 4/2/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
78-93-3	2-Butanone (MEK)	26.8	28.6	107	74-126	
156-59-2	cis-1,2-Dichloroethene	26.5	26.0	98	77-122	
110-54-3	n-Hexane	26.8	25.1	94	72-119	
67-66-3	Chloroform	30.0	28.2	94	75-119	
107-06-2	1,2-Dichloroethane	26.0	25.3	97	74-125	
71-55-6	1,1,1-Trichloroethane	26.3	26.4	100	75-129	
71-43-2	Benzene	26.3	25.8	98	69-118	
56-23-5	Carbon Tetrachloride	25.8	28.4	110	72-139	
78-87-5	1,2-Dichloropropane	26.0	26.8	103	75-122	
75-27-4	Bromodichloromethane	27.5	29.1	106	79-125	
79-01-6	Trichloroethene	27.3	28.8	105	74-123	
123-91-1	1,4-Dioxane	27.3	31.0	114	80-128	
10061-01-5	cis-1,3-Dichloropropene	26.0	29.0	112	81-126	
108-10-1	4-Methyl-2-pentanone	26.5	29.8	112	78-132	
10061-02-6	trans-1,3-Dichloropropene	27.8	31.7	114	80-130	
79-00-5	1,1,2-Trichloroethane	25.8	27.9	108	76-123	
108-88-3	Toluene	26.0	26.0	100	74-124	
591-78-6	2-Hexanone	26.0	31.1	120	77-140	
124-48-1	Dibromochloromethane	26.5	30.5	115	81-139	
106-93-4	1,2-Dibromoethane	26.0	29.2	112	77-133	
123-86-4	n-Butyl Acetate	25.0	30.9	124	71-146	
127-18-4	Tetrachloroethene	25.8	26.9	104	71-135	

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070402-LCS

**Laboratory Control Sample (LCS) Summary**

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Chris Parnell  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 4/2/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
108-90-7	Chlorobenzene	26.0	26.6	102	76-126	
100-41-4	Ethylbenzene	25.8	26.6	103	77-127	
179601-23-1	m,p-Xylenes	61.5	64.2	104	77-128	
75-25-2	Bromoform	31.3	37.7	120	77-143	
100-42-5	Styrene	25.8	30.4	118	71-139	
95-47-6	o-Xylene	29.0	30.7	106	76-128	
111-84-2	n-Nonane	25.0	25.0	100	73-131	
79-34-5	1,1,2,2-Tetrachloroethane	29.3	31.5	108	79-130	
98-82-8	Cumene	26.0	26.9	103	77-128	
80-56-8	alpha-Pinene	25.3	27.9	110	66-140	
622-96-8	4-Ethyltoluene	26.3	27.7	105	74-132	
108-67-8	1,3,5-Trimethylbenzene	25.5	27.3	107	72-134	
95-63-6	1,2,4-Trimethylbenzene	26.0	28.0	108	74-134	
100-44-7	Benzyl Chloride	25.5	32.1	126	72-174	
541-73-1	1,3-Dichlorobenzene	25.3	26.7	106	73-137	
106-46-7	1,4-Dichlorobenzene	26.0	27.3	105	71-136	
95-50-1	1,2-Dichlorobenzene	25.5	27.2	107	70-140	
5989-27-5	d-Limonene	25.3	29.9	118	20-202	
96-12-8	1,2-Dibromo-3-chloropropane	24.8	30.4	123	77-157	
120-82-1	1,2,4-Trichlorobenzene	26.8	32.5	121	68-154	
91-20-3	Naphthalene	26.0	33.5	129	63-160	
87-68-3	Hexachlorobutadiene	26.5	29.1	110	61-147	

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070404-LCS

**Laboratory Control Sample (LCS) Summary**

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 4/4/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	25.5	21.7	85	68-124	
74-87-3	Chloromethane	24.3	22.5	93	65-120	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	25.5	24.2	95	47-130	
75-01-4	Vinyl Chloride	24.8	23.7	96	67-127	
106-99-0	1,3-Butadiene	26.0	27.2	105	65-118	
74-83-9	Bromomethane	25.0	20.7	83	65-134	
75-00-3	Chloroethane	25.0	24.3	97	71-121	
64-17-5	Ethanol	22.3	23.2	104	66-133	
75-05-8	Acetonitrile	23.3	22.6	97	64-124	
107-02-8	Acrolein	23.3	25.4	109	61-121	
67-64-1	Acetone	26.5	22.6	85	62-113	
75-69-4	Trichlorofluoromethane	24.3	22.9	94	68-130	
67-63-0	2-Propanol (Isopropyl Alcohol)	24.5	22.3	91	72-119	
107-13-1	Acrylonitrile	25.5	27.9	109	71-129	
75-35-4	1,1-Dichloroethene	27.3	27.0	99	74-126	
75-09-2	Methylene chloride	26.8	23.3	87	68-120	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	26.0	26.3	101	61-128	
76-13-1	Trichlorotrifluoroethane	27.0	26.4	98	68-127	
75-15-0	Carbon Disulfide	25.0	24.0	96	69-126	
156-60-5	trans-1,2-Dichloroethene	26.3	26.2	100	76-124	
75-34-3	1,1-Dichloroethane	26.3	24.4	93	75-120	
1634-04-4	Methyl tert-Butyl Ether	26.3	25.2	96	68-123	
108-05-4	Vinyl Acetate	24.3	26.5	109	56-139	

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070404-LCS

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**Laboratory Control Sample (LCS) Summary**

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**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 4/4/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
78-93-3	2-Butanone (MEK)	26.8	28.1	105	74-126	
156-59-2	cis-1,2-Dichloroethene	26.5	25.9	98	77-122	
110-54-3	n-Hexane	26.8	24.9	93	72-119	
67-66-3	Chloroform	30.0	27.1	90	75-119	
107-06-2	1,2-Dichloroethane	26.0	24.6	95	74-125	
71-55-6	1,1,1-Trichloroethane	26.3	25.6	97	75-129	
71-43-2	Benzene	26.3	25.2	96	69-118	
56-23-5	Carbon Tetrachloride	25.8	27.6	107	72-139	
78-87-5	1,2-Dichloropropane	26.0	26.2	101	75-122	
75-27-4	Bromodichloromethane	27.5	28.0	102	79-125	
79-01-6	Trichloroethene	27.3	27.8	102	74-123	
123-91-1	1,4-Dioxane	27.3	31.8	116	80-128	
10061-01-5	cis-1,3-Dichloropropene	26.0	27.1	104	81-126	
108-10-1	4-Methyl-2-pentanone	26.5	29.6	112	78-132	
10061-02-6	trans-1,3-Dichloropropene	27.8	30.4	109	80-130	
79-00-5	1,1,2-Trichloroethane	25.8	27.1	105	76-123	
108-88-3	Toluene	26.0	24.6	95	74-124	
591-78-6	2-Hexanone	26.0	30.1	116	77-140	
124-48-1	Dibromochloromethane	26.5	29.4	111	81-139	
106-93-4	1,2-Dibromoethane	26.0	28.7	110	77-133	
123-86-4	n-Butyl Acetate	25.0	30.3	121	71-146	
127-18-4	Tetrachloroethene	25.8	26.5	103	71-135	

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070404-LCS

**Laboratory Control Sample (LCS) Summary**

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 4/4/07  
 Volume(s) Analyzed: NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
108-90-7	Chlorobenzene	26.0	25.1	97	76-126	
100-41-4	Ethylbenzene	25.8	26.3	102	77-127	
179601-23-1	m,p-Xylenes	61.5	63.6	103	77-128	
75-25-2	Bromoform	31.3	36.5	117	77-143	
100-42-5	Styrene	25.8	30.6	119	71-139	
95-47-6	o-Xylene	29.0	30.1	104	76-128	
111-84-2	n-Nonane	25.0	25.7	103	73-131	
79-34-5	1,1,2,2-Tetrachloroethane	29.3	30.8	105	79-130	
98-82-8	Cumene	26.0	26.3	101	77-128	
80-56-8	alpha-Pinene	25.3	28.8	114	66-140	
622-96-8	4-Ethyltoluene	26.3	27.1	103	74-132	
108-67-8	1,3,5-Trimethylbenzene	25.5	26.8	105	72-134	
95-63-6	1,2,4-Trimethylbenzene	26.0	27.5	106	74-134	
100-44-7	Benzyl Chloride	25.5	32.0	125	72-174	
541-73-1	1,3-Dichlorobenzene	25.3	25.6	101	73-137	
106-46-7	1,4-Dichlorobenzene	26.0	26.5	102	71-136	
95-50-1	1,2-Dichlorobenzene	25.5	25.7	101	70-140	
5989-27-5	d-Limonene	25.3	34.1	135	20-202	
96-12-8	1,2-Dibromo-3-chloropropane	24.8	28.2	114	77-157	
120-82-1	1,2,4-Trichlorobenzene	26.8	27.9	104	68-154	
91-20-3	Naphthalene	26.0	27.7	107	63-160	
87-68-3	Hexachlorobutadiene	26.5	26.4	100	61-147	

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-LCS

**Laboratory Control Sample (LCS) Summary**

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 4/5/07  
 Volume(s) Analyzed: NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	25.5	22.1	87	68-124	
74-87-3	Chloromethane	24.3	22.8	94	65-120	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	25.5	24.2	95	47-130	
75-01-4	Vinyl Chloride	24.8	24.4	98	67-127	
106-99-0	1,3-Butadiene	26.0	27.2	105	65-118	
74-83-9	Bromomethane	25.0	20.3	81	65-134	
75-00-3	Chloroethane	25.0	23.8	95	71-121	
64-17-5	Ethanol	22.3	22.9	103	66-133	
75-05-8	Acetonitrile	23.3	22.7	97	64-124	
107-02-8	Acrolein	23.3	25.0	107	61-121	
67-64-1	Acetone	26.5	22.2	84	62-113	
75-69-4	Trichlorofluoromethane	24.3	23.0	95	68-130	
67-63-0	2-Propanol (Isopropyl Alcohol)	24.5	22.3	91	72-119	
107-13-1	Acrylonitrile	25.5	28.0	110	71-129	
75-35-4	1,1-Dichloroethene	27.3	27.0	99	74-126	
75-09-2	Methylene chloride	26.8	23.2	87	68-120	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	26.0	25.8	99	61-128	
76-13-1	Trichlorotrifluoroethane	27.0	25.8	96	68-127	
75-15-0	Carbon Disulfide	25.0	23.9	96	69-126	
156-60-5	trans-1,2-Dichloroethene	26.3	26.1	99	76-124	
75-34-3	1,1-Dichloroethane	26.3	24.6	94	75-120	
1634-04-4	Methyl tert-Butyl Ether	26.3	24.9	95	68-123	
108-05-4	Vinyl Acetate	24.3	25.4	105	56-139	

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-LCS

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**Laboratory Control Sample (LCS) Summary**

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**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 4/5/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
78-93-3	2-Butanone (MEK)	26.8	27.8	104	74-126	
156-59-2	cis-1,2-Dichloroethene	26.5	26.1	98	77-122	
110-54-3	n-Hexane	26.8	24.9	93	72-119	
67-66-3	Chloroform	30.0	27.2	91	75-119	
107-06-2	1,2-Dichloroethane	26.0	25.0	96	74-125	
71-55-6	1,1,1-Trichloroethane	26.3	25.3	96	75-129	
71-43-2	Benzene	26.3	24.8	94	69-118	
56-23-5	Carbon Tetrachloride	25.8	27.3	106	72-139	
78-87-5	1,2-Dichloropropane	26.0	25.7	99	75-122	
75-27-4	Bromodichloromethane	27.5	28.0	102	79-125	
79-01-6	Trichloroethene	27.3	27.4	100	74-123	
123-91-1	1,4-Dioxane	27.3	30.7	112	80-128	
10061-01-5	cis-1,3-Dichloropropene	26.0	26.4	102	81-126	
108-10-1	4-Methyl-2-pentanone	26.5	29.3	111	78-132	
10061-02-6	trans-1,3-Dichloropropene	27.8	29.2	105	80-130	
79-00-5	1,1,2-Trichloroethane	25.8	26.5	103	76-123	
108-88-3	Toluene	26.0	23.7	91	74-124	
591-78-6	2-Hexanone	26.0	29.0	112	77-140	
124-48-1	Dibromochloromethane	26.5	28.0	106	81-139	
106-93-4	1,2-Dibromoethane	26.0	27.0	104	77-133	
123-86-4	n-Butyl Acetate	25.0	29.3	117	71-146	
127-18-4	Tetrachloroethene	25.8	24.9	97	71-135	

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-LCS

**Laboratory Control Sample (LCS) Summary**

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9  
**Analyst:** Liliana Marghitoiu  
**Sampling Media:** Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 4/5/07  
**Volume(s) Analyzed:** NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
108-90-7	Chlorobenzene	26.0	24.1	93	76-126	
100-41-4	Ethylbenzene	25.8	25.3	98	77-127	
179601-23-1	m,p-Xylenes	61.5	61.6	100	77-128	
75-25-2	Bromoform	31.3	34.2	109	77-143	
100-42-5	Styrene	25.8	29.1	113	71-139	
95-47-6	o-Xylene	29.0	29.3	101	76-128	
111-84-2	n-Nonane	25.0	25.2	101	73-131	
79-34-5	1,1,2,2-Tetrachloroethane	29.3	29.8	102	79-130	
98-82-8	Cumene	26.0	25.2	97	77-128	
80-56-8	alpha-Pinene	25.3	27.5	109	66-140	
622-96-8	4-Ethyltoluene	26.3	26.0	99	74-132	
108-67-8	1,3,5-Trimethylbenzene	25.5	25.9	102	72-134	
95-63-6	1,2,4-Trimethylbenzene	26.0	26.7	103	74-134	
100-44-7	Benzyl Chloride	25.5	29.4	115	72-174	
541-73-1	1,3-Dichlorobenzene	25.3	24.5	97	73-137	
106-46-7	1,4-Dichlorobenzene	26.0	25.4	98	71-136	
95-50-1	1,2-Dichlorobenzene	25.5	24.5	96	70-140	
5989-27-5	d-Limonene	25.3	32.9	130	20-202	
96-12-8	1,2-Dibromo-3-chloropropane	24.8	26.2	106	77-157	
120-82-1	1,2,4-Trichlorobenzene	26.8	25.8	96	68-154	
91-20-3	Naphthalene	26.0	25.9	100	63-160	
87-68-3	Hexachlorobutadiene	26.5	25.0	94	61-147	

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-LCS

**Laboratory Control Sample (LCS) Summary**

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 4/5/07  
 Volume(s) Analyzed: NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	25.5	23.9	94	68-124	
74-87-3	Chloromethane	24.3	23.3	96	65-120	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	25.5	24.2	95	47-130	
75-01-4	Vinyl Chloride	24.8	25.0	101	67-127	
106-99-0	1,3-Butadiene	26.0	27.3	105	65-118	
74-83-9	Bromomethane	25.0	22.0	88	65-134	
75-00-3	Chloroethane	25.0	19.7	79	71-121	
64-17-5	Ethanol	22.3	20.7	93	66-133	
75-05-8	Acetonitrile	23.3	23.8	102	64-124	
107-02-8	Acrolein	23.3	22.9	98	61-121	
67-64-1	Acetone	26.5	21.7	82	62-113	
75-69-4	Trichlorofluoromethane	24.3	22.4	92	68-130	
67-63-0	2-Propanol (Isopropyl Alcohol)	24.5	21.8	89	72-119	
107-13-1	Acrylonitrile	25.5	25.2	99	71-129	
75-35-4	1,1-Dichloroethene	27.3	25.1	92	74-126	
75-09-2	Methylene chloride	26.8	23.2	87	68-120	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	26.0	26.0	100	61-128	
76-13-1	Trichlorotrifluoroethane	27.0	24.4	90	68-127	
75-15-0	Carbon Disulfide	25.0	22.9	92	69-126	
156-60-5	trans-1,2-Dichloroethene	26.3	24.8	94	76-124	
75-34-3	1,1-Dichloroethane	26.3	25.4	97	75-120	
1634-04-4	Methyl tert-Butyl Ether	26.3	25.3	96	68-123	
108-05-4	Vinyl Acetate	24.3	26.1	107	56-139	

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-LCS

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**Laboratory Control Sample (LCS) Summary**

0  
 Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8  
 Analyst: Liliana Marghitoiu  
 Sampling Media: Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 4/5/07  
 Volume(s) Analyzed: NA Liter

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
78-93-3	2-Butanone (MEK)	26.8	24.7	92	74-126	
156-59-2	cis-1,2-Dichloroethene	26.5	25.2	95	77-122	
110-54-3	n-Hexane	26.8	25.3	94	72-119	
67-66-3	Chloroform	30.0	26.8	89	75-119	
107-06-2	1,2-Dichloroethane	26.0	25.2	97	74-125	
71-55-6	1,1,1-Trichloroethane	26.3	24.7	94	75-129	
71-43-2	Benzene	26.3	24.4	93	69-118	
56-23-5	Carbon Tetrachloride	25.8	23.5	91	72-139	
78-87-5	1,2-Dichloropropane	26.0	24.6	95	75-122	
75-27-4	Bromodichloromethane	27.5	25.5	93	79-125	
79-01-6	Trichloroethene	27.3	25.1	92	74-123	
123-91-1	1,4-Dioxane	27.3	26.3	96	80-128	
10061-01-5	cis-1,3-Dichloropropene	26.0	23.9	92	81-126	
108-10-1	4-Methyl-2-pentanone	26.5	27.3	103	78-132	
10061-02-6	trans-1,3-Dichloropropene	27.8	26.9	97	80-130	
79-00-5	1,1,2-Trichloroethane	25.8	24.7	96	76-123	
108-88-3	Toluene	26.0	23.1	89	74-124	
591-78-6	2-Hexanone	26.0	24.9	96	77-140	
124-48-1	Dibromochloromethane	26.5	24.3	92	81-139	
106-93-4	1,2-Dibromoethane	26.0	23.9	92	77-133	
123-86-4	n-Butyl Acetate	25.0	25.1	100	71-146	
127-18-4	Tetrachloroethene	25.8	22.8	88	71-135	

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

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**Client:** ARCADIS U.S., Inc.  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Binghamton Dover/NJ000579.0001

CAS Project ID: P2700781  
 CAS Sample ID: P070405-LCS

**Laboratory Control Sample (LCS) Summary**

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8	Date Received:	NA
Analyst:	Liliana Marghitoiu	Date Analyzed:	4/5/07
Sampling Media:	Summa Canister	Volume(s) Analyzed:	NA Liter
Test Notes:			

CAS #	Compound	Amount Spiked ng	Amount Recovered ng	% Recovery	CAS Acceptance Limits	Data Qualifier
108-90-7	Chlorobenzene	26.0	23.3	90	76-126	
100-41-4	Ethylbenzene	25.8	23.9	93	77-127	
179601-23-1	m,p-Xylenes	61.5	57.0	93	77-128	
75-25-2	Bromoform	31.3	28.6	91	77-143	
100-42-5	Styrene	25.8	24.7	96	71-139	
95-47-6	o-Xylene	29.0	27.1	93	76-128	
111-84-2	n-Nonane	25.0	23.6	94	73-131	
79-34-5	1,1,2,2-Tetrachloroethane	29.3	27.6	94	79-130	
98-82-8	Cumene	26.0	24.5	94	77-128	
80-56-8	alpha-Pinene	25.3	24.4	96	66-140	
622-96-8	4-Ethyltoluene	26.3	25.5	97	74-132	
108-67-8	1,3,5-Trimethylbenzene	25.5	24.9	98	72-134	
95-63-6	1,2,4-Trimethylbenzene	26.0	25.8	99	74-134	
100-44-7	Benzyl Chloride	25.5	26.5	104	72-174	
541-73-1	1,3-Dichlorobenzene	25.3	24.7	98	73-137	
106-46-7	1,4-Dichlorobenzene	26.0	25.5	98	71-136	
95-50-1	1,2-Dichlorobenzene	25.5	25.4	100	70-140	
5989-27-5	d-Limonene	25.3	27.3	108	20-202	
96-12-8	1,2-Dibromo-3-chloropropane	24.8	29.9	121	77-157	
120-82-1	1,2,4-Trichlorobenzene	26.8	33.0	123	68-154	
91-20-3	Naphthalene	26.0	33.3	128	63-160	
87-68-3	Hexachlorobutadiene	26.5	33.2	125	61-147	

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_



ARCADIS

**Appendix D**

Partial List of Chemicals Used in the  
Facility (Attachment B of this  
Appendix provided upon request)



**TABLE 1  
CHEMICAL INVENTORY**

DRAFT

**FORMER BINGHAMTON PLASTICS SITE  
BINGHAMTON, NEW YORK**

CAS No.	Chemical Name	Number of Products	Range of Percent by Weight	
			Minimum	Maximum
111-76-2	2-Butoxyethanol	32	38%	100%
NA	Resin Mixtures	32	13%	47%
13463-67-7	Titanium Dioxide	31	0%	45%
NA	Pigments	31	0%	24%
85-68-7	Butyl Benzyl Phthalate	31	<2%	<2%
112945-52-5	Silicon Dioxide (Amorphous Fumed Silica)	30	0%	8%
1333-86-4	Carbon Black	21	0%	10%
112-07-2	2-Butoxyethanol Acetate	20	0%	50%
112926-00-8	Silica, Amorphous	18	0%	23%
1330-20-7	Xylene	18	1%	75%
100-41-4	Ethylbenzene	18	1%	25%
64742-95-6	Solvent Naphtha (Petroleum), Light Arom.	16	10%	85%
108-65-6	2-Methoxy-1-Methylethyl Acetate (Methoxy Propyl Acetate)	16	5%	15%
108-90-7	Chlorobenzene	16	0.1%	1%
64742-94-5	Solvent Naphtha (Petroleum), Heavy Arom.	15	5%	15%
97-86-9	Isobutyl Methacrylate	15	0%	1%
1344-37-2	Lead Sulfochromate	10	0%	24%
12656-85-8	Lead Chromate/Molybdate	10	0%	21%
111-15-9	Ethoxyethyl Acetate	3	10%	100%
7727-43-7	Barium Sulfate	3	0%	45%
NA	Acrylic Resin	2	8%	25%
108-94-1	Cyclohexanone	2	1%	25%
NA	Vinyl Resin	2	8%	25%
9002-88-4	Polyethylene Wax	2	0%	20%
7440-50-8	Copper Compounds	2	5%	10%
7440-66-6	Zinc Compounds	2	<2%	<2%
67-63-0	Isopropyl Alcohol (Isopropanol, 2-Propanol)	1	100%	100%
230-991-7	Butylglycolate	1	95%	100%
28182-81-2	Polyisocyanate Polymer	1	75%	75%
64742-88-7	Petroleum Distillate	1	25%	39%
2807-30-9	2-Propoxyethanol	1	25%	30%
107-98-2	1-Methoxy-2-Propanol	1	20%	25%
7429-90-5	Aluminum Compounds	1	15%	20%
123-42-2	Diacetone alcohol	1	10%	15%
7439-96-5	Manganese Compounds	1	0%	5%
NA	Plasticizer	1	2%	5%
64-17-5	Ethanol	1	<2%	<2%
96-29-7	Methyl Ethyl Keoxime	1	<2%	<2%
822-06-0	Hexamethylene 1,6 Diisocyanate	1	0%	1%

Notes:

Number of Products - The number of products on the TeamWorld product list that contain the compound.

Range of Percent by Weight - The lowest and highest percent weight listed for each compound, based on the product MSDSs obtained as of July 17, 2006.

Terminator (Former Bingham Plastics)

Description	Item #	Size	On Hand	
Spl 97 So White	6669509703	QT		NAZDAR 856 663 7878
Spl 97 So White	6669509704	GL		NAZDAR 856 663 7879
Spl 97 So White	6669509704SPL	GL	6gal	NAZDAR 856 663 7880
Spl 97 Red 485c	6780959702	PT	1	NAZDAR 856 663 7881
Spl 97 Red 485c	6780959704	GL	2	NAZDAR 856 663 7882
Spl 97 485c Red	6793959702	PT	1	NAZDAR 856 663 7883
Spl 97 Like 9712 Medium Yellow	6793999702	PT		NAZDAR 856 663 7884
Spl 97 Like 9712 Medium Yellow	6793999704	GL	0.75	NAZDAR 856 663 7885
9710 Primrose Yellow	971003	QT	4	NAZDAR 856 663 7886
9711 Lemon Yellow	971103	QT	3	NAZDAR 856 663 7887
9712 Medium Yellow	971203	QT	3	NAZDAR 856 663 7888
9712 Medium Yellow	971204	GL	1.5	NAZDAR 856 663 7889
9713 Emerald Green	971303	QT		NAZDAR 856 663 7890
9718 Scarlet Red	971803	QT		NAZDAR 856 663 7891
9719 Fire Red	971903	QT	3	NAZDAR 856 663 7892
9720 Brilliant Orange	972003	QT	3	NAZDAR 856 663 7893
9721 Peacock Blue	972103	QT	4	NAZDAR 856 663 7894
9722 Ultra Blue	972203	QT	4	NAZDAR 856 663 7895
9724 Black	972404	GL	2	NAZDAR 856 663 7896
9727 Mixing/Overprint Clear	972703	QT	1	NAZDAR 856 663 7897
9758 Tinting White	975803	QT		NAZDAR 856 663 7898
9758 Tinting White	975804	GL		NAZDAR 856 663 7899
9759 Tinting Black	975903	QT		NAZDAR 856 663 7900
9759 Tinting Black	975904	GL	1	NAZDAR 856 663 7901
9760 Orange	976003	QT	3	NAZDAR 856 663 7902
9761 Yellow	976103	QT	3.5	NAZDAR 856 663 7903
9762 Warm Red	976203	QT	1	NAZDAR 856 663 7904
9763 Rubine Red	976303	QT	2	NAZDAR 856 663 7905
9764 Rhodamine Red	976403	QT	4	NAZDAR 856 663 7906
9765 Purple	976503	QT	4	NAZDAR 856 663 7907
9766 Violet	976603	QT	3.5	NAZDAR 856 663 7908
9767 Reflex Blue	976703	QT	2	NAZDAR 856 663 7909
9768 Process Blue	976803	QT	2	NAZDAR 856 663 7910
9769 Green	976903	QT	3	NAZDAR 856 663 7911
Spl 97 871c Gold	F047529703	QT	1	NAZDAR 856 663 7912
Spl 97 Silver 877	F608479703	QT	1	NAZDAR 856 663 7913
Spl 97 873c Metallic Copper	F732279703	QT	1	NAZDAR 856 663 7914
Px15 Dark Green	PX1503	QT		NAZDAR 856 663 7915
Wipes	DRWF20	CS	8	
Alcohol	IPA-5P	GL	1	Amrex Chemical Co 607 772 8747
Gloves	61-XHDL	BX	4	
Re180 Thinner	RE18004	GL		NAZDAR 856 663 7915
Re180 Thinner	RE18005	5G		NAZDAR 856 663 7916
Sw37 Universal Screen Wash	SW3705	5G	1	NAZDAR 856 663 7917
<b>TAPE</b>				
2" Machine Tape		BX		MARKHAM PKG 607 648 8004
3" machine tape	HP 100	RLS	0	MARKHAM PKG 607 648 8005
2" tapegun tape		CS		MARKHAM PKG 607 648 8006
3" tapegun tape		CS	144	MARKHAM PKG 607 648 8007

MAGIC TAPE		RLS	8	MARKHAM PKG 607 648 8008
SHRINK WRAP				
CRYOVAC D955 .75 18"	D955.7518CF	RLS		MARKHAM PKG 607 648 8008
CRYOVAC D955 .75 12"	D955.7512CF	RLS	1	MARKHAM PKG 607 648 8009
CRYOVAC D955 .75 10"	D955.7510CF	RLS		MARKHAM PKG 607 648 8010
<b>Pad Printing</b>				
Lemon	PP 020	LT	1	AUTOROLL 978-777-2160
Med. Yellow	PP 021	LT	1	AUTOROLL 978-777-2161
Yellow-Orange	PP 022	LT	1	AUTOROLL 978-777-2162
Magenta	PP 033	LT	1	AUTOROLL 978-777-2163
Bright Red	PP 035	LT	1	AUTOROLL 978-777-2164
Vermilion	PP 036	LT	1	AUTOROLL 978-777-2165
Dark Brown	PP 045	LT	1	AUTOROLL 978-777-2166
Ultramarine Blue	PP 055	LT	1	AUTOROLL 978-777-2167
Deep Blue	PP 058	LT	1	AUTOROLL 978-777-2168
Royal Blue	PP 059	LT	1	AUTOROLL 978-777-2169
Grass Green	PP 067	LT	1	AUTOROLL 978-777-2170
Brilliant Green	PP 068	LT	1	AUTOROLL 978-777-2171
White	PP 070	LT	1	AUTOROLL 978-777-2172
Black	PP 073	LT	1	AUTOROLL 978-777-2173
Opaque White	PP 170	LT	1	AUTOROLL 978-777-2174
P2 Primer	3514 97 019	LT	1	AUTOROLL 978-777-2175
SV1-Retarder	3507 98 002	Lt	1	AUTOROLL 978-777-2176
PPTPV Thinner	3501 97 065	LT	1	AUTOROLL 978-777-2177
<b>INK FLEX</b>				
White	MP2000-01	LT	1	DAVIS INTERNATIONAL 585-546-6
Hardner	MP2000-51	LT	1	DAVIS INTERNATIONAL 585-546-6
Retarder	MP2000-58	LT	1	DAVIS INTERNATIONAL 585-546-6
Thinner	MP2000-101	LT	1	DAVIS INTERNATIONAL 585-546-6
<b>FOIL</b>				
RED	SAMPLE	RLS		
WHITE	SAMPLE	RLS		
SILVER	SAMPLE	RLS		
GOLD	SAMPLE	RLS		
CLEAR	SAMPLE	RLS		