1996 Urban Air Toxics Monitoring Program (UATMP)

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LIST OF ABBREVIATIONS

AIRS	Aerometric Information and Retrieval System
AQS	Air Quality Subsystem (of the Aerometric Information and Retrieval System)
ATSDR	Agency for Toxic Substances and Disease Registry
BTEX	benzene, toluene, ethylbenzene, and xylenes (*o*-, *m*-, and *p*-xylene)
CFC	chlorofluorocarbon
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FID	flame ionization detection
GC	gas chromatography
HPLC	high-performance liquid chromatography
MSD	mass selective detection
ND	non-detect
ppbv	parts per billion (by volume)
RPD	relative percent difference
TRI	Toxics Release Inventory
UATMP	Urban Air Toxics Monitoring Program
VOC(s)	volatile organic compound(s)

Monitoring Stations

B2LA	Baton Rouge, Louisiana
BRTX	Brownsville, Texas
BRVT	Brattleboro, Vermont
BUVT	Burlington, Vermont
CANJ	Camden, New Jersey
EPTX	El Paso, Texas
GALA	Garyville, Louisiana
GATX	Galveston, Texas
HALA	Hahnville, Louisiana
PNTX	Port Neches, Texas
RUVT	Rutland, Vermont
UNVT	Underhill, Vermont
WIVT	Winooski, Vermont

ABSTRACT

Each "year" of UATMP sampling begins in September and ends in August of the following calendar year. According to convention, the UATMP assigns each "program year" to the calendar year during which sampling begins. For this reason, the 1996–1997 program is titled the "1996 UATMP," even through a majority of its samples were collected in 1997.

This report presents the results of ambient air monitoring conducted in 1996 as part of the Urban Air Toxics Monitoring Program (UATMP), a program designed to characterize the magnitude and composition of air pollution in urban locations. During the current program, biweekly ambient air samples were collected at 13 different monitoring locations and were analyzed for both volatile organic compounds (VOCs) and carbonyls. Not surprisingly, the ambient air concentrations measured during the program varied significantly from city to city and from season to season. This report describes and interprets these observed spatial and temporal variations separately for hydrocarbons, halogenated hydrocarbons, and carbonyls:

- *Hydrocarbons.* Consistent with findings from previous UATMP reports, the monitoring data provided compelling evidence that motor vehicle emissions significantly affect ambient air concentrations of most of the hydrocarbons considered, especially selected aromatic hydrocarbons, acetylene, and propylene. On the other hand, industrial emissions data appear to correlate well with the observed spatial variations in concentrations of 1,3-butadiene and styrene. There is some evidence that concentrations of *n*-octane are highest in the vicinity of large petroleum refineries.

- *Halogenated hydrocarbons.* No universal factors seem to affect ambient air concentrations of the different halogenated hydrocarbons sampled during the UATMP. Rather, each halogenated hydrocarbon appeared to exhibit unique air quality trends: concentrations of carbon tetrachloride could be best explained as "global background" levels, chloromethane appeared to be most influenced by natural emissions from bodies of salt water, and concentrations of methylene chloride and tetrachloroethylene seemed to be linked to emissions from industrial sources.

- *Carbonyls.* The UATMP monitoring data seem to suggest that emissions from motor vehicles and photochemical reactions most strongly influence ambient air concentrations of carbonyls. Although emissions data from facilities subject to the Toxics Release Inventory (TRI) reporting requirements could not explain the observed spatial variations in concentrations of carbonyls, emissions from other industrial emissions sources may have contributed to the levels of carbonyls detected during the UATMP.

As noted throughout this report, the ambient air monitoring data collected during the 1996 UATMP serve a wide range of purposes. Not only do these data characterize the nature and extent of urban air pollution in the vicinity of the 13 monitoring stations participating in this study, but they also indicate some trends and patterns that may be common to all urban

environments. Therefore, this report presents some results that are specific to particular monitoring locations and presents other results that are apparently common to urban environments. These results ultimately should provide additional insight into the complex nature of urban air pollution.

1.0 Introduction

Air pollution in urban locations contains many components that originate from a wide range of industrial, motor vehicle, and natural emissions sources. Because some of these components include compounds known or suspected to be carcinogenic, the U.S. Environmental Protection Agency (EPA) continues to encourage state and local agencies to understand and appreciate the nature and extent of potentially toxic air pollution in urban locations. To achieve this goal, EPA sponsors the Urban Air Toxics Monitoring Program (UATMP), a program designed to characterize the composition and magnitude of urban air pollution through extensive ambient air monitoring. Since the program's inception in 1987, many environmental and health agencies have participated in the UATMP to assess the causes and effects of air pollution within their jurisdictions. This report summarizes and interprets the 1996 UATMP monitoring effort, which included 1 year of biweekly measurements of ambient air quality in or near 13 urban locations.

The contents of this report provide both a qualitative overview of air pollution at selected urban locations and a quantitative analysis of the factors that appear to affect urban air quality most significantly. Much of the analysis and data interpretation in this report focuses on topics that previous annual UATMP reports have not addressed in detail, such as site-specific and compound-specific data trends. Ultimately, the contents of this report should offer participating agencies useful insight into important air quality issues. For example, participating agencies can use trends and patterns in the UATMP monitoring data to determine whether levels of air pollution present public health concerns, to identify which emissions sources most strongly contribute to air pollution, or to forecast whether proposed pollution control initiatives might significantly improve air quality. For participating agencies or other parties who wish to examine the UATMP monitoring results more closely, all of the measured concentrations not only are printed in an appendix to this report but also are publicly available in electronic format from the Air Quality Subsystem (AQS) of EPA's Aerometric Information Retrieval System (AIRS).

The remainder of this report is organized into nine sections. Table 1-1 highlights the contents of each section. Section 2 describes how the UATMP was implemented during the 1996 program, and Sections 3 and 4 include summaries and statistical analyses of the 1996 UATMP monitoring data. Using data interpretation methodologies discussed in Section 5, Sections 6 and 7 identify, and discuss the significance of, notable spatial and temporal variations observed among ambient air concentrations measured during the 1996 UATMP. Section 8 provides a brief review of data quality, and Section 9 summarizes key findings of the report and offers several recommendations for future monitoring of urban air pollution. Finally, Section 10 lists every reference cited in the report.

As with previous UATMP annual reports, all figures and tables in this report appear at the end of their respective sections (figures first, followed by tables).

Note: Each "year" of UATMP sampling begins in September and ends in August of the following calendar year. According to convention, the UATMP assigns each "program year" to the calendar year during which sampling begins. For this reason, the 1996–1997 program is titled the "1996 UATMP," even though a majority of its samples were collected in 1997.

Table 1-1
Organization of the 1996 UATMP Report

Report Section	Section Title	Overview of Contents
2	The 1996 UATMP	This section provides essential background information on the scope of the 1996 UATMP, including information on the monitoring locations, the compounds selected for monitoring, the sampling and analytical methods, the sampling schedules, and the completeness of the air monitoring program.
3	Summary of Monitoring Data	This section first defines a set of parameters commonly used to summarize ambient air monitoring data, then uses these parameters to provide a general overview of the 1996 UATMP results.
4	Data Correlations	Using results from an extensive data correlation analysis, this section identifies significant relationships between ambient air concentrations of different pollutants and evaluates how temperature affects air quality.
5	Interpreting Ambient Air Monitoring Data	To orient the reader to sources and sinks of urban air pollution, this section describes how emissions sources, atmospheric fate and transport, and other studies of air pollution are commonly used to interpret ambient air monitoring data.
6	Spatial Variations	These sections characterize how ambient air concentrations measured during the UATMP varied with monitoring location and with time, respectively. The sections then interpret the significance of the observed spatial and temporal variations.
7	Temporal Variations	
8	Data Quality	Based on quantitative and qualitative analyses, this section comments on the precision and accuracy of the 1996 UATMP ambient air monitoring data.
9	Conclusions and Recommendations	This section summarizes the most significant findings of the report and makes several recommendations for future projects that will involve ambient air monitoring in urban locations.
10	References	This section lists the references cited throughout the report.

2.0 The 1996 UATMP

Because it is important to understand the scope of any air monitoring program before interpreting trends and patterns in the corresponding results, this section presents relevant background information on how the 1996 UATMP was implemented. The program included 13 monitoring stations that collected 24-hour integrated canister and cartridge samples of ambient air on a biweekly basis for 12 months. These samples were then analyzed in a central laboratory for concentrations of selected hydrocarbons, halogenated hydrocarbons (canister), and carbonyls (cartridge). To provide context for the extensive data analyses and interpretations presented later in this report, the following discussion thoroughly reviews the monitoring locations, the compounds selected for monitoring, the sampling and analytical methods, the sampling schedules, and the completeness of the 1996 UATMP.

2.1 Monitoring Locations

Although EPA sponsors the UATMP, EPA does not dictate where the UATMP monitoring stations are located. Rather, representatives from the state and local agencies that voluntarily participate in the program (and that contribute to the overall monitoring costs) select the monitoring locations. Figure 2-1 shows the 13 monitoring locations of the 1996 program. Each of these locations was assigned both a unique four-character UATMP site code (used to track samples from the monitoring locations to the laboratory) and a unique nine-digit AIRS site code (used to index monitoring results in the AIRS database). This report often cites these codes when presenting selected monitoring results.

As Figure 2-1 shows, most of the 1996 UATMP monitors were located either near the coast of the Gulf of Mexico or in the state of Vermont. Although this spatial distribution of monitoring stations clearly is not a statistically significant sample of urban locations in the United States, the monitoring data from these stations may indicate certain air quality trends that are common to all urban environments. The analyses in this report differentiate those trends that appear to be site-specific from those that appear to be common to urban environments.

Not surprisingly, chemical concentrations measured during the 1996 UATMP varied significantly from monitoring location to monitoring location. As discussed throughout this report, the proximity of the monitoring locations to different emissions sources—especially industrial facilities and heavily traveled roadways—generally explains the observed spatial variations in ambient air quality. To provide a first approximation of the respective contributions of motor vehicle emissions and industrial emissions on each site's ambient air quality, Table 2-1 lists the number of people living within 10 miles of each monitoring location, as well as the number of industrial facilities that meet EPA's TRI reporting requirements. Section 6 describes how these data relate to the measured ambient air concentrations.

The maps in Figures 2-2 through 2-14 and the site descriptions in Table 2-2 and in Appendix A provide detailed information on the surroundings at the 13 UATMP monitoring locations. The maps illustrate that some monitors were placed near the centers of heavily populated cities (e.g., Baton Rouge, Camden, and El Paso), while others were placed in moderately populated areas (e.g., Garyville, Hahnville, and Port Neches) and one was intentionally placed many miles distant from urban centers (Underhill). The text in Table 2-2 describes additional site characteristics of the 13 monitoring locations, and Appendix A contains brief site descriptions downloaded from the AIRS database. Analyses throughout this report refer to these detailed site descriptions to explain trends and patterns in the UATMP ambient air monitoring data.

At every UATMP monitoring location, the air sampling equipment was installed in a small enclosure—usually a trailer or a shed—with the sampling inlet probe protruding through the roof. With this common setup, every UATMP monitor sampled ambient air at heights approximately 5 to 20 feet above local ground level.

2.2 Compounds Selected for Monitoring

Urban air pollution typically contains hundreds of components, including, but not limited to, VOCs, metals, inorganic acids, and particulate matter. Rather than monitor for every component of air pollution—a process that would be prohibitively expensive—the UATMP

currently measures ambient levels of 11 hydrocarbons, 27 halogenated hydrocarbons, and 16 carbonyls. Many of these compounds are toxic, and many are ubiquitous to urban air pollution. Participating agencies should find that ambient air monitoring data for the 54 selected compounds provide useful insight into which emissions sources most significantly contribute to urban air pollution. These agencies should recognize, however, the UATMP's depiction of ambient air quality, while extensive, is not necessarily comprehensive.

2.3 Sampling and Analytical Methods

The capabilities and limitations of sampling and analytical methods are important considerations when interpreting ambient air monitoring data. During the 1996 UATMP, two EPA-approved methods were used to characterize urban air pollution: "Compendium Method TO-14A" was used to measure ambient air concentrations of 38 VOCs, and "Compendium Method TO-11/11A" was used to measure ambient air concentrations of 16 carbonyl compounds. The following discussion reviews salient features of these sampling and analytical methods. For detailed descriptions of the methods, readers should refer to EPA's original documentation of the Compendium Methods (USEPA, 1984a; USEPA, 1984b).

2.3.1 VOC Sampling and Analytical Method

As the EPA method specifies, ambient air samples that were analyzed for VOCs were collected in passivated stainless steel canisters. The central laboratory distributed the prepared (i.e., cleaned and evacuated) canisters to the UATMP monitoring stations before each scheduled sampling event, and site operators connected the canisters to air sampling equipment prior to each sampling day. Before their use in the field, the passivated canisters have internal pressures much lower than atmospheric. Because of this pressure difference, ambient air naturally flows into the canisters once they are opened, and pumps are not needed to collect the canister samples for VOC analysis. A flow controller on the sampling device ensures that ambient air enters the canister at a constant rate across the collection period. At the end of the 24-hour sampling period, a solenoid valve automatically stops ambient air from flowing into the canister, and site operators return the canisters to the central laboratory for analysis.

By analyzing each sample with gas chromatography and mass selective detection and flame ionization detection (GC/MSD-FID), laboratory staff determine ambient air concentrations of 38 VOCs—11 hydrocarbons and 27 halogenated hydrocarbons—within the sample. Because *m*-xylene and *p*-xylene elute from the GC column at the same time, the VOC analytical method can only report the sum of the concentrations for these two compounds, and not the separate concentration for each compound. Table 2-3 lists the detection limits for the laboratory analysis of the VOC samples. The detection limit reported by the analytical laboratory for every compound is lower than 0.5 parts per billion, by volume (ppbv), with many detection limits below 0.1 ppbv. As the table shows, the analytical laboratory revised its detection limits at the beginning of May 1997. The revised limits reflect the most recent tests conducted by the central laboratory on the sensitivity of its analytical equipment.

Because nondetect results significantly limit the range of data interpretations for ambient air monitoring programs, this report includes thorough discussions on how detection limits and nondetect results were handled during data analysis. For instance, the sidebar on the following page, "Appreciating Detection Limits," describes how detection limits relate to air quality analyses, and Sections 3 and 4 both indicate how nondetect results affect the summaries and correlations of the UATMP monitoring data.

2.3.2 Carbonyl Sampling and Analytical Method

Following the specifications of EPA Compendium Method TO-11/11A, ambient air samples that were analyzed for carbonyls were collected by passing ambient air over silica gel cartridges coated with 2,4-dinitrophenylhydrazine (DNPH), a compound known to react selectively and reversibly with many aldehydes and ketones. Due to this reactivity, carbonyls in ambient air remain within the sampling cartridge, while other compounds pass through the cartridge without reacting with the DNPH-coated matrix. Consistent with the VOC sampling,

Appreciating Detection Limits

The detection limit of an analytical method must be carefully considered when interpreting the corresponding ambient air monitoring data. By definition, detection limits represent the lowest concentrations at which laboratory equipment can *reliably* quantify concentrations of selected compounds to a specific confidence level. If a chemical concentration in ambient air does not exceed the method sensitivity (as gauged by the detection limit), the analytical method might not differentiate the compound from other compounds in the sample or from the random "noise" inherent in laboratory analyses. Therefore, when samples contain concentrations at levels below their respective detection limits, multiple analyses of the same sample may lead to a wide range of results, including highly variable concentrations or "nondetect" observations. Because analytical methods do not quantify concentrations at levels below the detection limits accurately or precisely, data analysts must exercise caution when interpreting monitoring data with many concentrations at levels near or below the corresponding detection limits. Sections 3 and 4 revisit this issue.

the central laboratory distributed the silica gel cartridges to the monitoring locations, and site operators connected the cartridges to the air sampling equipment. After each 24-hour sampling period, site operators returned the cartridges to the central laboratory for chemical analysis.

To quantify concentrations of carbonyls in the sampled ambient air, laboratory analysts first eluted the exposed silica gel cartridges with acetonitrile. This solvent elution liberated a solution of DNPH derivatives of the aldehydes and ketones collected from the ambient air. Analyzing this solution with high-performance liquid chromatography (HPLC) and ultraviolet detection determines the relative amounts of individual carbonyls present in the original air sample. Table 2-4 lists the detection limits reported by the analytical laboratory for measuring concentrations of 16 carbonyls. Because butyraldehyde and isobutyraldehyde elute from the HPLC column at the same time, the carbonyl analytical method can only report the sum of the concentrations for these compounds, and not the separate concentrations for each compound. For the same reason, the analytical method reports only the sum of the concentrations for the three tolualdehyde isomers, as opposed to reporting separate concentrations for the three individual compounds. Like the VOC detection limits, the carbonyl detection limits were revised during the course of the 1996 UATMP. Although the sensitivity of the analytical method varies from compound to compound, the central laboratory for the 1996 UATMP was capable of

quantifying each carbonyl at levels down to at least 0.03 ppbv. As noted earlier, the analyses presented later in the report discuss the effects that nondetect results have on data interpretations.

2.4 Sampling Schedules

Table 2-5 lists the dates on which sampling began and ended at each monitoring location. With one exception, the monitoring locations began the 1996 UATMP sampling in either August 1996 or September 1996 and stopped sampling in August 1997 or September 1997. The Baton Rouge (B2LA) monitoring station, however, collected 1996 UATMP samples through November 1997. This prolonged sampling schedule was implemented at B2LA to compensate for the relatively large number of samples from this station that were invalidated earlier in the year.

According to the UATMP schedule, 24-hour integrated samples were to be collected at every monitoring location once every 12 days. Each sample collection began and ended at midnight, standard time. With this sampling frequency, the UATMP collects sufficient data for characterizing annual-average concentrations of toxic compounds in a cost effective manner. Further, this 12-day sampling frequency ensures that sampling days are evenly distributed among the 7 days of the week—a feature that enables comparison of air quality on weekdays to air quality on weekends (see Section 7.1). In cases where monitors failed to collect valid samples on a scheduled sampling day, site operators sometimes rescheduled samples for other days. This practice explains why some monitoring locations periodically strayed from the 12-day sampling schedule.

As part of the sampling schedule, site operators were instructed to collect duplicate samples on roughly 10 percent of the sampling days. As Section 8 describes, these duplicate samples were analyzed in replicate to gauge the precision of the sampling and analytical methods.

2.5 Completeness

The *completeness* of an ambient air monitoring program refers to the fraction of attempted sampling events that result in either a valid quantified ambient air concentration or a nondetect result. Monitoring programs that consistently generate valid results have higher completeness than programs that consistently invalidate samples. The completeness of an air monitoring program, therefore, is a qualitative measure of the reliability of air sampling equipment and laboratory analytical equipment and a measure of the efficiency with which the program was managed.

Table 2-5 summarizes the completeness of the VOC and carbonyl data sets collected during the 1996 UATMP. The completeness ranges from 78 to 100 percent for VOC sampling, with an average completeness of 91 percent for the 1996 program. The completeness ranges from 90 to 100 percent for carbonyl sampling, with an average completeness of 97 percent for the 1996 program. Appendices B and C list the specific reasons why VOC and carbonyl samples, respectively, were invalidated. According to the UATMP data quality objectives (USEPA, 1988), at least 15 ambient air samples from a given monitoring station must be analyzed successfully to generate a sufficiently complete data set for estimating annual average air concentrations. The data in Table 2-5 show that all of the 1996 UATMP monitoring stations met this data quality objective. Accordingly, Section 3 uses the current monitoring results to estimate long-term averages (e.g., annual averages) of ambient air quality.

Figure 2-1
Locations of the 1996 UATMP Monitoring Stations

Note: The four-letter codes shown here were used primarily to track ambient air samples during their transfer from the monitoring stations to the analytical laboratory.

Figure 2-2
Baton Rouge, Louisiana (B2LA) Monitoring Station

Figure 2-3
Brownsville, Texas (BRTX) Monitoring Station

Figure 2-4
Brattleboro, Vermont (BRVT) Monitoring Station

Figure 2-5
Burlington, Vermont (BUVT) Monitoring Station

Figure 2-6
Camden, New Jersey (CANJ) Monitoring Station

Figure 2-7
El Paso, Texas (EPTX) Monitoring Station

Figure 2-8
Garyville, Louisiana (GALA) Monitoring Station

Figure 2-9
Galveston, Texas (GATX) Monitoring Station

Figure 2-10
Hahnville, Louisiana (HALA) Monitoring Station

Figure 2-11
Port Neches, Texas (PNTX) Monitoring Station

Figure 2-12
Rutland, Vermont (RUVT) Monitoring Station

Figure 2-13
Underhill, Vermont (UNVT) Monitoring Station

Figure 2-14
Winooski, Vermont (WIVT) Monitoring Station

Table 2-1
Site Descriptions for the 1996 UATMP Monitoring Stations

1996 UATMP Code	AIRS Site Code	Location	Population Residing Within 10 Miles of the Monitoring Station [a]	Number of Facilities Located Within 10 Miles of the Monitoring Station That Reported Air Releases of UATMP Compounds to the Toxics Release Inventory [b]
B2LA	22-033-0009	Baton Rouge, LA	336,577	13
BRTX	48-061-0006	Brownsville, TX [c]	125,547	2
BRVT	50-025-0004	Brattleboro, VT	27,862	2
BUVT	50-007-0003	Burlington, VT	103,912	3
CANJ	34-007-0003	Camden, NJ	2,021,082	38
EPTX	48-141-0027	El Paso, TX [c]	410,475	6
GALA	22-095-0002	Garyville, LA	56,800	3
GATX	48-167-1002	Galveston, TX	103,167	12
HALA	22-089-0003	Hahnville, LA	107,033	8
PNTX	48-245-0017	Port Neches, TX	146,467	19
RUVT	50-021-0002	Rutland, VT	38,969	2
UNVT	50-007-0007	Underhill, VT	18,997	0
WIVT	50-007-0010	Winooski, VT	109,541	3

[a] Reference: USDOC, 1993.
[b] Reference: TRI, 1995. Refer to Section 5.1.1.1 for a detailed description of the Toxics Release Inventory.
[c] The Brownsville and El Paso, Texas, monitoring stations are located less than 10 miles from the United States–Mexico border. Because only U.S. census and industry data were reviewed for this study, the listed site characteristics may understate the actual population and number of industrial sources near these monitoring stations.

Table 2-2
Text Descriptions of the 1996 UATMP Monitoring Locations

Monitoring Location	Description of the Immediate Surroundings
Baton Rouge, LA	Of the 1996 UATMP monitoring locations, Baton Rouge has the third highest population density within 10 miles of the monitoring station. Located in downtown Baton Rouge, the monitoring site is in the back parking lot of an office building, directly across from the city motor pool. Numerous industrial facilities, including refineries and chemical manufacturing plants, are located within a 10-mile radius. Interstate highway 110 passes within 2 blocks of the monitoring station.
Brownsville, TX	Located in the southernmost part of Texas, the Brownsville monitoring station is within viewing distance of Mexico and the Rio Grande River and is within 30 miles of the Gulf of Mexico. The monitoring station is located at the southern end of the Brownsville city limits, with no major roadways or industrial facilities adjacent to the site.
Brattleboro, VT	Brattleboro, a small city in southern Vermont, has the second lowest population density of the 1996 UATMP monitoring locations. The monitoring station is located north of town in a vacant lot adjacent to a farm and garden center. The monitoring station is in a moderately industrial area, not immediately adjacent to heavily traveled roadways. Interstate highway 91 passes within 1 mile of the monitoring station.
Burlington, VT	Burlington is Vermont's largest city, but it is moderately sized by national standards. The monitoring site is in the center of downtown Burlington, near several heavily traveled streets, two large parking lots, and two gas stations.
Camden, NJ	A suburb of Philadelphia, Pennsylvania, Camden has the highest population density of the 1996 UATMP monitoring locations. Although the monitoring site is in a residential area, numerous industrial facilities and busy roadways are located within a 10-mile radius. The monitors are situated in a parking lot of a business complex.
El Paso, TX	Located in western Texas, just across the border from Mexico and near the border of New Mexico, the region surrounding the El Paso monitoring station has the second highest population density of the 1996 UATMP monitoring locations. The monitoring site is located downtown, in a high-traffic area.

Table 2-2 (Continued)
Text Descriptions of the 1996 UATMP Monitoring Locations

Monitoring Location	Description of the Immediate Surroundings
Garyville, LA	Garyville is a small town located on the Mississippi River between the cities of Baton Rouge and New Orleans. The monitoring site is located on the property of the Garyville Elementary School. A large refinery and other industrial facilities are located nearby.
Galveston, TX	Galveston is in eastern Texas, on the Gulf of Mexico. The monitoring site is on the grounds of a school in a residential neighborhood. Numerous industrial facilities are located within a 10-mile radius. Total TRI-reported emissions from these facilities were the third highest among TRI emissions associated with the 1996 UATMP monitoring locations.
Hahnville, LA	Hahnville, another Mississippi River town, is located approximately 15 miles southeast of Garyville. A large refinery is located directly across the river from the monitoring station, and many other industrial facilities are located in close proximity. Total TRI-reported emissions from facilities near the Hahnville monitoring station were second highest among TRI emissions associated with the 1996 UATMP monitoring locations.
Port Neches, TX	Port Neches is in eastern Texas, near the coast of the Gulf of Mexico and also near the Louisiana border. The site is located on the property of a high school, in a mixed residential-industrial neighborhood. There are many petrochemical plants and other industrial facilities within a 10-mile radius. Four of these facilities are within 2 miles of the monitoring station. Industrial emissions near the Port Neches monitoring station were higher than the emissions near any of the other 1996 UATMP monitoring locations.
Rutland, VT	Rutland is a moderately sized city in central Vermont. The monitoring station is located in a parking lot in downtown Rutland. A heavily traveled state highway and several busy city streets run within 1 mile of the monitoring station.
Underhill, VT	The Underhill monitoring site is located in a rural area, about 20 miles east of Burlington. The site is at the base of Mount Mansfield, in a remote field surrounded by forest. Not surprisingly, the area surrounding the Underhill monitoring station has the lowest population density and the lowest total emissions from industrial facilities of the 1996 UATMP monitoring locations.

Table 2-2 (Continued)
Text Descriptions of the 1996 UATMP Monitoring Locations

Monitoring Location	Description of the Immediate Surroundings
Winooski, VT	Located across the Winooski River from Burlington, Winooski is a small city in northern Vermont. The monitoring site is located on the grounds of a high school. The Burlington and Winooski monitoring stations are less than 5 miles apart.

Table 2-3
VOC Detection Limits

Compound	Estimated Detection Limit (ppbv)	
	September 1996–April 1997	May 1997–August 1997
Acetylene	0.12	0.10
Benzene	0.24	0.07
Bromochloromethane	0.07	0.09
Bromodichloromethane	0.09	0.05
Bromoform	0.08	0.15
Bromomethane	0.18	0.14
1,3-Butadiene	0.15	0.09
Carbon tetrachloride	0.07	0.05
Chlorobenzene	0.06	0.07
Chloroethane	0.18	0.06
Chloroform	0.06	0.06
Chloromethane	0.39	0.13
Chloroprene	0.05	0.10
Dibromochloromethane	0.05	0.05
m-Dichlorobenzene	0.07	0.15
o-Dichlorobenzene	0.08	0.16
p-Dichlorobenzene	0.06	0.13
1,1-Dichloroethane	0.06	0.06
1,2-Dichloroethane	0.26	0.26
trans-1,2-Dichloroethylene	0.22	0.22
1,2-Dichloropropane	0.04	0.04
cis-1,3-Dichloropropylene	0.05	0.05
trans-1,3-Dichloropropylene	0.08	0.08
Ethylbenzene	0.08	0.12
Methylene chloride	0.16	0.09
n-Octane	0.05	0.21
Propylene	0.09	0.10
Styrene	0.08	0.10
1,1,2,2-Tetrachloroethane	0.16	0.16
Tetrachloroethylene	0.03	0.22
Toluene	0.04	0.21
1,1,1-Trichloroethane	0.33	0.33
1,1,2-Trichloroethane	0.05	0.05

Note: Section 2.3 describes both the significance of detection limits and why the detection limits changed during the 1996 UATMP.

Table 2-3 (Continued)
VOC Detection Limits

Compound	Estimated Detection Limit (ppbv)	
	September 1996–April 1997	May 1997–August 1997
Trichloroethylene	0.05	0.04
Vinyl chloride	0.11	0.06
m,*p*-Xylene	0.11	0.11
o-Xylene	0.06	0.10

Notes: Section 2.3 describes both the significant of detection limits and why the detection limits changed during the 1996 UATMP.
Because *m*-xylene and *p*-xylene elute from the GC column at the same time, the VOC analytical method can only report the sum of *m*-xylene and *p*-xylene concentrations and not concentrations of the individual compounds.

Table 2-4
Carbonyl Detection Limits

Compound	Estimated Detection Limit (ppbv)	
	September 1996–June 1997	July 1997–August 1997
Acetaldehyde	0.010	0.008
Acetone	0.010	0.005
Acrolein	0.010	0.010
Benzaldehyde	0.030	0.005
Butyr/Isobutyraldehyde	0.010	0.009
Crotonaldehyde	0.020	0.008
2,5-Dimethylbenzaldehyde	0.020	0.010
Formaldehyde	0.010	0.006
Hexanaldehyde	0.010	0.008
Isovaleraldehyde	0.010	0.020
Propionaldehyde	0.010	0.004
Tolualdehydes	0.100	0.019
Valeraldehyde	0.010	0.013

Notes: The carbonyl detection limits are based on a sample volume of 500 liters of ambient air. Section 2.3 describes both the significance of detection limits and why the detection limits changed during the 1996 UATMP.

Because butyraldehyde and isobutyraldehyde elute from the HPLC column at the same time, the carbonyl analytical method can only report the sum of concentrations for these two compounds and not concentrations of the individual compounds. For the same reason, the analytical method also reports only the sum of concentrations for the three tolualdehyde isomers, as opposed to reporting separate concentrations for the three individual compounds.

Table 2-5
Sampling Schedules and Completeness

Code	Monitoring Location	Sampling Period		VOC Data			Carbonyl Data		
		Starting Date	Ending Date	Days When Samples Were Collected	Days With Valid Samples	Completeness	Days When Samples Were Collected	Days With Valid Samples	Completeness
B2LA	Baton Rouge, LA	8/31/96	11/6/97	40	31	78%	38	35	92%
BRTX	Brownsville, TX	9/11/96	8/29/97	34	29	85%	34	33	97%
BRVT	Brattleboro, VT	8/31/96	8/26/97	33	32	97%	33	33	100%
BUVT	Burlington, VT	8/31/96	8/26/97	33	33	100%	33	33	100%
CANJ	Camden, NJ	9/6/96	8/20/97	32	31	97%	32	32	100%
EPTX	El Paso, TX	9/6/96	9/1/97	33	31	94%	33	32	97%
GALA	Garyville, LA	8/31/96	8/26/97	36	32	89%	36	35	97%
GATX	Galveston, TX	9/6/96	8/20/97	31	30	97%	31	28	90%
HALA	Hahnville, LA	8/31/96	8/26/97	35	34	97%	35	35	100%
PNTX	Port Neches, TX	9/6/96	8/26/97	34	30	88%	34	33	97%
RUVT	Rutland, VT	8/31/96	9/7/97	38	31	82%	38	37	97%
UNVT	Underhill, VT	8/31/96	8/26/97	32	30	94%	32	29	91%
WIVT	Winooski, VT	8/31/96	8/26/97	32	31	97%	32	31	97%
---	**Overall**	**---**	**---**	**443**	**405**	**91%**	**441**	**426**	**97%**

Note: The completeness data only indicate the number of days when samples were collected. The actual number of samples collected exceeds the number of sampling days, because each site collected several duplicate samples.

3.0 Summary of Monitoring Data

This section uses four parameters—prevalence, concentration range, central tendency, and variability—to provide a complete but succinct overview of the large volume of ambient air monitoring data collected during the 1996 UATMP. Because these same four parameters also were used to summarize the 1995 UATMP monitoring data, participating agencies can directly compare the data summaries in this section to those in last year's final UATMP report (ERG, 1997). The 1996 UATMP monitoring data are summarized in a series of tables, one table per chemical group per monitoring location. These tables are included as Appendices D and E for VOCs and carbonyls, respectively.

For background, Section 3.1 defines the four parameters used to summarize the UATMP monitoring data and describes how each parameter characterizes unique features of ambient air quality. Sections 3.2 and 3.3 then apply these parameters to the VOC and carbonyl monitoring data, respectively, and identify notable trends among the measured concentrations. Sections 6 and 7 analyze these trends in greater detail.

3.1 Air Monitoring Summary Parameters

Because no single parameter can characterize the results of an extensive air monitoring program, four parameters that together indicate the nature and extent of air pollution were selected to efficiently summarize the 1996 UATMP monitoring data. The following discussion defines how each of these parameters relates to air quality and how the parameters are calculated.

3.1.1 Prevalence

Prevalence in ambient air monitoring programs refers to the frequency with which an air pollutant is found at levels detectable by the corresponding sampling and analytical method. By clearly indicating the frequency of detection, prevalence can help participating agencies identify compounds of concern in urban air pollution. More importantly, the number of nondetects for a given compound (as indicated by its prevalence) must be considered when interpreting air monitoring results. For example, annual average concentrations cannot be estimated accurately

for compounds that are not detected in a majority of samples (see Section 3.1.3). Other limitations posed by compounds having low prevalence are discussed throughout this report.

To indicate the prevalence of VOCs and carbonyls sampled in the air at the 1996 UATMP monitoring locations, the data summary tables in Appendices D and E identify for each site:

- The number of days on which valid samples were collected;
- The number of days on which each compound was not detected; and
- The frequency (in percent) of days on which each compound was detected.

When reviewing the data summary tables, readers should note that a prevalence of zero does not necessarily indicate that a compound is not present in ambient air. Rather, compounds with a prevalence of zero may be present in the air, but at levels consistently below method detection limits.

3.1.2 Concentration Range

For a given compound, *concentration range* refers to the span of measured concentrations, from lowest to highest. Participating agencies might use these ranges to assess worst-case air pollution episodes, which might result from large one-time releases from industrial facilities or from atypical meteorological conditions. Peak concentrations also are useful for determining whether ambient air concentrations of acutely toxic compounds ever reach unsafe levels.

To indicate concentration range, the summary tables in Appendices D and E present the lowest and highest concentrations measured for each compound at each monitoring location. For most compounds, at least one sample at a given site resulted in a nondetect, so the lowest concentration reported is “ND.” For compounds not detected in any samples at a site, both the lowest and the highest concentrations are reported as “ND.” Because samples were collected only once every 12 days, it is possible that ambient air concentrations on nonsampling days may

have been higher than the "highest" concentration cited in the data summary tables. Therefore, the highest concentrations cited in the UATMP summary tables are only estimates of the actual concentration peaks.

3.1.3 Central Tendency (Annual Average Concentrations)

Annual average ambient air concentrations are useful for many purposes, such as comparing air quality to environmental regulatory standards, evaluating what health effects might result from long-term exposure to air pollution, and assessing long-term trends in urban air quality. Although the UATMP does not directly measure annual average concentrations, they can be estimated as the *central tendency* of the distribution of a sufficient number of 24-hour average measurements. As Section 2.5 noted, every UATMP monitoring station collected valid 24-hour average ambient air samples on at least 15 days during the 1996 program—an adequate number of sampling days for estimating annual averages, according to the UATMP data quality objectives (USEPA, 1988). The following paragraphs describe different approaches for calculating central tendency (or annual average) concentrations and discuss how nondetect results and duplicate sampling events were treated in the calculations.

Ambient air monitoring studies typically cite medians, arithmetic means, or geometric means as estimates of the central tendency of concentration distributions. Despite their common use, these three parameters may have significantly different values for the same distribution of ambient air monitoring data. By definition, arithmetic means best represent central tendencies of normally distributed data, while geometric means best represent central tendencies of lognormally distributed data. Medians are reasonable estimates of the central tendency of both types of distributions. Extensive analyses of the 1995 UATMP monitoring data showed that ambient air monitoring data for both VOCs and carbonyls generally fit lognormal distributions more closely than they fit normal distributions (ERG, 1997). This finding suggests that geometric means are a more appropriate measure of central tendency concentrations than either arithmetic means or medians—a conclusion reported by several other ambient air monitoring studies (Radian, 1990; 1991; Gilbert, 1987). Nonetheless, the ambient air monitoring summary tables in Appendices D and E include arithmetic mean, median, and geometric mean

concentrations to allow readers to compare UATMP results with monitoring studies that use these other data summary parameters.

To calculate representative arithmetic mean, median, and geometric mean concentrations, all nondetects and duplicate sampling results in the UATMP monitoring database were processed to assign each compound just one numerical concentration for each successful sampling day. Following the approach used to process the 1995 UATMP monitoring data, data analysts first replaced all nondetect observations with concentrations equal to one-half of the compound's corresponding detection limit—a recommended approach for risk assessments involving environmental monitoring data (USEPA, 1989). Due to replicate analyses of duplicate samples, some sampling dates may have produced four different concentrations. For these dates, data analysts entered the average of the concentrations from duplicate sampling and replicate analyses, so that the UATMP monitoring database included just one concentration for each compound for each sampling date. When comparing the 1996 UATMP monitoring results to concentrations measured under other programs, participating agencies should note that the approach for treating nondetects and duplicate sampling events may slightly affect the magnitude of the calculated central tendency concentrations, especially for compounds with a low prevalence.

The accuracy of the central tendency concentrations ultimately depends on the accuracy of the individual measurements. As Section 8 describes, the carbonyl and VOC sampling and analytical methods measured ambient air concentrations of most compounds quite accurately, but the methods were least accurate for compounds consistently found at levels near their detection limits. Furthermore, because nondetect observations cannot be assigned an accurate concentration, the number of nondetect results for a given compound also limits the accuracy of the central tendency calculation. As an extreme example, a compound never detected during the UATMP has arithmetic mean, geometric mean, and median concentrations all exactly equal to one-half of the compound's detection limit, even though the actual central tendency concentration could be anywhere between zero and the detection limit. These observations

suggest that central tendency concentrations for compounds with low prevalence (i.e., a large number of nondetects) should be interpreted with caution. Sections 3.2 and 3.3 revisit this issue.

3.1.4 Variability

Variability refers to the spread of data observations around their central tendency value. Because emissions in urban areas and local meteorological conditions constantly change, ambient air quality also changes from one day to the next. By comparing data variability from compound to compound, however, participating agencies might better characterize the emissions sources that most significantly contribute to measured air concentrations for specific compounds. For instance, varying wind speeds and wind directions can cause emissions from *particular* industrial facilities to impact the air quality at a monitoring location at some times and not at other times. Therefore, compounds emitted primarily from such sources would be expected to have relatively high data variability. Because motor vehicle emissions are typically found *throughout* an urban area (as opposed to being located at only discrete locations), emissions from motor vehicles are expected to almost always impact the air quality at monitoring locations, with the extent of impact determined mainly by local meteorological conditions. Accordingly, compounds emitted primarily from sources ubiquitous to urban environments (such as motor vehicles) would be expected to have relatively low data variability. Data analyses in Section 6 provide specific examples of how variability can be used to interpret ambient air monitoring data.

This report uses standard deviations and coefficients of variation—two common measures of data variability—to characterize fluctuations in the UATMP air monitoring data. Standard deviations represent an absolute measure of variability, meaning that standard deviations are naturally higher for data distributions centered around higher values (e.g., two distributions of identical shape, but centered at different values, will have different standard deviations). Coefficients of variation, on the other hand, express variability on a uniform scale (e.g., two distributions of identical shape have equal coefficients of variation, regardless of their central tendency values). As a relative measure of variability, coefficients of variation allow for direct comparisons of variability among different compounds measured at different locations.

Standard deviations and coefficients of variation in this report were both calculated from the processed UATMP monitoring database: nondetect observations were assigned values equal to one-half their corresponding detection limit and duplicate samples and replicate analyses were replaced with a single average value.

3.2 Data Summary Parameters for VOCs

Using the four data summary parameters defined above, Tables D-1 through D-13 (see Appendix D) summarize the VOC monitoring results for the 1996 UATMP. The raw VOC monitoring data are included as Appendix F, should readers wish to compute summary statistics other than those shown in the data summary tables. To provide an overall sense of the VOC results and to identify general air quality trends interpreted later in this report, the following discussion reviews basic findings indicated by the VOC data summary tables:

- *Prevalence*. Even though the prevalence of VOCs in ambient air varied significantly from compound to compound and from monitoring location to monitoring location, the following 16 compounds were detected in at least three-fourths of the samples collected at most of the 1996 UATMP monitoring locations (i.e., the compounds had a prevalence greater than 75 percent at most of the monitoring locations):

Acetylene	Ethylbenzene	Tetrachloroethylene
Benzene	Methylene chloride	Toluene
1,3-Butadiene	*n*-Octane	1,1,1-Trichloroethane
Carbon tetrachloride	Propylene	*m,p*-Xylene [1]
Chloromethane	Styrene	*o*-Xylene

  Because these compounds were consistently present at detectable levels, the UATMP monitoring data characterize ambient levels for these compounds much more accurately than they characterize ambient levels for the VOCs with lower prevalence. Further, the high prevalence allows for a meaningful statistical analysis of data correlations (see Section 4) and a thorough review of spatial variations and temporal variations in ambient air quality (see Sections 6 and 7). Accordingly, the analyses and interpretations throughout this report focus primarily on these 16 most prevalent compounds.

[1] As Section 2.3.1 noted, the VOC sampling and analytical method cannot separate these compounds and therefore reports the sum of the concentrations for these two compounds, rather than reporting separate concentrations for each compound.

Readers interested in examining data trends for the less prevalent compounds more closely should refer to the summary tables in Appendix D and the raw monitoring data in Appendix F, but also should note the limitations posed by data sets with many nondetect observations.

- *Concentration range*. To efficiently summarize the concentration ranges cited in Appendix D, Table 3-1 indicates the number of monitoring stations that detected peak VOC concentrations within certain ranges. These data show that peak concentrations, like prevalence, varied significantly among compounds and monitoring stations. More specifically, ambient air concentrations measured during the 1996 UATMP for over half of the compounds identified by the analytical method never exceeded 1 ppbv. Not surprisingly, these compounds generally coincide with the compounds that have a prevalence of less than 75 percent. Of the remaining compounds, acetylene and propylene had peak concentrations exceeding 5 ppbv most often; and benzene, toluene, and *m,p*-xylene had peak concentrations between 1 ppbv and 5 ppbv at most monitoring locations.

- *Central tendency*. Figure 3-1 illustrates how central tendency concentrations for the 16 most prevalent compounds varied from one monitoring location to the next. Although the spatial variations differ for each compound, the figure indicates several general data trends. First, the geometric mean concentrations of some compounds (particularly carbon tetrachloride and 1,1,1-trichloroethane) are nearly uniform across the 13 UATMP monitoring locations, while the geometric mean concentrations for most other compounds exhibit significant spatial variations. Second, the profile of geometric mean concentrations for a subset of hydrocarbons—acetylene, benzene, ethylbenzene, toluene, and the xylene isomers—is nearly identical across all monitoring stations, with relatively higher concentrations consistently occurring at the El Paso, Texas, and Burlington, Vermont, monitoring stations and with the lowest concentrations consistently occurring at the Underhill, Vermont, monitoring station. Third, the geometric mean concentrations for most of the remaining compounds do not have consistent profiles. Finally, the geometric mean concentrations of many compounds varied significantly, even among stations located in close proximity (e.g., Burlington, Winooski, and Underhill; Baton Rouge, Garyville, and Hahnville). The analyses in Sections 4 and 6 propose several likely explanations for why concentrations of the 16 most prevalent VOCs varied, or failed to vary, among the UATMP monitoring locations.

- *Variability*. Table 3-2 lists, for each monitoring location, the three VOCs with lowest coefficients of variation and the three VOCs with highest. Because nondetect observations strongly influence variability, the table only considers the 16 most prevalent compounds. As with the trends in central tendency, the trends in variability vary from one site to the next, but some general trends are apparent. For example, ambient air concentrations of carbon tetrachloride, chloromethane, and, to a lesser extent, 1,1,1-trichloroethane had very low variability, regardless of the monitoring location. On the other hand, concentrations of styrene, methylene chloride, and tetrachloroethylene

consistently varied greatly during the 1996 UATMP. The data interpretations in Section 6 explain how the relative magnitudes of coefficients of variation provide insight into which factors most significantly affect ambient air concentrations of selected compounds.

3.3 Data Summary Parameters for Carbonyls

Using the same four data summary parameters, Tables E-1 through E-13 (see Appendix E) provide an overview of the carbonyl monitoring results from the 1996 UATMP. The raw monitoring data are included in Appendix G. The most notable trends indicated by the data summary tables are as follows:

- *Prevalence*. For reasons discussed previously, the analyses throughout this report focus on interpreting data trends for these compounds with highest prevalence. As the data summary tables in Appendix E show, 10 of the carbonyls identified by the sampling and analytical method were detected in at least 75 percent of the samples collected during the 1996 UATMP:

Acetaldehyde	Benzaldehyde	Hexanaldehyde
Acetone	Butyr/isobutyraldehyde [2]	Propionaldehyde
Acrolein	Formaldehyde	Valeraldehyde

  Readers interested in examining ambient air levels of less prevalent carbonyl compounds (i.e., crotonaldehyde, 2,5-dimethylbenzaldehyde, isovaleraldehyde, and tolualdehydes) should refer to the raw monitoring data in Appendix G and the data interpretation methodologies in Section 5.

- *Concentration range*. Table 3-3 summarizes the highest concentrations of carbonyls measured during the 1996 UATMP. Like the VOCs, most carbonyls had concentration peaks of less than 1 ppbv. Acetone, on the other hand, consistently had peak concentrations greater than 1 ppbv, while acetaldehyde and formaldehyde had peaks greater than 5 ppbv at most of the monitoring stations. Peak concentrations of formaldehyde exceeded 50 ppbv at both the Galveston and Port Neches monitoring stations.

- *Central tendency*. Figure 3-2 illustrates how central tendency concentrations of the 10 most prevalent carbonyl compounds varied among the 1996 UATMP monitoring

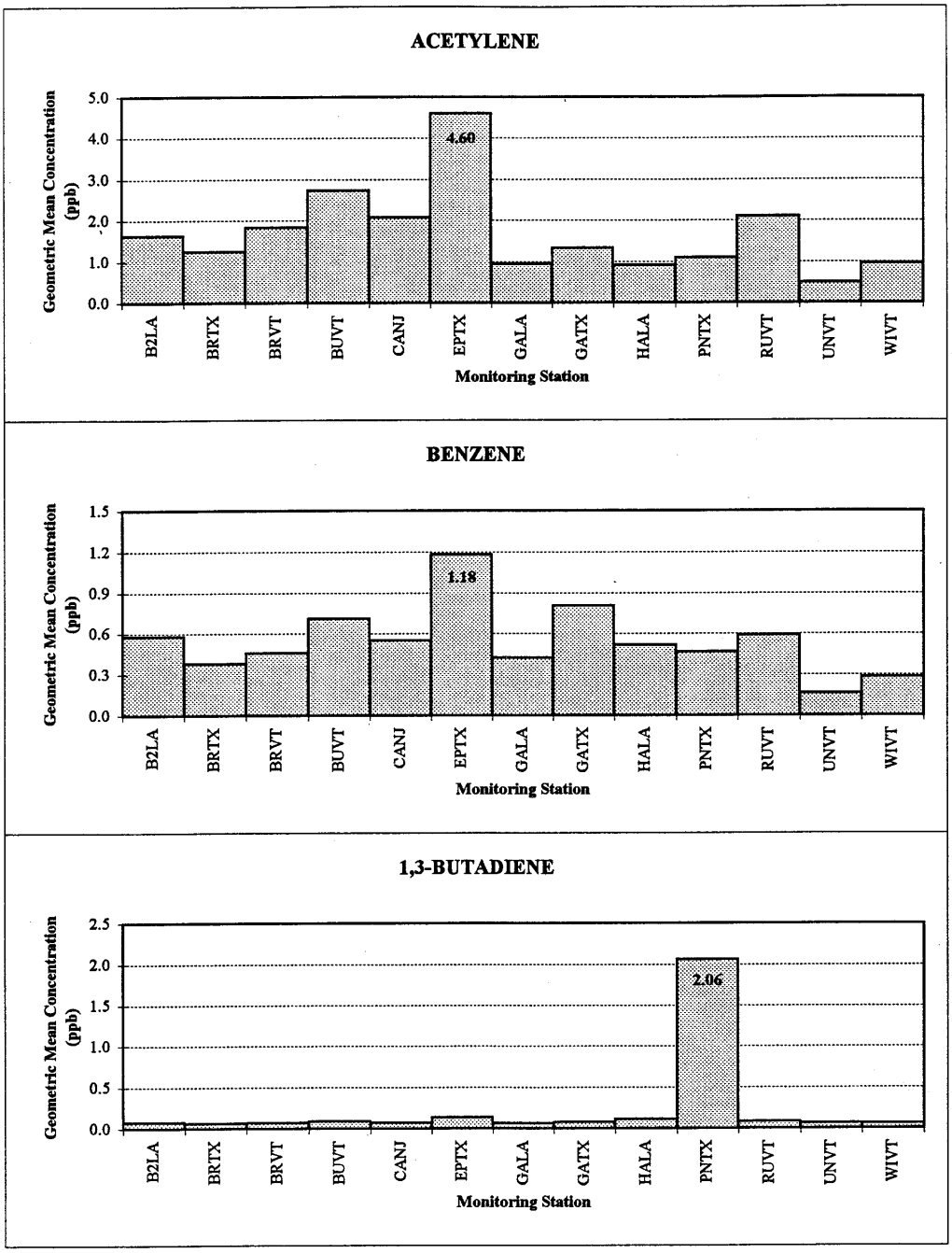
[2] As Section 2.3.2 noted, the carbonyl sampling and analytical method cannot separate these compounds and therefore reports the sum of the concentrations for these two compounds, rather than reporting separate concentrations for each compound.

locations. Like the spatial variations shown for VOC central tendency concentrations, the spatial variations for carbonyl central tendency concentrations differ for each compound. Nonetheless, some general trends are apparent. For example, the profiles of central tendency concentrations for acetaldehyde, acrolein, butyr/isobutyraldehyde, benzaldehyde, and, to a lesser extent, formaldehyde are all similar to the profile shown in Figure 3-1 for selected hydrocarbons (i.e., the highest concentrations typically occurred at El Paso and Burlington and the lowest concentrations at Underhill). Section 6.3 offers explanations for this common profile. Although the spatial variations for the remaining compounds (acetone, hexanaldehyde, propionaldehyde, and valeraldehyde) do not exhibit features consistent across all monitoring locations, the analyses in Section 6.3 attempt to interpret subtle trends in the monitoring data for these compounds, such as the relatively higher concentrations of acetone detected at the monitoring stations in Vermont.

- *Variability*. Following the same format as Table 3-2, Table 3-4 lists, for each monitoring location, the three carbonyl compounds with lowest coefficients of variation and the three with highest. Clearly, some compounds consistently are among the least variable (e.g., butyr/isobutyraldehyde) and other compounds frequently are among the most variable (e.g., acrolein and hexanaldehyde), but these variability trends for the carbonyl data are not as strong as those for the VOC data. Section 6.3 revisits the significance of variability when interpreting the 1996 UATMP carbonyl monitoring data.

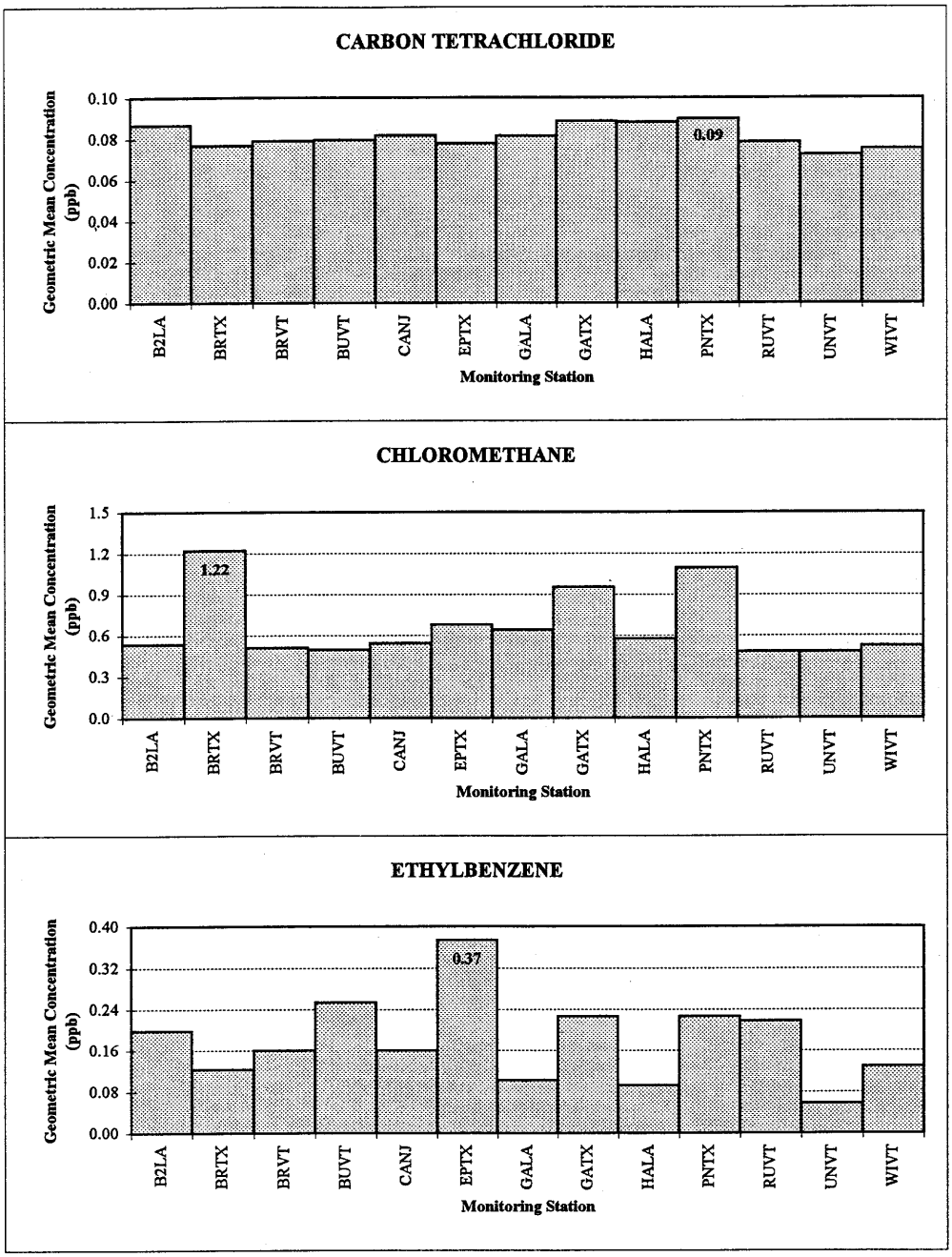
When interpreting the data summary parameters for the UATMP, participating agencies should be careful not to confuse the most prevalent compounds identified by the UATMP with the most prevalent compounds in urban air pollution. Because the UATMP does not characterize every component of air pollution (see Section 2.2), many compounds known to be prevalent in urban air are not considered in this report. Further, participating agencies should interpret any reference to “spatial variations” in proper context. The spatial variations discussed above and throughout this report compare air quality measured in or near only 13 urban locations, which clearly is only a small subset of urban settings in the United States.

Figure 3-1
Geometric Mean Concentrations of the Most Prevalent VOCs, by Monitoring Location, by Compound



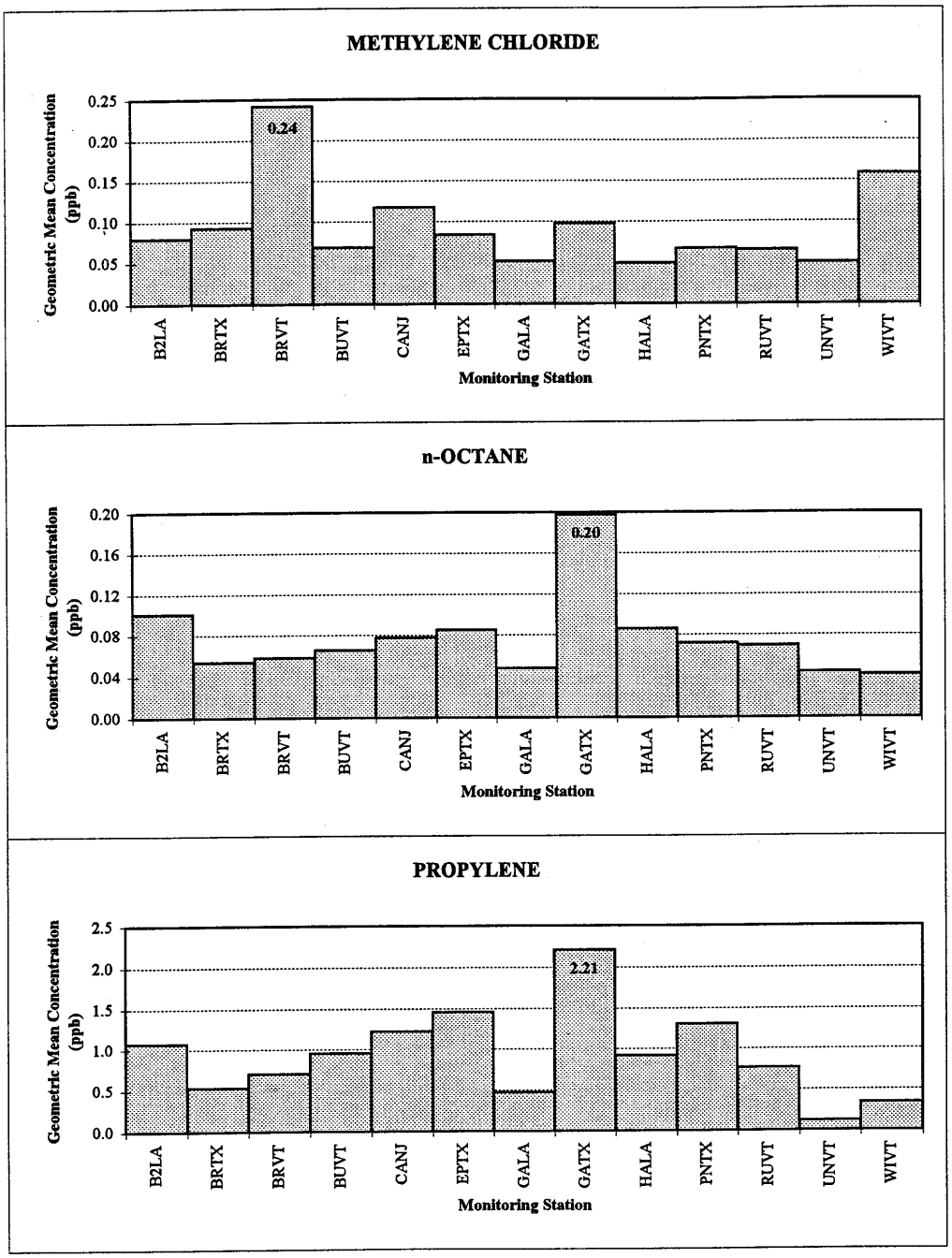
Note: The three figures are presented in different scales and show the numerical value of the highest geometric mean concentration calculated for the 1996 UATMP sites.

Figure 3-1 (Continued)
Geometric Mean Concentrations of the Most Prevalent VOCs, by Monitoring Location, by Compound



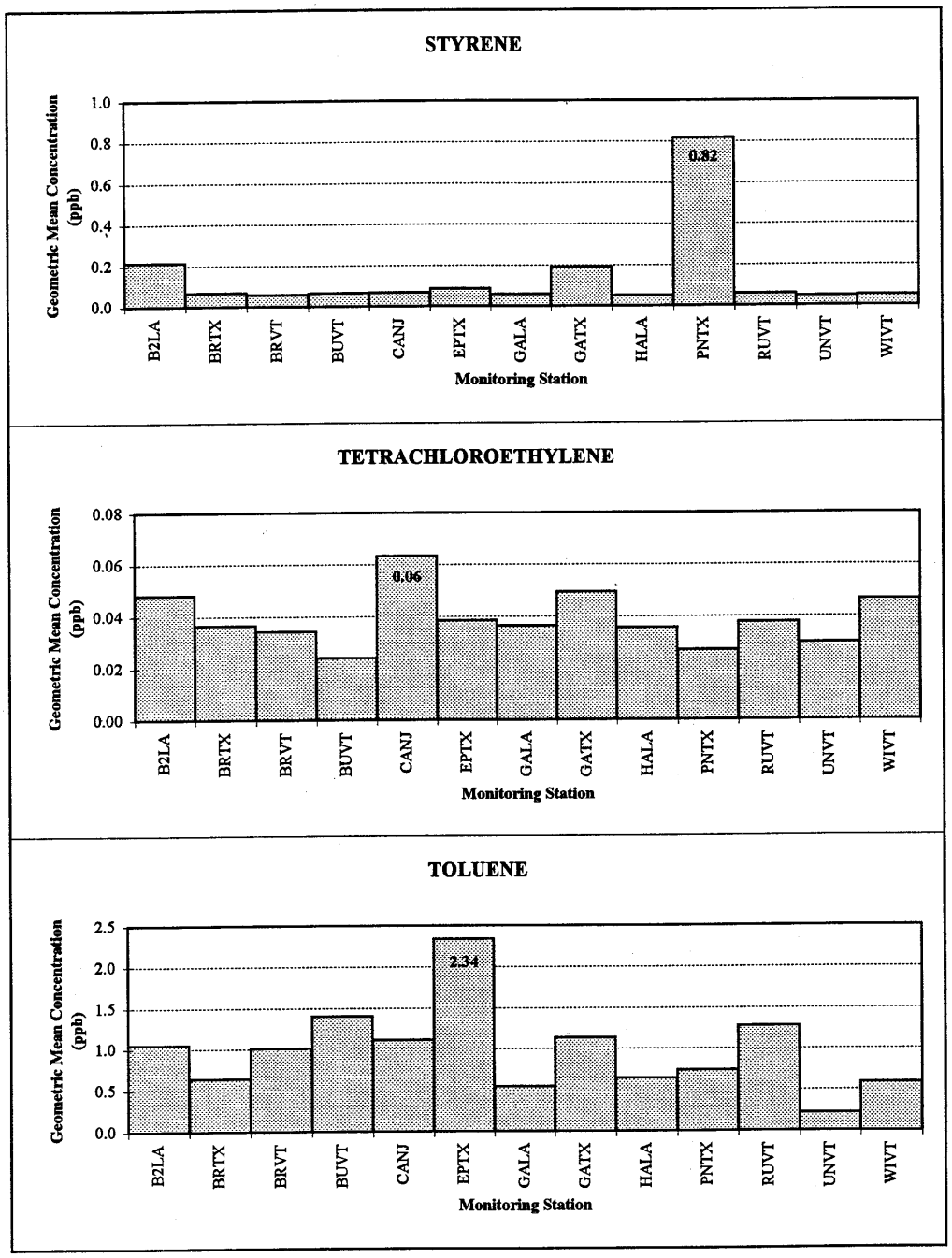
Note: The three figures are presented in different scales and show the numerical value of the highest geometric mean concentration calculated for the 1996 UATMP sites.

Figure 3-1 (Continued)
Geometric Mean Concentrations of the Most Prevalent VOCs, by Monitoring Location, by Compound



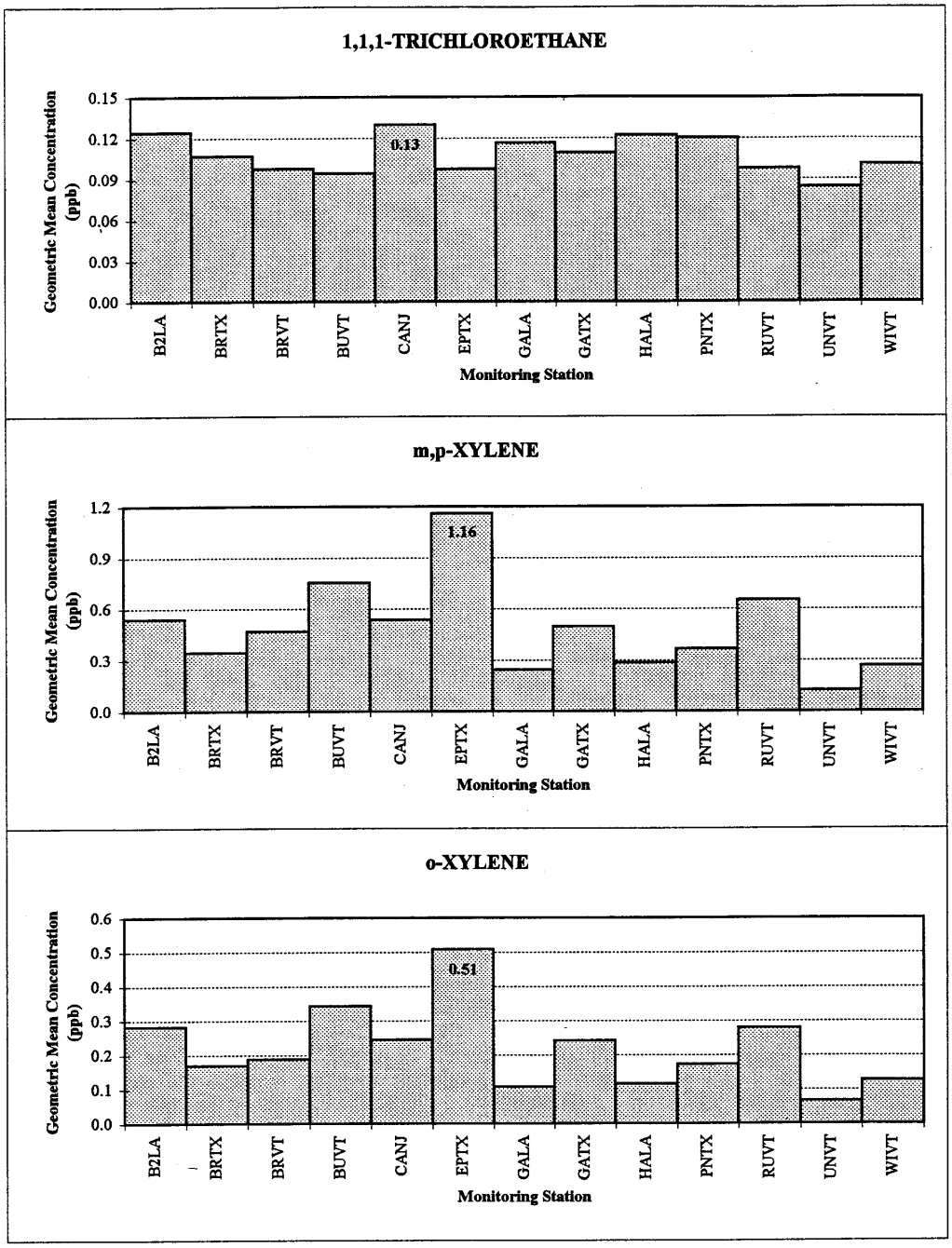
Note: The three figures are presented in different scales and show the numerical value of the highest geometric mean concentration calculated for the 1996 UATMP sites.

Figure 3-1 (Continued)
Geometric Mean Concentrations of the Most Prevalent VOCs, by Monitoring Location, by Compound



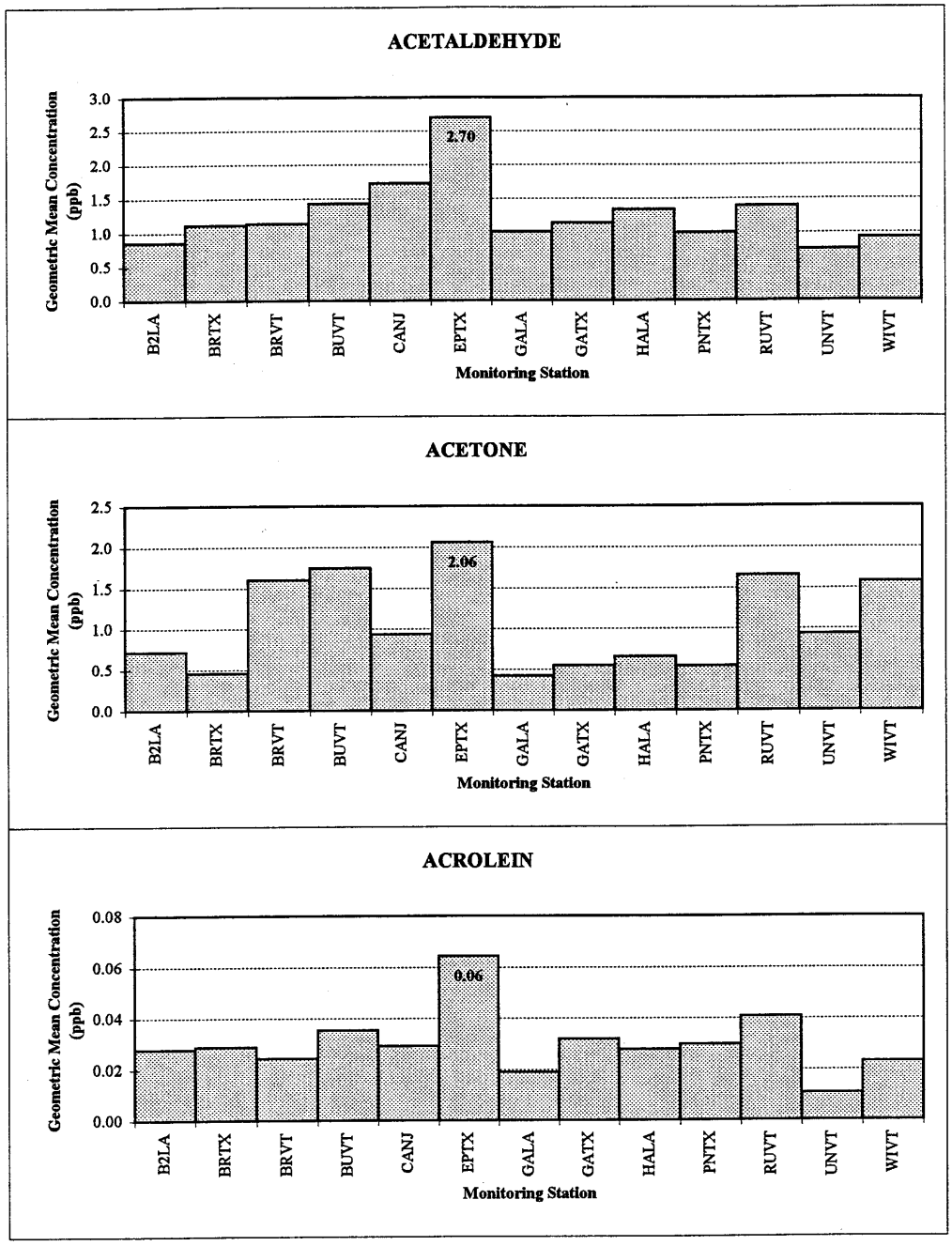
Note: The three figures are presented in different scales and show the numerical value of the highest geometric mean concentration calculated for the 1996 UATMP sites.

Figure 3-1 (Continued)
Geometric Mean Concentrations of the Most Prevalent VOCs, by Monitoring Location, by Compound



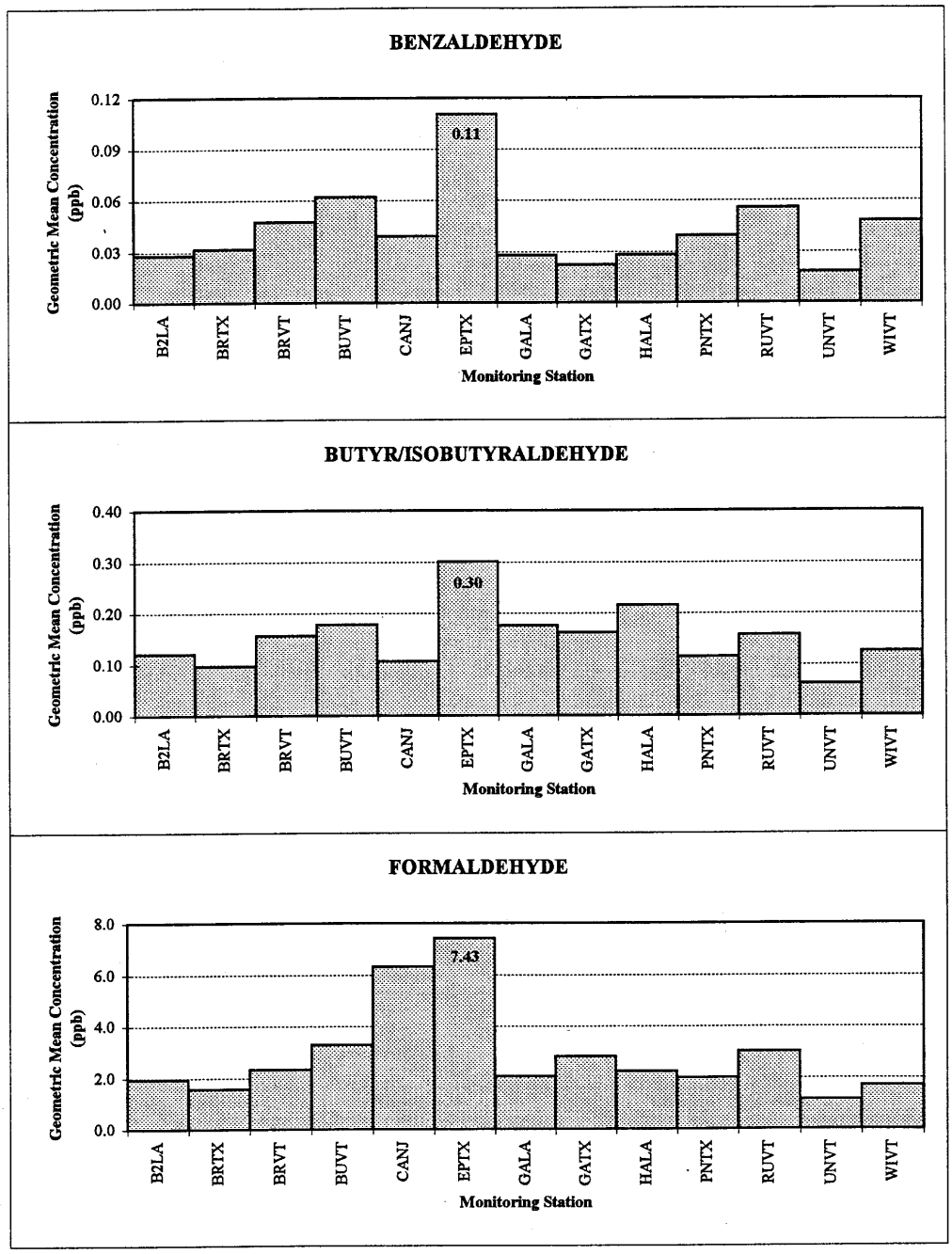
Note: The three figures are presented in different scales and show the numerical value of the highest geometric mean concentration calculated for the 1996 UATMP sites.

Figure 3-2
Geometric Mean Concentrations of the Most Prevalent Carbonyls, by Monitoring Location, by Compound



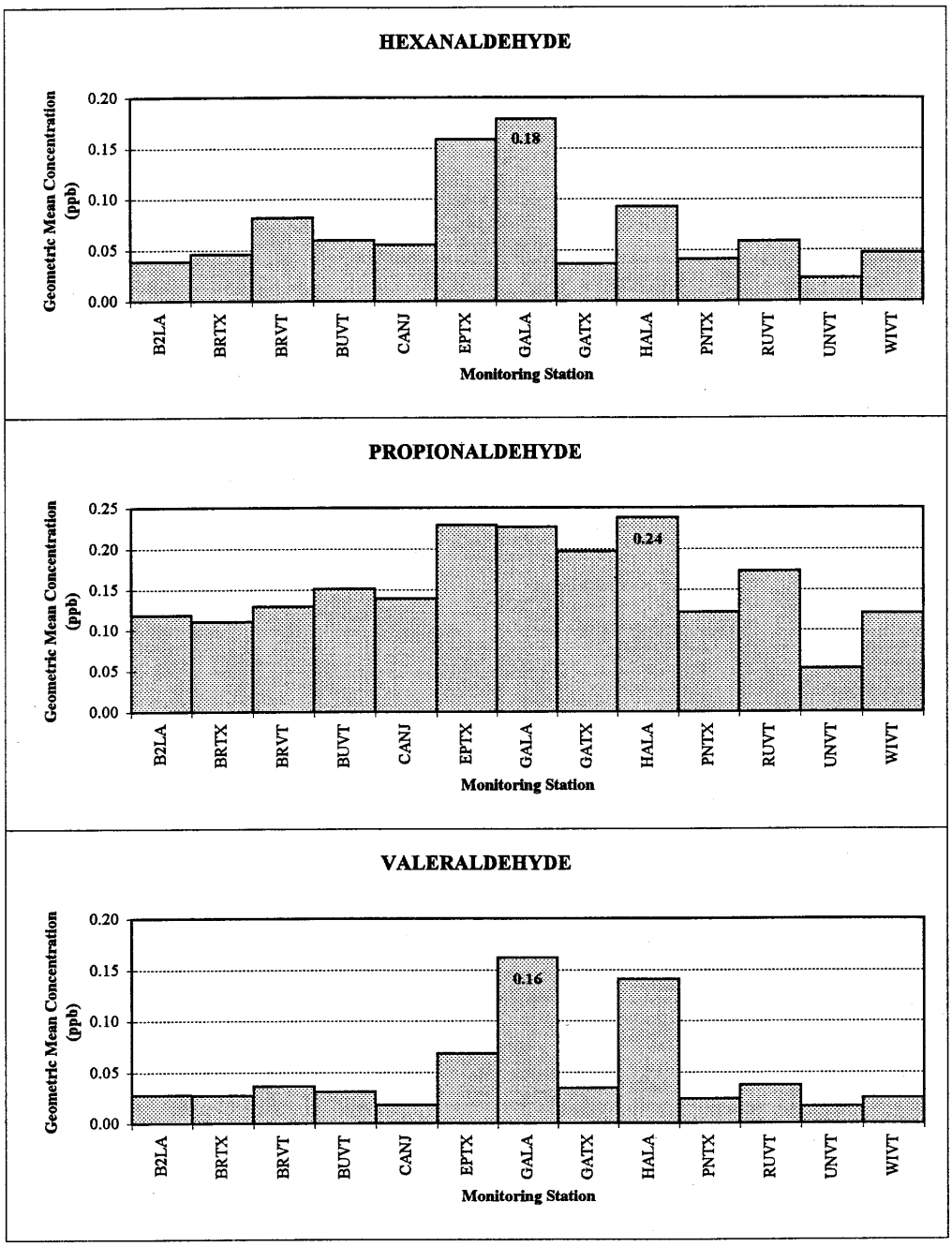
Note: The three figures are presented in different scales and show the numerical value of the highest geometric mean concentration calculated for the 1996 UATMP sites.

Figure 3-2 (Continued)
Geometric Mean Concentrations of the Most Prevalent Carbonyls, by Monitoring Location, by Compound



Note: The three figures are presented in different scales and show the numerical value of the highest geometric mean concentration calculated for the 1996 UATMP sites.

Figure 3-2 (Continued)
Geometric Mean Concentrations of the Most Prevalent Carbonyls, by Monitoring Location, by Compound



Note: The three figures are presented in different scales and show the numerical value of the highest geometric mean concentration calculated for the 1996 UATMP sites.

Table 3-1
Summary of Highest VOC Concentrations: Number of Monitoring Stations With Highest Concentration in Listed Range

Chemical	Number of Stations			
	Concentration <1 ppbv	Concentration ≥1 but <5 ppbv	Concentration ≥5 but <10 ppbv	Concentration ≥10 ppbv
Acetylene	0	5	6	2
Benzene	0	13	0	0
Bromochloromethane	13	0	0	0
Bromodichloromethane	13	0	0	0
Bromoform	13	0	0	0
Bromomethane	13	0	0	0
1,3-Butadiene	9	2	1	1
Carbon tetrachloride	13	0	0	0
Chlorobenzene	13	0	0	0
Chloroethane	13	0	0	0
Chloroform	13	0	0	0
Chloromethane	5	7	1	0
Chloroprene	12	0	1	0
Dibromochloromethane	13	0	0	0
m-Dichlorobenzene	13	0	0	0
o-Dichlorobenzene	13	0	0	0
p-Dichlorobenzene	13	0	0	0
1,1-Dichloroethane	13	0	0	0
1,2-Dichloroethane	13	0	0	0
trans-1,2-Dichloroethylene	13	0	0	0
1,2-Dichloropropane	13	0	0	0
cis-1,3-Dichloropropylene	13	0	0	0
trans-1,3-Dichloropropylene	13	0	0	0
Ethylbenzene	12	1	0	0
Methylene chloride	9	3	1	0
n-Octane	12	0	0	1
Propylene	0	9	3	1
Styrene	8	4	0	1
1,1,2,2-Tetrachloroethane	13	0	0	0
Tetrachloroethylene	11	2	0	0
Toluene	0	12	1	0
1,1,1-Trichloroethane	11	2	0	0
1,1,2-Trichloroethane	13	0	0	0
Trichloroethylene	12	0	1	0
Vinyl chloride	13	0	0	0
m,p-Xylene	1	12	0	0
o-Xylene	10	3	0	0

Table 3-2
Compounds With Highest and Lowest Coefficients of Variation, by Monitoring Location

Monitoring Location	Three Compounds With Lowest Coefficients of Variation (Value)	Three Compounds With Highest Coefficients of Variation (Value)
B2LA	carbon tetrachloride (0.20) chloromethane (0.32) ethylbenzene (0.51)	propylene (0.96) styrene (1.72) methylene chloride (1.81)
BRTX	carbon tetrachloride (0.19) chloromethane (0.57) propylene (0.65)	styrene (1.15) tetrachloroethylene (2.93) methylene chloride (3.30)
BRVT	carbon tetrachloride (0.17) 1,1,1-trichloroethane (0.40) chloromethane (0.82)	*n*-octane (1.00) methylene chloride (1.43) styrene (1.57)
BUVT	carbon tetrachloride (0.17) chloromethane (0.21) 1,1,1-trichloroethane (0.29)	tetrachloroethylene (0.88) methylene chloride (1.05) styrene (1.25)
CANJ	carbon tetrachloride (0.21) chloromethane (0.33) 1,1,1-trichloroethane (0.34)	acetylene (0.95) tetrachloroethylene (1.42) styrene (1.94)
EPTX	carbon tetrachloride (0.15) chloromethane (0.29) 1,1,1-trichloroethane (0.37)	methylene chloride (0.79) tetrachloroethylene (0.91) styrene (1.79)
GALA	carbon tetrachloride (0.18) chloromethane (0.22) 1,1,1-trichloroethane (0.48)	tetrachloroethylene (1.29) styrene (1.30) 1,3-butadiene (1.79)
GATX	carbon tetrachloride (0.20) 1,1,1-trichloroethane (0.31) ethylbenzene (0.49)	styrene (1.81) tetrachloroethylene (2.96) *n*-octane (4.23)
HALA	carbon tetrachloride (0.17) chloromethane (0.27) *o*-xylene (0.53)	methylene chloride (1.47) tetrachloroethylene (1.52) 1,3-butadiene (3.15)

Note: As the summary tables in Appendix D show, compounds with low prevalence also have low variability, because a large fraction of the sampling results (i.e., the nondetects) have the exact same value: one-half the detection limit. Therefore, the summary of coefficients of variation in this table only considers the 16 VOCs that were consistently detected in over 75 percent of the UATMP samples (see Section 3.2 for a list).

Table 3-2 (Continued)
Compounds With Highest and Lowest Coefficients of Variation, by Monitoring Location

Monitoring Location	Three Compounds With Lowest Coefficients of Variation (Value)	Three Compounds With Highest Coefficients of Variation (Value)
PNTX	carbon tetrachloride (0.23) benzene (0.49) *o*-xylene (0.57)	ethylbenzene (0.99) 1,3-butadiene (1.15) styrene (1.68)
RUVT	carbon tetrachloride (0.15) chloromethane (0.18) toluene (0.46)	1,3-butadiene (0.75) styrene (1.40) 1,1,1-trichloroethane (1.83)
UNVT	1,3-butadiene (0.23) carbon tetrachloride (0.23) chloromethane (0.30)	*m,p*-xylene (1.66) propylene (1.85) styrene (1.91)
WIVT	carbon tetrachloride (0.23) chloromethane (0.36) benzene (0.60)	propylene (1.47) styrene (1.49) 1,3-butadiene (1.92)

Notes: As the summary tables in Appendix D show, compounds with low prevalence also have low variability, because a large fraction of the sampling results (i.e., the nondetects) have the exact same value: one-half the detection limit. Therefore, the summary of coefficients of variation in this table only considers the 16 compounds consistently detected in over 75 percent of the UATMP samples (see Section 3.2 for a list).

At UNVT, 1,3-butadiene was detected during only 10 of the 31 scheduled sampling days. Therefore, the low variability for this compound at this site results primarily from nearly two-thirds of the observations being equal to one-half the detection limit, as opposed to resulting from actual fluctuations in ambient air concentrations.

Table 3-3
Summary of Highest Carbonyl Concentrations: Number of Monitoring Stations With Highest Concentration in Listed Range

Chemical	Number of Stations			
	Concentration <1 ppbv	Concentration ≥1 but <5 ppbv	Concentration ≥5 but <10 ppbv	Concentration ≥10 ppbv
Acetaldehyde	0	3	7	3
Acetone	0	10	3	0
Acrolein	12	1	0	0
Benzaldehyde	12	1	0	0
Butyr/Isobutyraldehyde	12	1	0	0
Crotonaldehyde	13	0	0	0
2,5-	13	0	0	0
Formaldehyde	0	2	4	7
Hexanaldehyde	11	2	0	0
Isovaleraldehyde	13	0	0	0
Propionaldehyde	11	2	0	0
Tolualdehydes	13	0	0	0
Valeraldehyde	13	0	0	0

Table 3-4
Compounds With Highest and Lowest Coefficients of Variation, by Monitoring Location

Monitoring Location	Three Compounds With Lowest Coefficients of Variation (Value)	Three Compounds With Highest Coefficients of Variation (Value)
B2LA	formaldehyde (0.55) butyr/isobutyraldehyde (0.58) hexanaldehyde (0.59)	acetaldehyde (0.85) propionaldehyde (0.91) acrolein (1.46)
BRTX	formaldehyde (0.44) butyr/isobutyraldehyde (0.45) benzaldehyde (0.51)	hexanaldehyde (1.05) acrolein (1.06) acetaldehyde (1.51)
BRVT	acetone (0.46) butyr/isobutyraldehyde (0.50) acetaldehyde (0.57)	acrolein (0.73) hexanaldehyde (0.74) valeraldehyde (0.85)
BUVT	butyr/isobutyraldehyde (0.40) formaldehyde (0.41) acetone (0.42)	acetaldehyde (0.60) acrolein (0.75) hexanaldehyde (0.78)
CANJ	acetone (0.53) acetaldehyde (0.67) benzaldehyde (0.73)	acrolein (1.02) hexanaldehyde (1.09) propionaldehyde (1.81)
EPTX	acetone (0.67) butyr/isobutyraldehyde (0.85) acetaldehyde (0.90)	valeraldehyde (1.39) hexanaldehyde (1.42) acrolein (1.62)
GALA	butyr/isobutyraldehyde (0.32) propionaldehyde (0.41) acetaldehyde (0.41)	hexanaldehyde (0.65) acrolein (0.70) acetone (0.70)
GATX	butyr/isobutyraldehyde (0.56) propionaldehyde (0.69) acetaldehyde (0.79)	benzaldehyde (1.81) hexanaldehyde (1.95) formaldehyde (2.05)
HALA	propionaldehyde (0.40) butyr/isobutyraldehyde (0.43) acetaldehyde (0.67)	valeraldehyde (0.99) acrolein (1.31) hexanaldehyde (2.71)

Note: As the summary tables in Appendix E show, compounds with low prevalence also have low variability, because a large fraction of the sampling results (i.e., the nondetects) have the exact same value: one-half the detection limit. Therefore, the summary of coefficients of variation in this table only considers the 10 carbonyls that were consistently detected in over 75 percent of the UATMP samples (see Section 3.3 for a list).

Table 3-4 (Continued)
Compounds With Highest and Lowest Coefficients of Variation, by Monitoring Location

Monitoring Location	Three Compounds With Lowest Coefficients of Variation (Value)	Three Compounds With Highest Coefficients of Variation (Value)
PNTX	propionaldehyde (0.67) acetone (1.00) butyr/isobutyraldehyde (1.04)	hexanaldehyde (2.05) formaldehyde (2.40) benzaldehyde (2.44)
RUVT	butyr/isobutyraldehyde (0.50) benzaldehyde (0.51) acetaldehyde (0.56)	hexanaldehyde (0.73) valeraldehyde (1.02) acrolein (1.21)
UNVT	acetone (0.46) propionaldehyde (0.74) butyr/isobutyraldehyde (0.88)	benzaldehyde (2.48) formaldehyde (2.57) hexanaldehyde (3.16)
WIVT	benzaldehyde (0.41) acetone (0.46) valeraldehyde (0.48)	hexanaldehyde (0.70) acetaldehyde (0.90) acrolein (1.75)

Note: As the summary tables in Appendix E show, compounds with low prevalence also have low variability, because a large fraction of the sampling results (i.e., the nondetects) have the exact same value: one-half the detection limit. Therefore, the summary of coefficients of variation in this table only considers the 10 carbonyls that were consistently detected in over 75 percent of the UATMP samples (see Section 3.3 for a list).

4.0 Correlation Analysis

This section estimates and interprets correlations among the 1996 UATMP ambient air monitoring data and examines how temperature affects levels of air pollution in urban areas. Data correlations measure the strength and direction of relationships between variables. Applied to the UATMP monitoring data, these correlations can identify notable trends and patterns in the large volume of data that may not be readily apparent from the data summary parameters in Section 3. These trends and patterns, or lack thereof, ultimately characterize those factors that most strongly affect levels of air pollution. For background, Section 4.1 presents the statistical methodology used to calculate data correlations. Sections 4.2 and 4.3 then apply Pearson correlation coefficients to the UATMP data and ambient temperature data, respectively, to answer two basic questions:

- To what extent are 24-hour average concentrations of one compound related to 24-hour average concentrations of other compounds measured at the same time at the same monitoring location? (Section 4.2)
- To what extent are ambient air concentrations of VOCs and carbonyls related to temperature? (Section 4.3)

Although this section discusses the significance of the most notable data correlations, the analysis of spatial variations in Section 6 offers a more extensive interpretation of how the correlations characterize air quality in urban locations.

4.1 Statistical Methodology

This report uses Pearson correlation coefficients to measure the degree of correlation between two variables.[1] By definition, Pearson correlation coefficients always lie between -1 and 1. A correlation coefficient of -1 indicates a perfectly “negative” relationship, and a correlation coefficient of 1 indicates a perfectly “positive” relationship. Negative relationships occur when increases in the magnitude of one variable are associated with proportionate

[1] Pearson correlation coefficients are commonly used as a measure of correlation. Details regarding their calculation can be found in most introductory statistics texts.

decreases in the magnitude of the other variable, and vice versa; positive relationships occur when the magnitudes of two variables both increase and both decrease proportionately. Data that are completely uncorrelated have Pearson correlation coefficients of zero. Therefore, the sign (positive or negative) and magnitude of the Pearson correlation coefficient indicate the direction and strength, respectively, of data correlations.

When calculating correlations among the UATMP data, several measures were taken to identify spurious correlations and to avoid introducing bias to the correlations. First, the statistical significance of the Pearson correlation coefficients was evaluated using a standard t-test—a test commonly used for this purpose (Harnett, 1982). In this report, Pearson correlation coefficients were tested for statistical significance using the 5 percent level of significance.[2] Second, data correlations were calculated only for the most prevalent compounds listed in Sections 3.2 and 3.3. Because the UATMP monitoring data are least precise for compounds having many nondetect observations (see Section 8), eliminating the less prevalent compounds improves the correlation analysis. Third, correlations were calculated from the processed UATMP monitoring database in which each compound has just one numerical concentration for each successful sampling date. Section 3.3 discussed the significance of using this processed database, in which nondetect observations, duplicate sampling events, and replicate laboratory analyses were all replaced with appropriate surrogate values. With these data quality measures, data analysts ensured that the calculated correlations characterize actual trends in the UATMP air monitoring data.

Before presenting the correlation results, it should be noted that this report presents only pairwise correlations (i.e., correlations between two variables). Although multivariate correlation analyses may identify more complex, but noteworthy, trends and patterns in the UATMP data, such detailed analyses were not included in the scope of this work.

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[2] More specifically, a 95 percent confidence interval was calculated around the estimated correlation coefficient. If zero did not fall within the interval, the coefficient was considered statistically significantly different from zero. Using this test, 90 percent of all calculated coefficients were statistically significantly different from zero.

4.2 Correlations Between Concentrations of Different Compounds

For each monitoring location, a Pearson correlation coefficient was calculated for every possible pair of the most prevalent compounds. Across all monitoring stations, over 3,500 correlation coefficients were calculated. Clearly, listing every correlation coefficient, without interpretation, would not provide a meaningful account of this statistical analysis. Therefore, the following subsections describe general trends among the calculated correlation coefficients to offer insight into the origin of air pollution in urban locations. Because correlation trends significantly differed among hydrocarbons, halogenated hydrocarbons, and carbonyls, the correlations for these three groups of compounds are presented separately. Section 4.4 summarizes the correlations discussed below.

4.2.1 Hydrocarbons

Of the 16 most prevalent VOCs identified in Section 3.2, 11 are hydrocarbons: acetylene, benzene, 1,3-butadiene, ethylbenzene, *n*-octane, propylene, styrene, toluene, and the three xylene isomers. From the ambient air monitoring data collected at each site, Pearson correlation coefficients were calculated between each pair of these compounds and between each of these compounds and the remaining prevalent compounds (i.e., the halogenated hydrocarbons and the carbonyls). The following discussion summarizes the calculated correlations:

- *Correlations between hydrocarbons and other hydrocarbons*. Figure 4-1 shows the distribution of Pearson correlation coefficients calculated from the ambient air monitoring data for pairs of the most prevalent hydrocarbons. These correlations were generally positive, and some pairs of compounds had air concentrations that were very strongly correlated (i.e., they had Pearson correlation coefficients greater than 0.75). The strong correlations indicate that ambient air concentrations of the corresponding hydrocarbons generally rose and fell in proportion during the 1996 UATMP—an observation consistent with most hydrocarbon species originating primarily from one type of emissions source. Because the correlations were relatively strong across all monitoring sites, the strong correlations also suggest that emissions from a source common to all urban environments (e.g., motor vehicles) might account for a large fraction of hydrocarbons commonly found in urban air pollution.

  Although the strength of correlations varied from compound to compound, some general trends among the correlations were apparent. First, at every 1996 UATMP monitoring station, ambient air concentrations were most highly correlated between pairs involving

any two of the following compounds: acetylene, benzene, ethylbenzene, propylene, toluene, and the xylene isomers. These particular compounds, therefore, seem most likely to be strongly influenced by a common emissions source in all urban environments. The analyses in Section 6 show that emissions from motor vehicles best explains the highly correlated ambient air monitoring data for this subset of hydrocarbons. Second, correlations involving 1,3-butadiene and *n*-octane were typically positive, but weaker than the correlations involving the previous list of compounds. Accordingly, many different emissions sources may affect ambient air concentrations of these compounds. Finally, ambient air concentrations of styrene were essentially uncorrelated with ambient air concentrations of the other prevalent hydrocarbons—a finding that suggests that the emissions sources that predominantly affect ambient air concentrations of styrene are different from the emissions sources that predominantly affect ambient levels of most other hydrocarbons. Section 6 revisits this issue.

Even though most pairwise correlations of hydrocarbons were either consistently strong or consistently weak across the 1996 UATMP monitoring locations, the correlations calculated from the monitoring data collected at three sites—Galveston, Hahnville, and Port Neches—were notably weaker than the correlations calculated for other sites. The weaker correlations suggest that emissions sources specific to these three monitoring locations may have significantly contributed to the measured concentrations of hydrocarbons. As discussed in greater detail in Section 6, the relatively high emissions from industrial facilities near these three monitoring locations may explain the unique site-specific correlation behavior.

- *Correlations between hydrocarbons and halogenated hydrocarbons*. As the distribution of Pearson correlation coefficients in Figure 4-1 shows, ambient air concentrations of the most prevalent halogenated hydrocarbons (i.e., carbon tetrachloride, chloromethane, methylene chloride, tetrachloroethylene, and 1,1,1-trichloroethane) measured during the 1996 UATMP were very weakly correlated with ambient air concentrations of the most prevalent hydrocarbons. These weak correlations generally suggest that the factors that most strongly affect levels of halogenated hydrocarbons in ambient air are different from the factors that affect ambient air concentrations of hydrocarbons.

  The most consistent correlations among the pairings of hydrocarbons and halogenated hydrocarbons involved concentrations of carbon tetrachloride, chloromethane, and tetrachloroethylene. At all 13 monitoring locations, ambient air concentrations of these three compounds had particularly weak correlations, or were completely uncorrelated, with concentrations of the most prevalent hydrocarbons. Consistent with this finding, Section 6 notes that ambient air concentrations of these three compounds are primarily affected by factors that have little bearing on ambient air concentrations of most hydrocarbons.

  Of the correlations between either methylene chloride or 1,1,1-trichloroethane and hydrocarbons, no trends common to all sites are apparent. It should be noted, however,

that the Underhill site had much stronger correlations between ambient air concentrations of methylene chloride and concentrations of hydrocarbons than any of the other sites. Therefore, when levels of methylene chloride were relatively high at Underhill, levels of hydrocarbons also were relatively high, and vice versa. This correlation is consistent with the hypothesis that different forms of air pollution (e.g., hydrocarbons and halogenated hydrocarbons) detected at Underhill might all originate from distant sources. The spatial variations in Section 6 examine this correlation and other notable spatial variations in greater detail.

- *Correlations between hydrocarbons and carbonyls*. As Figure 4-1 shows, concentrations of hydrocarbons measured during the 1996 UATMP were weakly correlated with concentrations of carbonyls—a finding that suggests that ambient air concentrations of these two groups of compounds are affected by different sets of factors (e.g., emissions sources and photochemical reactions). Unlike the other sets of correlations discussed above, the correlations between carbonyls and hydrocarbons are notably different from one monitoring location to the next. No trends common to all sites, except for the lack of strong correlations, are apparent. Section 6 presents several hypotheses for why the ambient air monitoring data for these groups of compounds were essentially uncorrelated.

4.2.2 Halogenated Hydrocarbons

Of the most prevalent VOCs in the 1996 UATMP, five are halogenated hydrocarbons: carbon tetrachloride, chloromethane, methylene chloride, tetrachloroethylene, and 1,1,1-trichloroethane. Based on the calculated Pearson correlation coefficients, the following discussion reviews how ambient air concentrations of the most prevalent halogenated hydrocarbons related to ambient air concentrations of other compounds during the 1996 UATMP:

- *Correlations between halogenated hydrocarbons and other halogenated hydrocarbons*. As Figure 4-1 shows, the majority of Pearson correlation coefficients calculated from air monitoring data for one halogenated hydrocarbon and air monitoring data for another halogenated hydrocarbon fell between -0.25 and 0.25—a range indicating weakly correlated or uncorrelated data. Closer examination of the data found that the direction and strength of correlations between the different halogenated hydrocarbons varied from one monitoring location to the next. The lack of consistent correlations among the halogenated hydrocarbons and across the monitoring locations suggests that each of the five compounds is released and transported in the atmosphere by unique mechanisms. The analyses in Section 6 support this hypothesis.

- *Correlations between halogenated hydrocarbons and carbonyls*. Like the distribution of correlations between individual halogenated hydrocarbons, the distribution of

correlations between halogenated hydrocarbons and carbonyls is most heavily populated in the range from -0.25 to 0.25 (see Figure 4-1). With this high frequency of weakly correlated or uncorrelated data, the statistical analysis suggests that the emissions sources and photochemical reactions that most significantly affect ambient air concentrations of halogenated hydrocarbons differ from those sources and reactions that tend to affect ambient levels of carbonyls. Section 6 discusses these factors in greater detail.

4.2.3 Carbonyls

Among the carbonyls that were most prevalent during the 1996 UATMP, correlations between concentrations of different compounds were relatively strong (see Figure 4-1). Despite the large number of strong correlations, the pairs of carbonyl compounds having the most significant correlations varied from site to site, and no trends as strong as those observed among the hydrocarbon compounds (see Section 4.2.1) were readily apparent. Otherwise stated, the composition and magnitude of carbonyls measured at each of the 1996 UATMP monitoring locations exhibited distinct site-specific trends. The absence of general trends among the carbonyl compounds suggests that no single factor determines how ambient air concentrations of carbonyls vary from one monitoring location to the next. A more likely explanation of the lack of consistent carbonyl correlations across all monitoring locations is that many different factors affect ambient air concentrations of carbonyls, with no single factor exhibiting a dominating effect. As Section 6 describes, meaningful interpretation of the carbonyl monitoring data might be possible by considering contributions from the numerous emissions sources in urban environments together with the rates at which photochemical reactions produce and consume carbonyls in ambient air.

4.3 Correlations Between Concentrations and Temperature

The correlation between a compound's measured ambient air concentration and the corresponding daily temperature provides a measure of how ambient air concentrations vary with temperature and how they vary with season. Compounds that tend to have higher concentrations in the summer months generally have positive correlations with temperature; compounds with higher concentrations during the winter months have negative correlations with temperature; and compounds with ambient air concentrations unaffected by season are usually uncorrelated with temperature. Ultimately, the magnitude and direction of seasonal variations in ambient air

monitoring data provide insight into the factors that most strongly affect air quality.

To characterize the relationship between temperature and the 1996 UATMP monitoring data, a set of temperature-concentration Pearson correlation coefficients was calculated for each monitoring location. These correlations evaluated how ambient air concentrations of each of the most prevalent compounds varied with daily average temperature on the corresponding sampling dates. Daily average temperature data representative of each UATMP monitoring location were obtained from the National Climatic Data Center (NCDC), an organization that oversees a network of meteorological stations across the country. Not surprisingly, seasonal changes in daily average temperature are much greater at the monitoring locations in the north (e.g., Vermont) than at the monitoring locations in the south (e.g., along the Gulf of Mexico). More specifically, daily average temperatures in Burlington ranged from 9 ^{o}F to 74 ^{o}F on UATMP sampling dates, while daily average temperatures in Brownsville ranged only from 53 ^{o}F to 89 ^{o}F. As discussed below, the differing magnitudes of seasonal changes in temperature are important to consider when interpreting correlations between ambient air monitoring data and daily average temperature.

Table 4-1 summarizes how temperature correlated with ambient air concentrations of the most prevalent compounds in the 1996 UATMP. The following discussion reviews the significance of these correlations for each group of compounds:

- *Correlations between temperature and concentrations of hydrocarbons*. According to Table 4-1, the most prevalent VOCs generally had negative correlations with temperature, but closer inspection of the correlations revealed several exceptions. First, ambient air concentrations of styrene had weak, positive correlations with temperature at most of the monitoring locations. The unique correlations for styrene support the hypothesis that the major emissions sources of styrene in urban locations are not the same as the major emissions sources of the other most prevalent hydrocarbons. Second, correlations between temperature and ambient levels of hydrocarbons were notably weak (i.e., smaller absolute values with no clear directional trend) at five monitoring locations: Baton Rouge, Galveston, Garyville, Hahnville, and Port Neches. These five locations share another common feature: the total air emissions from industrial facilities near these locations are significantly higher than the total air emissions from industrial facilities near the other UATMP monitoring locations (with the exception of Camden). Section 6

discusses the relationship between these two observations.

Because total emissions from motor vehicles in an urban area do not vary significantly from day to day, factors other than emissions from motor vehicles contribute to the observed seasonal changes in urban air pollution. For instance, higher concentrations of hydrocarbons during the winter months are consistent with the effects of photochemical reactions, which are known to consume airborne hydrocarbons, especially in the summer. Further, the seasonal trends for hydrocarbons also can be explained by emissions from home heating sources (e.g., fireplaces, wood-burning stoves), which are notably higher during the winter months, especially for locations with cold temperatures (e.g., Vermont). Section 6 examines how these, and other factors, relate to the 1996 UATMP monitoring data for hydrocarbons.

- *Correlations between temperature and concentrations of halogenated hydrocarbons*. As Table 4-1 shows, ambient air concentrations of the most prevalent halogenated hydrocarbons during the 1996 UATMP were either positively correlated with temperature (e.g., chloromethane and tetrachloroethylene) or were weakly correlated with temperature (e.g., carbon tetrachloride, methylene chloride, and 1,1,1-trichloroethane). The direction and strength of correlations for the individual halogenated hydrocarbons provides important insight into seasonal air quality trends.

  Relatively strong concentration-temperature correlations for chloromethane and tetrachloroethylene suggest that, regardless of the monitoring location, temperature affects the mechanism by which these compounds are released to the air. The analyses in Section 6 support this hypothesis by suggesting that natural releases from oceans and evaporative losses from small industrial facilities likely explain the air quality trends for chloromethane and tetrachloroethylene, respectively.

  Although concentration-temperature correlations for methylene chloride alternated between positive and negative across the UATMP monitoring locations, the correlations at Brattleboro and Winooski were quite strong and positive. As Figure 3-1 shows, these two monitoring stations also had higher methylene chloride concentrations than the other UATMP monitoring locations. As Section 6 describes, the particularly strong correlations and relatively high concentrations at these sites are consistent with how evaporative losses of solvents are known to affect air quality.

  Unlike the concentration-temperature correlations for the other halogenated hydrocarbons, the correlations for carbon tetrachloride and 1,1,1-trichloroethane do not exhibit any unique trends and patterns. Accordingly, ambient air concentrations of these compounds at the UATMP monitoring locations appear to be relatively unaffected by temperature and season. Section 6 comments further on the absence of notable data trends for these compounds.

- *Correlations between temperature and concentrations of carbonyls*. The distribution of

concentration-temperature correlations for carbonyls in Table 4-1 shows that, with the exception of acetone, ambient air concentrations of carbonyls during the 1996 UATMP consistently increased with temperature. Concentrations of acetone, on the other hand, generally decreased with temperature, especially for monitoring locations in Texas and Louisiana. The data interpretations in Section 6 discuss how these correlations, with the exception of acetone, generally are consistent with carbonyls being formed by photochemical reactions. Although the direction and strength of the correlations between temperature and ambient air concentrations of carbonyls varied from location to location and from compound to compound, no trends uniform across sites or specific to compounds were observed.

4.4 Summary

The data correlations discussed in this section identified several trends and patterns among the 1996 UATMP monitoring data that are not readily apparent from the data summaries presented in Section 3. These trends include some that are apparently common to all urban environments (e.g., the impacts of motor vehicles on ambient levels of hydrocarbons) and others that are specific to individual monitoring locations (e.g., the impacts of methylene chloride emissions on ambient air concentrations at Brattleboro and Winooski). Moreover, the data trends clearly varied among three distinct groups of the most prevalent compounds: hydrocarbons, halogenated hydrocarbons, and carbonyls. Accordingly, the data interpretations presented in both Sections 6 and 7 treat these compound groups separately.

Figure 4-1
Summary of Data Correlations Between Groups of Compounds

Figure 4-1 (Continued)
Summary of Data Correlations Between Groups of Compounds

Table 4-1
Correlations Between Ambient Air Monitoring Data and Temperature

Compound Group	Compound	Number of Monitoring Locations with Positive Correlations Between the Listed Compound and Temperature	Number of Monitoring Locations with Negative Correlations Between the Listed Compound and Temperature
hydrocarbons	acetylene	1	12
	benzene	3	10
	1,3-butadiene	2	11
	ethylbenzene	7	6
	n-octane	7	6
	propylene	4	9
	styrene	11	2
	toluene	4	9
	m,p-xylene	4	9
	o-xylene	3	10
halogenated hydrocarbons	carbon tetrachloride	6	7
	chloromethane	13	0
	methylene chloride	5	8
	tetrachloroethylene	11	2
	1,1,1-trichloroethane	4	9
carbonyls	acetaldehyde	10	3
	acetone	2	11
	acrolein	12	1
	benzaldehyde	10	3
	butyr/isobutyraldehyd	6	7
	formaldehyde	9	4
	hexanaldehyde	12	1
	propionaldehyde	8	5
	valeraldehyde	12	1

6.0 Spatial Variations

This section describes how the magnitude and composition of air pollution varied among the 1996 UATMP monitoring locations. To explain the observed spatial variations, this section refers to the air monitoring summary statistics (Section 3), the data correlations (Section 4), and references commonly used for interpreting air monitoring data (Section 5). The analyses of spatial variations focus on only the most prevalent compounds measured during the 1996 UATMP. The least prevalent compounds are not considered because their large number of nondetects caused the corresponding geometric mean concentrations to vary little from one site to the next. It should be noted, however, that the least prevalent compounds may actually have notable spatial variations, but the analytical methods used in this program are not sensitive enough to characterize them. Consistent with the presentation in Section 4, this section discusses trends in spatial variations separately for hydrocarbons (Section 6.1), halogenated hydrocarbons (Section 6.2), and carbonyls (Section 6.3).

Note: It is important to interpret the spatial variations described throughout this section in proper context. The following analyses compare and contrast ambient air quality measured at specific locations within urban environments. Because ambient air quality can vary significantly within urban environments, even over short distances, it is probable that ambient air concentrations throughout a city may differ significantly from those measured at the specific UATMP monitoring stations.

6.1 Hydrocarbons

Hydrocarbons are organic compounds characterized by their composition of only carbon and hydrogen atoms. As Section 2.3 noted, the sampling and analytical methods used in the UATMP measure concentrations of 11 hydrocarbons, all of which have less than ten carbon atoms. These 11 hydrocarbons tend to be gases or volatile liquids under standard atmospheric conditions and are commonly referred to as VOCs.

Hydrocarbons in the atmosphere originate from natural sources and from many different anthropogenic sources, such as combustion of fuel and biomass, petroleum refining and

petrochemical manufacturing, solvent use, and gas and oil production and use. Studies have shown that emissions from different anthropogenic sources vary significantly from location to location. For example, on a nationwide basis, EPA estimates that 50 percent of anthropogenic nonmethane volatile organic compound releases in 1996 came from industrial processes, 42 percent from transportation, 6 percent from fuel combustion, and the rest from other sources (USEPA, 1997). In urban areas, however, the estimated contributions of different source categories differ from these national averages. For instance, a 1987 study in the Los Angeles area estimated that 49 percent of nonmethane hydrocarbon emissions come from vehicle exhaust, 11 percent from liquid gasoline, 10 percent from gasoline vapor, and 30 percent from sources other than motor vehicles (Fujita et al., 1994). These figures suggest that motor vehicles may play a greater role in hydrocarbon emissions in urban areas than national statistics indicate—a hypothesis that the following sections will carefully examine.

To understand the spatial variations in hydrocarbon concentrations measured during the 1996 UATMP, the following discussion first summarizes the observed spatial variations (Section 6.1.1), then compares the spatial variations to estimates of motor vehicle emissions (Section 6.1.2), and finally compares the variations to estimates of industrial emissions (Section 6.1.3).

6.1.1 General Data Trends

As discussed in Section 3, the most prevalent hydrocarbons in the 1996 UATMP were: acetylene, benzene, 1,3-butadiene, ethylbenzene, *n*-octane, propylene, styrene, toluene, and the three xylene isomers. (Figure 3-1 shows the geometric mean concentration for each compound for each monitoring location.) To provide a sense of how overall levels of hydrocarbons varied among the UATMP monitoring locations, Figure 6-1 compares the sum of the geometric mean concentrations for the 11 most prevalent hydrocarbons. This sum is provided for comparison purposes only and should not be confused with concentrations of total nonmethane organic compounds, which is another common air quality measurement.

Figure 6-1 clearly indicates that levels of the most prevalent hydrocarbons at El Paso, Texas (EPTX), were significantly higher than the levels measured at the other monitoring

stations. The figure also indicates that levels of the most prevalent hydrocarbons were lowest at Underhill, Vermont (UNVT). The following subsections examine motor vehicle emissions data and industrial emissions data for the UATMP monitoring locations to explain these overall data trends as well as selected compound-specific trends.

6.1.2 Impact of Motor Vehicle Emissions

Several different parameters can be used to estimate the impact of motor vehicle emissions on air quality. Although traffic flow data (i.e., the number of cars passing by a location over the course of a day) would probably be the most relevant indicator of motor vehicle emissions, such data were not readily available for the immediate vicinity of every UATMP monitoring location. This study instead uses car ownership figures (Section 6.1.2.1), information about the composition of motor vehicle emissions (Section 6.1.2.2), and statistical analyses (Section 6.1.2.3) to assess how motor vehicle emissions affected ambient levels of hydrocarbons at the various monitoring locations during the 1996 UATMP.

6.1.2.1 Car Ownership Data

As an indicator of motor vehicle emissions near the UATMP monitoring locations, Table 6-1 presents estimates of the number of cars owned by residents within 10-miles of each monitoring location.[1] For purposes of comparison, the car ownership data in Table 6-1 are ranked, with the monitoring location having the highest car ownership data assigned a rank of one. The table also shows the observed levels of total prevalent hydrocarbons, in descending magnitude.

As Table 6-1 shows, some correlations between car ownership data and ambient air concentrations of hydrocarbons are evident. For example, the monitoring station at El Paso,

[1] The estimate of total cars owned was derived from the 1990 U.S. Census (USDOC, 1993). Data on total car ownership and total population, by county, were first used to estimate the average number of cars each person owns in the different counties with UATMP monitoring stations. This estimated average number of cars owned per person was then multiplied by the population within a 10-mile radius of the monitoring location to estimate car ownership.

Texas (EPTX), measured the highest concentrations of the most prevalent hydrocarbons and has the second highest car ownership data, while Underhill, Vermont (UNVT), has the lowest ranks for both categories. However, there is enough dissimilarity in the rankings to warrant further analysis. The dissimilarity may result from many reasons, such as: (1) estimates of car ownership within a 10-mile radius do not necessarily imply increased motor vehicle use in the immediate vicinity of a monitoring location; and (2) emissions sources in the area other than motor vehicles may significantly affect levels of hydrocarbons in the ambient air. The following subsections examine these factors in greater detail.

6.1.2.2 Motor Vehicle Emissions Profiles

As Section 5.1.1.2 described, the *magnitude* of emissions from motor vehicles generally depends on the volume of traffic in urban areas, but the *composition* of these emissions depends more on vehicle design. Because the distribution of vehicle design (i.e., the relative number of cars of different styles) is probably quite similar from one urban area to the next, the composition of air pollution resulting from motor vehicle emissions is not expected to exhibit significant spatial variations. In support of this hypothesis, previous air monitoring studies have observed relatively constant compositions of ambient air samples collected along heavily traveled urban roadways (Conner et al., 1995). Roadside studies have found particularly consistent proportions of the "BTEX" compounds—benzene, toluene, ethylbenzene, and the xylene isomers—both in motor vehicle exhaust and in ambient air near roadways.

To evaluate the impact of motor vehicle emissions on air quality, Figure 6-2 compares concentration ratios for the BTEX compounds measured during the 1996 UATMP to the ratios reported in a recent roadside study (Conner et al., 1995). This comparison provides a qualitative depiction of how greatly motor vehicle emissions affect air quality at the UATMP monitoring locations: the more similar the concentration ratios at a particular monitoring location are to those of the roadside study, the more likely that motor vehicle emissions impact ambient levels of hydrocarbons at that location.

As Figure 6-2 shows, the concentration ratios for BTEX compounds measured at every UATMP monitoring station bear some resemblance to the ratios reported in the roadside study. This observation suggests, though certainly does not prove, that emissions from motor vehicles significantly affect levels of hydrocarbons in urban ambient air. It should be noted that BTEX concentration ratios for Port Neches (PNTX), Galveston (GATX), and Hahnville (HALA) deviate significantly from the roadside study profile. This deviation indicates that emissions from sources other than motor vehicles in these locations may have a strong influence on local air quality—a hypothesis that is revisited in Section 6.1.3. The BTEX concentration ratios at Underhill (UNVT) and Winooski (WIVT) also deviate from the roadside profile, but the reasons for these deviations are not as apparent.

Though not shown in Figure 6-2, ambient air concentrations of acetylene and propylene also exhibited relatively constant ratios to concentrations of ethylbenzene at the 1996 UATMP monitoring locations, but the ratios for these compounds were not as consistently similar to the roadside profiles as the BTEX compounds. This finding suggests that emissions from motor vehicles probably contribute to airborne levels of acetylene and propylene in urban areas, but other categories of emissions sources also strongly affect ambient air concentrations of these pollutants.

6.1.2.3 Statistical Analyses

Statistical analyses of ambient air monitoring data can help identify which groups of compounds appear to have ambient air concentrations primarily affected by the same category of emissions sources. Consistent with a finding presented in the 1995 UATMP report (ERG, 1997), Pearson correlation coefficients calculated at every 1996 UATMP monitoring location were usually highest for pairs of BTEX compounds. In other words, concentrations of the individual BTEX compounds tended to rise and fall in proportion at every monitoring location. Compounds with such highly correlated ambient air concentrations probably originate, to a great extent, from a single emissions source category common to the different UATMP monitoring locations, most likely motor vehicles.

The calculated Pearson correlation coefficients revealed three other notable trends regarding ambient air concentrations of hydrocarbons:

- The data correlations between acetylene and individual BTEX compounds and between propylene and individual BTEX compounds were always positive, but consistently weaker than the correlations between pairs of BTEX compounds. This pattern suggests that concentrations of acetylene, propylene, and BTEX compounds often rise and fall in proportion, but occasionally rise and fall independently. A possible interpretation of these correlations is that emissions from motor vehicles significantly affect ambient levels of acetylene and propylene (as they do ambient levels of BTEX compounds), but sources other than motor vehicles and photochemical reactions may also strongly affect ambient air concentrations of acetylene and propylene in urban environments.

- Of the 13 UATMP monitoring locations, the correlations between individual BTEX compounds were weakest at the Galveston (GATX), Hahnville (HALA), and Port Neches (PNTX) monitoring stations. The relatively weaker correlations suggest that possibly a combination of emissions source categories—instead of just one predominant source category—significantly affects ambient levels of hydrocarbons at these monitoring locations. Not surprisingly, the BTEX concentration ratios for these monitoring locations differed more significantly from the ratios for the roadside study than did the ratios for the other UATMP monitoring locations (see Figure 6-2). Section 6.1.3 offers several explanations for the unique trends observed at these three monitoring locations.

- At all monitoring locations, ambient air concentrations of styrene were very weakly correlated, if not completely uncorrelated, with concentrations of the other prevalent hydrocarbons. The absence of correlations suggests that styrene in ambient air at the UATMP monitoring locations may have originated primarily from emissions sources other than motor vehicles. Section 6.1.3 revisits this issue.

6.1.3 Impact of Industrial Emissions

As Section 5.1.1.1 indicated, emission inventory data are useful for understanding trends and patterns in ambient air monitoring data. The following discussion evaluates the impact of industrial emissions on urban air quality by reviewing the most recent TRI data (USEPA, 1995) and data compiled in EPA's "National Air Pollutant Emissions Trends" report (USEPA, 1997).

6.1.3.1 TRI Emissions Data

Table 6-1 summarizes hydrocarbon emissions reported to TRI in 1995 by facilities within 10 miles of the 1996 UATMP monitoring locations. More specifically, the table presents the sum of emissions reported for 9 of the 11 most prevalent hydrocarbons detected during the 1996 UATMP. The table does not account for emissions of acetylene or *n*-octane, because industries are not required to disclose releases of these compounds to TRI. For purposes of comparison, the emissions in Table 6-1 are ranked, with the area having highest hydrocarbon emissions assigned a rank of one. As the table shows, each site's emissions rank is not entirely consistent with the respective rank of the total ambient air concentration of the most prevalent hydrocarbons. For instance, some monitoring locations (e.g., Burlington) had relatively high concentrations of the most prevalent hydrocarbons, but had relatively low levels of industrial emissions reported to TRI; and other monitoring locations (e.g., Hahnville) had relatively low concentrations of hydrocarbons, but had relatively high levels of emissions.

Nonetheless, the emissions data offer insight into unique air quality trends for Port Neches, Hahnville, and Galveston. More specifically, total TRI emissions of the most prevalent hydrocarbons near these three monitoring stations ranked first, second, and third, respectively, among the 1996 UATMP monitoring locations. These data support the hypothesis that local industrial emissions sources influence air quality in Port Neches, Hahnville, and Galveston to a greater extent than they do at the other monitoring locations. Therefore, this greater influence of industrial emissions might explain why the hydrocarbon air monitoring data at these three locations were somewhat inconsistent with data from roadside studies.

To examine the TRI emission data more closely, Table 6-2 compares the reported air releases for the individual prevalent hydrocarbons (excluding acetylene and *n*-octane) to the corresponding geometric mean concentrations measured during the 1996 UATMP. For ease of interpretation, Table 6-2 lists the monitoring locations in order of decreasing geometric mean concentration for each compound. Although most of the TRI emissions data in Table 6-2 do not correlate well with the air quality data, the table provides useful information about two compounds whose trends have not been explained thus far:

- The trend for 1,3-butadiene is very similar to that described in detail in the 1995 UATMP report (ERG, 1997). Namely, the geometric mean ambient air concentration of 1,3-butadiene is highest at the Port Neches monitoring station, as are air releases of this compound reported by facilities within 10 miles of the station. With some of these facilities located in very close proximity to the Port Neches monitoring station, it is likely that industrial emissions alone explain the 1,3-butadiene spatial variations shown in Figure 3-1.

- TRI data for styrene also correlate fairly well with the corresponding geometric mean concentrations: the three monitoring stations with the highest concentrations of styrene also have the highest reported air emissions (see Table 6-2). Therefore, levels of styrene measured during the 1996 UATMP appear to originate largely from industrial emissions sources.

In summary, though inconsistent with air quality trends for most of the prevalent hydrocarbons, the TRI emissions data appear to explain the unique air quality trends for 1,3-butadiene and styrene.

6.1.3.1 Other Industrial Emissions Data

EPA's recent "National Air Pollutant Emissions Trends" report (USEPA, 1997) provides additional insight into the air quality trends observed during the 1996 UATMP. For instance, this report identifies the 50 industrial facilities in the United States believed to emit the most VOCs. Of these facilities, four are located within 10 miles of different UATMP monitoring stations: Baton Rouge, Galveston, Hahnville, and Port Neches. These four facilities are all petroleum refineries. The proximity of these refineries to the four UATMP monitoring stations might explain the spatial variations of *n*-octane (see Figure 3-1): geometric mean concentrations at Galveston, Baton Rouge, Hahnville, and Port Neches rank first, second, third, and sixth, respectively, among the *n*-octane concentrations measured during the 1996 UATMP. Further research is needed, however, to confirm whether elevated ambient air concentrations of *n*-octane in these areas are indeed linked to emissions from large petroleum refineries.

6.2 Halogenated Hydrocarbons

Halogenated hydrocarbons are organic compounds that contain carbon, hydrogen, and halogens—the chemical group that includes chlorine, bromine, and fluorine. Like hydrocarbons,

only the halogenated hydrocarbons with lower molecular weights are volatile, and the sampling and analytical methods used in the UATMP measure a subset of these volatile compounds. Most halogenated hydrocarbons are used for industrial purposes and as solvents, though some are produced naturally (Godish, 1997). Because motor vehicles emit significantly greater quantities of hydrocarbons than they do halogenated hydrocarbons, motor vehicle emissions generally do not correlate well with airborne levels of halogenated hydrocarbons. Once emitted to the air, many volatile halogenated hydrocarbons resist photochemical breakdown and therefore persist in the atmosphere for relatively long periods of time (Godish, 1997; Ramamoorthy and Ramamoorthy, 1997).

As Section 3.2 noted, five halogenated hydrocarbons were consistently detected in over 75 percent of the air samples collected at the 1996 UATMP monitoring locations. The following analyses focus on these most prevalent compounds: carbon tetrachloride, chloromethane, methylene chloride, tetrachloroethylene, and 1,1,1-trichloroethane. Because the air monitoring data for each of these compounds exhibited unique trends and patterns, the remainder of this section analyzes their spatial variations separately.

6.2.1 Carbon Tetrachloride

According to the summary statistics in Section 3, the 1996 UATMP data for carbon tetrachloride exhibited two unique trends: (1) the geometric mean concentration at every monitoring location was nearly identical (see Figure 3-1), and (2) the coefficients of variation for carbon tetrachloride at every monitoring location were lower than those for the other prevalent compounds (see Table 3-2). These observations suggest that ambient air concentrations of carbon tetrachloride in urban locations are relatively constant, regardless of geographical location, time of year, and proximity to industrial or motor vehicle emissions sources.

This unique air quality trend is consistent with current knowledge of carbon tetrachloride. More specifically, carbon tetrachloride has been used historically for a wide range of industrial, agricultural, and residential purposes. However, most of these uses have been discontinued due in part to an international agreement attempting to phase out ozone-depleting chemicals

(ATSDR, 1994; Ramamoorthy and Ramamoorthy, 1997). Although use and emissions of carbon tetrachloride have decreased dramatically over the years, ambient air concentrations of the compound have not. This apparent contradiction results from the fact that carbon tetrachloride in air is extremely resistant to breakdown: estimates of its half-life in the troposphere range from tens to hundreds of years (ATSDR, 1994; Godish, 1997; Ramamoorthy and Ramamoorthy, 1997). As a result, once emitted to the atmosphere, carbon tetrachloride appears to gradually diffuse to regions of lower concentration rather than decompose or react with other air pollutants. It is likely, therefore, that concentrations of carbon tetrachloride measured during the 1996 UATMP characterize a "global background" level, with little influence from local emissions sources.

6.2.2 Chloromethane

Ambient air concentrations of chloromethane during the 1996 UATMP also exhibited several unique trends: (1) geometric mean concentrations were significantly higher in Brownsville, Port Neches, and Galveston than at the other monitoring locations (see Table 6-3); (2) the five monitoring stations in Vermont had the five lowest geometric mean concentrations of chloromethane (see Table 6-3); (3) TRI emissions data correlated poorly with the air quality data (see Table 6-3); and (4) ambient air concentrations of chloromethane and temperature were positively correlated at every monitoring location, but these correlations were particularly strong for Brownsville, Port Neches, and Galveston. In short, concentrations of chloromethane were highest for monitoring stations located closest to large bodies of salt water (see Figure 2-1), and these concentrations appear to peak during the warm summer months.

The trends in concentrations of chloromethane observed during the UATMP are supported by recent air quality analyses. For example, even though many different industries emit chloromethane to the air, some studies have estimated that over 90 percent of global air releases of chloromethane are from natural sources, such as biogenic production by marine phytoplankton (ATSDR, 1997a). The trends described above suggest that emissions from marine environments may indeed have been the predominant factor affecting ambient levels of chloromethane at the 1996 UATMP monitoring locations.

6.2.3 Methylene Chloride (Dichloromethane)

Ambient air concentrations of methylene chloride during the 1996 UATMP varied as follows: (1) the three highest geometric mean concentrations were observed at Brattleboro, Winooski, and Camden (see Table 6-3); (2) at Brattleboro and Winooski, ambient air concentrations of methylene chloride tended to increase with temperature, although the opposite trend was observed at most other monitoring locations; (3) according to the 1995 TRI data, only industrial facilities located in the vicinity of the Brattleboro and Camden monitoring stations reported emitting over 1,000 pounds of methylene chloride to the air (see Table 6-3); and (4) ambient air concentrations of methylene chloride were quite variable at several monitoring locations (see Table 3-2). These findings suggest that industrial emissions sources may account for the relatively high concentrations of methylene chloride both in Brattleboro and in Camden, but further information is necessary to explain the air quality trends at other monitoring locations.

Air quality references indicate that many industries use methylene chloride as a solvent and some distribute the compound as a propellant in consumer products (ATSDR, 1993; Ramamoorthy and Ramamoorthy, 1997). Participating agencies should carefully review the air monitoring data to assess which factor is most likely to influence the measured levels of methylene chloride at a given location. For example, in the case of Brattleboro, because the local population density is relatively low, it is highly unlikely that residential emissions sources account for the observed methylene chloride concentrations. The TRI emissions data for Brattleboro, however, support the hypothesis that industrial emissions in this area far outweigh residential emissions. When analyzing concentration trends for other monitoring locations, participating agencies should note that many industrial facilities that use and emit methylene chloride are not subject to the TRI reporting requirements—a fact that might explain the relatively high concentrations of methylene chloride observed at Winooski, despite no local facilities reporting releases to TRI.

6.2.4 Tetrachloroethylene

As Figure 3-1 shows, ambient air concentrations of tetrachloroethylene had relatively weak spatial variations. Although some industrial emissions sources near selected monitoring locations emit tetrachloroethylene to the air, Table 6-3 suggests that the impact of these industrial sources is marginal. Not included in Table 6-3, however, are data from industries (such as dry cleaners) that are known to emit tetrachloroethylene but are not required to report these emissions to TRI. In fact, evaporative losses from the dry cleaning industry are suspected to represent a significant portion of releases of tetrachloroethylene to the air (ATSDR, 1997b).

Some specific trends in the UATMP data support the hypothesis that emissions from dry cleaners account for much of the tetrachloroethylene detected in urban ambient air, but other trends in the UATMP data do not. For instance, the highest geometric mean concentration of tetrachloroethylene was observed at Camden—the monitoring location with the highest population density (see Table 2-1) and, therefore, presumably the highest density of dry cleaning businesses. On the other hand, this same argument cannot explain why concentrations of tetrachloroethylene in Brattleboro, Rutland, Underhill, and Winooski were generally higher than concentrations observed in the more densely-populated city of Burlington. As a result, participating agencies interested in examining air quality trends of tetrachloroethylene should conduct detailed, site-specific analyses, paying particular attention to the proximity of dry cleaning businesses to ambient air monitoring stations.

6.2.5 1,1,1-Trichloroethane

Like concentrations of carbon tetrachloride, concentrations of 1,1,1-trichloroethane, a solvent often used by industry, were quite similar from one monitoring location to the next. The statistical analyses of the monitoring data found that concentrations of 1,1,1-trichloroethane were weakly correlated, if at all, with concentrations of the other most prevalent compounds or with temperature. Although monitoring stations located near industrial facilities that emit 1,1,1-trichloroethane have marginally higher geometric mean concentrations (see Table 6-3), the difference in concentrations among the UATMP monitoring locations is too small to conclude which factors most strongly affect ambient levels of this compound. Therefore, perhaps the most notable trend in concentrations of 1,1,1-trichloroethane is the absence of spatial variations:

geometric mean concentrations measured in 13 distinctly different urban environments ranged only from 0.09 ppbv to 0.13 ppbv.

6.3 Carbonyls

Carbonyls are organic compounds characterized by their composition of carbon, hydrogen, and oxygen, and by the presence of at least one carbon-oxygen double bond. The UATMP sampling and analytical methods measured concentrations of 16 carbonyl compounds, 10 of which were detected in at least 75 percent of the samples collected during the 1996 program: acetaldehyde, acetone, acrolein, benzaldehyde, butyr/isobutyraldehyde, formaldehyde, hexanaldehyde, propionaldehyde, and valeraldehyde.

Several different factors are known to affect ambient air concentrations of carbonyls, but most notably: (1) motor vehicles, combustion sources, and various industrial processes that emit carbonyls directly to the atmosphere; (2) selected photochemical reactions that *form* carbonyls in the air, typically from airborne hydrocarbons; and (3) selected photochemical reactions that *consume* carbonyls in the air, generally by photolysis or by reaction with hydroxyl ions (Seinfeld, 1986). The combined influences of these different factors complicate efforts to interpret carbonyl monitoring data. Nonetheless, the following discussion uses emissions data (Section 6.3.1) and information on photochemical reactions (6.3.2) to interpret the spatial variations in carbonyl concentrations observed during the 1996 UATMP.

6.3.1 Impact of Emissions

Following the same approach used to interpret spatial variations of hydrocarbons, this subsection compares spatial variations of the most prevalent carbonyls to indicators of industrial emissions (Section 6.3.1.1) and motor vehicle emissions (Section 6.3.1.2).

6.3.1.1 Industrial Emissions

Table 6-4 summarizes TRI emissions data reported by facilities within 10 miles of the UATMP monitoring locations for 6 of the 10 most prevalent carbonyls. The table does not present emissions data for acetone, benzaldehyde, hexanaldehyde, or valeraldehyde, because

industries were not required to disclose releases of these compounds to TRI in reporting year 1995. Consistent with data reported in the 1995 UATMP final report (ERG, 1997), the TRI emissions data do not explain the spatial variations for concentrations of carbonyls. For example, concentrations of five of the six carbonyls shown in Table 6-4 were highest at the El Paso monitoring station, yet no industrial facilities within 10 miles of this station reported air releases of these compounds to TRI. On the other hand, Table 6-4 indicates that emissions of carbonyls near the Galveston and Hahnville stations were significantly higher than those near the other stations; yet the concentrations of these compounds at Galveston and Hahnville did not exhibit similar peaks. Therefore, emissions of carbonyls from industrial facilities subject to TRI reporting probably do not contribute significantly to the ambient levels of carbonyls observed during the 1996 UATMP.

Even though the TRI data seem to be uncorrelated with the spatial variations in concentrations of carbonyls, industrial emissions may still contribute to the airborne levels of carbonyls detected during the UATMP because: (1) industrial facilities that were not subject to TRI reporting requirements in 1995, particularly those with combustion sources (e.g., electrical utilities and incinerators), may have emitted significant quantities of carbonyls; and (2) industrial facilities were shown to emit significant quantities of hydrocarbons (see Table 6-1), which may have reacted in the ambient air to form carbonyls. Section 6.3.2 discusses this second possibility further.

6.3.1.2 Motor Vehicle Emissions

Several factors suggest that emissions from motor vehicles contributed to the spatial variations of carbonyls observed during the 1996 UATMP. First, as Figure 3-1 shows, the observed spatial variations for some of the most prevalent carbonyl compounds are strikingly similar to those for the BTEX compounds. For example, concentrations of acrolein and benzaldehyde, like concentrations of the BTEX compounds, were relatively higher at El Paso, Burlington, and Rutland, and lowest at Underhill. Because the data analyses in Section 6.1.2 strongly suggested that the BTEX compounds measured during the 1996 UATMP originated primarily from motor vehicles, it is likely that motor vehicle emissions also affect ambient air

concentrations of the carbonyls that exhibit similar spatial variations, such as acrolein and benzaldehyde. However, the exact mechanism by which motor vehicle emissions affect airborne levels of carbonyls is not clear: motor vehicles may emit carbonyls directly to the air, photochemical reactions involving motor vehicle emissions may form carbonyls in the air, or (most likely) some combination of these mechanisms occurs.

Analysis of concentration ratios of selected carbonyls provides further evidence that motor vehicle emissions strongly influence ambient levels of these compounds. More specifically, if motor vehicles indeed significantly affect ambient air concentrations of carbonyls, it would be expected that ratios of concentrations of carbonyls to concentrations of any BTEX compound would be consistent across monitoring locations. As a test of this hypothesis, Figure 6-3 shows ratios between the concentrations of four carbonyls—acrolein, benzaldehyde, and butyr/isobutyraldehyde—and concentrations of *m,p*-xylene for the 1996 UATMP monitoring locations. The roadside study cited earlier did not consider concentrations of carbonyls. In any case, the ratios shown in Figure 6-3 are quite similar for the 13 monitoring locations, which strongly suggests, though certainly does not prove, that emissions from motor vehicles significantly affect airborne levels of these three carbonyl compounds.

Though not shown in Figure 6-3, concentration ratios were also similar across all sites for acetaldehyde, formaldehyde, and hexanaldehyde, but the ratios for these other carbonyls were not as consistently similar as those shown in the figure. This trend suggests that emissions from motor vehicles probably affect ambient levels of acetaldehyde, formaldehyde, and hexanaldehyde, but other factors also strongly influence ambient air concentrations of these carbonyls.

Finally, it should be noted that concentration ratios of the three remaining most prevalent carbonyl compounds—acetone, propionaldehyde, valeraldehyde—were relatively inconsistent from one monitoring location to the next. The next subsection describes and interprets the spatial variations in acetone concentrations, but the factors contributing to the spatial variations of propionaldehyde and valeraldehyde are not readily apparent.

6.3.2 Impact of Photochemical Reactions

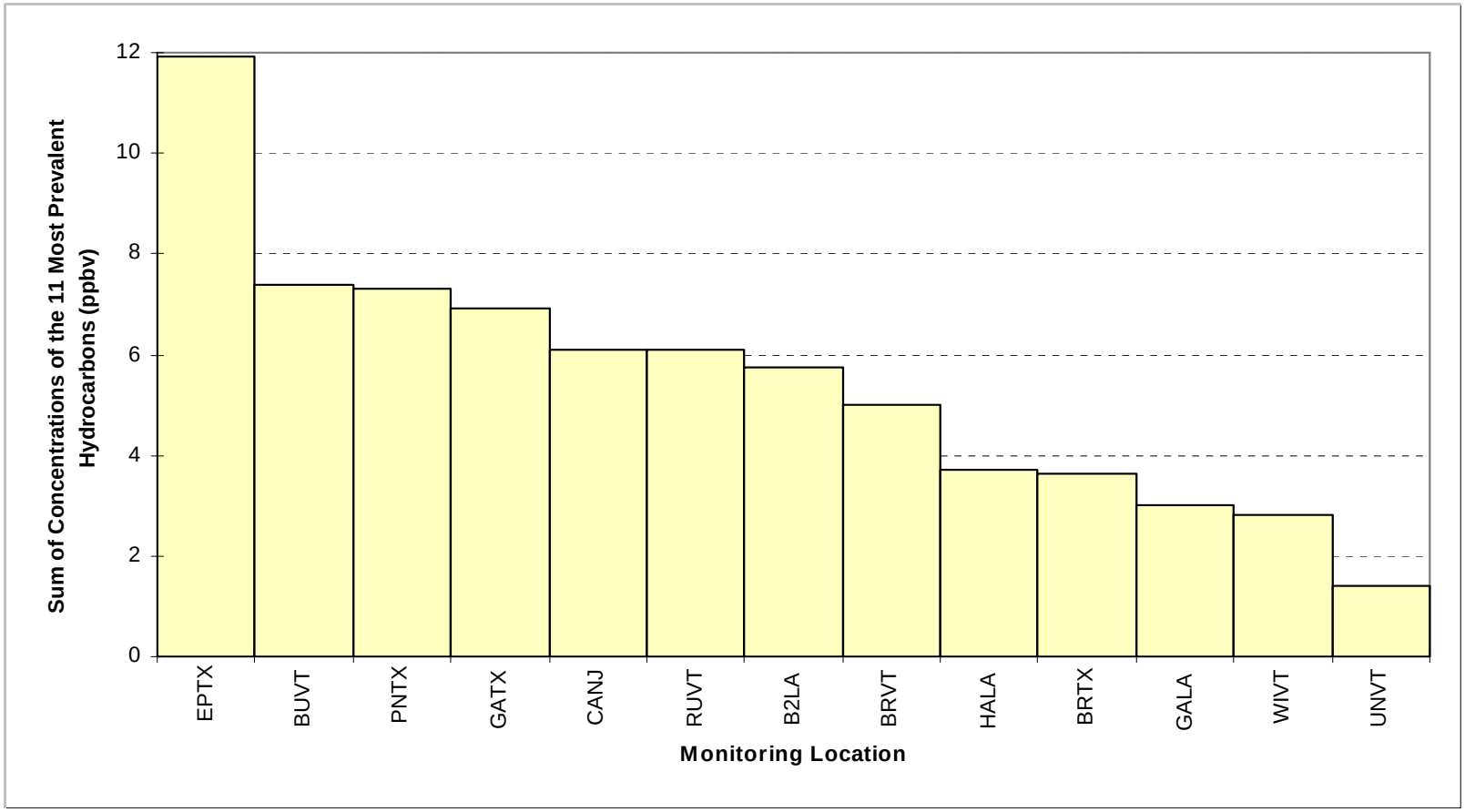
Photochemical reactions, by definition, are triggered by sunlight. Throughout the United States, photochemical reactivity peaks in the summer months, when the number of daylight hours is greatest and when the Northern Hemisphere is closest to the sun. Photochemical reactivity therefore is usually correlated with temperature, because temperatures also peak in the summer. As a result, correlations between ambient air concentrations of a specific compound and temperature indicate the extent to which photochemical reactions affect air quality: compounds that are primarily formed by photochemical reactions tend to be positively correlated with temperature, and compounds that are primarily consumed by photochemical reactions tend to be negatively correlated.

As Table 4-1 showed, ambient air concentrations of the most prevalent carbonyls (except for acetone) were generally positively correlated with temperature. This correlation supports the hypothesis that carbonyls in ambient air originate, to a certain extent, as products of photochemical reactions. Also supporting this hypothesis is the fact that the correlations between ambient air concentrations and temperature were particularly strong for the Vermont monitoring locations, where seasonal differences in temperature and the number of daylight hours are more pronounced than in locations along the Gulf of Mexico.

Of the 10 most prevalent carbonyl compounds, acetone seemed to exhibit the most unusual spatial variations and air quality trends: (1) geometric mean concentrations of acetone at the Vermont monitoring locations, even the sparsely-populated Underhill location, were higher than the concentrations observed at every other monitoring location, except for El Paso (see Figure 3-1); and (2) at most every monitoring location, concentrations of acetone decreased as temperature increased (see Table 4-1). These observations can be interpreted in several ways. First, the fact that concentrations of acetone were highest in El Paso, the monitoring location most influenced by motor vehicle emissions, suggests that emissions from mobile sources probably include some quantities of acetone. Second, the fact that ambient air concentrations of acetone are relatively lower when photochemical reactivity peaks (i.e., when temperatures are high) is consistent with photochemical reactions that consume acetone (Seinfeld, 1986). These

two interpretations are also consistent with the relatively higher concentrations of acetone in Vermont: because photochemical reactivity in Vermont is much weaker than in Texas or Louisiana, airborne acetone in Vermont may persist for relatively longer periods of time before being consumed by photochemical reactions. Although these interpretations are consistent with the UATMP monitoring data, further research is needed to confirm whether they explain spatial variations in concentrations of acetone in other urban environments.

Figure 6-1
Sum of the Concentrations of the 11 Most Prevalent Hydrocarbons, by UATMP Monitoring Location



Note: The sum of the concentrations of the most prevalent hydrocarbons is used here only to provide a sense of how levels of pollution vary among the UATMP monitoring locations. The concentrations shown should not be confused with total non-methane organic compounds, which is a different air monitoring measurement altogether.

Figure 6-2
Comparison of BTEX Concentration Profile to Roadside Study

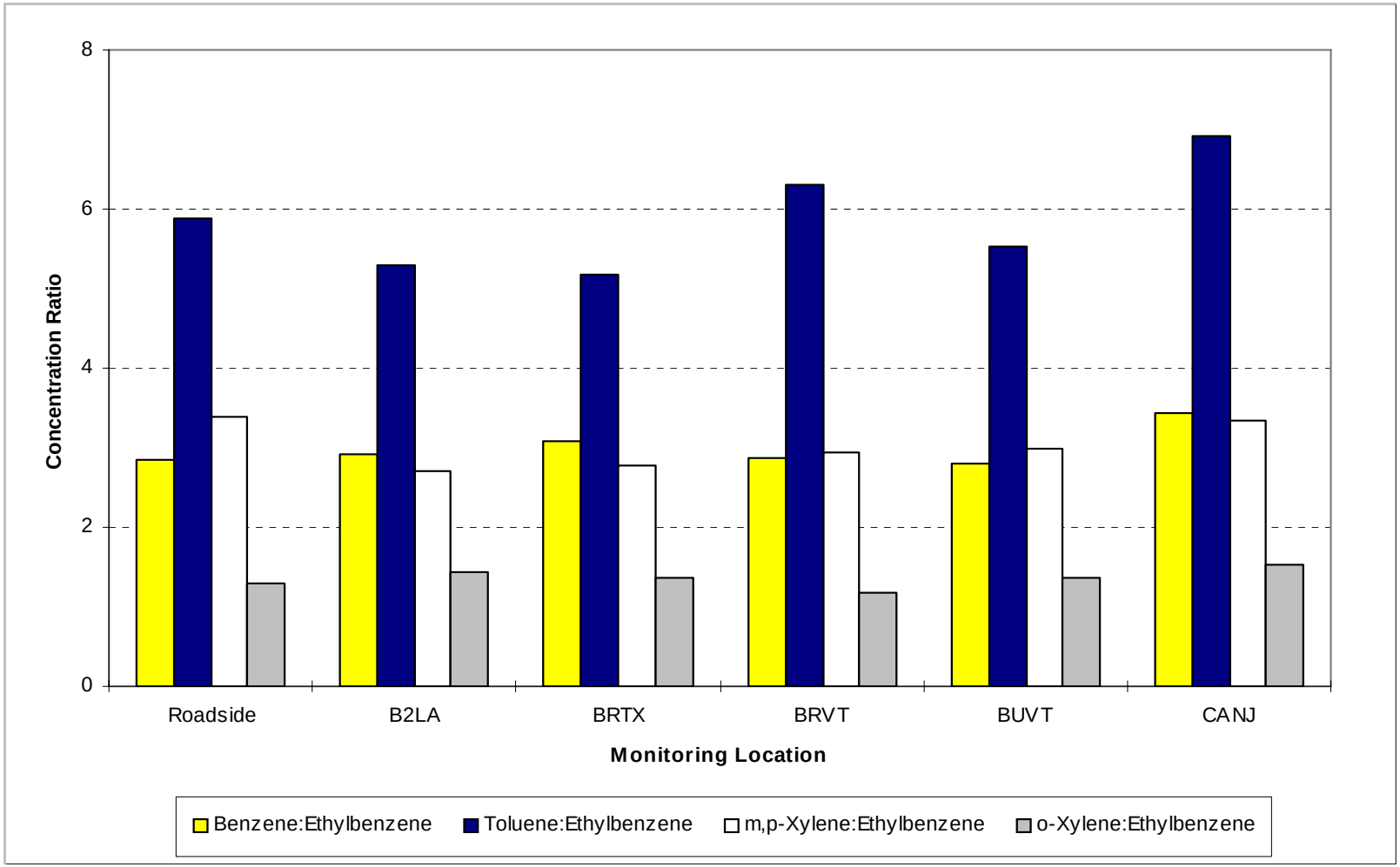


Figure 6-2 (Continued)
Comparison of BTEX Concentration Profile to Roadside Study

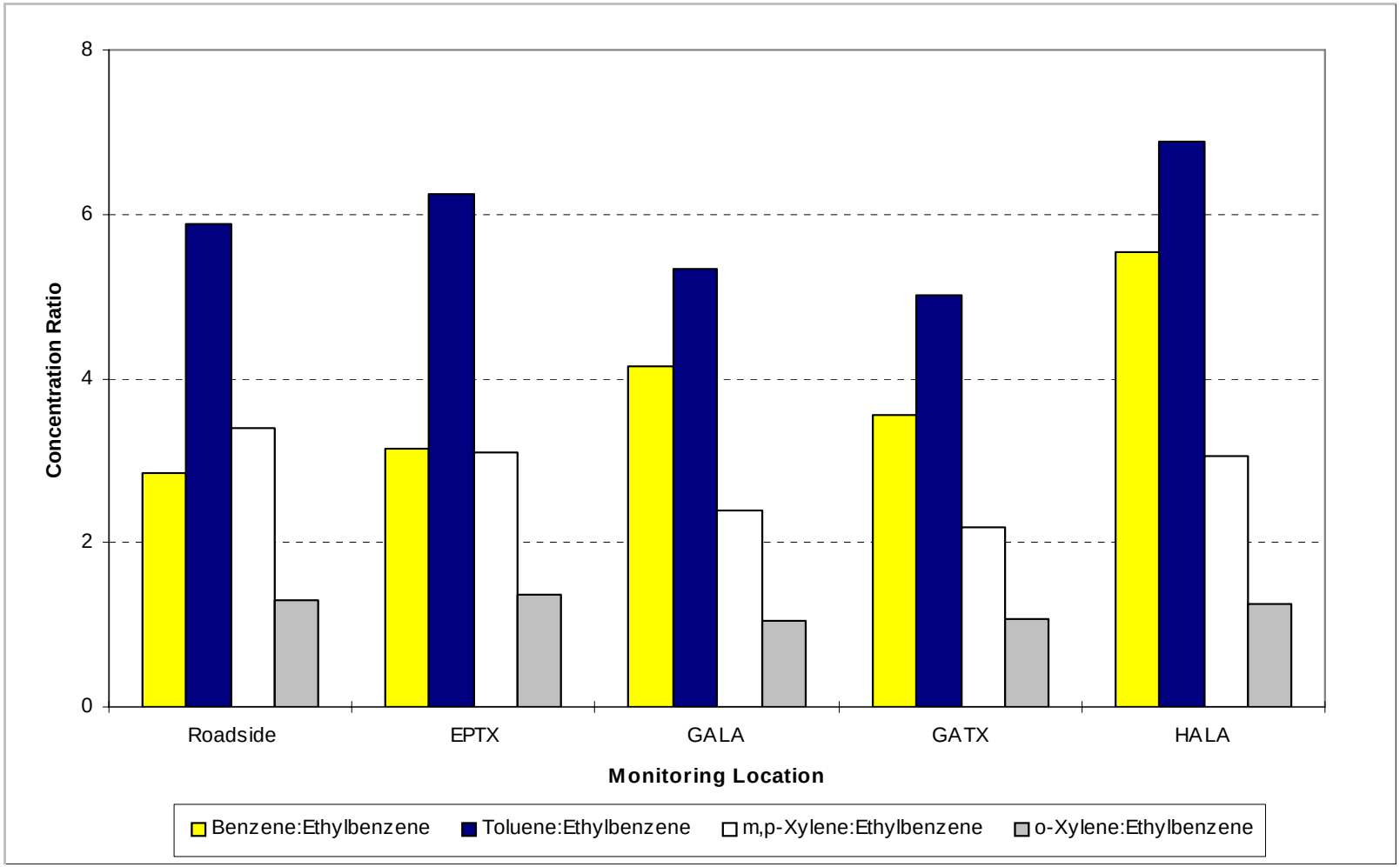


Figure 6-2 (Continued)
Comparison of BTEX Concentration Profile to Roadside Study

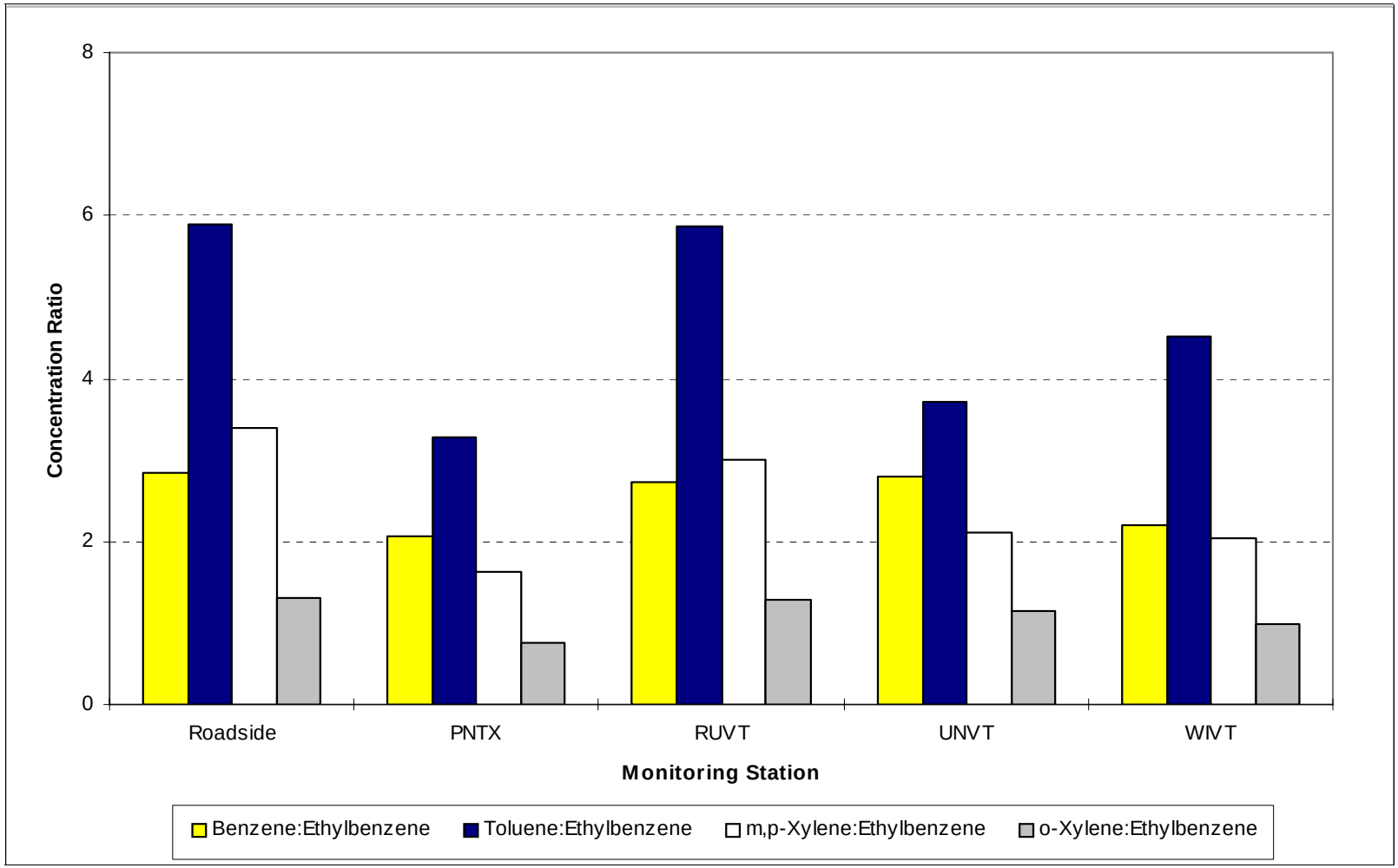


Figure 6-3
Comparison of Concentration Ratios of Selected Carbonyls to *m,p*-Xylene

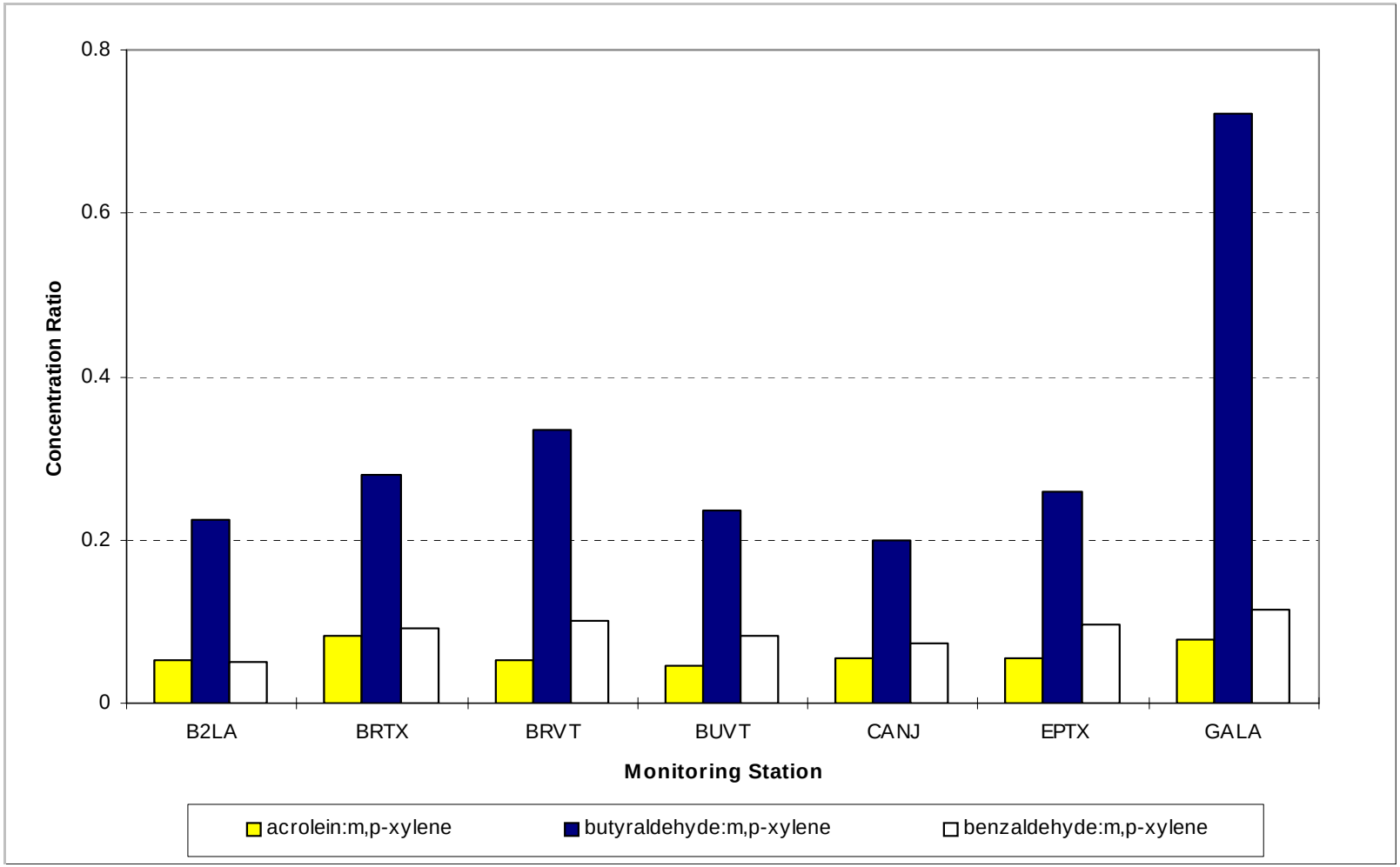


Figure 6-3 (Continued)
Comparison of Concentration Ratios of Selected Carbonyls to *m,p*-Xylene

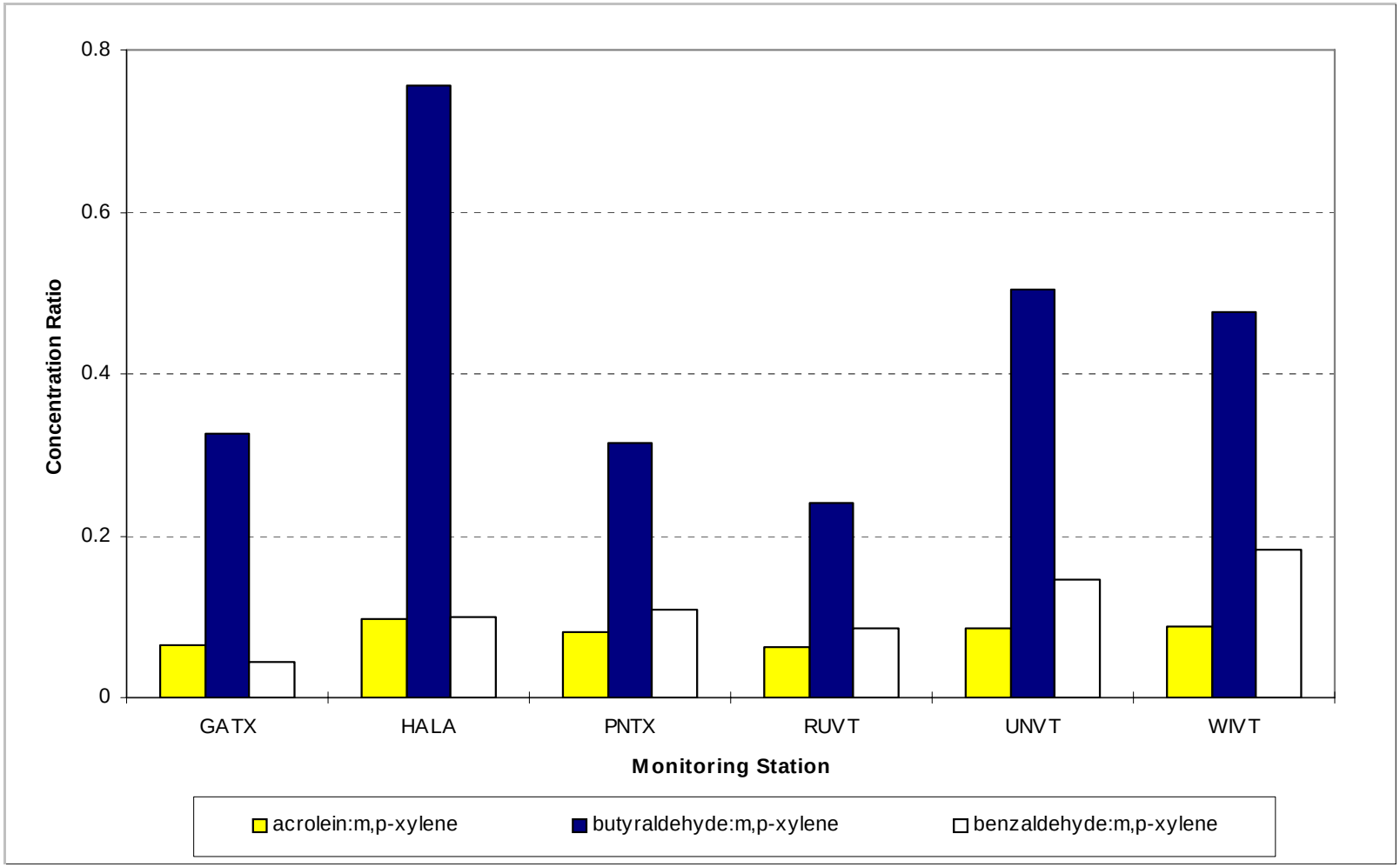


Table 6-1
Ranking of Monitoring Stations by Levels of Total Prevalent Hydrocarbons

Monitoring Location	Sum of Geometric Means of Prevalent Hydrocarbon Concentrations	Industrial Emissions of Hydrocarbons within a 10-Mile Radius of the Monitoring Location		Total Number of Cars Owned within a 10-Mile Radius of the Monitoring Location	
		Pounds in 1995	Emissions Rank	Total Cars	Rank of Total Cars
EPTX	11.93	63,224	8	205,320	2
BUVT	7.38	15,990	11 (tie)	65,972	6
PNTX	7.31	7,107,980	1	87,741	4
GATX	6.91	1,571,498	3	63,446	7
CANJ	6.11	884,910	5	1,128,734	1
RUVT	6.08	63,270	7	24,460	11
B2LA	5.76	1,256,132	4	204,821	3
BRVT	5.02	20,330	10	18,469	12
HALA	3.73	2,082,614	2	61,911	8
BRTX	3.64	20,450	9	51,236	9
GALA	3.02	75,377	6	29,728	10
WIVT	2.83	15,990	11 (tie)	69,545	5
UNVT	1.39	0	13	12,061	13

Notes: Industrial emissions were calculated from emissions data for TRI reporting year 1995 (TRI, 1995). The emissions reported in the table are the total air releases of the hydrocarbons found to be prevalent in the 1996 UATMP. Acetylene and *n*-octane were among these most prevalent compounds, but were not reportable to TRI in 1995.

The total number of cars owned within a 10-mile radius was estimated from 1990 U.S. Census data (USDOC, 1993).

Table 6-2
Comparison of Geometric Mean Concentrations of Prevalent Hydrocarbons with Total Air Releases Reported by Facilities Within a 10-Mile Radius of UATMP Monitoring Stations

Benzene			1,3-Butadiene			Ethylbenzene		
Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)	Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)	Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)
EPTX	1.18	10,849	PNTX	2.06	282,861	EPTX	0.37	1,240
GATX	0.81	269,342	EPTX	0.14	54	BUVT	0.25	0
BUVT	0.71	0	HALA	0.12	119,218	GATX	0.23	98,824
RUVT	0.59	0	BUVT	0.09	0	PNTX	0.23	91,263
B2LA	0.58	197,064	RUVT	0.08	0	RUVT	0.22	0
CANJ	0.55	90,529	B2LA	0.08	74,469	B2LA	0.20	60,510
HALA	0.52	120,299	GATX	0.08	42,053	CANJ	0.16	50,157
PNTX	0.47	924,566	BRVT	0.07	0	BRVT	0.16	838
BRVT	0.46	0	CANJ	0.07	2,173	WIVT	0.13	0
GALA	0.43	6,332	BRTX	0.07	0	BRTX	0.12	0
BRTX	0.38	0	GALA	0.07	14,751	GALA	0.10	3,194
WIVT	0.28	0	UNVT	0.07	0	HALA	0.09	10,193
UNVT	0.16	0	WIVT	0.06	0	UNVT	0.06	0

Source of emissions data: TRI, 1995.
Notes: Acetylene and *n*-octane were not reportable to TRI in 1995.
The data in the table are displayed in order of decreasing geometric mean concentration.

Table 6-2 (Continued)
Comparison of Geometric Mean Concentrations of Prevalent Hydrocarbons with Total Air Releases Reported by Facilities Within a 10-Mile Radius of UATMP Monitoring Stations

Propylene			Styrene			Toluene		
Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)	Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)	Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)
GATX	2.21	575,290	PNTX	0.817	611,055	EPTX	2.339	32,778
EPTX	1.46	14,000	B2LA	0.214	154,310	BUVT	1.402	15,985
PNTX	1.30	3,577,473	GATX	0.190	130,933	RUVT	1.275	63,270
CANJ	1.22	102,580	EPTX	0.087	8	GATX	1.134	243,683
B2LA	1.08	302,468	CANJ	0.067	86,630	CANJ	1.109	342,448
BUVT	0.96	0	BRTX	0.067	5,200	B2LA	1.050	281,839
HALA	0.92	1,625,345	BUVT	0.065	0	BRVT	1.009	16,181
RUVT	0.77	0	GALA	0.059	0	PNTX	0.739	1,318,442
BRVT	0.71	0	BRVT	0.058	0	BRTX	0.642	6,140
BRTX	0.54	0	RUVT	0.057	0	HALA	0.641	142,946
GALA	0.47	2,006	HALA	0.051	5,254	WIVT	0.586	15,985
WIVT	0.34	0	WIVT	0.050	0	GALA	0.545	42,399
UNVT	0.11	0	UNVT	0.046	0	UNVT	0.216	0

Source of emissions data: TRI, 1995.
Notes: Acetylene and *n*-octane were not reportable to TRI in 1995.
The data in the table are displayed in order of decreasing geometric mean concentration.

Table 6-2 (Continued)
Comparison of Geometric Mean Concentrations of Prevalent Hydrocarbons with Total Air Releases Reported by Facilities Within a 10-Mile Radius of UATMP Monitoring Stations

Xylenes (Total)		
Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)
EPTX	1.668	4,295
BUVT	1.098	5
RUVT	0.932	0
B2LA	0.822	185,472
CANJ	0.781	210,393
GATX	0.738	211,373
BRVT	0.659	3,311
PNTX	0.538	302,320
BRTX	0.515	9,110
HALA	0.401	59,359
WIVT	0.391	5
GALA	0.351	6,695
UNVT	0.190	0

Source of emissions data: TRI, 1995.
Notes: The data in the table are displayed in order of decreasing geometric mean concentration.
Because most facilities report xylene emissions to TRI as "total xylenes," the emissions and concentrations data in the table are both the totals of the *o*-, *m*- and *p*-xylene isomers.

Table 6-3
Comparison of Geometric Means of Prevalent Halogenated Hydrocarbons with Total Air Releases Reported by Facilities Within a 10-Mile Radius of UATMP Monitoring Stations

Carbon Tetrachloride			Chloromethane			Methylene Chloride		
Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)	Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)	Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)
PNTX	0.090	86,117	BRTX	1.222	0	BRVT	0.241	6,044
GATX	0.089	250	PNTX	1.093	3,950	WIVT	0.158	0
HALA	0.088	0	GATX	0.952	348,334	CANJ	0.118	24,192
B2LA	0.087	898	EPTX	0.676	0	GATX	0.098	204
CANJ	0.082	0	GALA	0.641	0	BRTX	0.093	0
GALA	0.081	0	HALA	0.576	13,375	EPTX	0.084	0
BUVT	0.079	0	CANJ	0.542	4	B2LA	0.080	12
BRVT	0.079	0	B2LA	0.537	55,459	BUVT	0.069	0
RUVT	0.079	0	WIVT	0.526	0	PNTX	0.067	0
EPTX	0.078	0	BRVT	0.511	0	RUVT	0.065	0
BRTX	0.077	0	BUVT	0.495	0	GALA	0.052	0
WIVT	0.075	0	RUVT	0.483	0	UNVT	0.050	0
UNVT	0.072	0	UNVT	0.481	0	HALA	0.049	0

Source of emissions data: TRI, 1995.
Note: The data in the table are displayed in order of decreasing geometric mean concentration.

Table 6-3 (Continued)
Comparison of Geometric Means of Prevalent Halogenated Hydrocarbons with Total Air Releases Reported by Facilities Within a 10-Mile Radius of UATMP Monitoring Stations

Tetrachloroethylene			1,1,1-Trichloroethane		
Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)	Station Code	Geometric Mean Concentration (ppbv)	Total Air Releases (lbs)
CANJ	0.063	696	CANJ	0.130	22,991
GATX	0.049	250	B2LA	0.124	1,055
B2LA	0.048	6,227	HALA	0.122	0
WIVT	0.047	0	PNTX	0.120	7,249
EPTX	0.038	0	GALA	0.116	60
RUVT	0.038	0	GATX	0.109	1,300
BRTX	0.037	0	BRTX	0.107	0
GALA	0.036	505	WIVT	0.101	343
HALA	0.035	0	RUVT	0.098	0
BRVT	0.034	0	BRVT	0.097	0
UNVT	0.030	0	EPTX	0.097	0
PNTX	0.027	2,021	BUVT	0.094	343
BUVT	0.024	0	UNVT	0.084	0

Source of emissions data: TRI, 1995.
Note: The data in the table are displayed in order of decreasing geometric mean concentration.

Table 6-4
Total Air Releases of the Most Prevalent Carbonyls Reported by Facilities Within a 10-Mile Radius of UATMP Monitoring Stations

Monitoring Location	Pounds of Air Releases Reported by Facilities within 10 Miles of the Monitoring Station				
	Acetaldehyde	Acrolein	Butyraldehyde and Isobutyraldehyde	Formaldehyde	Propionaldehyde
Baton Rouge, LA	4,412	4	0	6,558	0
Brownsville, TX	0	0	0	0	0
Brattleboro, VT	0	0	0	0	0
Burlington, VT	0	0	0	0	0
Camden, NJ	0	0	0	2,319	0
El Paso, TX	0	0	0	0	0
Garyville, LA	0	0	0	0	0
Galveston, TX	57,245	3,046	31,516	9,693	28,629
Hahnville, LA	21,283	10,046	585	20,920	0
Port Neches, TX	153	0	0	16,000	0
Rutland, VT	0	0	0	429	0
Underhill, VT	0	0	0	0	0
Winooski, VT	0	0	0	0	0

Note: Industrial facilities report their TRI releases of butyraldehyde and isobutyraldehyde separately. However, because the UATMP analytical method reports the sum of the concentrations of these two compounds, this table presents the sum of releases for these compounds.

5.0 Interpreting Ambient Air Monitoring Data

This section presents relevant background information about interpreting trends and patterns in ambient air monitoring data. The presence of a wide range of industrial and motor vehicle emissions sources in urban environments complicates efforts to interpret air pollution measurements. Nonetheless, Section 5.1 describes how chemical emissions and atmospheric fate and transport generally affect urban air quality. Section 5.2 then discusses the context that historical monitoring data and data from other studies can give to air monitoring results. When interpreting the significance of spatial and temporal variations in the 1996 UATMP monitoring data, Sections 6 and 7 refer to the information presented in both Sections 5.1 and 5.2. Readers experienced with interpreting urban air quality data can skip directly to the interpretations in Sections 6 and 7 without missing technical content.

5.1 Emissions and Atmospheric Processes

Pollutants found in urban air come from a wide range of emissions sources. The nature and magnitude of these emissions largely determine the chemical composition of urban air pollution. Local meteorology and atmospheric chemistry, on the other hand, determine how quickly emitted chemicals disperse and react in ambient air. Sections 5.1.1 and 5.1.2 review resources available for determining how chemical emissions and atmospheric fate and transport affect urban air pollution. Section 6 includes many examples of how these resources provide a useful guide for explaining general trends in air monitoring data. Although sophisticated models for attributing concentrations of air pollutants to specific emission sources have been reported in the literature (Scheff, 1993), detailed analyses of site-specific emissions and atmospheric dispersion are not included in the scope of this work.

5.1.1 Chemical Emissions

Industrial, motor vehicle, and natural emissions sources account for most pollutants found in urban air (Graedel, 1978). The following paragraphs characterize each of these sources and present references for determining the magnitude and composition of their chemical emissions.

5.1.1.1 Industrial Emissions Sources

Airborne chemical emissions from industrial facilities significantly contribute to air pollution in urban centers. Industrial air emissions are generally classified into two categories: stack emissions and fugitive emissions. Stack emissions from industrial facilities include all chemical releases through confined air streams, such as process vents and smoke stacks. Depending on the stack height and exit velocity, stack emissions may have maximum impacts on air quality at points close to, or several miles from, the point of release. Fugitive emissions account for all other chemical releases to the air from industrial facilities; typically, fugitive emissions result from evaporative losses from equipment leaks and chemical processing areas. Because fugitive emissions generally have no appreciable exit velocity and often occur close to ground level, these emissions have the greatest effect on air quality at locations closest to the point of release. The total amount of chemicals released into the air through stack and fugitive emissions varies from urban area to urban area.

Federal, state, and local agencies have prepared inventories of emissions data to estimate total quantities of air releases within their jurisdictions. At the federal level, the TRI (see sidebar on next page) contains extensive emissions data for a wide range of industries and provides an excellent reference for evaluating how industrial emissions might impact ambient air concentrations of selected pollutants in different parts of the country. The accuracy of TRI data is not known, but it is certainly dependent upon the accuracy of emissions estimates provided by industrial facilities. As an example of using emission inventory data to interpret air monitoring data, Section 6 compares trends and patterns in TRI data to trends and patterns in the ambient air concentrations measured during the 1996 UATMP. Readers interested in more closely evaluating ambient air quality measured at specific monitoring locations also should refer to inventories of emissions data compiled by state and local agencies, if such inventories are maintained.

Toxics Release Inventory

Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) requires industrial facilities to disclose information characterizing environmental releases of "hazardous" chemicals. The TRI hazardous chemical list currently includes over 600 chemicals. The TRI reporting requirement currently applies to facilities that:

- Have at least 10 full-time employees.
- Fall into Standard Industrial Classification (SIC) codes 20 through 39 (these include most industrial manufacturing facilities).
- Manufacture, process, or otherwise use hazardous chemicals in quantities exceeding established thresholds over the course of a calendar year.

Facilities meeting these criteria must submit to EPA "Form-R" reports that specify the quantities of hazardous chemicals released to the environment or transferred to offsite locations. Every year, nearly 80,000 Form-R emission reports are submitted to EPA and loaded into the TRI database. At the writing of this report, TRI data from reporting years 1987 through 1995 were publicly available (TRI, 1995).

5.1.1.2 Motor Vehicle Emissions Sources

Like industrial emissions sources, motor vehicles significantly contribute to air pollution in urban environments. Accordingly, thorough analyses of urban air monitoring data must consider contributions from motor vehicle sources. Pollutants found in motor vehicle exhaust generally result from incomplete combustion of vehicle fuels. Although modern vehicles and, more recently, vehicle fuels have been engineered to minimize air emissions, all motor vehicles with internal combustion engines emit a wide range of chemical pollutants. The magnitude of these emissions in urban areas primarily depends on the volume of traffic, while the chemical profile of these emissions depends more on vehicle design and fuel content. Several studies have generated chemical profiles of motor vehicle exhaust (Conner et al., 1995), and such profiles provide additional context for analyzing spatial variations in ambient air monitoring data (see Section 6).

5.1.1.3 Natural Emissions Sources

Many natural processes release volatile compounds to the air. These processes include, but are not limited to, natural decay and biosynthesis in oceans and forests, fires in forests and grasslands, and volcanic eruptions. Some studies have reported that natural emissions may exceed both industrial and motor vehicle emissions on a global scale (Ciccioli, 1993). In urban areas, however, the contributions of industrial and motor vehicle sources to air pollution probably outweigh the contribution of natural emissions. Accordingly, the data interpretations throughout this report focus on how emissions from motor vehicles and industry affect air quality, with a much lighter emphasis on the effect of emissions from natural sources.

5.1.2 Atmospheric Fate and Transport

Atmospheric fate and transport processes provide the link between emissions and ambient air quality. More specifically, atmospheric dispersion and photochemical reactions primarily determine the fate of chemicals emitted into the air. Atmospheric dispersion refers to the natural phenomena by which chemical emissions gradually move to regions of lower concentration by convection and diffusion. The rate at which emissions disperse depends on characteristics of the emissions source characteristics (such as stack height and exit velocity) and on local meteorological conditions (such as cloud cover and wind velocity). Photochemical reactions both consume and produce pollutants in urban environments, and rates for the various reactions vary with temperature, solar radiation, and chemical composition.

Because atmospheric dispersion and photochemical reactions strongly affect the composition and magnitude of air pollution, both factors should be considered in a thorough review of ambient air monitoring data. Although sophisticated fate and transport computer models allow for a detailed quantitative analysis of these factors (USEPA, 1986), extensive site-specific modeling analyses are beyond the scope of this report. Nonetheless, the effects of atmospheric dispersion and photochemical reactivity can be qualitatively assessed using parameters such as the coefficient of variation and chemical half-life, respectively. As described in Section 3.1.4, comparing coefficients of variation from one compound to the next can help identify compounds that periodically affect ambient air quality by virtue of fluctuating

meteorological conditions (i.e., dispersion). Likewise, the magnitude of a compound's half-life[1] provides a useful measure of how rapidly photochemical reactions consume the compound after it is emitted into the air. Using measured or modeled half-lives, researchers can readily identify those compounds that tend to react rapidly in ambient air and those that tend to avoid photochemical decomposition—an important distinction for determining whether distant emissions sources affect local air quality. Sections 6 and 7 use half-lives, coefficients of variation, and other information about photochemical reactivity to explain trends in the UATMP monitoring data.

5.2 Other Air Monitoring Studies

Ambient air monitoring data can also be put into perspective by comparing measured concentrations to results from other studies. The comparisons must be made carefully, however, to evaluate other studies in their proper context. In particular, sampling and analytical methods, detection limits, units of measurement, and the proximity of monitoring locations to emissions sources may differ from study to study, making direct comparison of measured concentrations difficult. Some excellent sources of air monitoring data include previous UATMP reports (Radian, 1990; 1991; ERG, 1997), monitoring data stored in EPA's AIRS database, toxicological profiles published by the Agency for Toxic Substances and Disease Registry (ATSDR), and monitoring reports published by state and local environmental agencies. The scientific literature contains many additional references to previous monitoring efforts. Selected analyses in Section 6 use results from other air monitoring studies to interpret spatial variations in the 1996 UATMP monitoring data.

[1] When applied to photochemical reactivity, the half-life indicates the amount of time it takes for the ambient air concentration of a given compound to decay by a factor of two.

7.0 Temporal Variations

This section briefly describes the extent to which ambient air concentrations measured during the 1995 and 1996 UATMP vary over time. Temporal variations in air quality result primarily from changes in emissions sources and fluctuations in local meteorological conditions. Like the spatial variations discussed in Section 6, the temporal variations considered in this section provide insight into the origins of urban air pollution.

Although other air monitoring studies have identified notable diurnal, seasonal, and annual variations in ambient air concentrations, this section considers only annual variations. Diurnal variations cannot be evaluated, because the UATMP monitors collect only 24-hour integrated samples and do not collect air samples at different times of the day. Moreover, seasonal variations are not discussed in this section, because the correlations between ambient air concentrations and temperature (see Section 4 and Section 6) indirectly addressed the seasonality of the 1996 UATMP monitoring data. To characterize annual variations, this section presents general comparisons between the 1995 and 1996 UATMP data for every monitoring location and provides a detailed example of how to evaluate long-term air quality trends.

As a coarse indicator of annual variations in ambient air quality, Table 7-1 lists, for every monitoring station, the number of compounds whose geometric mean concentration (1) increased from the 1995 UATMP to the 1996 UATMP, (2) decreased over this time period, or (3) remained the same. It should be noted that changes in concentrations over a 2-year period may result simply from shifting prevailing winds and may not necessarily indicate increases or decreases in emissions. Participating agencies should consider annual variations over longer time periods to evaluate the impacts of long-term changes in emissions. Nonetheless, the most notable findings shown in Table 7-1 follow:

- *Hydrocarbons.* At most of the UATMP monitoring locations, geometric mean concentrations of some hydrocarbons increased from UATMP program year 1995 to program year 1996, while concentrations of other hydrocarbons decreased over the time frame. At some monitoring locations, however, the geometric mean concentrations increased (or decreased) for almost every prevalent hydrocarbon. For example, geometric mean concentrations of 9 out of the 10 most prevalent

hydrocarbons decreased from 1995 to 1996 at Garyville; while the concentrations of almost every hydrocarbon at Port Neches, Underhill, and Winooski increased from 1995 to 1996. To understand the significance of the annual variations at these locations, participating agencies should examine the magnitude by which concentrations of specific compounds increased or decreased and should also consider how industrial emissions, motor vehicle emissions, and meteorological conditions may have affected the observed changes between the 1995 and 1996 UATMP.

- *Halogenated hydrocarbons.* As Table 7-1 shows, the annual variations in geometric mean concentrations of halogenated hydrocarbons were fairly evenly split between increasing from 1995 to 1996, decreasing over this time range, or staying the same. The absence of trends common to all halogenated hydrocarbons is not surprising, considering that the most prevalent halogenated hydrocarbons appear to originate from unique sources (as discussed in Section 6.2).

- *Carbonyls.* The most striking feature of the carbonyl data shown in Table 7-1 is that ambient air concentrations of the most prevalent compounds tended to all increase, or to all decrease, at the UATMP monitoring locations. For instance, at Camden, Underhill, and Winooski, concentrations of almost every prevalent carbonyl increased from the 1995 to the 1996 UATMP. On the other hand, concentrations of these carbonyls generally decreased at Baton Rouge, Brownsville, Burlington, El Paso, Garyville, Galveston, Hahnville, Port Neches, and Rutland. Reasons for these two different outcomes are not readily apparent.

As suggested earlier, the simple display of 2-year variations in Table 7-1 may mask notable annual variations. For instance, the display does not account for the *magnitude* of the increases or decreases of geometric mean concentrations, which may be the best indicator of a statistically significant change in ambient air quality from one year to the next. Furthermore, in some cases, the data in Table 7-1 simply account for “short term” air quality changes (i.e., changes from one year to the next), while analyses over a longer time period are needed to distinguish actual air quality trends from randomly fluctuating atmospheric conditions.

As an example of a more sophisticated analysis of annual variations, Table 7-2 indicates how the geometric mean concentrations of benzene, ethylbenzene, and toluene in Camden have changed since the 1989 UATMP. By including the magnitude of the concentrations, the table offers greater insight into the long-term trends at this monitoring location: the concentrations of all three compounds appear to have decreased by approximately a factor of three over the 8 years

shown in the table. The agency sponsoring this monitoring station should consider many factors to understand this consistent decline: Have industrial emissions or traffic patterns changed significantly over the time frame? Were any changes made to the composition of motor vehicle fuels sold in the area? When were these changes implemented? Because BTEX compounds were shown to originate largely from motor vehicle emissions (see Section 6.1), the long-term decline in geometric mean concentrations of these compounds suggests that motor vehicle emissions in the Camden area also have decreased steadily since 1989; however, only a detailed review of emissions sources in the Camden area can confirm the factors contributing to the downward trend.

For the benefit of the participating agencies, the final report for the 1997 UATMP will include extensive analyses of temporal variations—particularly annual variations—for every monitoring location, with a lesser emphasis placed on the observed spatial variations.

The final report for the 1997 UATMP will include much more detailed analyses of annual variations in ambient air concentrations by characterizing compound-specific and location-specific air quality trends.

Table 7-1
Comparison of Geometric Mean Concentrations of Prevalent Compounds from the 1996 UATMP to the 1995 UATMP

Site	Compound Group	Number Increasing from 1995 to 1996	Number Decreasing from 1995 to 1996	Number Remaining Constant
B2LA	hydrocarbons	6	4	0
	halogenated hydrocarbons	2	3	0
	carbonyls	1	8	0
BRTX	hydrocarbons	5	3	2
	halogenated hydrocarbons	3	2	0
	carbonyls	0	9	0
BRVT	hydrocarbons	--- [a]	--- [a]	--- [a]
	halogenated hydrocarbons	--- [a]	--- [a]	--- [a]
	carbonyls	5	4	0
BUVT	hydrocarbons	3	6	1
	halogenated hydrocarbons	1	3	1
	carbonyls	1	6	2
CANJ	hydrocarbons	3	5	2
	halogenated hydrocarbons	1	3	1
	carbonyls	7	0	2
EPTX	hydrocarbons	3	6	1
	halogenated hydrocarbons	3	2	0
	carbonyls	0	8	1
GALA	hydrocarbons	1	9	0
	halogenated hydrocarbons	1	4	0
	carbonyls	0	9	0
GATX	hydrocarbons	3	6	1
	halogenated hydrocarbons	3	1	1
	carbonyls	0	8	1

[a] Comparisons to 1995 UATMP data are not shown for the BRVT monitoring station, because it only collected four valid VOC samples during the 1995 program.

Table 7-1 (Continued)
Comparison of Geometric Mean Concentrations of Prevalent Compounds from the 1996 UATMP to the 1995 UATMP

Site	Compound Group	Number Increasing from 1995 to 1996	Number Decreasing from 1995 to 1996	Number Remaining Constant
HALA	hydrocarbons	3	7	0
	halogenated hydrocarbons	1	3	1
	carbonyls	0	9	0
PNTX	hydrocarbons	10	0	0
	halogenated hydrocarbons	2	2	1
	carbonyls	0	9	0
RUVT	hydrocarbons	6	2	2
	halogenated hydrocarbons	3	2	0
	carbonyls	0	7	2
UNVT	hydrocarbons	9	0	1
	halogenated hydrocarbons	2	3	0
	carbonyls	9	0	1
WIVT	hydrocarbons	9	0	1
	halogenated hydrocarbons	2	3	0
	carbonyls	9	0	0

[a] Comparisons to 1995 UATMP data are not shown for the BRVT monitoring station, because it only collected four valid VOC samples during the 1995 program.

Table 7-2
Annual Trends in Geometric Mean Concentrations Observed at the Camden, New Jersey (CANJ) Monitoring Station

UATMP Program Year	Geometric Mean Concentration (ppbv)		
	Benzene	Ethylbenzene	Toluene
1989	1.46	0.36	3.25
1990	1.19	0.22	2.20
1991	0.79	0.32	2.45
1992	--- [a]	--- [a]	--- [a]
1993	--- [a]	--- [a]	--- [a]
1994	0.47	0.24	1.69
1995	0.46	0.14	1.04
1996	0.55	0.16	1.11

[a] In UATMP program years 1992 and 1993, ambient air monitoring was performed by a different contractor. For reference, the monitoring results for CANJ for these years are available from the Air Quality Subsystem (AQS) of AIRS.

8.0 Data Quality

This section evaluates how precisely and accurately ambient air concentrations were measured during the 1996 UATMP. As indicators of the reliability of experimental measurements, both precision and accuracy should be considered when interpreting ambient air monitoring results. Section 8.1 first defines precision and then presents a quantitative analysis of how precisely the UATMP monitoring methods measured VOCs and carbonyls. Section 8.2 defines accuracy but provides only a qualitative analysis of how accurately the methods characterized urban air quality. Where appropriate, the discussion compares the observed precision and accuracy to the UATMP data quality objectives. In general, this section shows that the 1996 UATMP monitoring data are of a known and high quality, particularly for the most prevalent compounds in urban air.

8.1 Precision

Precision refers to the mutual agreement between independent measurements performed according to identical protocols and procedures. Applied to ambient air monitoring data, precision is a measurement of random errors inherent to the process of sampling and analyzing ambient air. This section first compares concentrations measured during replicate analysis of air samples collected during the 1996 UATMP. Such comparisons can be used to quantify "analytical precision" (i.e., how precisely the laboratory equipment measures air concentrations). To quantify "sampling and analytical precision" (i.e., how precisely the sampling and analytical method measures ambient air concentrations), the section then compares concentrations measured during analysis of duplicate samples.

8.1.1 Analytical Precision

Analytical precision is a measurement of random errors associated with laboratory analysis of environmental samples. These errors may result from various factors, but typically originate from random "noise" inherent to analytical instruments. Laboratories can easily evaluate analytical precision by comparing concentrations measured during replicate analysis of the same ambient air samples. Although several parameters can be used to quantify analytical

precision, this report uses “average concentration difference” and “relative percent difference” to quantify random errors indicated by replicate analyses of UATMP samples.

The *average concentration difference* simply quantifies how replicate analytical results differ, on average, for each compound. When interpreting central tendency estimates for specific compounds sampled during the UATMP, participating agencies are encouraged to compare central tendencies to the average concentration differences. If a compound’s average concentration difference exceeds or nearly equals its central tendency, the analytical method may not be capable of precisely characterizing annual average concentrations. Therefore, data interpretations for these compounds should be made with caution.

As an additional measure of precision, the *relative percent difference (RPD)* expresses average concentration differences relative to the average concentrations detected during replicate analyses. The RPD is calculated as follows:

$$RPD = \frac{|X_1 - X_2|}{X} \qquad \textbf{(1)}$$

Where: X_1 is the ambient air concentration of a given compound measured in one sample;
X_2 is the concentration of the same compound measured during replicate analysis; and
X is the arithmetic mean of X_1 and X_2.

As Equation 1 shows, replicate analyses with low variability have lower RPDs (and better precision), and replicate analyses with high variability have higher RPDs (and poorer precision).

The following approach was employed to estimate how precisely the central laboratory analyzed UATMP samples. First, RPDs and concentration differences were calculated for every replicate analysis performed during the 1996 program. In cases where compounds were not

detected during replicate analysis, these parameters were not calculated. Second, to make an overall estimate of method precision, program-average RPDs and concentration differences were calculated for each compound by averaging the values from the individual replicate analyses. Tables 8-1 and 8-2 use both average concentration differences and RPDs to characterize the analytical precision of the VOC and carbonyl measurements made during the 1996 UATMP, respectively.

Replicate analytical data show that laboratory analysis precision was excellent at ±0.10 ppbv or better. As expected, the precision of the VOC analytical method varied from compound to compound. The method was most precise when measuring air concentrations for the most prevalent compounds (i.e., compounds consistently found at levels exceeding their detection limits). The 16 compounds most prevalent in the UATMP samples had RPDs ranging from 9 percent to 43 percent, while the remaining compounds have relatively higher RPDs, ranging from 24 percent to 83 percent. In terms of average concentration difference, the precision of the VOC analytical method was fairly uniform across compounds, with few exceptions. The average concentration difference during replicate analyses for most compounds was 0.11 ppbv or less, though acetylene and 1,3-butadiene had slightly greater concentration differences. The relatively high variability for 1,3-butadiene largely resulted from poor agreement in the replicate analysis of the sample collected on October 24, 1996, at Port Neches, Texas. Disregarding this sample, the average concentration difference for 1,3-butadiene becomes 0.08 ppbv, rather than 0.53 ppbv.

As Table 8-2 shows, laboratory analysis of carbonyl samples during the 1996 UATMP was consistently more precise than analysis of VOC samples. The RPD was less than 30 percent for every carbonyl compound, and the most prevalent compounds had marginally lower RPDs than the least prevalent compounds. With three exceptions, the average concentration differences observed upon replicate analyses of carbonyls was less than or equal to 0.01 ppbv. Acetaldehyde and acetone had average concentration differences of 0.05 ppbv, and formaldehyde had a difference of 0.08 ppbv. As the RPDs for these three compounds show, however, the larger average concentration differences consistently amounted to less than 5

percent of the corresponding ambient air concentrations measured in the replicate analyses. Accordingly, random errors during laboratory analysis had minimal impacts on the carbonyl concentration data measured during the 1996 UATMP.

Overall, replicate analyses of both carbonyl and VOC samples suggest that the corresponding analytical methods consistently measured the most prevalent compounds in air samples within a precision of 40 percent—a precision level well within the UATMP data quality objectives (USEPA, 1988) and guidelines in the Compendium Methods (USEPA, 1984a; 1984b).

8.1.2 Sampling and Analytical Precision

As the name implies, *sampling and analytical precision* quantifies random errors associated not only with analyzing ambient air samples in the laboratory but also with collecting the samples in the field. This form of precision is most easily evaluated by comparing concentrations measured in duplicate samples. During the 1996 UATMP, duplicate samples were collected on approximately 10 percent of the scheduled sampling days, and most of these samples were analyzed in replicate. To calculate sampling and analytical precision, data analysts first averaged the results from each replicate analysis (if performed), then compared these average concentrations between the two samples in each duplicate. Tables 8-3 and 8-4 present average concentration differences and RPDs as estimates of sampling and analytical precision for VOC and carbonyl measurements, respectively.

According to the sampling and analytical data in Table 8-3, concentrations of VOCs measured in duplicate samples during the 1996 UATMP were in excellent agreement. On average, these concentrations differed by 0.10 ppbv or less for almost every compound detected during the program. For the most prevalent compounds, the RPDs for sampling and analytical precision ranged from 4 percent to 25 percent; for the least prevalent compounds, the RPDs ranged from 25 percent to 66 percent. This finding seems to confirm the notion that the UATMP monitoring data are least precise for compounds typically found at levels near their detection limits. Also, note that the sampling and analytical precision data in Table 8-3 do not differ significantly from the analytical precision data in Table 8-1. This similarity suggests that

limitations associated with laboratory analysis of the VOC samples during the 1996 UATMP probably outweighed random errors associated with sampling procedures.

Like the duplicate sampling results for VOCs, the duplicate sampling results for carbonyls were highly precise. As the data in Table 8-4 show, every carbonyl compound had an RPD for sampling and analytical precision lower than 40 percent. Consistent with the findings of Section 8.1.1, the poorest sampling and analytical precision results (i.e., the highest RPDs) were observed for compounds measured at levels near their detection limits. For most compounds, however, the sampling and analytical RPDs (see Table 8-4) were notably higher than the analytical precision RPDs (see Table 8-2)—a trend that differs from the trend observed for VOCs. This observation suggests that random errors associated with collecting air samples and random errors associated with analyzing these samples both contributed significantly to overall imprecision in the carbonyl sampling and analytical method. Random sampling errors most likely resulted from trace amounts of carbonyls contaminating the silica gel sampling cartridges before the scheduled sampling days. As the estimates of sampling and analytical precision show, however, such sources of contamination did not have significant impacts—not greater than 0.20 ppbv, on average—on the carbonyl monitoring results.

To summarize, duplicate sampling results indicate that the UATMP air quality measurements generally have precision better than 40 percent—well within the UATMP data quality objectives of 100 percent (USEPA, 1988). This excellent measurement precision suggests that the UATMP monitoring data offer a precise account of air quality at the selected monitoring locations, especially for the most prevalent compounds. Although random errors had very small impacts (i.e., roughly 0.10 ppbv) on measurement of the less prevalent compounds, participating agencies should note that the central tendencies for these compounds have nearly the same magnitude as the average concentration difference. Therefore, central tendency concentrations for these less prevalent compounds should be interpreted with caution.

8.2 Accuracy

Accuracy indicates the extent to which experimental measurements represent their corresponding "true" or "actual" values. Highly accurate air sampling and analytical methods can measure air concentrations in very close agreement to actual ambient levels. Laboratories typically evaluate their accuracy by analyzing external audit samples and comparing measured concentrations to the known concentrations within the audits.

EPA chose not to provide any external audit samples for the 1996 UATMP. Consequently, the accuracy of the corresponding air quality measurements cannot be quantified. Nonetheless, the accuracy of the UATMP monitoring data can be assessed qualitatively by reviewing the accuracy of the monitoring methods and how they were implemented. First, the sampling and analytical methods used in the UATMP (i.e., Compendium Methods TO-11/11A and TO-14/14A) have been approved by EPA for accurately measuring ambient levels of VOCs and carbonyls, respectively—an approval that is based on many years of research into the development of ambient air monitoring methodologies. Second, when collecting and analyzing ambient air samples, all field sampling staff and laboratory analysts strictly followed quality control and quality assurance guidelines detailed in the respective monitoring methods. This strict adherence to the well-documented sampling and analytical methods suggests, though certainly does not prove, that the UATMP monitoring data accurately represent ambient air quality.

Table 8-1
VOC Analytical Precision
(Based on Replicate Analysis of 81 Valid Samples)

Compound	Number of Observations	Average RPD in Replicate Analyses (%)	Average Concentration Difference in Replicate Analyses (ppbv)
Acetylene	**81**	**12**	**0.25**
Benzene	**76**	**12**	**0.08**
Bromochloromethane	0	NA	NA
Bromodichloromethane	0	NA	NA
Bromoform	2	24	0.02
Bromomethane	2	48	0.02
1,3-Butadiene	**32**	**26**	**0.53**
Carbon tetrachloride	**62**	**19**	**0.02**
Chlorobenzene	0	NA	NA
Chloroethane	1	32	0.09
Chloroform	7	29	0.01
Chloromethane	**78**	**12**	**0.07**
Chloroprene	1	20	0.05
Dibromochloromethane	0	NA	NA
m-Dichlorobenzene	1	40	0.01
o-Dichlorobenzene	2	83	0.02
p-Dichlorobenzene	8	50	0.01
1,1-Dichloroethane	0	NA	NA
1,2-Dichloroethane	0	NA	NA
trans-1,2-Dichloroethylene	0	NA	NA
1,2-Dichloropropane	0	NA	NA
cis-1,3-Dichloropropylene	0	NA	NA
trans-1,3-Dichloropropylene	0	NA	NA
Ethylbenzene	**63**	**14**	**0.03**
Methylene chloride	**54**	**32**	**0.05**
***n*-Octane**	**42**	**20**	**0.03**
Propylene	**74**	**12**	**0.11**
Styrene	**39**	**29**	**0.09**
1,1,2,2-Tetrachloroethane	0	NA	NA
Tetrachloroethylene	**15**	**43**	**0.08**
Toluene	**77**	**9**	**0.10**

Notes: NA = Not applicable. (Precision cannot be evaluated for compounds that were not detected in any of the replicate analyses.)
"Number of observations" equals the number of replicate analyses in which the compound was detected.
Compounds with prevalence greater than 75 percent are shown in bold font. As discussed in Section 8.1.1, these compounds generally had better analytical precision than the compounds less prevalent in ambient air (i.e., the compounds in plain font).

Table 8-1 (Continued)
VOC Analytical Precision
(Based on Replicate Analysis of 81 Valid Samples)

Compound	Number of Observations	Average RPD in Replicate Analyses (%)	Average Concentration Difference in Replicate Analyses (ppbv)
1,1,1-Trichloroethane	**65**	**32**	**0.10**
1,1,2-Trichloroethane	0	NA	NA
Trichloroethylene	5	50	0.01
Vinyl chloride	0	NA	NA
***m,p*-Xylene**	**76**	**11**	**0.06**
***o*-Xylene**	**70**	**16**	**0.04**

Notes: NA = Not applicable. (Precision cannot be evaluated for compounds that were not detected in any of the replicate analyses.)
"Number of observations" equals the number of replicate analyses in which the compound was detected.
Compounds with prevalence greater than 75 percent are shown in bold font. As discussed in Section 8.1.1, these compounds generally had better analytical precision than the compounds less prevalent in ambient air (i.e., the compounds in plain font).

Table 8-2
Carbonyl Analytical Precision
(Based on Replicate Analysis of 96 Valid Samples)

Compound	Number of Observations	Average RPD in Replicate Analyses (%)	Average Concentration Difference in Replicate Analyses (ppbv)
Acetaldehyde	**96**	**4**	**0.05**
Acetone	**96**	**4**	**0.05**
Acrolein	**82**	**15**	**<0.01**
Benzaldehyde	**86**	**10**	**<0.01**
Butyr/Isobutyraldehyde	**96**	**5**	**0.01**
Crotonaldehyde	22	7	0.01
2,5-Dimethylbenzaldehyde	13	11	<0.01
Formaldehyde	**96**	**3**	**0.08**
Hexanaldehyde	**94**	**13**	**0.01**
Isovaleraldehyde	24	21	0.01
Propionaldehyde	**94**	**5**	**0.01**
Tolualdehydes	42	29	0.01
Valeraldehyde	**89**	**12**	**0.01**

Notes: "Number of observations" equals the number of replicate analyses in which the compound was detected. Compounds with prevalence greater than 75 percent are shown in bold font. As discussed in Section 8.1.1, the analytical precision for these compounds was similar to the analytical precision for compounds less prevalent in ambient air (i.e., the compounds in plain font).

Table 8-3
VOC Sampling and Analytical Precision
(Based on 44 Valid Duplicate Samples)

Compound	Number of Observations	Average RPD in Replicate Analyses of Duplicates (%)	Average Concentration Difference in Replicate Analyses of Duplicates (ppbv)
Acetylene	**44**	**7**	**0.24**
Benzene	**42**	**4**	**0.04**
Bromochloromethane	0	NA	NA
Bromodichloromethane	0	NA	NA
Bromoform	3	66	0.08
Bromomethane	1	57	0.02
1,3-Butadiene	**18**	**9**	**0.13**
Carbon tetrachloride	**35**	**10**	**0.01**
Chlorobenzene	0	NA	NA
Chloroethane	0	NA	NA
Chloroform	3	9	0.01
Chloromethane	**42**	**10**	**0.10**
Chloroprene	2	10	0.03
Dibromochloromethane	0	NA	NA
m-Dichlorobenzene	0	NA	NA
o-Dichlorobenzene	0	NA	NA
p-Dichlorobenzene	6	27	0.01
1,1-Dichloroethane	0	NA	NA
1,2-Dichloroethane	0	NA	NA
trans-1,2-Dichloroethylene	0	NA	NA
1,2-Dichloropropane	0	NA	NA
cis-1,3-Dichloropropylene	0	NA	NA
trans-1,3-Dichloropropylene	0	NA	NA
Ethylbenzene	**34**	**7**	**0.02**
Methylene chloride	**34**	**25**	**0.07**
***n*-Octane**	**30**	**16**	**0.03**
Propylene	**42**	**7**	**0.09**
Styrene	**23**	**11**	**0.04**
1,1,2,2-Tetrachloroethane	0	NA	NA
Tetrachloroethylene	**11**	**14**	**0.08**
Toluene	**41**	**7**	**0.11**

Notes: NA = Not applicable. (Precision cannot be evaluated for compounds that were not detected in any of the duplicate samples.)
"Number of observations" equals the number of duplicate samples in which the compound was detected. Compounds with prevalence greater than 75 percent are shown in bold font. As discussed in Section 8.1.2, these compounds generally had better sampling and analytical precision than the compounds less prevalent in ambient air (i.e., the compounds in plain font).

Table 8-3 (Continued)
VOC Sampling and Analytical Precision
(Based on 44 Valid Duplicate Samples)

Compound	Number of Observations	Average RPD in Replicate Analyses of Duplicates (%)	Average Concentration Difference in Replicate Analyses of Duplicates (ppbv)
1,1,1-Trichloroethane	**39**	**14**	**0.10**
1,1,2-Trichloroethane	0	NA	NA
Trichloroethylene	4	25	0.01
Vinyl chloride	0	NA	NA
***m,p*-Xylene**	**41**	**5**	**0.04**
***o*-Xylene**	**37**	**7**	**0.03**

Notes: NA = Not applicable. (Precision cannot be evaluated for compounds that were not detected in any of the duplicate samples.)
"Number of observations" equals the number of duplicate samples in which the compound was detected.
Compounds with prevalence greater than 75 percent are shown in bold font. As discussed in Section 8.1.2, these compounds generally had better sampling and analytical precision than the compounds less prevalent in ambient air (i.e., the compounds in plain font).

Table 8-4
Carbonyl Sampling and Analytical Precision
(Based on 47 Valid Duplicate Samples)

Compound	Number of Observations	Average RPD in Replicate Analyses of Duplicates (%)	Average Concentration Difference in Replicate Analyses of Duplicates (ppbv)
Acetaldehyde	**47**	**11**	**0.17**
Acetone	**47**	**12**	**0.13**
Acrolein	**40**	**23**	**0.01**
Benzaldehyde	**42**	**9**	**<0.01**
Butyr/Isobutyraldehyde	**47**	**12**	**0.02**
Crotonaldehyde	11	24	0.04
2,5-Dimethylbenzaldehyde	4	37	<0.01
Formaldehyde	**47**	**7**	**0.20**
Hexanaldehyde	**46**	**21**	**0.01**
Isovaleraldehyde	11	20	0.01
Propionaldehyde	**46**	**11**	**0.01**
Tolualdehydes	18	17	<0.01
Valeraldehyde	**43**	**19**	**0.01**

Notes: "Number of observations" equals the number of duplicate samples in which the compound was detected. Compounds with prevalence greater than 75 percent are shown in bold font. As discussed in Section 8.1.2, these compounds generally had better sampling and analytical precision than the compounds less prevalent in ambient air (i.e., the compounds in plain font).

9.0 Conclusions and Recommendations

As indicated throughout this report, UATMP monitoring data offer a wealth of information for evaluating trends and patterns in air quality and should ultimately help a wide range of audiences understand the complex nature of urban air pollution. The following discussion summarizes the main conclusions of this report and presents recommendations for ongoing urban air monitoring efforts.

9.1 Conclusions

Analyses of the 1996 UATMP monitoring data identified the following notable trends and patterns in urban air pollution:

- *Ambient air concentrations of hydrocarbons.* Overall, levels of airborne hydrocarbons were highest at the El Paso monitoring location and were lowest at the Underhill monitoring location. At most stations, emissions from motor vehicles appeared to be the primary source of hydrocarbons in ambient air; however, industrial emissions sources in the vicinity of Galveston, Hahnville, and Port Neches seemed to affect local airborne levels of hydrocarbons significantly. The links between motor vehicle emissions and ambient air concentrations of hydrocarbons were particularly strong for the BTEX compounds, and somewhat strong for acetylene and propylene. Industrial emissions data were consistent with observed spatial variations for 1,3-butadiene and for styrene: monitoring locations near facilities that emitted these chemicals tended to have relatively high geometric mean concentrations. There was some evidence that monitoring stations located in close proximity to petroleum refineries measured relatively high levels of *n*-octane.

- *Ambient air concentrations of halogenated hydrocarbons.* Ambient air concentrations of each of the most prevalent halogenated hydrocarbons appeared to exhibit unique spatial variations, and no single factor seemed to explain air quality trends for this group of compounds. Detailed analyses identified likely explanations for the measured levels of specific compounds: concentrations of carbon tetrachloride could be best explained as "global background" levels, chloromethane appeared to be influenced most by natural emissions from bodies of salt water, and concentrations of methylene chloride and tetrachloroethylene seemed to be linked in part to emissions from industrial sources. No notable trends in the concentrations of 1,1,1-trichloroethane were observed.

- *Ambient air concentrations of carbonyls.* The UATMP monitoring data seem to suggest that emissions from motor vehicles and photochemical reactions most strongly influence ambient air concentrations of carbonyls. The fact that ambient air concentrations of most carbonyls were positively correlated with temperature at most monitoring locations

supported the hypothesis that photochemical reactions *form* carbonyls in ambient air. Unique trends and patterns for concentrations of acetone, however, suggested photochemical reactions that *consume* the compound are an important mechanism affecting the measured ambient air concentrations. Although emissions data from facilities subject to the Toxic Release Inventory reporting requirements were quite inconsistent with the observed spatial variations in concentrations of carbonyls, emissions from other industrial emissions sources may have contributed to the levels of carbonyls detected during the UATMP.

9.2 Recommendations

In light of the lessons learned from the 1996 UATMP, a number of recommendations for future ambient air monitoring are warranted:

- *Develop standard conventions for interpreting air monitoring data.* The lack of consistent approaches to present and summarize ambient air monitoring data makes comparisons between different studies extremely difficult. For instance, different monitoring studies may calculate central tendencies, treat nondetects, or consider duplicate samples differently. These differences can complicate efforts to compare monitoring data from one study to the next. Therefore, further research should be conducted on the feasibility of establishing standard approaches for analyzing and reporting air monitoring data.

- *Encourage the development of more comprehensive emissions inventories.* As Section 6 of this report noted, TRI emissions data often could not explain notable spatial variations in ambient air quality, presumably because the TRI database does not characterize emissions from all industrial sources or from any mobile or natural sources. Because comprehensive and accurate emissions inventories are particularly useful for interpreting ambient air monitoring data, efforts to expand the scope of the TRI or to develop extensive local emissions inventories are strongly encouraged.

- *Encourage participating agencies to compare monitoring results to traffic volume.* Although the analyses in Section 6.1 provided compelling evidence that motor vehicle emissions significantly affect ambient air concentrations of several hydrocarbons, this report did not compare estimates of local traffic volume to the UATMP monitoring data. To understand the actual impacts of motor vehicle emissions, participating agencies are encouraged to derive estimates of motor vehicle flow near their respective monitoring locations and compare these estimates to the spatial variations in the measured levels of hydrocarbons.

- *Encourage continued participation in the UATMP.* As noted in the 1995 UATMP report, ongoing ambient air monitoring at fixed locations can provide insight into long-term

trends in urban air quality and the potential for urban air pollution to cause adverse health effects among the general population. Therefore, state and local agencies should be strongly encouraged either to develop and implement their own ambient air monitoring programs or to participate in future UATMP monitoring efforts.

- *Conduct further research on the sampling and analytical methods.* Of the compounds identified by the sampling and analytical methods used in this program, nearly half were detected in less than 50 percent of the 1996 UATMP samples. This limited number of detections prevents agencies from making accurate estimates of air quality trends for these compounds. To avoid such limitations, research efforts should continue to focus on developing more sensitive sampling and analytical methodologies that can measure concentrations of urban air pollutants at trace levels.

10.0 References

ATSDR, 1993. "Toxicological Profile for Methylene Chloride." U.S. Department of Health & Human Services, Agency for Toxic Substances and Disease Registry. April, 1993.

ATSDR, 1994. "Toxicological Profile for Carbon Tetrachloride." U.S. Department of Health & Human Services, Agency for Toxic Substances and Disease Registry. September, 1997.

ATSDR, 1995. "Toxicological Profile for 1,1,1-Trichloroethane." U.S. Department of Health & Human Services, Agency for Toxic Substances and Disease Registry. August, 1995.

ATSDR, 1997a. "Toxicological Profile for Chloromethane." U.S. Department of Health & Human Services, Agency for Toxic Substances and Disease Registry. September, 1997.

ATSDR, 1997b. "Toxicological Profile for Tetrachloroethylene." U.S. Department of Health & Human Services, Agency for Toxic Substances and Disease Registry. September, 1997.

Conner et al., 1995. "Transportation-Related Volatile Hydrocarbon Source Profiles Measured in Atlanta." Teri L. Conner, William A. Lonneman, Robert L. Seila. Journal of the Air and Waste Management Association, 45: 383-394. 1995.

ERG, 1997. "1995 Urban Air Toxics Monitoring Program - Final Report." Eastern Research Group. Prepared for U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. January, 1997.

Fujita et al., 1994. "Validation of the Chemical Mass Balance Receptor Model Applied to Hydrocarbon Source Apportionment in the Southern California Air Quality Study." Eric M. Fujita, John G. Watson, Judith C. Chow, and Zhiqiang Lu. Environmental Science and Technology, 28:1633-1649. 1994.

Godish, 1997. "Air Quality." Thad Godish. Lewis Publishers. 1997.

Graedel, 1978. "Chemical Compounds in the Atmosphere." T.E. Graedel. Academic Press. 1978.

Radian, 1990. "1989 Urban Air Toxics Monitoring Program - Final Report." Radian Corporation. Prepared for U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. September, 1990.

Radian, 1991. "1990 Urban Air Toxics Monitoring Program - Final Report." Radian Corporation. Prepared for U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. June, 1991.

Radian, 1996. "1994 Urban Air Toxics Monitoring Program - Final Report." Radian Corporation. Prepared for U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. June, 1996.

Ramamoorthy and Ramamoorthy, 1997. "Chlorinated Organic Compounds in the Environment: Regulatory and Monitoring Assessment." Sub Ramamoorthy and Sita Ramamoorthy. Lewis Publishers. 1997.

Scheff, 1993. "Receptor Modelling of Volatile Organic Compounds. 1. Emission Inventory and Validation." Peter A. Scheff and Richard A. Wadden. Environmental Science and Technology, 27: 617-625. 1993.

Seinfeld, 1986. "Atmospheric Chemistry and Physics of Air Pollution." John H. Seinfeld. John Wiley & Sons, Inc. 1986.

TRI, 1995. 1995 Toxic Release Inventory 1987 - 1995 CD-ROM. U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics. August, 1997.

USDOC, 1993. "1990 Census of Population and Housing." U.S. Department of Commerce, Bureau of the Census. July, 1993.

USEPA, 1984a. "Determination of Volatile Organic Compounds (VOCs) in Ambient Air Using Summa® Passivated Canister Sampling and Gas Chromatographic Analysis." U.S. Environmental Protection Agency, Quality Assurance Division, Environmental Moniotring Systems Laboratory. June, 1984.

USEPA, 1984b. "Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography." U.S. Environmental Protection Agency, Quality Assurance Division, Environmental Moniotring Systems Laboratory. June, 1984.

USEPA, 1986. "Guideline on Air Quality Models." U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Air Quality Planning and Standards. July, 1986.

USEPA, 1988. "Data Quality Objectives for the Urban Air Toxics Monitoring Program (Stages I and II)." U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Air Quality Planning and Standards. June, 1988.

USEPA, 1995. "Toxic Chemical Release Inventory Reporting Form R and Instructions." Revised 1994 Version. U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics. March, 1995.

USEPA, 1997. "National Air Pollutant Emission Trends, 1900 - 1996." U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Air Quality Planning and Standards. December, 1997.

APPENDIX A

AIRS SITE DESCRIPTIONS FOR THE 1996 UATMP MONITORING STATIONS

Table A-1
AIRS Site Codes for the 1996 UATMP Monitoring Stations

UATMP Site Code	Monitoring Station	AIRS Site Code
B2LA	Baton Rouge, Louisiana	22-033-0009
BRTX	Brownsville, Texas	48-061-0006
BRVT	Brattleboro, Vermont	50-025-0004
BUVT	Burlington, Vermont	50-007-0003
CANJ	Camden, New Jersey	34-007-0003
EPTX	El Paso, Texas	48-141-0027
GALA	Garyville, Louisiana	22-095-0002
GATX	Galveston, Texas	48-167-1002
HALA	Hahnville, Louisiana	22-089-0003
PNTX	Port Neches, Texas	48-245-0017
RUVT	Rutland, Vermont	50-021-0002
UNVT	Underhill, Vermont	50-007-0007
WIVT	Winooski, Vermont	50-007-0010

Note: The remainder of this Appendix contains site descriptions for the 1996 UATMP monitoring stations. The site descriptions, which were downloaded from AIRS, are each three pages long and are presented in the order indicated in this table. These site descriptions characterize the locations and surroundings of the respective UATMP air monitoring stations.

APPENDIX B

SUMMARY OF INVALIDATED VOC SAMPLES

Table B-1
Summary of Invalidated VOC Samples

Station	Sample ID	Sample Date	Reason for Invalidating Sample
B2LA	8014	8/31/96	Canister pressure did not meet quality control guidelines
	8663	10/30/96	Canister pressure did not meet quality control guidelines
	8665	10/30/96	Canister pressure did not meet quality control guidelines
	8748	11/17/96	Leak detected in sample inlet valve
	8809	12/5/96	Canister pressure did not meet quality control guidelines
	8811	12/5/96	Canister pressure did not meet quality control guidelines
	8900	1/10/97	Canister pressure did not meet quality control guidelines
	8962	1/28/97	Canister pressure did not meet quality control guidelines
	9165	3/17/97	Canister pressure did not meet quality control guidelines
	9166	3/17/97	Canister pressure did not meet quality control guidelines
	9209	3/29/97	Canister pressure did not meet quality control guidelines
	9210	3/29/97	Canister pressure did not meet quality control guidelines
	9973	7/9/97	Canister pressure did not meet quality control guidelines
	11059	8/26/97	Sample was not run at the correct time
BRTX	8584	9/30/96	Sample voided by the laboratory
	8733	10/28/96	Canister pressure did not meet quality control guidelines
	8734	10/28/96	Canister pressure did not meet quality control guidelines
	8892	12/23/96	Canister pressure did not meet quality control guidelines
	9052	2/9/97	Canister pressure did not meet quality control guidelines
	9169	3/11/97	Canister pressure did not meet quality control guidelines
	10684	8/8/97	Canister pressure did not meet quality control guidelines
BRVT	8153	8/31/96	Sample inlet valve malfunctioned
	8948	1/21/97	Site received a pressurized canister

Note: The laboratory analytical protocol specifies that samples can be analyzed only if canisters have pressures between 0 and 10 inches of mercury. Samples with pressures out of these bounds were invalidated.

Table B-1 (Continued)
Summary of Invalidated VOC Samples

Station	Sample ID	Sample Date	Reason for Invalidating Sample
BUVT	NA	NA	No VOC samples were invalid
CANJ	8728	11/17/96	Sampling timer malfunctioned
EPTX	8750	11/17/96	Canister pressure did not meet quality control guidelines
	8882	1/4/97	Canister leaked
GALA	8815	12/5/96	Sample was collected with the canister closed
	8817	12/5/96	Sample was collected with the canister closed
	8819	12/11/96	Canister pressure did not meet quality control guidelines
	9227	3/29/97	Site received a pressurized canister
	10296	7/21/97	Sample voided by the laboratory
GATX	8997	1/28/97	Canister pressure did not meet quality control guidelines
	8999	1/28/97	Canister pressure did not meet quality control guidelines
HALA	8227	9/13/96	Canister leaked
PNTX	8858	12/11/96	Sample voided by the laboratory
	8860	12/11/96	Sample voided by the laboratory
	9137	2/21/97	Canister pressure did not meet quality control guidelines
	9903	6/21/97	Sample voided by the laboratory
	11033	8/8/97	Canister pressure did not meet quality control guidelines
RUVT	8071	8/31/96	Canister pressure did not meet quality control guidelines
	8073	8/31/96	Canister pressure did not meet quality control guidelines
	8636	10/30/96	Canister pressure did not meet quality control guidelines
	8638	10/30/96	Canister pressure did not meet quality control guidelines
	8746	11/17/96	Sample voided by the laboratory
	8844	12/17/96	Sampling timer malfunctioned

Note: The laboratory analytical protocol specifies that samples can be analyzed only if canisters have pressures between 0 and 10 inches of mercury. Samples with pressures out of these bounds were invalidated.

Table B-1 (Continued)
Summary of Invalidated VOC Samples

Station	Sample ID	Sample Date	Reason for Invalidating Sample
RUVT (Contd.)	9038	2/15/97	Sampling timer malfunctioned
	9076	2/21/97	Sample voided by the laboratory
	9078	2/21/97	Sample voided by the laboratory
	9306	4/22/97	Sample voided by the laboratory
	9308	4/22/97	Sample voided by the laboratory
UNVT	8152	8/31/96	Canister pressure did not meet quality control guidelines
	8285	9/12/96	Sample voided in the field
WIVT	8768	11/23/96	Sampling timer malfunctioned

Note: The laboratory analytical protocol specifies that samples can be analyzed only if canisters have pressures between 0 and 10 inches of mercury. Samples with pressures out of these bounds were invalidated.

APPENDIX C

SUMMARY OF INVALIDATED CARBONYL SAMPLES

Table C-1
Summary of Invalidated Carbonyl Samples

Station	Sample ID	Sample Date	Reason for Invalidating Sample
B2LA	8749	11/17/96	No sample was collected due to a leaking valve
	9087	2/27/97	Sample voided by laboratory
	11060	8/26/97	Sampling did not start at the correct time
BRTX	8899	12/11/96	Site did not receive cartridge for duplicate sample
	9170	3/11/97	Laboratory did not receive duplicate sample
	9421	5/23/97	Sampling tube was not installed correctly
BRVT	NA	NA	No carbonyl samples were invalidated
BUVT	NA	NA	No carbonyl samples were invalidated
CANJ	8650	10/30/96	Site did not receive cartridge for duplicate sample
EPTX	9402	5/16/97	Site did not receive cartridge for duplicate sample
	9490	6/9/97	Sample not received at the laboratory
GALA	8788	10/30/96	Site did not receive cartridge for duplicate sample
	9228	3/29/97	Sample not received at the laboratory
GATX	8998	1/28/97	Valve at sample inlet was left closed
	9000	1/28/97	Valve at sample inlet was left closed
	9343	5/4/97	Sampling tube not attached to the inlet valve
	10576	8/8/97	Sampling tube not attached to the inlet valve
HALA	8853	12/17/96	Invalid rotameter reading
PNTX	9419	5/16/97	Sampling tube not attached to the inlet valve
RUVT	8933	1/21/97	Inlet orifice to duplicate cartridge was plugged
	9039	2/15/97	Timer set incorrectly
UNVT	8055	8/31/96	Sample voided in the field
	8286	9/12/96	Sample voided in the field
	8759	11/23/96	Sampling tube not attached to the inlet valve
WIVT	8769	11/23/96	Timer set incorrectly

APPENDIX D

SUMMARY TABLES FOR VOC MONITORING

Table D-1
Summary Statistics for VOC Concentrations Measured at Baton Rouge, Louisiana (B2LA)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.67**	**5.26**	**1.46**	**1.92**	**1.63**	**1.24**	**0.65**
Benzene	**0**	**100%**	**0.23**	**2.20**	**0.53**	**0.67**	**0.58**	**0.42**	**0.63**
Bromochloromethane	18	42%	ND	0.05	0.04	0.04	0.04	0.01	0.13
Bromodichloromethane	18	42%	ND	0.05	0.05	0.04	0.04	0.01	0.27
Bromoform	18	42%	ND	0.08	0.04	0.05	0.05	0.02	0.32
Bromomethane	18	42%	ND	0.13	0.09	0.08	0.08	0.01	0.16
1,3-Butadiene	**5**	**84%**	**ND**	**0.36**	**0.08**	**0.11**	**0.08**	**0.09**	**0.85**
Carbon tetrachloride	**0**	**100%**	**0.07**	**0.16**	**0.08**	**0.09**	**0.09**	**0.02**	**0.19**
Chlorobenzene	15	52%	ND	0.13	0.03	0.04	0.03	0.02	0.54
Chloroethane	18	42%	ND	0.44	0.09	0.08	0.06	0.07	0.94
Chloroform	23	26%	ND	0.29	0.03	0.06	0.04	0.07	1.20
Chloromethane	**0**	**100%**	**0.13**	**0.98**	**0.54**	**0.57**	**0.54**	**0.18**	**0.32**
Chloroprene	18	42%	ND	0.05	0.03	0.04	0.03	0.01	0.35
Dibromochloromethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	18	42%	ND	0.08	0.04	0.05	0.05	0.02	0.39

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-1 (Continued)
Summary Statistics for VOC Concentrations Measured at Baton Rouge, Louisiana (B2LA)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	18	42%	ND	0.08	0.04	0.06	0.05	0.02	0.35
p-Dichlorobenzene	12	61%	ND	0.07	0.03	0.04	0.03	0.02	0.51
1,1-Dichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	30	3%	ND	0.34	0.13	0.14	0.13	0.04	0.28
trans-1,2-Dichloroethylene	31	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	31	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	31	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**0**	**100%**	**0.10**	**0.46**	**0.17**	**0.22**	**0.20**	**0.11**	**0.51**
Methylene chloride	**2**	**94%**	**ND**	**1.33**	**0.07**	**0.13**	**0.08**	**0.23**	**1.81**
***n*-Octane**	**0**	**100%**	**0.04**	**0.33**	**0.10**	**0.12**	**0.10**	**0.07**	**0.59**
Propylene	**0**	**100%**	**0.33**	**7.75**	**0.99**	**1.39**	**1.08**	**1.34**	**0.96**
Styrene	**0**	**100%**	**0.05**	**2.93**	**0.18**	**0.37**	**0.21**	**0.63**	**1.71**
1,1,2,2-Tetrachloroethane	31	0%	ND	ND	0.08	0.08	0.08	0.00	0.00
Tetrachloroethylene	**1**	**97%**	**ND**	**0.21**	**0.04**	**0.06**	**0.05**	**0.05**	**0.80**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-1 (Continued)
Summary Statistics for VOC Concentrations Measured at Baton Rouge, Louisiana (B2LA)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.50**	**2.96**	**0.91**	**1.19**	**1.05**	**0.67**	**0.56**
1,1,1-Trichloroethane	**0**	**100%**	**0.07**	**0.81**	**0.11**	**0.15**	**0.12**	**0.14**	**0.91**
1,1,2-Trichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	12	61%	ND	0.32	0.03	0.04	0.03	0.06	1.54
Vinyl chloride	16	48%	ND	0.11	0.06	0.05	0.04	0.02	0.38
***m,p*-Xylene**	**0**	**100%**	**0.13**	**1.47**	**0.48**	**0.63**	**0.54**	**0.37**	**0.58**
***o*-Xylene**	**0**	**100%**	**0.13**	**0.66**	**0.24**	**0.32**	**0.28**	**0.16**	**0.51**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-2
Summary Statistics for VOC Concentrations Measured at Brownsville, Texas (BRTX)
(Based on 29 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.13**	**6.54**	**1.33**	**1.75**	**1.25**	**1.58**	**0.90**
Benzene	**0**	**100%**	**0.15**	**1.73**	**0.34**	**0.47**	**0.38**	**0.39**	**0.81**
Bromochloromethane	19	34%	ND	0.05	0.04	0.04	0.04	0.00	0.13
Bromodichloromethane	19	34%	ND	0.05	0.05	0.04	0.04	0.01	0.25
Bromoform	17	41%	ND	0.14	0.04	0.05	0.05	0.02	0.45
Bromomethane	16	45%	ND	0.35	0.09	0.10	0.09	0.06	0.57
1,3-Butadiene	11	62%	ND	0.41	0.08	0.08	0.07	0.08	0.91
Carbon tetrachloride	**0**	**100%**	**0.05**	**0.10**	**0.08**	**0.08**	**0.08**	**0.01**	**0.19**
Chlorobenzene	18	38%	ND	0.04	0.03	0.03	0.03	0.00	0.15
Chloroethane	19	34%	ND	0.09	0.09	0.07	0.06	0.03	0.42
Chloroform	28	3%	ND	0.03	0.03	0.03	0.03	0.00	0.06
Chloromethane	**0**	**100%**	**0.63**	**4.16**	**1.19**	**1.37**	**1.22**	**0.78**	**0.57**
Chloroprene	19	34%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	29	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	17	41%	ND	0.08	0.04	0.05	0.04	0.02	0.44

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-2 (Continued)
Summary Statistics for VOC Concentrations Measured at Brownsville, Texas (BRTX)
(Based on 29 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	17	41%	ND	0.08	0.04	0.05	0.05	0.02	0.42
p-Dichlorobenzene	13	55%	ND	0.10	0.03	0.04	0.04	0.02	0.46
1,1-Dichloroethane	29	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	29	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	29	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	29	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	29	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	29	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**2**	**93%**	**ND**	**0.66**	**0.12**	**0.16**	**0.12**	**0.14**	**0.85**
Methylene chloride	**1**	**97%**	**ND**	**5.27**	**0.07**	**0.29**	**0.09**	**0.96**	**3.30**
***n*-Octane**	**2**	**93%**	**ND**	**0.33**	**0.06**	**0.08**	**0.05**	**0.07**	**0.92**
Propylene	**0**	**100%**	**0.20**	**1.83**	**0.50**	**0.63**	**0.54**	**0.41**	**0.65**
Styrene	**5**	**83%**	**ND**	**0.55**	**0.05**	**0.09**	**0.07**	**0.10**	**1.15**
1,1,2,2-Tetrachloroethane	29	0%	ND	ND	0.08	0.08	0.08	0.00	0.00
Tetrachloroethylene	10	66%	ND	2.29	0.02	0.16	0.04	0.47	2.93

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-2 (Continued)
Summary Statistics for VOC Concentrations Measured at Brownsville, Texas (BRTX)
(Based on 29 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**1**	**97%**	**ND**	**4.06**	**0.60**	**0.93**	**0.64**	**0.90**	**0.97**
1,1,1-Trichloroethane	**0**	**100%**	**0.05**	**0.76**	**0.10**	**0.14**	**0.11**	**0.15**	**1.07**
1,1,2-Trichloroethane	29	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	19	34%	ND	0.03	0.03	0.02	0.02	0.00	0.10
Vinyl chloride	19	34%	ND	0.06	0.06	0.05	0.04	0.01	0.26
***m,p*-Xylene**	**0**	**100%**	**0.04**	**2.26**	**0.38**	**0.47**	**0.35**	**0.45**	**0.96**
***o*-Xylene**	**1**	**97%**	**ND**	**1.12**	**0.16**	**0.24**	**0.17**	**0.23**	**0.97**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-3
Summary Statistics for VOC Concentrations Measured at Brattleboro, Vermont (BRVT)
(Based on 32 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.38**	**7.50**	**1.87**	**2.45**	**1.77**	**1.99**	**0.81**
Benzene	**1**	**97%**	**ND**	**1.56**	**0.47**	**0.55**	**0.46**	**0.35**	**0.64**
Bromochloromethane	22	31%	ND	0.05	0.04	0.04	0.04	0.00	0.12
Bromodichloromethane	22	31%	ND	0.05	0.05	0.04	0.04	0.01	0.24
Bromoform	22	31%	ND	0.08	0.04	0.05	0.05	0.02	0.32
Bromomethane	22	31%	ND	0.09	0.09	0.08	0.08	0.01	0.11
1,3-Butadiene	**6**	**81%**	**ND**	**0.33**	**0.08**	**0.09**	**0.07**	**0.07**	**0.73**
Carbon tetrachloride	**0**	**100%**	**0.05**	**0.10**	**0.08**	**0.08**	**0.08**	**0.01**	**0.17**
Chlorobenzene	22	31%	ND	0.04	0.03	0.03	0.03	0.00	0.07
Chloroethane	22	31%	ND	0.09	0.09	0.07	0.06	0.03	0.40
Chloroform	23	28%	ND	0.07	0.03	0.03	0.03	0.01	0.36
Chloromethane	**0**	**100%**	**0.32**	**1.89**	**0.49**	**0.54**	**0.51**	**0.26**	**0.48**
Chloroprene	22	31%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	32	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	21	34%	ND	0.08	0.04	0.05	0.04	0.02	0.40

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-3 (Continued)
Summary Statistics for VOC Concentrations Measured at Brattleboro, Vermont (BRVT)
(Based on 32 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	21	34%	ND	0.08	0.04	0.05	0.05	0.02	0.37
p-Dichlorobenzene	20	38%	ND	0.07	0.03	0.04	0.04	0.02	0.44
1,1-Dichloroethane	32	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	32	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	32	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	31	3%	ND	0.07	0.02	0.02	0.02	0.01	0.41
cis-1,3-Dichloropropylene	32	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	32	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**1**	**97%**	**ND**	**0.54**	**0.17**	**0.20**	**0.16**	**0.13**	**0.67**
Methylene chloride	**5**	**84%**	**ND**	**4.16**	**0.11**	**0.77**	**0.24**	**1.10**	**1.43**
***n*-Octane**	**2**	**94%**	**ND**	**0.44**	**0.06**	**0.08**	**0.06**	**0.08**	**1.00**
Propylene	**0**	**100%**	**0.23**	**4.08**	**0.66**	**0.90**	**0.71**	**0.76**	**0.85**
Styrene	8	75%	ND	0.71	0.05	0.08	0.06	0.13	1.57
1,1,2,2-Tetrachloroethane	32	0%	ND	ND	0.08	0.08	0.08	0.00	0.00
Tetrachloroethylene	**7**	**78%**	**ND**	**0.11**	**0.03**	**0.05**	**0.03**	**0.04**	**0.82**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-3 (Continued)
Summary Statistics for VOC Concentrations Measured at Brattleboro, Vermont (BRVT)
(Based on 32 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.21**	**3.88**	**0.95**	**1.26**	**1.01**	**0.92**	**0.73**
1,1,1-Trichloroethane	**0**	**100%**	**0.06**	**0.29**	**0.09**	**0.10**	**0.10**	**0.04**	**0.40**
1,1,2-Trichloroethane	32	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	17	47%	ND	0.03	0.03	0.02	0.02	0.00	0.17
Vinyl chloride	22	31%	ND	0.06	0.06	0.05	0.05	0.01	0.25
***m,p*-Xylene**	**0**	**100%**	**0.08**	**1.58**	**0.47**	**0.60**	**0.47**	**0.41**	**0.69**
***o*-Xylene**	**1**	**97%**	**ND**	**0.63**	**0.20**	**0.24**	**0.19**	**0.15**	**0.64**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-4
Summary Statistics for VOC Concentrations Measured at Burlington, Vermont (BUVT)
(Based on 33 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.37**	**7.56**	**3.26**	**3.29**	**2.74**	**1.86**	**0.56**
Benzene	**1**	**97%**	**ND**	**1.62**	**0.77**	**0.79**	**0.71**	**0.33**	**0.41**
Bromochloromethane	23	30%	ND	0.05	0.04	0.04	0.04	0.00	0.12
Bromodichloromethane	23	30%	ND	0.05	0.05	0.04	0.04	0.01	0.24
Bromoform	15	55%	ND	0.17	0.05	0.06	0.06	0.03	0.49
Bromomethane	14	58%	ND	0.20	0.07	0.08	0.07	0.03	0.35
1,3-Butadiene	**6**	**82%**	**ND**	**0.35**	**0.10**	**0.11**	**0.09**	**0.07**	**0.65**
Carbon tetrachloride	**1**	**97%**	**ND**	**0.12**	**0.08**	**0.08**	**0.08**	**0.01**	**0.17**
Chlorobenzene	23	30%	ND	0.04	0.03	0.03	0.03	0.00	0.07
Chloroethane	22	33%	ND	0.19	0.09	0.07	0.07	0.03	0.46
Chloroform	28	15%	ND	0.26	0.03	0.04	0.03	0.04	1.10
Chloromethane	**1**	**97%**	**ND**	**0.78**	**0.50**	**0.51**	**0.49**	**0.11**	**0.21**
Chloroprene	23	30%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	33	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	22	33%	ND	0.08	0.04	0.05	0.04	0.02	0.42

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-4 (Continued)
Summary Statistics for VOC Concentrations Measured at Burlington, Vermont (BUVT)
(Based on 33 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	22	33%	ND	0.08	0.04	0.05	0.05	0.02	0.39
p-Dichlorobenzene	15	55%	ND	0.07	0.03	0.04	0.03	0.02	0.54
1,1-Dichloroethane	33	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	33	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	33	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	33	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	33	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	33	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**2**	**94%**	**ND**	**0.55**	**0.28**	**0.29**	**0.25**	**0.12**	**0.42**
Methylene chloride	**8**	**76%**	**ND**	**0.47**	**0.08**	**0.09**	**0.07**	**0.10**	**1.05**
***n*-Octane**	**2**	**94%**	**ND**	**0.31**	**0.07**	**0.08**	**0.07**	**0.05**	**0.67**
Propylene	**1**	**97%**	**ND**	**2.45**	**1.14**	**1.12**	**0.96**	**0.51**	**0.45**
Styrene	11	67%	ND	0.50	0.05	0.09	0.07	0.12	1.25
1,1,2,2-Tetrachloroethane	33	0%	ND	ND	0.08	0.08	0.08	0.00	0.00
Tetrachloroethylene	9	73%	ND	0.11	0.02	0.03	0.02	0.03	0.88

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-4 (Continued)
Summary Statistics for VOC Concentrations Measured at Burlington, Vermont (BUVT)
(Based on 33 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.18**	**2.83**	**1.64**	**1.59**	**1.40**	**0.64**	**0.40**
1,1,1-Trichloroethane	**1**	**97%**	**ND**	**0.17**	**0.09**	**0.10**	**0.09**	**0.03**	**0.29**
1,1,2-Trichloroethane	33	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	19	42%	ND	0.05	0.03	0.02	0.02	0.01	0.28
Vinyl chloride	23	30%	ND	0.06	0.06	0.05	0.05	0.01	0.25
***m,p*-Xylene**	**0**	**100%**	**0.12**	**1.66**	**0.81**	**0.86**	**0.75**	**0.37**	**0.43**
***o*-Xylene**	**0**	**100%**	**0.05**	**0.79**	**0.40**	**0.40**	**0.34**	**0.18**	**0.45**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-5
Summary Statistics for VOC Concentrations Measured at Camden, New Jersey (CANJ)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.05**	**12.63**	**1.75**	**3.22**	**2.08**	**3.07**	**0.95**
Benzene	**0**	**100%**	**0.24**	**2.43**	**0.54**	**0.65**	**0.55**	**0.46**	**0.70**
Bromochloromethane	21	32%	ND	0.05	0.04	0.04	0.04	0.00	0.12
Bromodichloromethane	21	32%	ND	0.05	0.05	0.04	0.04	0.01	0.25
Bromoform	8	74%	ND	0.16	0.08	0.07	0.06	0.03	0.46
Bromomethane	**6**	**81%**	**ND**	**0.44**	**0.07**	**0.08**	**0.07**	**0.07**	**0.89**
1,3-Butadiene	**5**	**84%**	**ND**	**0.29**	**0.08**	**0.09**	**0.07**	**0.07**	**0.79**
Carbon tetrachloride	**0**	**100%**	**0.04**	**0.13**	**0.08**	**0.08**	**0.08**	**0.02**	**0.21**
Chlorobenzene	20	35%	ND	0.04	0.03	0.03	0.03	0.00	0.08
Chloroethane	20	35%	ND	0.11	0.09	0.07	0.06	0.03	0.41
Chloroform	26	16%	ND	0.05	0.03	0.03	0.03	0.00	0.15
Chloromethane	**0**	**100%**	**0.07**	**0.99**	**0.54**	**0.59**	**0.54**	**0.19**	**0.33**
Chloroprene	21	32%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	30	3%	ND	0.03	0.03	0.02	0.02	0.00	0.11
m-Dichlorobenzene	17	45%	ND	0.08	0.04	0.05	0.04	0.02	0.46

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-5 (Continued)
Summary Statistics for VOC Concentrations Measured at Camden, New Jersey (CANJ)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	19	39%	ND	0.08	0.04	0.05	0.05	0.02	0.41
p-Dichlorobenzene	10	68%	ND	0.17	0.05	0.06	0.05	0.03	0.61
1,1-Dichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	31	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	31	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	31	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	31	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**0**	**100%**	**0.07**	**0.58**	**0.15**	**0.20**	**0.16**	**0.13**	**0.68**
Methylene chloride	**1**	**97%**	**ND**	**0.36**	**0.12**	**0.15**	**0.12**	**0.09**	**0.64**
***n*-Octane**	**0**	**100%**	**0.01**	**0.21**	**0.08**	**0.09**	**0.08**	**0.05**	**0.57**
Propylene	**0**	**100%**	**0.05**	**5.51**	**1.56**	**1.74**	**1.22**	**1.37**	**0.79**
Styrene	**7**	**77%**	**ND**	**1.29**	**0.05**	**0.12**	**0.07**	**0.23**	**1.94**
1,1,2,2-Tetrachloroethane	30	3%	ND	0.08	0.08	0.08	0.08	0.00	0.04
Tetrachloroethylene	**1**	**97%**	**ND**	**0.81**	**0.06**	**0.10**	**0.06**	**0.14**	**1.42**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-5 (Continued)
Summary Statistics for VOC Concentrations Measured at Camden, New Jersey (CANJ)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.08**	**4.22**	**1.06**	**1.47**	**1.11**	**1.09**	**0.74**
1,1,1-Trichloroethane	**0**	**100%**	**0.07**	**0.24**	**0.13**	**0.14**	**0.13**	**0.05**	**0.34**
1,1,2-Trichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	9	71%	ND	0.11	0.02	0.03	0.02	0.02	0.68
Vinyl chloride	21	32%	ND	0.06	0.06	0.05	0.05	0.01	0.25
***m,p*-Xylene**	**0**	**100%**	**0.25**	**2.49**	**0.41**	**0.67**	**0.54**	**0.50**	**0.75**
***o*-Xylene**	**0**	**100%**	**0.12**	**0.86**	**0.20**	**0.29**	**0.24**	**0.18**	**0.62**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-6
Summary Statistics for VOC Concentrations Measured at El Paso, Texas (EPTX)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**1.55**	**15.30**	**3.92**	**5.49**	**4.60**	**3.49**	**0.64**
Benzene	**0**	**100%**	**0.58**	**2.66**	**1.16**	**1.25**	**1.18**	**0.48**	**0.39**
Bromochloromethane	20	35%	ND	0.05	0.04	0.04	0.04	0.00	0.13
Bromodichloromethane	20	35%	ND	0.05	0.05	0.04	0.04	0.01	0.26
Bromoform	16	48%	ND	0.18	0.04	0.06	0.05	0.03	0.53
Bromomethane	14	55%	ND	0.45	0.09	0.10	0.09	0.08	0.77
1,3-Butadiene	**0**	**100%**	**0.04**	**0.41**	**0.16**	**0.17**	**0.14**	**0.10**	**0.59**
Carbon tetrachloride	**0**	**100%**	**0.06**	**0.10**	**0.08**	**0.08**	**0.08**	**0.01**	**0.15**
Chlorobenzene	20	35%	ND	0.04	0.03	0.03	0.03	0.00	0.08
Chloroethane	20	35%	ND	0.09	0.09	0.07	0.06	0.03	0.42
Chloroform	27	13%	ND	0.13	0.03	0.04	0.03	0.02	0.55
Chloromethane	**0**	**100%**	**0.48**	**1.54**	**0.62**	**0.70**	**0.68**	**0.20**	**0.29**
Chloroprene	20	35%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	30	3%	ND	0.03	0.03	0.02	0.02	0.00	0.11
m-Dichlorobenzene	18	42%	ND	0.08	0.04	0.05	0.04	0.02	0.42

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-6 (Continued)
Summary Statistics for VOC Concentrations Measured at El Paso, Texas (EPTX)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	16	48%	ND	0.08	0.04	0.05	0.05	0.02	0.40
p-Dichlorobenzene	11	65%	ND	0.31	0.05	0.07	0.05	0.07	1.00
1,1-Dichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	31	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	31	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	31	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	31	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**0**	**100%**	**0.18**	**0.88**	**0.36**	**0.41**	**0.37**	**0.18**	**0.45**
Methylene chloride	**1**	**97%**	**ND**	**0.33**	**0.09**	**0.11**	**0.08**	**0.09**	**0.79**
***n*-Octane**	**2**	**94%**	**ND**	**0.23**	**0.08**	**0.10**	**0.09**	**0.05**	**0.53**
Propylene	**0**	**100%**	**0.75**	**3.41**	**1.41**	**1.57**	**1.46**	**0.66**	**0.42**
Styrene	**5**	**84%**	**ND**	**1.57**	**0.06**	**0.16**	**0.09**	**0.29**	**1.79**
1,1,2,2-Tetrachloroethane	31	0%	ND	ND	0.08	0.08	0.08	0.00	0.00
Tetrachloroethylene	**4**	**87%**	**ND**	**0.24**	**0.04**	**0.06**	**0.04**	**0.05**	**0.91**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-6 (Continued)
Summary Statistics for VOC Concentrations Measured at El Paso, Texas (EPTX)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.88**	**7.10**	**2.15**	**2.67**	**2.34**	**1.55**	**0.58**
1,1,1-Trichloroethane	**0**	**100%**	**0.06**	**0.21**	**0.09**	**0.10**	**0.10**	**0.04**	**0.37**
1,1,2-Trichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	9	71%	ND	5.94	0.03	0.23	0.03	1.06	4.70
Vinyl chloride	20	35%	ND	0.06	0.06	0.05	0.04	0.01	0.26
***m,p*-Xylene**	**0**	**100%**	**0.37**	**2.76**	**1.11**	**1.29**	**1.16**	**0.63**	**0.49**
***o*-Xylene**	**0**	**100%**	**0.20**	**1.26**	**0.49**	**0.56**	**0.51**	**0.25**	**0.46**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-7
Summary Statistics for VOC Concentrations Measured at Garyville, Louisiana (GALA)
(Based on 32 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.26**	**3.93**	**0.91**	**1.15**	**0.95**	**0.82**	**0.72**
Benzene	**0**	**100%**	**0.19**	**1.54**	**0.46**	**0.47**	**0.42**	**0.25**	**0.54**
Bromochloromethane	23	28%	ND	0.05	0.04	0.04	0.04	0.00	0.12
Bromodichloromethane	23	28%	ND	0.05	0.05	0.04	0.04	0.01	0.23
Bromoform	23	28%	ND	0.08	0.04	0.05	0.05	0.02	0.32
Bromomethane	21	34%	ND	0.09	0.09	0.08	0.08	0.01	0.17
1,3-Butadiene	10	69%	ND	1.13	0.08	0.12	0.07	0.22	1.79
Carbon tetrachloride	**1**	**97%**	**ND**	**0.12**	**0.09**	**0.08**	**0.08**	**0.02**	**0.18**
Chlorobenzene	23	28%	ND	0.04	0.03	0.03	0.03	0.00	0.07
Chloroethane	23	28%	ND	0.09	0.09	0.07	0.07	0.03	0.37
Chloroform	28	13%	ND	0.07	0.03	0.03	0.03	0.01	0.24
Chloromethane	**0**	**100%**	**0.44**	**1.12**	**0.63**	**0.65**	**0.64**	**0.14**	**0.22**
Chloroprene	17	47%	ND	5.18	0.03	0.49	0.07	1.27	2.61
Dibromochloromethane	32	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	20	38%	ND	0.08	0.04	0.04	0.04	0.02	0.46

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-7 (Continued)
Summary Statistics for VOC Concentrations Measured at Garyville, Louisiana (GALA)
(Based on 32 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	22	31%	ND	0.08	0.04	0.05	0.05	0.02	0.39
p-Dichlorobenzene	16	50%	ND	0.23	0.03	0.05	0.04	0.04	0.76
1,1-Dichloroethane	32	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	32	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	32	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	31	3%	ND	0.04	0.02	0.02	0.02	0.00	0.13
cis-1,3-Dichloropropylene	32	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	32	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**4**	**88%**	**ND**	**0.80**	**0.09**	**0.15**	**0.10**	**0.15**	**1.04**
Methylene chloride	**5**	**84%**	**ND**	**0.14**	**0.06**	**0.06**	**0.05**	**0.03**	**0.48**
***n*-Octane**	**5**	**84%**	**ND**	**0.28**	**0.04**	**0.07**	**0.05**	**0.06**	**0.94**
Propylene	**1**	**97%**	**ND**	**1.96**	**0.41**	**0.63**	**0.47**	**0.49**	**0.78**
Styrene	13	59%	ND	0.50	0.05	0.08	0.06	0.11	1.30
1,1,2,2-Tetrachloroethane	31	3%	ND	0.08	0.08	0.08	0.08	0.01	0.07
Tetrachloroethylene	14	56%	ND	0.37	0.02	0.07	0.04	0.09	1.29

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-7 (Continued)
Summary Statistics for VOC Concentrations Measured at Garyville, Louisiana (GALA)
(Based on 32 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.19**	**2.38**	**0.49**	**0.71**	**0.55**	**0.56**	**0.78**
1,1,1-Trichloroethane	**1**	**97%**	**ND**	**0.36**	**0.11**	**0.13**	**0.12**	**0.06**	**0.48**
1,1,2-Trichloroethane	32	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	20	38%	ND	0.08	0.03	0.03	0.02	0.01	0.43
Vinyl chloride	23	28%	ND	0.06	0.06	0.05	0.05	0.01	0.24
***m,p*-Xylene**	**0**	**100%**	**0.07**	**1.09**	**0.24**	**0.32**	**0.24**	**0.25**	**0.80**
***o*-Xylene**	**0**	**100%**	**0.04**	**0.43**	**0.11**	**0.13**	**0.11**	**0.10**	**0.73**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-8
Summary Statistics for VOC Concentrations Measured at Galveston, Texas (GATX)
(Based on 30 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.58**	**8.89**	**1.19**	**1.67**	**1.34**	**1.57**	**0.94**
Benzene	**0**	**100%**	**0.21**	**3.09**	**0.78**	**0.99**	**0.81**	**0.69**	**0.70**
Bromochloromethane	20	33%	ND	0.05	0.04	0.04	0.04	0.00	0.13
Bromodichloromethane	20	33%	ND	0.05	0.05	0.04	0.04	0.01	0.25
Bromoform	16	47%	ND	0.29	0.04	0.08	0.06	0.07	0.86
Bromomethane	16	47%	ND	0.11	0.09	0.08	0.08	0.01	0.15
1,3-Butadiene	**7**	**77%**	**ND**	**0.72**	**0.08**	**0.11**	**0.08**	**0.13**	**1.17**
Carbon tetrachloride	**0**	**100%**	**0.05**	**0.15**	**0.09**	**0.09**	**0.09**	**0.02**	**0.20**
Chlorobenzene	18	40%	ND	0.04	0.03	0.03	0.03	0.00	0.10
Chloroethane	20	33%	ND	0.09	0.09	0.07	0.06	0.03	0.41
Chloroform	22	27%	ND	0.10	0.03	0.04	0.04	0.02	0.52
Chloromethane	**0**	**100%**	**0.46**	**3.09**	**0.87**	**1.06**	**0.95**	**0.58**	**0.54**
Chloroprene	20	33%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	16	47%	ND	0.08	0.04	0.05	0.04	0.02	0.48

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-8 (Continued)
Summary Statistics for VOC Concentrations Measured at Galveston, Texas (GATX)
(Based on 30 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	16	47%	ND	0.08	0.04	0.05	0.04	0.02	0.45
p-Dichlorobenzene	12	60%	ND	0.07	0.03	0.04	0.04	0.02	0.45
1,1-Dichloroethane	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	30	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	30	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	30	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	30	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**1**	**97%**	**ND**	**0.61**	**0.27**	**0.26**	**0.23**	**0.13**	**0.49**
Methylene chloride	**3**	**90%**	**ND**	**0.49**	**0.10**	**0.12**	**0.10**	**0.10**	**0.81**
***n*-Octane**	**1**	**97%**	**ND**	**44.55**	**0.17**	**1.94**	**0.20**	**8.20**	**4.23**
Propylene	**0**	**100%**	**0.13**	**10.05**	**2.53**	**3.02**	**2.21**	**2.27**	**0.75**
Styrene	**1**	**97%**	**ND**	**2.79**	**0.16**	**0.42**	**0.19**	**0.76**	**1.81**
1,1,2,2-Tetrachloroethane	29	3%	ND	0.08	0.08	0.08	0.08	0.00	0.04
Tetrachloroethylene	**5**	**83%**	**ND**	**2.53**	**0.04**	**0.15**	**0.05**	**0.45**	**2.96**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-8 (Continued)
Summary Statistics for VOC Concentrations Measured at Galveston, Texas (GATX)
(Based on 30 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**1**	**97%**	**ND**	**4.22**	**1.29**	**1.41**	**1.13**	**0.78**	**0.55**
1,1,1-Trichloroethane	**0**	**100%**	**0.07**	**0.25**	**0.11**	**0.11**	**0.11**	**0.04**	**0.31**
1,1,2-Trichloroethane	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	9	70%	ND	0.13	0.02	0.03	0.02	0.02	0.80
Vinyl chloride	18	40%	ND	0.29	0.06	0.06	0.05	0.05	0.88
***m,p*-Xylene**	**0**	**100%**	**0.10**	**2.60**	**0.54**	**0.63**	**0.50**	**0.49**	**0.78**
***o*-Xylene**	**0**	**100%**	**0.07**	**0.82**	**0.26**	**0.28**	**0.24**	**0.16**	**0.56**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-9
Summary Statistics for VOC Concentrations Measured at Hahnville, Louisiana (HALA)
(Based on 34 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.05**	**4.22**	**1.13**	**1.25**	**0.91**	**0.94**	**0.75**
Benzene	**0**	**100%**	**0.21**	**1.92**	**0.49**	**0.62**	**0.52**	**0.43**	**0.69**
Bromochloromethane	24	29%	ND	0.05	0.04	0.04	0.04	0.00	0.12
Bromodichloromethane	24	29%	ND	0.05	0.05	0.04	0.04	0.01	0.24
Bromoform	24	29%	ND	0.08	0.04	0.05	0.05	0.02	0.32
Bromomethane	23	32%	ND	0.09	0.09	0.08	0.08	0.01	0.13
1,3-Butadiene	9	74%	ND	6.32	0.08	0.34	0.11	1.07	3.15
Carbon tetrachloride	**0**	**100%**	**0.06**	**0.14**	**0.09**	**0.09**	**0.09**	**0.02**	**0.17**
Chlorobenzene	23	32%	ND	0.04	0.03	0.03	0.03	0.00	0.14
Chloroethane	23	32%	ND	0.48	0.09	0.09	0.07	0.07	0.88
Chloroform	30	12%	ND	0.05	0.03	0.03	0.03	0.00	0.14
Chloromethane	**0**	**100%**	**0.07**	**1.10**	**0.62**	**0.61**	**0.58**	**0.17**	**0.27**
Chloroprene	21	38%	ND	0.60	0.03	0.06	0.04	0.11	1.69
Dibromochloromethane	34	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	22	35%	ND	0.08	0.04	0.05	0.04	0.02	0.42

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-9 (Continued)
Summary Statistics for VOC Concentrations Measured at Hahnville, Louisiana (HALA)
(Based on 34 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	23	32%	ND	0.08	0.04	0.05	0.05	0.02	0.36
p-Dichlorobenzene	16	53%	ND	0.07	0.03	0.04	0.03	0.02	0.47
1,1-Dichloroethane	34	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	33	3%	ND	0.34	0.13	0.14	0.13	0.04	0.26
trans-1,2-Dichloroethylene	34	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	34	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	34	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	34	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**1**	**97%**	**ND**	**0.25**	**0.10**	**0.11**	**0.09**	**0.06**	**0.54**
Methylene chloride	**2**	**94%**	**ND**	**0.63**	**0.05**	**0.07**	**0.05**	**0.11**	**1.47**
***n*-Octane**	**4**	**88%**	**ND**	**0.80**	**0.08**	**0.12**	**0.09**	**0.14**	**1.12**
Propylene	**0**	**100%**	**0.05**	**3.47**	**1.05**	**1.26**	**0.91**	**0.91**	**0.72**
Styrene	16	53%	ND	0.57	0.04	0.07	0.05	0.10	1.39
1,1,2,2-Tetrachloroethane	34	0%	ND	ND	0.08	0.08	0.08	0.00	0.00
Tetrachloroethylene	11	68%	ND	0.54	0.03	0.06	0.04	0.09	1.52

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-9 (Continued)
Summary Statistics for VOC Concentrations Measured at Hahnville, Louisiana (HALA)
(Based on 34 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.20**	**2.96**	**0.68**	**0.77**	**0.64**	**0.52**	**0.68**
1,1,1-Trichloroethane	**0**	**100%**	**0.07**	**1.14**	**0.10**	**0.16**	**0.12**	**0.20**	**1.22**
1,1,2-Trichloroethane	34	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	20	41%	ND	0.22	0.03	0.03	0.03	0.04	1.15
Vinyl chloride	24	29%	ND	0.06	0.06	0.05	0.05	0.01	0.24
***m,p*-Xylene**	**0**	**100%**	**0.09**	**0.83**	**0.31**	**0.34**	**0.28**	**0.19**	**0.57**
***o*-Xylene**	**1**	**97%**	**ND**	**0.33**	**0.13**	**0.14**	**0.12**	**0.07**	**0.53**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-10
Summary Statistics for VOC Concentrations Measured at Port Neches, Texas (PNTX)
(Based on 30 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**1**	**97%**	**ND**	**3.84**	**1.16**	**1.36**	**1.09**	**0.87**	**0.64**
Benzene	**0**	**100%**	**0.21**	**1.30**	**0.49**	**0.51**	**0.47**	**0.25**	**0.49**
Bromochloromethane	21	30%	ND	0.05	0.04	0.04	0.04	0.00	0.12
Bromodichloromethane	20	33%	ND	0.05	0.05	0.04	0.04	0.01	0.24
Bromoform	16	47%	ND	0.11	0.04	0.05	0.05	0.02	0.40
Bromomethane	16	47%	ND	0.47	0.09	0.10	0.09	0.08	0.81
1,3-Butadiene	**3**	**90%**	**ND**	**33.72**	**4.34**	**7.26**	**2.06**	**8.34**	**1.15**
Carbon tetrachloride	**0**	**100%**	**0.06**	**0.15**	**0.09**	**0.09**	**0.09**	**0.02**	**0.23**
Chlorobenzene	20	33%	ND	0.04	0.03	0.03	0.03	0.00	0.09
Chloroethane	21	30%	ND	0.09	0.09	0.07	0.06	0.03	0.39
Chloroform	25	17%	ND	0.06	0.03	0.03	0.03	0.01	0.24
Chloromethane	**0**	**100%**	**0.53**	**6.55**	**0.89**	**1.36**	**1.09**	**1.23**	**0.91**
Chloroprene	21	30%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	29	3%	ND	0.03	0.03	0.02	0.02	0.00	0.04
m-Dichlorobenzene	19	37%	ND	0.08	0.04	0.05	0.04	0.02	0.42

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-10 (Continued)
Summary Statistics for VOC Concentrations Measured at Port Neches, Texas (PNTX)
(Based on 30 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	18	40%	ND	0.08	0.04	0.05	0.05	0.02	0.38
p-Dichlorobenzene	11	63%	ND	0.08	0.03	0.04	0.04	0.02	0.51
1,1-Dichloroethane	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	29	3%	ND	0.41	0.13	0.14	0.14	0.05	0.37
trans-1,2-Dichloroethylene	30	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	30	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	30	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**0**	**100%**	**0.06**	**1.34**	**0.28**	**0.33**	**0.23**	**0.32**	**0.99**
Methylene chloride	**1**	**97%**	**ND**	**0.29**	**0.07**	**0.08**	**0.07**	**0.05**	**0.64**
***n*-Octane**	**2**	**93%**	**ND**	**0.39**	**0.08**	**0.09**	**0.07**	**0.07**	**0.78**
Propylene	**0**	**100%**	**0.23**	**6.90**	**1.57**	**1.82**	**1.30**	**1.55**	**0.86**
Styrene	**3**	**90%**	**ND**	**23.93**	**1.41**	**3.16**	**0.82**	**5.30**	**1.68**
1,1,2,2-Tetrachloroethane	29	3%	ND	0.08	0.08	0.08	0.08	0.01	0.09
Tetrachloroethylene	14	53%	ND	0.11	0.02	0.04	0.03	0.04	0.97

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-10 (Continued)
Summary Statistics for VOC Concentrations Measured at Port Neches, Texas (PNTX)
(Based on 30 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.23**	**2.35**	**0.67**	**0.90**	**0.74**	**0.61**	**0.68**
1,1,1-Trichloroethane	**0**	**100%**	**0.07**	**0.41**	**0.11**	**0.14**	**0.12**	**0.08**	**0.61**
1,1,2-Trichloroethane	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	19	37%	ND	0.03	0.03	0.02	0.02	0.00	0.11
Vinyl chloride	21	30%	ND	0.06	0.06	0.05	0.05	0.01	0.25
***m,p*-Xylene**	**0**	**100%**	**0.14**	**1.25**	**0.31**	**0.43**	**0.37**	**0.27**	**0.63**
***o*-Xylene**	**0**	**100%**	**0.06**	**0.46**	**0.16**	**0.20**	**0.17**	**0.11**	**0.57**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-11
Summary Statistics for VOC Concentrations Measured at Rutland, Vermont (RUVT)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.63**	**6.06**	**2.12**	**2.60**	**2.10**	**1.67**	**0.64**
Benzene	**0**	**100%**	**0.28**	**1.78**	**0.54**	**0.66**	**0.59**	**0.36**	**0.55**
Bromochloromethane	19	39%	ND	0.05	0.04	0.04	0.04	0.00	0.13
Bromodichloromethane	19	39%	ND	0.05	0.05	0.04	0.04	0.01	0.27
Bromoform	15	52%	ND	0.08	0.04	0.05	0.05	0.02	0.33
Bromomethane	18	42%	ND	0.09	0.09	0.08	0.08	0.01	0.17
1,3-Butadiene	**4**	**87%**	**ND**	**0.33**	**0.08**	**0.10**	**0.08**	**0.08**	**0.75**
Carbon tetrachloride	**0**	**100%**	**0.05**	**0.11**	**0.08**	**0.08**	**0.08**	**0.01**	**0.15**
Chlorobenzene	19	39%	ND	0.04	0.03	0.03	0.03	0.00	0.08
Chloroethane	19	39%	ND	0.09	0.09	0.07	0.06	0.03	0.44
Chloroform	29	6%	ND	0.03	0.03	0.03	0.03	0.00	0.07
Chloromethane	**0**	**100%**	**0.35**	**0.75**	**0.48**	**0.49**	**0.48**	**0.09**	**0.18**
Chloroprene	19	39%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	17	45%	ND	0.08	0.04	0.05	0.04	0.02	0.45

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-11 (Continued)
Summary Statistics for VOC Concentrations Measured at Rutland, Vermont (RUVT)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	18	42%	ND	0.08	0.04	0.05	0.05	0.02	0.39
p-Dichlorobenzene	13	58%	ND	0.07	0.03	0.04	0.04	0.02	0.48
1,1-Dichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	31	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	31	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	31	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	31	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**0**	**100%**	**0.10**	**0.71**	**0.20**	**0.24**	**0.22**	**0.13**	**0.52**
Methylene chloride	**6**	**81%**	**ND**	**0.20**	**0.07**	**0.08**	**0.07**	**0.05**	**0.60**
***n*-Octane**	**1**	**97%**	**ND**	**0.20**	**0.07**	**0.08**	**0.07**	**0.04**	**0.52**
Propylene	**0**	**100%**	**0.32**	**2.44**	**0.71**	**0.91**	**0.77**	**0.60**	**0.66**
Styrene	10	68%	ND	0.50	0.05	0.09	0.06	0.13	1.40
1,1,2,2-Tetrachloroethane	31	0%	ND	ND	0.08	0.08	0.08	0.00	0.00
Tetrachloroethylene	**3**	**90%**	**ND**	**0.11**	**0.04**	**0.05**	**0.04**	**0.04**	**0.73**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-11 (Continued)
Summary Statistics for VOC Concentrations Measured at Rutland, Vermont (RUVT)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.62**	**3.05**	**1.19**	**1.40**	**1.27**	**0.65**	**0.46**
1,1,1-Trichloroethane	**0**	**100%**	**0.06**	**1.50**	**0.09**	**0.14**	**0.10**	**0.26**	**1.83**
1,1,2-Trichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	16	48%	ND	0.07	0.03	0.03	0.02	0.01	0.45
Vinyl chloride	19	39%	ND	0.06	0.06	0.05	0.04	0.01	0.27
***m,p*-Xylene**	**0**	**100%**	**0.29**	**2.46**	**0.62**	**0.74**	**0.65**	**0.44**	**0.59**
***o*-Xylene**	**1**	**97%**	**ND**	**1.06**	**0.29**	**0.33**	**0.28**	**0.19**	**0.59**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-12
Summary Statistics for VOC Concentrations Measured at Underhill, Vermont (UNVT)
(Based on 30 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.07**	**4.94**	**0.61**	**0.85**	**0.51**	**0.99**	**1.17**
Benzene	**1**	**97%**	**ND**	**1.65**	**0.14**	**0.24**	**0.17**	**0.32**	**1.31**
Bromochloromethane	20	33%	ND	0.05	0.04	0.04	0.04	0.00	0.13
Bromodichloromethane	20	33%	ND	0.05	0.05	0.04	0.04	0.01	0.25
Bromoform	18	40%	ND	0.08	0.04	0.05	0.05	0.02	0.37
Bromomethane	19	37%	ND	0.09	0.09	0.08	0.08	0.01	0.15
1,3-Butadiene	20	33%	ND	0.10	0.08	0.07	0.06	0.02	0.23
Carbon tetrachloride	**0**	**100%**	**0.01**	**0.10**	**0.08**	**0.08**	**0.07**	**0.02**	**0.23**
Chlorobenzene	20	33%	ND	0.04	0.03	0.03	0.03	0.00	0.08
Chloroethane	20	33%	ND	0.09	0.09	0.07	0.06	0.03	0.41
Chloroform	27	10%	ND	0.03	0.03	0.03	0.03	0.00	0.15
Chloromethane	**1**	**97%**	**ND**	**0.92**	**0.51**	**0.52**	**0.48**	**0.16**	**0.30**
Chloroprene	20	33%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	19	37%	ND	0.08	0.04	0.05	0.04	0.02	0.43

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-12 (Continued)
Summary Statistics for VOC Concentrations Measured at Underhill, Vermont (UNVT)
(Based on 30 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	18	40%	ND	0.08	0.04	0.05	0.05	0.02	0.43
p-Dichlorobenzene	17	43%	ND	0.07	0.03	0.04	0.04	0.02	0.45
1,1-Dichloroethane	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	30	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	30	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	30	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	30	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**6**	**80%**	**ND**	**0.57**	**0.05**	**0.08**	**0.06**	**0.11**	**1.36**
Methylene chloride	**3**	**90%**	**ND**	**0.18**	**0.05**	**0.06**	**0.05**	**0.04**	**0.66**
n-Octane	15	50%	ND	0.14	0.03	0.06	0.04	0.04	0.70
Propylene	**6**	**80%**	**ND**	**2.12**	**0.11**	**0.23**	**0.12**	**0.42**	**1.85**
Styrene	13	57%	ND	0.71	0.04	0.06	0.04	0.12	1.91
1,1,2,2-Tetrachloroethane	30	0%	ND	ND	0.08	0.08	0.08	0.00	0.00
Tetrachloroethylene	12	60%	ND	0.16	0.02	0.05	0.03	0.05	0.97

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-12 (Continued)
Summary Statistics for VOC Concentrations Measured at Underhill, Vermont (UNVT)
(Based on 30 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.06**	**2.37**	**0.17**	**0.36**	**0.22**	**0.56**	**1.53**
1,1,1-Trichloroethane	**1**	**97%**	**ND**	**0.17**	**0.08**	**0.08**	**0.08**	**0.02**	**0.28**
1,1,2-Trichloroethane	30	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	19	37%	ND	0.03	0.03	0.02	0.02	0.00	0.11
Vinyl chloride	20	33%	ND	0.06	0.06	0.05	0.04	0.01	0.26
***m,p*-Xylene**	**2**	**93%**	**ND**	**1.78**	**0.11**	**0.21**	**0.12**	**0.35**	**1.66**
***o*-Xylene**	**2**	**93%**	**ND**	**0.71**	**0.06**	**0.11**	**0.07**	**0.15**	**1.35**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-13
Summary Statistics for VOC Concentrations Measured at Winooski, Vermont (WIVT)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetylene	**0**	**100%**	**0.24**	**4.70**	**0.95**	**1.28**	**0.95**	**1.03**	**0.81**
Benzene	**2**	**94%**	**ND**	**1.10**	**0.25**	**0.33**	**0.28**	**0.20**	**0.60**
Bromochloromethane	21	32%	ND	0.05	0.04	0.04	0.04	0.00	0.12
Bromodichloromethane	21	32%	ND	0.05	0.05	0.04	0.04	0.01	0.25
Bromoform	15	52%	ND	0.10	0.04	0.06	0.05	0.02	0.34
Bromomethane	13	58%	ND	0.83	0.07	0.10	0.08	0.14	1.38
1,3-Butadiene	12	61%	ND	1.02	0.05	0.09	0.06	0.18	1.92
Carbon tetrachloride	**0**	**100%**	**0.02**	**0.11**	**0.08**	**0.08**	**0.08**	**0.02**	**0.23**
Chlorobenzene	21	32%	ND	0.04	0.03	0.03	0.03	0.00	0.08
Chloroethane	21	32%	ND	0.09	0.09	0.07	0.06	0.03	0.40
Chloroform	25	19%	ND	0.04	0.03	0.03	0.03	0.00	0.14
Chloromethane	**0**	**100%**	**0.18**	**1.33**	**0.52**	**0.55**	**0.53**	**0.20**	**0.36**
Chloroprene	21	32%	ND	0.05	0.03	0.03	0.03	0.01	0.36
Dibromochloromethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
m-Dichlorobenzene	18	42%	ND	0.08	0.04	0.05	0.04	0.02	0.43

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-13 (Continued)
Summary Statistics for VOC Concentrations Measured at Winooski, Vermont (WIVT)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
o-Dichlorobenzene	18	42%	ND	0.08	0.04	0.05	0.05	0.02	0.40
p-Dichlorobenzene	16	48%	ND	0.10	0.03	0.04	0.04	0.02	0.50
1,1-Dichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
1,2-Dichloroethane	31	0%	ND	ND	0.13	0.13	0.13	0.00	0.00
trans-1,2-Dichloroethylene	31	0%	ND	ND	0.11	0.11	0.11	0.00	0.00
1,2-Dichloropropane	31	0%	ND	ND	0.02	0.02	0.02	0.00	0.00
cis-1,3-Dichloropropylene	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
trans-1,3-Dichloropropylene	31	0%	ND	ND	0.04	0.04	0.04	0.00	0.00
Ethylbenzene	**0**	**100%**	**0.05**	**0.47**	**0.13**	**0.15**	**0.13**	**0.10**	**0.66**
Methylene chloride	**2**	**94%**	**ND**	**1.65**	**0.13**	**0.28**	**0.16**	**0.38**	**1.39**
***n*-Octane**	**6**	**81%**	**ND**	**0.15**	**0.03**	**0.05**	**0.04**	**0.03**	**0.69**
Propylene	**1**	**97%**	**ND**	**3.45**	**0.38**	**0.53**	**0.34**	**0.78**	**1.47**
Styrene	9	71%	ND	0.60	0.04	0.07	0.05	0.10	1.49
1,1,2,2-Tetrachloroethane	31	0%	ND	ND	0.08	0.08	0.08	0.00	0.00
Tetrachloroethylene	**5**	**84%**	**ND**	**0.31**	**0.04**	**0.06**	**0.05**	**0.06**	**0.92**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table D-13 (Continued)
Summary Statistics for VOC Concentrations Measured at Winooski, Vermont (WIVT)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Compound in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Toluene	**0**	**100%**	**0.13**	**3.43**	**0.59**	**0.75**	**0.59**	**0.69**	**0.91**
1,1,1-Trichloroethane	**0**	**100%**	**0.02**	**0.43**	**0.09**	**0.12**	**0.10**	**0.08**	**0.65**
1,1,2-Trichloroethane	31	0%	ND	ND	0.03	0.03	0.03	0.00	0.00
Trichloroethylene	16	48%	ND	0.06	0.03	0.03	0.02	0.01	0.40
Vinyl chloride	21	32%	ND	0.06	0.06	0.05	0.05	0.01	0.25
***m,p*-Xylene**	**0**	**100%**	**0.06**	**1.43**	**0.29**	**0.32**	**0.26**	**0.26**	**0.81**
***o*-Xylene**	**1**	**97%**	**ND**	**0.56**	**0.14**	**0.15**	**0.13**	**0.10**	**0.67**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but the central tendency concentrations of the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

APPENDIX E

SUMMARY TABLES FOR CARBONYL MONITORING

Table E-1
Summary Statistics for Carbonyl Concentrations Measured at Baton Rouge, Louisiana (B2LA)
(Based on 35 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.06**	**5.02**	**0.97**	**1.25**	**0.85**	**1.06**	**0.85**
Acetone	**0**	**100%**	**0.03**	**2.73**	**0.91**	**1.08**	**0.72**	**0.80**	**0.74**
Acrolein	**4**	**89%**	**ND**	**0.42**	**0.02**	**0.06**	**0.03**	**0.09**	**1.46**
Benzaldehyde	**4**	**89%**	**ND**	**0.11**	**0.03**	**0.04**	**0.03**	**0.03**	**0.74**
Butyr/Isobutyraldehyde	**1**	**97%**	**ND**	**0.46**	**0.14**	**0.15**	**0.12**	**0.09**	**0.58**
Crotonaldehyde	29	17%	ND	0.76	0.01	0.04	0.01	0.13	3.14
2,5-Dimethylbenzaldehyde	27	23%	ND	0.03	0.01	0.01	0.01	0.01	0.49
Formaldehyde	**0**	**100%**	**0.08**	**6.31**	**2.06**	**2.34**	**1.94**	**1.30**	**0.55**
Hexanaldehyde	**0**	**100%**	**0.01**	**0.14**	**0.04**	**0.04**	**0.04**	**0.03**	**0.59**
Isovaleraldehyde	22	37%	ND	0.09	0.01	0.01	0.01	0.02	1.59
Propionaldehyde	**1**	**97%**	**ND**	**0.85**	**0.13**	**0.17**	**0.12**	**0.15**	**0.91**
Tolualdehydes	15	57%	ND	0.13	0.05	0.04	0.03	0.03	0.73
Valeraldehyde	**2**	**94%**	**ND**	**0.12**	**0.03**	**0.03**	**0.03**	**0.02**	**0.71**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-2
Summary Statistics for Carbonyl Concentrations Measured at Brownsville, Texas (BRTX)
(Based on 33 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.31**	**12.66**	**0.84**	**2.26**	**1.11**	**3.42**	**1.51**
Acetone	**0**	**100%**	**0.10**	**2.71**	**0.39**	**0.65**	**0.46**	**0.63**	**0.96**
Acrolein	**5**	**85%**	**ND**	**0.21**	**0.03**	**0.05**	**0.03**	**0.05**	**1.06**
Benzaldehyde	**1**	**97%**	**ND**	**0.09**	**0.03**	**0.04**	**0.03**	**0.02**	**0.51**
Butyr/Isobutyraldehyde	**0**	**100%**	**0.04**	**0.24**	**0.10**	**0.11**	**0.10**	**0.05**	**0.45**
Crotonaldehyde	26	21%	ND	0.19	0.01	0.03	0.01	0.05	1.61
2,5-Dimethylbenzaldehyde	27	18%	ND	0.02	0.01	0.01	0.01	0.00	0.27
Formaldehyde	**0**	**100%**	**0.57**	**3.37**	**1.67**	**1.72**	**1.56**	**0.75**	**0.44**
Hexanaldehyde	**0**	**100%**	**0.01**	**0.35**	**0.05**	**0.06**	**0.05**	**0.07**	**1.05**
Isovaleraldehyde	23	30%	ND	0.02	0.01	0.01	0.01	0.01	0.70
Propionaldehyde	**0**	**100%**	**0.03**	**0.38**	**0.11**	**0.13**	**0.11**	**0.08**	**0.60**
Tolualdehydes	9	73%	ND	0.05	0.03	0.03	0.02	0.02	0.66
Valeraldehyde	**3**	**91%**	**ND**	**0.08**	**0.03**	**0.03**	**0.03**	**0.02**	**0.58**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-3
Summary Statistics for Carbonyl Concentrations Measured at Brattleboro, Vermont (BRVT)
(Based on 33 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.48**	**3.94**	**1.13**	**1.29**	**1.13**	**0.74**	**0.57**
Acetone	**0**	**100%**	**0.67**	**4.15**	**1.47**	**1.75**	**1.60**	**0.80**	**0.46**
Acrolein	**6**	**82%**	**ND**	**0.10**	**0.03**	**0.03**	**0.02**	**0.02**	**0.73**
Benzaldehyde	**5**	**85%**	**ND**	**0.16**	**0.05**	**0.06**	**0.05**	**0.04**	**0.67**
Butyr/Isobutyraldehyde	**0**	**100%**	**0.07**	**0.46**	**0.14**	**0.17**	**0.16**	**0.09**	**0.50**
Crotonaldehyde	25	24%	ND	0.43	0.01	0.03	0.01	0.08	2.25
2,5-Dimethylbenzaldehyde	27	18%	ND	0.05	0.01	0.01	0.01	0.01	0.69
Formaldehyde	**0**	**100%**	**1.01**	**9.57**	**2.12**	**2.74**	**2.31**	**1.86**	**0.68**
Hexanaldehyde	**0**	**100%**	**0.03**	**0.31**	**0.07**	**0.10**	**0.08**	**0.07**	**0.74**
Isovaleraldehyde	21	36%	ND	0.10	0.01	0.02	0.01	0.02	1.32
Propionaldehyde	**1**	**97%**	**ND**	**0.53**	**0.13**	**0.16**	**0.13**	**0.12**	**0.71**
Tolualdehydes	**8**	**76%**	**ND**	**0.15**	**0.05**	**0.05**	**0.04**	**0.03**	**0.65**
Valeraldehyde	**4**	**88%**	**ND**	**0.20**	**0.04**	**0.05**	**0.04**	**0.05**	**0.85**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-4
Summary Statistics for Carbonyl Concentrations Measured at Burlington, Vermont (BUVT)
(Based on 33 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.49**	**5.77**	**1.48**	**1.62**	**1.42**	**0.98**	**0.60**
Acetone	**0**	**100%**	**0.82**	**3.98**	**1.84**	**1.91**	**1.75**	**0.81**	**0.42**
Acrolein	**4**	**88%**	**ND**	**0.15**	**0.04**	**0.05**	**0.04**	**0.04**	**0.75**
Benzaldehyde	**2**	**94%**	**ND**	**0.20**	**0.07**	**0.07**	**0.06**	**0.04**	**0.55**
Butyr/Isobutyraldehyde	**0**	**100%**	**0.08**	**0.39**	**0.17**	**0.19**	**0.18**	**0.08**	**0.40**
Crotonaldehyde	25	24%	ND	0.55	0.01	0.06	0.02	0.12	1.98
2,5-Dimethylbenzaldehyde	20	39%	ND	0.06	0.01	0.01	0.01	0.01	0.76
Formaldehyde	**0**	**100%**	**1.56**	**7.33**	**3.28**	**3.55**	**3.29**	**1.45**	**0.41**
Hexanaldehyde	**0**	**100%**	**0.02**	**0.33**	**0.06**	**0.07**	**0.06**	**0.06**	**0.78**
Isovaleraldehyde	15	55%	ND	0.09	0.01	0.02	0.01	0.02	1.06
Propionaldehyde	**1**	**97%**	**ND**	**0.43**	**0.17**	**0.18**	**0.15**	**0.09**	**0.48**
Tolualdehydes	**7**	**79%**	**ND**	**0.38**	**0.05**	**0.07**	**0.05**	**0.07**	**0.99**
Valeraldehyde	**2**	**94%**	**ND**	**0.08**	**0.03**	**0.04**	**0.03**	**0.02**	**0.49**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-5
Summary Statistics for Carbonyl Concentrations Measured at Camden, New Jersey (CANJ)
(Based on 32 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.58**	**7.79**	**1.96**	**2.05**	**1.72**	**1.36**	**0.67**
Acetone	**1**	**97%**	**ND**	**2.59**	**1.24**	**1.30**	**0.93**	**0.69**	**0.53**
Acrolein	**6**	**81%**	**ND**	**0.24**	**0.05**	**0.05**	**0.03**	**0.05**	**1.02**
Benzaldehyde	**5**	**84%**	**ND**	**0.16**	**0.05**	**0.05**	**0.04**	**0.04**	**0.73**
Butyr/Isobutyraldehyde	**5**	**84%**	**ND**	**0.51**	**0.16**	**0.19**	**0.11**	**0.14**	**0.74**
Crotonaldehyde	25	22%	ND	0.40	0.01	0.06	0.02	0.11	1.86
2,5-Dimethylbenzaldehyde	22	31%	ND	0.10	0.01	0.02	0.01	0.02	1.07
Formaldehyde	**0**	**100%**	**1.01**	**25.59**	**7.16**	**9.14**	**6.31**	**6.90**	**0.75**
Hexanaldehyde	**0**	**100%**	**0.00**	**0.52**	**0.07**	**0.09**	**0.06**	**0.10**	**1.09**
Isovaleraldehyde	25	22%	ND	0.05	0.01	0.01	0.01	0.01	1.08
Propionaldehyde	**2**	**94%**	**ND**	**2.94**	**0.12**	**0.32**	**0.14**	**0.58**	**1.81**
Tolualdehydes	19	41%	ND	0.08	0.05	0.04	0.03	0.02	0.42
Valeraldehyde	9	72%	ND	0.10	0.02	0.03	0.02	0.03	0.93

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-6
Summary Statistics for Carbonyl Concentrations Measured at El Paso, Texas (EPTX)
(Based on 32 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.69**	**14.79**	**2.38**	**3.91**	**2.70**	**3.52**	**0.90**
Acetone	**0**	**100%**	**0.22**	**7.19**	**2.26**	**2.63**	**2.06**	**1.76**	**0.67**
Acrolein	**5**	**84%**	**ND**	**1.22**	**0.08**	**0.19**	**0.06**	**0.31**	**1.62**
Benzaldehyde	**3**	**91%**	**ND**	**0.99**	**0.10**	**0.19**	**0.11**	**0.21**	**1.11**
Butyr/Isobutyraldehyde	**0**	**100%**	**0.09**	**1.61**	**0.29**	**0.39**	**0.30**	**0.33**	**0.85**
Crotonaldehyde	15	53%	ND	0.32	0.01	0.05	0.02	0.07	1.28
2,5-Dimethylbenzaldehyde	12	63%	ND	0.14	0.01	0.02	0.02	0.03	1.07
Formaldehyde	**0**	**100%**	**1.62**	**41.77**	**7.74**	**10.88**	**7.43**	**9.86**	**0.91**
Hexanaldehyde	**1**	**97%**	**ND**	**2.07**	**0.17**	**0.30**	**0.16**	**0.42**	**1.42**
Isovaleraldehyde	25	22%	ND	0.43	0.01	0.02	0.01	0.08	3.13
Propionaldehyde	**0**	**100%**	**0.05**	**2.42**	**0.20**	**0.35**	**0.23**	**0.46**	**1.30**
Tolualdehydes	**5**	**84%**	**ND**	**0.51**	**0.13**	**0.14**	**0.09**	**0.13**	**0.91**
Valeraldehyde	**1**	**97%**	**ND**	**0.94**	**0.06**	**0.12**	**0.07**	**0.17**	**1.39**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-7
Summary Statistics for Carbonyl Concentrations Measured at Garyville, Louisiana (GALA)
(Based on 35 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.55**	**2.41**	**0.92**	**1.09**	**1.02**	**0.45**	**0.41**
Acetone	**0**	**100%**	**0.11**	**1.68**	**0.43**	**0.53**	**0.43**	**0.37**	**0.70**
Acrolein	**8**	**77%**	**ND**	**0.09**	**0.02**	**0.03**	**0.02**	**0.02**	**0.70**
Benzaldehyde	**6**	**83%**	**ND**	**0.09**	**0.03**	**0.03**	**0.03**	**0.02**	**0.53**
Butyr/Isobutyraldehyde	**0**	**100%**	**0.08**	**0.34**	**0.18**	**0.19**	**0.18**	**0.06**	**0.32**
Crotonaldehyde	27	23%	ND	0.36	0.01	0.04	0.02	0.07	1.84
2,5-Dimethylbenzaldehyde	**5**	**86%**	**ND**	**0.07**	**0.02**	**0.02**	**0.02**	**0.02**	**0.71**
Formaldehyde	**0**	**100%**	**1.12**	**5.19**	**1.95**	**2.22**	**2.06**	**0.91**	**0.41**
Hexanaldehyde	**0**	**100%**	**0.08**	**0.65**	**0.19**	**0.21**	**0.18**	**0.14**	**0.65**
Isovaleraldehyde	17	51%	ND	0.30	0.01	0.03	0.01	0.06	1.82
Propionaldehyde	**1**	**97%**	**ND**	**0.56**	**0.26**	**0.26**	**0.23**	**0.11**	**0.41**
Tolualdehydes	**7**	**80%**	**ND**	**0.08**	**0.03**	**0.03**	**0.02**	**0.02**	**0.61**
Valeraldehyde	**3**	**91%**	**ND**	**0.51**	**0.24**	**0.23**	**0.16**	**0.12**	**0.53**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-8
Summary Statistics for Carbonyl Concentrations Measured at Galveston, Texas (GATX)
(Based on 28 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.29**	**5.73**	**1.18**	**1.39**	**1.15**	**1.10**	**0.79**
Acetone	**0**	**100%**	**0.12**	**5.37**	**0.44**	**0.77**	**0.55**	**0.98**	**1.27**
Acrolein	**5**	**82%**	**ND**	**0.54**	**0.03**	**0.08**	**0.03**	**0.14**	**1.71**
Benzaldehyde	**7**	**75%**	**ND**	**0.30**	**0.02**	**0.04**	**0.02**	**0.07**	**1.81**
Butyr/Isobutyraldehyde	**0**	**100%**	**0.08**	**0.44**	**0.15**	**0.19**	**0.16**	**0.10**	**0.56**
Crotonaldehyde	19	32%	ND	0.11	0.01	0.02	0.02	0.02	1.04
2,5-Dimethylbenzaldehyde	21	25%	ND	0.04	0.01	0.01	0.01	0.01	0.70
Formaldehyde	**0**	**100%**	**1.17**	**50.42**	**2.40**	**5.37**	**2.81**	**11.01**	**2.05**
Hexanaldehyde	**1**	**96%**	**ND**	**0.75**	**0.03**	**0.07**	**0.04**	**0.14**	**1.95**
Isovaleraldehyde	21	25%	ND	0.06	0.01	0.01	0.01	0.01	1.17
Propionaldehyde	**0**	**100%**	**0.09**	**0.92**	**0.19**	**0.23**	**0.20**	**0.16**	**0.69**
Tolualdehydes	13	54%	ND	0.12	0.05	0.05	0.03	0.03	0.69
Valeraldehyde	**2**	**93%**	**ND**	**0.19**	**0.04**	**0.05**	**0.03**	**0.04**	**0.88**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-9
Summary Statistics for Carbonyl Concentrations Measured at Hahnville, Louisiana (HALA)
(Based on 35 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.03**	**6.61**	**1.40**	**1.65**	**1.34**	**1.10**	**0.67**
Acetone	**0**	**100%**	**0.01**	**4.35**	**0.69**	**0.98**	**0.66**	**0.91**	**0.93**
Acrolein	**5**	**86%**	**ND**	**0.32**	**0.02**	**0.06**	**0.03**	**0.07**	**1.31**
Benzaldehyde	**8**	**77%**	**ND**	**0.14**	**0.02**	**0.04**	**0.03**	**0.03**	**0.86**
Butyr/Isobutyraldehyde	**1**	**97%**	**ND**	**0.55**	**0.23**	**0.25**	**0.21**	**0.11**	**0.43**
Crotonaldehyde	27	23%	ND	0.30	0.01	0.04	0.02	0.07	1.76
2,5-Dimethylbenzaldehyde	22	37%	ND	0.05	0.01	0.01	0.01	0.01	0.62
Formaldehyde	**0**	**100%**	**0.01**	**16.44**	**2.36**	**3.20**	**2.25**	**3.01**	**0.94**
Hexanaldehyde	**1**	**97%**	**ND**	**3.13**	**0.08**	**0.26**	**0.09**	**0.69**	**2.71**
Isovaleraldehyde	15	57%	ND	0.57	0.01	0.03	0.01	0.10	3.14
Propionaldehyde	**1**	**97%**	**ND**	**0.55**	**0.27**	**0.28**	**0.24**	**0.11**	**0.40**
Tolualdehydes	12	66%	ND	0.05	0.04	0.03	0.03	0.02	0.47
Valeraldehyde	**1**	**97%**	**ND**	**0.97**	**0.17**	**0.20**	**0.14**	**0.20**	**0.99**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-10
Summary Statistics for Carbonyl Concentrations Measured at Port Neches, Texas (PNTX)
(Based on 33 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.01**	**16.07**	**1.09**	**2.07**	**1.00**	**3.22**	**1.55**
Acetone	**0**	**100%**	**0.06**	**3.51**	**0.50**	**0.85**	**0.55**	**0.85**	**1.00**
Acrolein	**4**	**88%**	**ND**	**0.58**	**0.03**	**0.07**	**0.03**	**0.11**	**1.74**
Benzaldehyde	**4**	**88%**	**ND**	**1.19**	**0.03**	**0.11**	**0.04**	**0.26**	**2.44**
Butyr/Isobutyraldehyde	**0**	**100%**	**0.02**	**0.87**	**0.11**	**0.16**	**0.11**	**0.16**	**1.04**
Crotonaldehyde	23	30%	ND	0.26	0.01	0.04	0.02	0.06	1.72
2,5-Dimethylbenzaldehyde	29	12%	ND	0.14	0.01	0.02	0.01	0.02	1.52
Formaldehyde	**0**	**100%**	**0.08**	**59.80**	**1.84**	**4.93**	**2.00**	**11.85**	**2.40**
Hexanaldehyde	**1**	**97%**	**ND**	**0.94**	**0.04**	**0.09**	**0.04**	**0.19**	**2.05**
Isovaleraldehyde	29	12%	ND	0.52	0.01	0.02	0.01	0.09	3.95
Propionaldehyde	**1**	**97%**	**ND**	**0.44**	**0.15**	**0.16**	**0.12**	**0.11**	**0.67**
Tolualdehydes	17	48%	ND	0.12	0.05	0.05	0.04	0.03	0.61
Valeraldehyde	**5**	**85%**	**ND**	**0.40**	**0.02**	**0.05**	**0.02**	**0.08**	**1.66**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-11
Summary Statistics for Carbonyl Concentrations Measured at Rutland, Vermont (RUVT)
(Based on 37 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.05**	**3.94**	**1.41**	**1.69**	**1.39**	**0.94**	**0.56**
Acetone	**0**	**100%**	**0.07**	**5.72**	**1.65**	**2.05**	**1.66**	**1.25**	**0.61**
Acrolein	**4**	**89%**	**ND**	**0.42**	**0.05**	**0.07**	**0.04**	**0.08**	**1.21**
Benzaldehyde	**1**	**97%**	**ND**	**0.16**	**0.06**	**0.06**	**0.06**	**0.03**	**0.51**
Butyr/Isobutyraldehyde	**1**	**97%**	**ND**	**0.37**	**0.17**	**0.19**	**0.16**	**0.10**	**0.50**
Crotonaldehyde	22	41%	ND	0.65	0.01	0.07	0.02	0.14	2.11
2,5-Dimethylbenzaldehyde	24	35%	ND	0.02	0.01	0.01	0.01	0.00	0.28
Formaldehyde	**0**	**100%**	**0.14**	**12.61**	**2.90**	**3.67**	**3.01**	**2.29**	**0.63**
Hexanaldehyde	**0**	**100%**	**0.02**	**0.24**	**0.05**	**0.07**	**0.06**	**0.05**	**0.73**
Isovaleraldehyde	17	54%	ND	0.03	0.01	0.01	0.01	0.01	0.75
Propionaldehyde	**0**	**100%**	**0.01**	**0.83**	**0.18**	**0.21**	**0.17**	**0.14**	**0.65**
Tolualdehydes	**7**	**81%**	**ND**	**0.55**	**0.03**	**0.05**	**0.03**	**0.09**	**1.62**
Valeraldehyde	**1**	**97%**	**ND**	**0.31**	**0.04**	**0.05**	**0.04**	**0.05**	**1.02**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-12
Summary Statistics for Carbonyl Concentrations Measured at Underhill, Vermont (UNVT)
(Based on 29 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.26**	**3.84**	**0.66**	**0.77**	**0.65**	**0.67**	**0.86**
Acetone	**0**	**100%**	**0.30**	**2.77**	**1.06**	**1.09**	**0.99**	**0.51**	**0.46**
Acrolein	6	79%	ND	0.08	0.01	0.02	0.01	0.02	1.20
Benzaldehyde	**4**	**86%**	**ND**	**0.49**	**0.02**	**0.04**	**0.02**	**0.09**	**2.48**
Butyr/Isobutyraldehyde	**1**	**97%**	**ND**	**0.45**	**0.08**	**0.09**	**0.07**	**0.08**	**0.88**
Crotonaldehyde	18	38%	ND	0.06	0.01	0.01	0.01	0.01	0.90
2,5-Dimethylbenzaldehyde	22	24%	ND	0.03	0.01	0.01	0.01	0.01	0.52
Formaldehyde	**0**	**100%**	**0.58**	**34.26**	**1.12**	**2.39**	**1.29**	**6.15**	**2.57**
Hexanaldehyde	**0**	**100%**	**0.01**	**0.95**	**0.02**	**0.05**	**0.02**	**0.17**	**3.16**
Isovaleraldehyde	23	21%	ND	0.01	0.01	0.01	0.01	0.00	0.34
Propionaldehyde	**2**	**93%**	**ND**	**0.31**	**0.08**	**0.08**	**0.06**	**0.06**	**0.74**
Tolualdehydes	17	41%	ND	0.17	0.05	0.04	0.04	0.03	0.61
Valeraldehyde	**3**	**90%**	**ND**	**0.33**	**0.02**	**0.03**	**0.02**	**0.06**	**1.99**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

Table E-13
Summary Statistics for Carbonyl Concentrations Measured at Winooski, Vermont (WIVT)
(Based on 31 Valid Sampling Days)

Compound	Prevalence of Chemical in Ambient Air		Range of Measured Concentrations		Central Tendency of Measured Concentrations			Variability in Measured Concentrations	
	Number of Non-Detects	Frequency of Detections	Lowest (ppbv)	Highest (ppbv)	Median (ppbv)	Arithmetic Mean (ppbv)	Geometric Mean (ppbv)	Standard Deviation (ppbv)	Coefficient of Variation
Acetaldehyde	**0**	**100%**	**0.31**	**5.81**	**0.88**	**1.17**	**0.93**	**1.06**	**0.90**
Acetone	**0**	**100%**	**0.71**	**3.44**	**1.49**	**1.74**	**1.58**	**0.80**	**0.46**
Acrolein	**3**	**90%**	**ND**	**0.39**	**0.02**	**0.04**	**0.02**	**0.07**	**1.75**
Benzaldehyde	**2**	**94%**	**ND**	**0.08**	**0.06**	**0.05**	**0.05**	**0.02**	**0.41**
Butyr/Isobutyraldehyde	**0**	**100%**	**0.04**	**0.33**	**0.11**	**0.14**	**0.13**	**0.07**	**0.49**
Crotonaldehyde	24	23%	ND	0.35	0.01	0.05	0.02	0.09	1.91
2,5-Dimethylbenzaldehyde	23	26%	ND	0.02	0.01	0.01	0.01	0.00	0.31
Formaldehyde	**0**	**100%**	**0.55**	**4.62**	**1.63**	**1.92**	**1.71**	**0.94**	**0.49**
Hexanaldehyde	**0**	**100%**	**0.01**	**0.18**	**0.04**	**0.06**	**0.05**	**0.04**	**0.70**
Isovaleraldehyde	18	42%	ND	0.08	0.01	0.02	0.01	0.02	1.15
Propionaldehyde	**0**	**100%**	**0.04**	**0.37**	**0.11**	**0.14**	**0.12**	**0.07**	**0.53**
Tolualdehydes	14	55%	ND	0.18	0.04	0.04	0.04	0.03	0.66
Valeraldehyde	**2**	**94%**	**ND**	**0.06**	**0.03**	**0.03**	**0.02**	**0.01**	**0.48**

ND = nondetect

Notes: Summary statistics were calculated from a processed UATMP monitoring database, in which duplicate and replicate analyses were averaged to generate just one observation for each successful sampling day. Compounds detected in greater than 75 percent of sampling days are presented in bold text. As Section 3.1.3 discusses, central tendency concentrations for these compounds should adequately represent long-term average concentrations, but central tendency concentrations for the other compounds (in plain text) may be influenced by the number of nondetects and the magnitude of the detection limit.

APPENDIX F

VOC RAW MONITORING DATA

Table F-1. VOC Concentrations (ppb) Measured at Baton Rouge, LA (B2LA)

SAMPLE SITE #	B2LA 8014	B2LA 8231	B2LA 8413	B2LA 8574	B2LA 8608	B2LA 8663D1	B2LA 8665D2	B2LA 8748
SAMPLE DATE	8/31/96	9/12/96	9/24/96	10/6/96	10/18/96	10/30/96	10/30/96	11/17/96
ANALYSIS DATE		10/3/96	10/7/96	10/30/96	11/10/96			
FILE NAME		K/L6JC019	K/L6JG012	K/L6J$012	K/L6KJ012			
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	*	1.58	3.54	2.27	3.75	*	*	+
PROPYLENE	*	1.58	1.80	7.75	1.53	*	*	+
CHLOROMETHANE	*	0.62	0.98	0.68	0.69	*	*	+
VINYL CHLORIDE	*	ND	0.08	ND	ND	*	*	+
1,3-BUTADIENE	*	0.10 U	0.17 U	0.23 U	0.03 U	*	*	+
BROMOMETHANE	*	ND	ND	ND	ND	*	*	+
CHLOROETHANE	*	ND	ND	ND	ND	*	*	+
METHYLENE CHLORIDE	*	0.06 U	0.27	0.08 U	0.09 U	*	*	+
trans - 1,2 - DICHLOROETHYLENE	*	ND	ND	ND	ND	*	*	+
1,1 - DICHLOROETHANE	*	ND	ND	ND	ND	*	*	+
CHLOROPRENE	*	ND	ND	ND	ND	*	*	+
BROMOCHLOROMETHANE	*	ND	ND	ND	ND	*	*	+
CHLOROFORM	*	0.06 U	0.10 U	0.02 U	0.29	*	*	+
1,2 - DICHLOROETHANE	*	ND	ND	ND	ND	*	*	+
1,1,1 - TRICHLOROETHANE	*	0.16	0.28	0.12 U	0.14 U	*	*	+
BENZENE	*	0.57	1.10	0.23	0.46	*	*	+
CARBON TETRACHLORIDE	*	0.10	0.11	0.09	0.10	*	*	+
1,2 - DICHLOROPROPANE	*	ND	ND	ND	ND	*	*	+
BROMODICHLOROMETHANE	*	ND	ND	ND	ND	*	*	+
TRICHLOROETHYLENE	*	ND	0.32	0.01 U	ND	*	*	+
cis - 1,3 - DICHLOROPROPENE	*	ND	ND	ND	ND	*	*	+
trans - 1,3 - DICHLOROPROPENE	*	ND	ND	ND	ND	*	*	+
1,1,2 - TRICHLOROETHANE	*	ND	ND	ND	ND	*	*	+
TOLUENE	*	1.11	1.80	0.50	0.91	*	*	+
DIBROMOCHLOROMETHANE	*	ND	ND	ND	ND	*	*	+
N-OCTANE	*	0.10	0.15	0.05 U	0.15	*	*	+
TETRACHLOROETHYLENE	*	0.03 U	0.16	0.03 U	0.04 U	*	*	+
CHLOROBENZENE	*	ND	0.13	0.01 U	0.03 U	*	*	+
ETHYLBENZENE	*	0.20	0.30	0.13	0.22	*	*	+
m,p - XYLENE	*	0.63	1.00	0.53	0.86	*	*	+
BROMOFORM	*	ND	ND	ND	ND	*	*	+
STYRENE	*	2.43	2.93	0.18	0.31	*	*	+
1,1,2,2 - TETRACHLOROETHANE	*	ND	ND	ND	ND	*	*	+
o - XYLENE	*	0.26	0.40	0.21	0.36	*	*	+
m - DICHLOROBENZENE	*	ND	ND	ND	ND	*	*	+
p - DICHLOROBENZENE	*	0.02 U	0.05 U	0.01 U	0.02 U	*	*	+
o - DICHLOROBENZENE	*	ND	ND	ND	ND	*	*	+

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum Criteria Exceeded
# = Sample Voided in Field
+ = Canister Inlet Valve Leak

Table F-1. VOC Concentrations (ppbv) Measured at Baton Rouge, LA (B2LA)

SAMPLE SITE #	B2LA 8752	B2LA 8809D1	B2LA 8811D2	B2LA 8846	B2LA 8862	B2LA 8900	B2LA 8960D1	B2LA 8962D2
SAMPLE DATE	11/23/96	12/5/96	12/5/96	12/17/96	12/29/96	1/10/97	1/28/97	1/28/97
ANALYSIS DATE	12/5/96			12/26/96	2/4/97		3/1/97	
FILE NAME	K/L6LE005			K/L6LZ010	K/L7BD009		K/L7BI012	
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	2.85	#	#	1.82	5.21	#	1.28	•
PROPYLENE	0.79	#	#	0.89	2.00	#	1.88	•
CHLOROMETHANE	0.53	#	#	0.62	0.41	#	0.53	•
VINYL CHLORIDE	ND	#	#	ND	ND	#	ND	•
1,3-BUTADIENE	ND	#	#	0.36	0.27	#	ND	•
BROMOMETHANE	ND	#	#	ND	ND	#	ND	•
CHLOROETHANE	ND	#	#	ND	ND	#	ND	•
METHYLENE CHLORIDE	0.09 U	#	#	0.07 U	0.06 U	#	0.04 U	•
trans - 1,2 - DICHLOROETHYLENE	ND	#	#	ND	ND	#	ND	•
1,1 - DICHLOROETHANE	ND	#	#	ND	ND	#	ND	•
CHLOROPRENE	ND	#	#	ND	ND	#	ND	•
BROMOCHLOROMETHANE	ND	#	#	ND	ND	#	ND	•
CHLOROFORM	0.04	#	#	ND	ND	#	ND	•
1,2 - DICHLOROETHANE	ND	#	#	ND	ND	#	ND	•
1,1,1 - TRICHLOROETHANE	0.26 U	#	#	0.13 U	0.07 U	#	0.11 U	•
BENZENE	0.57	#	#	0.56	1.34	#	0.53	•
CARBON TETRACHLORIDE	0.08	#	#	0.10	0.08	#	0.08	•
1,2 - DICHLOROPROPANE	ND	#	#	ND	ND	#	ND	•
BROMODICHLOROMETHANE	ND	#	#	ND	ND	#	ND	•
TRICHLOROETHYLENE	ND	#	#	ND	ND	#	ND	•
cis - 1,3 - DICHLOROPROPENE	ND	#	#	ND	ND	#	ND	•
trans - 1,3 - DICHLOROPROPENE	ND	#	#	ND	ND	#	ND	•
1,1,2 - TRICHLOROETHANE	ND	#	#	ND	ND	#	ND	•
TOLUENE	0.91	#	#	0.72	2.65	#	0.82	•
DIBROMOCHLOROMETHANE	ND	#	#	ND	ND	#	ND	•
N-OCTANE	0.07 U	#	#	0.10	0.09	#	0.15	•
TETRACHLOROETHYLENE	0.04 U	#	#	0.03 U	ND	#	0.02 U	•
CHLOROBENZENE	ND	#	#	ND	ND	#	ND	•
ETHYLBENZENE	0.20	#	#	0.13	0.46	#	0.13	•
m,p - XYLENE	0.57	#	#	0.36	1.47	#	0.38	•
BROMOFORM	ND	#	#	ND	ND	#	ND	•
STYRENE	0.18	#	#	0.19	0.08	#	0.13	•
1,1,2,2 - TETRACHLOROETHANE	ND	#	#	ND	ND	#	ND	•
o - XYLENE	0.30	#	#	0.21	0.63	#	0.20	•
m - DICHLOROBENZENE	ND	#	#	ND	ND	#	ND	•
p - DICHLOROBENZENE	0.02 U	#	#	0.01 U	ND	#	ND	•
o - DICHLOROBENZENE	ND	#	#	ND	ND	#	ND	•

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum Criteria Exceeded
# = Sample Voided in Field
+ = Canister Inlet Valve Leak

Table F-1. VOC Concentrations (ppb) Measured at Baton Rouge, LA (B2LA)

SAMPLE SITE #	B2LA 8975	B2LA 9032	B2LA 9086	B2LA 9114	B2LA 9133	B2LA 9165D1	B2LA 9166D2	B2LA 9179
SAMPLE DATE	2/3/97	2/15/97	2/27/97	3/5/97	3/11/97	3/17/97	3/17/97	3/23/97
ANALYSIS DATE	3/4/97	3/14/97	3/15/97	3/17/97	3/11/97			4/8/97
FILE NAME	K/L7CC012	K/L7CN007	K/L7CN016	K/LCQ014	K/LCT006			K/LDH010/9
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	1.94	1.68	1.29	1.16	5.26	*	*	1.16
PROPYLENE	0.98	0.48	2.02	0.67	2.58	*	*	0.75
CHLOROMETHANE	0.89	0.13 U	0.54	0.56	0.70	*	*	0.43
VINYL CHLORIDE	ND	ND	ND	ND	0.11 U	*	*	ND
1,3-BUTADIENE	0.22 U	0.26 U	0.05 U	0.01 U	0.26 U	*	*	0.06 U
BROMOMETHANE	ND	ND	ND	ND	ND	*	*	ND
CHLOROETHANE	ND	ND	ND	ND	ND	*	*	ND
METHYLENE CHLORIDE	0.10 U	ND	0.05 U	0.07 U	0.20	*	*	0.05 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	*	*	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	*	*	ND
CHLOROPRENE	ND	ND	ND	ND	ND	*	*	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	*	*	ND
CHLOROFORM	0.23	ND	ND	ND	0.25	*	*	0.03 U
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	*	*	0.34 U
1,1,1 - TRICHLOROETHANE	0.25	0.12 U	0.09 U	0.09 U	0.15	*	*	0.10 U
BENZENE	0.76	0.98	0.39	0.49	1.65	*	*	0.74
CARBON TETRACHLORIDE	0.10	0.08	0.08	0.09	0.11	*	*	0.09
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	*	*	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	*	*	ND
TRICHLOROETHYLENE	ND	0.01 U	ND	ND	0.02 U	*	*	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	*	*	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	*	*	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	*	*	ND
TOLUENE	1.51	0.83	0.61	1.36	2.96	*	*	0.78
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	*	*	ND
N-OCTANE	0.22	0.07 U	0.08 U	0.07 U	0.18	*	*	0.10
TETRACHLOROETHYLENE	0.04 U	0.02 U	0.03 U	0.12	0.16	*	*	0.02 U
CHLOROBENZENE	0.07 U	ND	ND	ND	ND	*	*	ND
ETHYLBENZENE	0.37	0.15	0.11 U	0.14	0.42	*	*	0.12
m,p - XYLENE	1.03	0.40	0.32 U	0.43	1.34	*	*	0.31 U
BROMOFORM	ND	ND	ND	ND	ND	*	*	ND
STYRENE	0.65	0.21	0.14	0.17	0.16	*	*	0.09
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	*	*	ND
o - XYLENE	0.62	0.21	0.17	0.22	0.65	*	*	0.16
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	*	*	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	0.04 U	*	*	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	*	*	ND

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum Criteria Exceeded
# = Sample Voided in Field
+ = Canister Inlet Valve Leak

Table F-1. VOC Concentrations (ppbv) Measured at Baton Rouge, LA (B2LA)

SAMPLE SITE #	B2LA 9209D1	B2LA 9210D2	B2LA 9223	B2LA 9243	B2LA 9261	B2LA 9317	B2LA 9384	B2LA 9406
SAMPLE DATE	3/29/97	3/29/97	4/4/97	4/10/97	4/16/97	4/28/97	5/10/97	5/22/97
ANALYSIS DATE			4/8/97	4/22/97	4/23/97	5/6/97	5/15/97	5/29/97
FILE NAME			K/LDH022/21	K/LDV008	K/LDW007	L7EF009	L7EP009	L7E#004
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	*	*	1.21	1.38	4.03	0.79	1.24	1.73
PROPYLENE	*	*	0.58	0.40	2.01	0.33	0.48	0.77
CHLOROMETHANE	*	*	0.48	0.52	0.60	0.51	0.45	0.65
VINYL CHLORIDE	*	*	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	*	*	ND	ND	0.27 U	ND	ND	ND
BROMOMETHANE	*	*	ND	ND	ND	ND	ND	ND
CHLOROETHANE	*	*	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	*	*	0.03 U	0.07 U	0.23	0.05 U	0.05 U	0.05 U
trans - 1,2 - DICHLOROETHYLENE	*	*	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	*	*	ND	ND	ND	ND	ND	ND
CHLOROPRENE	*	*	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	*	*	ND	ND	ND	ND	ND	ND
CHLOROFORM	*	*	0.03 U	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	*	*	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	*	*	0.09 U	0.10 U	0.16	0.08 U	0.08 U	0.11 U
BENZENE	*	*	0.50	0.43	2.20	0.31	0.36	0.62
CARBON TETRACHLORIDE	*	*	0.08	0.08	0.09	0.07	0.07	0.09
1,2 - DICHLOROPROPANE	*	*	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	*	*	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	*	*	ND	0.04 U	0.14 U	ND	ND	0.03 U
cis - 1,3 - DICHLOROPROPENE	*	*	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	*	*	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	*	*	ND	ND	ND	ND	ND	ND
TOLUENE	*	*	0.54	0.80	2.84	0.51	0.70	1.01
DIBROMOCHLOROMETHANE	*	*	ND	ND	ND	ND	ND	ND
N-OCTANE	*	*	0.04 U	0.06 U	0.16	0.06 U	0.05 U	ND
TETRACHLOROETHYLENE	*	*	0.03 U	0.21	0.07 U	0.02 U	ND	0.06 U
CHLOROBENZENE	*	*	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	*	*	0.10 U	0.30	0.39	0.10 U	0.13	0.20
m,p - XYLENE	*	*	0.23 U	0.13	1.26	0.27 U	0.40	0.61
BROMOFORM	*	*	ND	ND	ND	ND	ND	ND
STYRENE	*	*	0.10	0.18	0.17	0.11	0.09	0.15
1,1,2,2 - TETRACHLOROETHANE	*	*	ND	ND	ND	ND	ND	ND
o - XYLENE	*	*	0.13 U	0.22	0.66	0.13 U	0.19	0.28
m - DICHLOROBENZENE	*	*	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	*	*	ND	ND	0.03 U	ND	ND	0.01 U
o - DICHLOROBENZENE	*	*	ND	ND	ND	ND	ND	ND

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum Criteria Exceeded
# = Sample Voided in Field
+ = Canister Inlet Valve Leak

Table F-1. VOC Concentrations (ppb) Measured at Baton Rouge, LA (B2LA)

SAMPLE SITE #	B2LA 9439	B2LA 9540	B2LA 9686	B2LA 9973	B2LA 10171	B2LA 10415	B2LA 10687	B2LA 11059
SAMPLE DATE	6/3/97	6/15/97	6/27/97	7/9/97	7/21/97	8/2/97	8/14/97	8/26/97
ANALYSIS DATE	6/12/97	6/25/97	7/3/97		8/6/97	8/7/97	9/5/97	
FILE NAME	L7fI007	L7FY010	L7GB008		L7HF008	L7HF021	L7ID018	
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	1.00	0.72	1.52	•	0.67	0.97	0.94	•
PROPYLENE	0.46	2.38	2.05	•	0.96	0.46	1.05	•
CHLOROMETHANE	0.23	0.80	0.77	•	0.59	0.52	0.38	•
VINYL CHLORIDE	ND	ND	ND	•	ND	ND	ND	•
1,3-BUTADIENE	ND	ND	0.14	•	ND	ND	0.03 U	•
BROMOMETHANE	ND	ND	0.13 U	•	ND	ND	ND	•
CHLOROETHANE	ND	ND	ND	•	ND	ND	ND	•
METHYLENE CHLORIDE	ND	0.03 U	0.12	•	ND	0.04 U	1.33	•
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	•	ND	ND	ND	•
1,1 - DICHLOROETHANE	ND	ND	ND	•	ND	ND	ND	•
CHLOROPRENE	ND	ND	ND	•	ND	ND	ND	•
BROMOCHLOROMETHANE	ND	ND	ND	•	ND	ND	ND	•
CHLOROFORM	ND	ND	ND	•	ND	ND	ND	•
1,2 - DICHLOROETHANE	ND	ND	ND	•	ND	ND	ND	•
1,1,1 - TRICHLOROETHANE	0.08	0.08	0.81	•	0.08	0.08	0.11	•
BENZENE	0.38	0.37	0.78	•	0.51	0.32	0.45	•
CARBON TETRACHLORIDE	0.09	0.08	0.16	•	0.08	0.07	0.09	•
1,2 - DICHLOROPROPANE	ND	ND	ND	•	ND	ND	ND	•
BROMODICHLOROMETHANE	ND	ND	ND	•	ND	ND	ND	•
TRICHLOROETHYLENE	ND	0.02 U	0.06	•	ND	ND	ND	•
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	•	ND	ND	ND	•
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	•	ND	ND	ND	•
1,1,2 - TRICHLOROETHANE	ND	ND	ND	•	ND	ND	ND	•
TOLUENE	1.38	0.55	1.42	•	0.81	0.73	1.92	•
DIBROMOCHLOROMETHANE	ND	ND	ND	•	ND	ND	ND	•
N-OCTANE	0.05 U	0.08 U	0.11 U	•	0.08 U	0.05 U	0.17 U	•
TETRACHLOROETHYLENE	ND	0.02 U	0.08 U	•	ND	ND	0.11 U	•
CHLOROBENZENE	ND	ND	ND	•	ND	ND	ND	•
ETHYLBENZENE	0.16	0.13	0.25	•	0.14	0.16	0.29	•
m,p - XYLENE	0.48	0.36	0.66	•	0.35	0.44	0.66	•
BROMOFORM	ND	ND	ND	•	ND	ND	ND	•
STYRENE	ND	0.21	0.26	•	0.13	0.24	0.34	•
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	•	ND	ND	ND	•
o - XYLENE	0.24	0.24	0.33	•	0.18	0.23	0.39	•
m - DICHLOROBENZENE	ND	ND	ND	•	ND	ND	ND	•
p - DICHLOROBENZENE	ND	ND	ND	•	ND	ND	0.02 U	•
o - DICHLOROBENZENE	ND	ND	ND	•	ND	ND	ND	•

U = Detected at less than MDL, but greater than zero
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Table F-1. VOC Concentrations (ppbv) Measured at Baton Rouge, LA (B2LA)

SAMPLE SITE #	B2LA 11185	B2LA 11305	B2LA 11504D1	B2LA 11504R1	B2LA 11506D2	B2LA 11506R2	B2LA 11544D1	B2LA 11544R1
SAMPLE DATE	9/7/97	9/13/97	10/13/97	10/13/97	10/13/97	10/13/97	10/19/97	10/19/97
ANALYSIS DATE	9/15/97	9/22/97	10/30/97	10/31/97	10/30/97	10/31/97	10/31/97	11/1/97
FILE NAME	L7IO010	L7IU015	L7J$009	L7J%007	L7J$010	L7J%008	L7J$019	L7%017
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	1.46	2.72	0.94	0.80	0.96	0.97	2.64	2.27
PROPYLENE	1.03	1.41	0.97	0.88	1.11	0.99	1.29	1.35
CHLOROMETHANE	0.65	0.89	0.62	0.46	0.47	0.44	0.47	0.44
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	0.07 U	ND	ND	0.05 U	0.04 U	ND	0.15	0.11
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	0.44	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.11	0.23	0.02 U	0.02 U	0.04 U	ND	0.11	0.06 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.10	0.16	0.09	0.08	0.09	0.10	0.10	0.10
BENZENE	0.53	0.86	0.43	0.36	0.40	0.38	0.82	0.79
CARBON TETRACHLORIDE	0.07	0.08	0.11	0.06	0.09	0.07	0.08	0.09
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	1.60	1.37	0.91	0.77	0.87	0.85	1.66	1.55
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.09 U	0.14 U	0.20 U	0.18 U	0.38	0.39	0.26	0.26
TETRACHLOROETHYLENE	0.03 U	0.06 U	0.03 U	0.02 U	0.02 U	0.03 U	0.05 U	0.05 U
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.41	0.43	0.17	0.16	0.16	0.17	0.36	0.35
m,p - XYLENE	1.20	1.19	0.45	0.37	0.41	0.42	0.99	0.92
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	0.45	0.37	0.31	0.28	0.30	0.31	0.29	0.29
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.52	0.53	0.25	0.21	0.23	0.25	0.50	0.47
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	0.03 U	ND	ND	ND	0.01 U	0.02 U	0.03 U
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at less than MDL, but greater than zero
ND = Not Detected
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Table F-1. VOC Concentrations (ppb) Measured at Baton Rouge, LA (B2LA)

SAMPLE SITE #	B2LA 11546D2		B2LA 11546R2		B2LA 11623D1		B2LA 11623R1		B2LA 11625D2		B2LA 11625R2	
SAMPLE DATE	10/19/97		10/19/97		11/6/97		11/6/97		11/6/97		11/6/97	
ANALYSIS DATE	10/31/97		11/6/97		11/14/97		11/19/97		11/14/97		11/19/97	
FILE NAME	L7J%018		L7KF005		L7KM013		L7KS007		L7KM014		L7KS008	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	2.32		2.14		1.22		1.21		1.22		1.24	
PROPYLENE	1.32		1.19		0.84		0.85		0.82		0.81	
CHLOROMETHANE	0.45		0.33		0.43		0.45		0.46		0.40	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.13		0.10		ND		ND		ND		ND	
BROMOMETHANE	ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.09	U	0.10		0.05	U	0.07	U	0.07	U	0.23	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		0.12		0.11		0.11		0.10	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.11		0.10		0.09		0.15		0.10		0.57	
BENZENE	0.75		0.79		0.50		0.51		0.52		0.49	
CARBON TETRACHLORIDE	0.07		0.06		0.08		0.09		0.08		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND	
TOLUENE	1.56		1.59		0.92		0.94		0.95		0.88	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND	
N-OCTANE	0.34		0.44		0.13	U	0.11	U	0.26		0.22	
TETRACHLOROETHYLENE	0.06	U	0.05	U	0.02	U	0.02	U	0.03	U	0.02	U
CHLOROBENZENE	ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.34		0.35		0.14		0.14		0.16		0.14	
m,p - XYLENE	0.95		0.95		0.37		0.40		0.40		0.36	
BROMOFORM	ND		ND		ND		ND		ND		ND	
STYRENE	0.28		0.27		0.14		0.14		0.16		0.13	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND	
o - XYLENE	0.50		0.48		0.23		0.26		0.26		0.23	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	0.03	U	0.02	U	ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND	

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum Criteria Exceeded
# = Sample Voided in Field
+ = Canister Inlet Valve Leak

Table F-2. VOC Concentrations (ppbv) Measured at Brownsville, TX (BRTX)

SAMPLE SITE #	BRTX 8216		BRTX 8445		BRTX 8584	BRTX 8590		BRTX 8733D1	BRTX 8734D2	BRTX 8731		BRTX 8737	
SAMPLE DATE	9/11/96		9/18/96		9/30/96	10/14/96		10/28/96	10/28/96	11/7/96		11/17/96	
ANALYSIS DATE	9/25/96		10/7/96		11/19/96	10/31/96				11/26/96		12/4/96	
FILE NAME	K/L6IY010		K/L6JG009			K/L6J%015				K/L6KZ011		K/L6LD012	
UNITS	ppbv		ppbv		pbbv	ppbv		ppbv	ppbv	pbbv		pbbv	
ACETYLENE	1.33		0.83		*	6.54		#	#	1.31		1.51	
PROPYLENE	0.43		0.26		*	1.05		#	#	0.38		0.40	
CHLOROMETHANE	0.63		0.95		*	0.79		#	#	1.19		1.09	
VINYL CHLORIDE	ND		ND		*	ND		#	#	ND		ND	
1,3-BUTADIENE	ND		ND		*	0.08		#	#	ND		ND	
BROMOMETHANE	0.22		0.35		*	0.13		#	#	ND		ND	
CHLOROETHANE	ND		ND		*	ND		#	#	ND		ND	
METHYLENE CHLORIDE	0.08	U	0.07	U	*	0.16		#	#	0.07	U	0.07	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		*	ND		#	#	ND		ND	
1,1 - DICHLOROETHANE	ND		ND		*	ND		#	#	ND		ND	
CHLOROPRENE	ND		ND		*	ND		#	#	ND		ND	
BROMOCHLOROMETHANE	ND		ND		*	ND		#	#	ND		ND	
CHLOROFORM	0.02	U	ND		*	0.03	U	#	#	ND		ND	
1,2 - DICHLOROETHANE	ND		ND		*	ND		#	#	ND		ND	
1,1,1 - TRICHLOROETHANE	0.11	U	0.12	U	*	0.11	U	#	#	0.08	U	0.11	U
BENZENE	0.15		0.24		*	0.53		#	#	0.27		0.33	
CARBON TETRACHLORIDE	0.05	U	0.08		*	0.10		#	#	0.08		0.09	
1,2 - DICHLOROPROPANE	ND		ND		*	ND		#	#	ND		ND	
BROMODICHLOROMETHANE	ND		ND		*	ND		#	#	ND		ND	
TRICHLOROETHYLENE	ND		ND		*	ND		#	#	ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		*	ND		#	#	ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		*	ND		#	#	ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		*	ND		#	#	ND		ND	
TOLUENE	0.48		0.60		*	1.25		#	#	0.56		0.49	
DIBROMOCHLOROMETHANE	ND		ND		*	ND		#	#	ND		ND	
N-OCTANE	0.04	U	0.03	U	*	0.09		#	#	0.08	U	0.03	U
TETRACHLOROETHYLENE	0.03	U	0.08		*	0.02	U	#	#	0.02	U	ND	
CHLOROBENZENE	ND		ND		*	0.01	U	#	#	ND		ND	
ETHYLBENZENE	0.19		0.17		*	0.31		#	#	0.10	U	0.08	U
m,p - XYLENE	0.47		0.38		*	1.44		#	#	0.30	U	0.26	U
BROMOFORM	0.04	U	0.14		*	0.01	U	#	#	ND		ND	
STYRENE	0.12		0.29		*	0.10		#	#	0.03	U	0.03	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		*	ND		#	#	ND		ND	
o - XYLENE	0.18		0.14		*	0.56		#	#	0.16		0.15	
m - DICHLOROBENZENE	ND		0.02	U	*	0.01	U	#	#	ND		ND	
p - DICHLOROBENZENE	0.03	U	0.05	U	*	0.06	U	#	#	0.02	U	0.02	U
o - DICHLOROBENZENE	ND		0.02	U	*	0.01	U	#	#	ND		ND	

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum C[illegible] [illegible]xceeded
# = Sample V[illegible] [illegible]ield

Table F-2. VOC Concentrations (pp' Measured at Brownsville, TX (BRTX)

SAMPLE SITE #	BRTX 8890	BRTX 8896D1	BRTX 8898D2	BRTX 8892	BRTX 8894	BRTX 8978D1	BRTX 8978R1	BRTX 8980D2
SAMPLE DATE	12/2/96	12/11/96	12/11/96	12/23/97	1/10/97	1/28/97	1/28/97	1/28/97
ANALYSIS DATE	1/24/97	2/3/97	1/24/97		2/6/97	2/26/97	2/28/97	2/26/97
FILE NAME	K/L7AX013	K/L7BC016	K/L7AX011		K/L7BF009	K/L7BZ013	K/L7BI006	K/L7CX014
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	3.81	0.55	0.49	*	5.86	1.84	1.82	1.52
PROPYLENE	1.38	0.24	0.16 U	*	1.83	0.44	0.49	0.34
CHLOROMETHANE	1.33	0.86	0.68	*	1.33	0.95	0.96	0.47
VINYL CHLORIDE	ND	ND	ND	*	ND	ND	ND	ND
1,3-BUTADIENE	0.16 U	ND	ND	*	0.26 U	ND	ND	0.02 U
BROMOMETHANE	ND	ND	ND	*	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	*	ND	ND	ND	ND
METHYLENE CHLORIDE	5.27	0.02 U	1.05	*	0.13 U	0.05 U	ND	0.03 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	*	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	*	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	*	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	*	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	*	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	*	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.20	0.07 U	0.08 U	*	0.76	0.28	0.28	0.19
BENZENE	0.90	0.24	0.26	*	1.62	0.46	0.49	0.29
CARBON TETRACHLORIDE	0.06	0.08	0.08	*	0.09	0.09	0.09	0.05 U
1,2 - DICHLOROPROPANE	ND	ND	ND	*	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	*	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	*	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	*	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	*	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	*	ND	ND	ND	ND
TOLUENE	4.06	0.28	0.84	*	2.63	0.60	0.64	0.44
DIBROMOCHLOROMETHANE	ND	ND	ND	*	ND	ND	ND	ND
N-OCTANE	0.33	ND	0.05 U	*	0.21	0.04 U	0.03 U	0.05 U
TETRACHLOROETHYLENE	0.03 U	ND	ND	*	ND	ND	ND	ND
CHLOROBENZENE	ND	ND	ND	*	ND	ND	ND	ND
ETHYLBENZENE	0.28	0.05 U	0.04 U	*	0.66	0.10 U	0.11 U	0.06 U
m,p - XYLENE	0.98	0.15 U	0.16 U	*	2.26	0.28 U	0.32 U	0.19 U
BROMOFORM	ND	ND	ND	*	ND	ND	ND	ND
STYRENE	ND	ND	ND	*	0.17	ND	0.02 U	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	*	ND	ND	ND	ND
o - XYLENE	0.52	0.09 U	0.08 U	*	1.12	0.16	0.18	0.11 U
m - DICHLOROBENZENE	ND	ND	ND	*	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	*	0.07 U	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	*	ND	ND	ND	ND

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum Criteria Exceeded
# = Sample Voided in Field

Table F-2. VOC Concentrations (ppbv) Measured at Brownsville, TX (BRTX)

SAMPLE SITE #	BRTX 8980R2	BRTX 9052	BRTX 9058	BRTX 9065	BRTX 9102	BRTX 9122	BRTX 9157	BRTX 9167
SAMPLE DATE	1/28/97	2/19/96	2/15/97	2/21/97	2/27/97	3/5/97	3/17/97	3/11/97
ANALYSIS DATE	2/28/97		3/5/97	3/15/97	3/15/97	3/17/97	4/8/97	4/4/97
FILE NAME	K/L7BI007		K/L7CD018	K/L7CN011	K/L7CO008	K/LCQ015	K/LDH004/3	K/LDD012
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	1.80	*	2.63	1.21	2.00	0.67	0.71	1.73
PROPYLENE	0.45	*	0.71	0.52	0.69	0.43	0.21	0.58
CHLOROMETHANE	0.61	*	1.13	0.87	0.94	1.40	0.73	1.22
VINYL CHLORIDE	ND	*	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	*	ND	0.02 U	0.06 U	ND	ND	ND
BROMOMETHANE	ND	*	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	*	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	ND	*	0.21	0.24	0.10 U	0.06 U	0.02 U	0.14 U
trans - 1,2 - DICHLOROETHYLENE	ND	*	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	*	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	*	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	*	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	*	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	*	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.27	*	0.10 U	0.12 U	0.10 U	0.09 U	0.05 U	0.09 U
BENZENE	0.49	*	0.70	0.38	0.59	0.25	0.16	0.45
CARBON TETRACHLORIDE	0.09	*	0.08	0.07	0.08	0.08	0.05 U	0.08
1,2 - DICHLOROPROPANE	ND	*	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	*	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	*	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	*	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	*	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	*	ND	ND	ND	ND	ND	ND
TOLUENE	0.61	*	1.29	0.66	ND	0.34	0.29	1.01
DIBROMOCHLOROMETHANE	ND	*	ND	ND	ND	ND	ND	ND
N-OCTANE	0.05 U	*	0.08 U	0.07 U	ND	0.03 U	0.01 U	0.06 U
TETRACHLOROETHYLENE	ND	*	2.29	ND	ND	0.01 U	0.01 U	1.21
CHLOROBENZENE	ND	*	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.10 U	*	0.22	0.11 U	0.17	0.05 U	0.04 U	0.16
m,p - XYLENE	0.29 U	*	0.65	0.30 U	0.52	0.16 U	0.13 U	0.47
BROMOFORM	ND	*	ND	ND	ND	ND	ND	ND
STYRENE	ND	*	0.06 U	0.06 U	0.07 U	0.08 U	ND	0.10
1,1,2,2 - TETRACHLOROETHANE	ND	*	ND	ND	ND	ND	ND	ND
o - XYLENE	0.16	*	0.30	0.14	0.24	ND	0.06 U	0.23
m - DICHLOROBENZENE	ND	*	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	*	0.02 U	0.04 U	ND	ND	ND	0.03 U
o - DICHLOROBENZENE	ND	*	ND	ND	ND	ND	ND	ND

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum C[illegible] Exceeded
# = Sample [illegible] Field

Table F-2. VOC Concentrations (pr Measured at Brownsville, TX (BRTX)

SAMPLE SITE #	BRTX 9169	BRTX 9205	BRTX 9284	BRTX 9310D1	BRTX 9310R1	BRTX 9312D2	BRTX 9312R2	BRTX 9334
SAMPLE DATE	3/11/97	3/29/97	4/10/97	4/22/97	4/22/97	4/22/97	4/22/97	4/28/97
ANALYSIS DATE		4/9/97	4/23/97	4/29/97	4/30/97	4/30/97	4/30/97	5/7/97
FILE NAME		K/LDH018/17	K/LDW006	L7D#013	L7D#013	L7D#014	L7D#014	L7EF017
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	*	0.77	0.33	1.58	1.62	1.53	1.64	2.55
PROPYLENE	*	0.36	0.21	0.61	0.68	0.52	0.63	0.77
CHLOROMETHANE	*	1.10	1.31	1.37	1.25	1.10	1.18	1.28
VINYL CHLORIDE	*	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	*	ND	ND	0.03 U	ND	ND	0.02 U	0.41
BROMOMETHANE	*	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	*	0.03 U	0.03 U	0.12 U	0.12 U	0.10 U	0.09 U	0.10 U
trans - 1,2 - DICHLOROETHYLENE	*	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	*	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	*	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	*	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	*	0.09 U	0.07 U	0.11 U	0.11 U	0.09 U	0.11 U	0.50
BENZENE	*	0.30	0.15	0.43	0.42	0.43	0.43	0.89
CARBON TETRACHLORIDE	*	0.30	0.07	0.08	0.09	0.08	0.08	0.07
1,2 - DICHLOROPROPANE	*	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	*	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	*	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	*	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	*	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
TOLUENE	*	0.43	0.18	0.86	0.82	0.72	0.75	1.33
DIBROMOCHLOROMETHANE	*	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	*	0.01 U	ND	0.21	0.20	0.19	0.19	0.11
TETRACHLOROETHYLENE	*	ND	ND	ND	ND	ND	ND	ND
CHLOROBENZENE	*	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	*	0.07 U	ND	0.14	0.12	0.13	0.11 U	0.25
m,p - XYLENE	*	0.21 U	0.04 U	0.44	0.41	0.43	0.39	0.78
BROMOFORM	*	ND	ND	ND	ND	ND	ND	ND
STYRENE	*	ND	ND	0.57	0.53	0.56	0.54	0.11
1,1,2,2 - TETRACHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	*	0.10 U	0.02 U	0.23	0.21	0.23	0.19	0.41
m - DICHLOROBENZENE	*	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	*	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	*	ND	ND	ND	ND	ND	ND	ND

U = Detected at less than MDL, but greater than zero
ND = Not Detected
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# = Sample Voided in Field

Table F-2. VOC Concentrations (ppbv) Measured at Brownsville, TX (BRTX)

SAMPLE SITE #	BRTX 9358	BRTX 9393D1	BRTX 9393R1	BRTX 9395D2	BRTX 9395R2	BRTX 9420	BRTX 9455	BRTX 9582
SAMPLE DATE	5/4/97	5/10/97	5/10/97	5/10/97	5/10/97	5/28/97	6/5/97	6/9/97
ANALYSIS DATE	5/10/97	5/21/97	5/22/97	5/21/97	5/22/97	6/4/97	6/13/97	6/25/97
FILE NAME	L7EI018	L7EU004	L7Ev003	L7EU006	L7EV004	L7FD004	L7FL011	L7FY009
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	1.42	1.60	1.51	1.68	1.51	1.18	4.52	0.52
PROPYLENE	0.49	0.64	0.63	0.63	0.51	0.50	1.72	0.38
CHLOROMETHANE	0.78	1.15	1.10	0.90	0.79	1.75	0.65	1.69
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	ND	ND	ND	ND	ND	0.15	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.04 U	0.14 U	0.12 U	0.09 U	0.05 U	0.04 U	0.04 U	0.04 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.08 U	0.10 U	0.11 U	0.09 U	0.07 U	0.10 U	0.09	0.10
BENZENE	0.42	0.46	0.45	0.44	0.43	0.34	1.73	0.20
CARBON TETRACHLORIDE	0.09	0.10	0.10	0.09	0.08	0.10	0.07	0.10
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.72	0.80	0.72	0.73	0.63	0.86	3.15	0.48
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.04 U	ND	ND	0.06 U	ND	0.05 U	0.08 U	0.03 U
TETRACHLOROETHYLENE	ND	0.01 U	0.04 U	0.01 U	ND	0.03 U	0.02 U	ND
CHLOROBENZENE	ND	ND	0.03 U	ND	ND	ND	ND	ND
ETHYLBENZENE	0.12	0.12	0.16	0.13	0.12	0.13	0.48	0.06 U
m,p - XYLENE	0.41	0.36	0.43	0.40	0.39	0.40	0.55	0.17 U
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	ND	ND	ND	ND	ND	0.07 U	0.11
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.22	0.18	0.23	0.22	0.20	0.20	0.69	0.07 U
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	0.03 U	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum C[illegible] Exceeded
# = Sample [illegible] Field

Table F-2. VOC Concentrations (pp' Measured at Brownsville, TX (BRTX)

SAMPLE SITE #	BRTX 9697	BRXT 9901	BRTX 10166	BRTX 10368	BRTX 10684	BRTX 11042
SAMPLE DATE	6/21/97	7/7/97	7/18/97	7/21/97	8/8/97	8/29/97
ANALYSIS DATE	7/9/97	7/24/97	8/2/97	8/7/97		9/13/97
FILE NAME	L7GI005	L7GW022	L7HA013	L7HF020		L7IL022
UNITS	ppbv		ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.73	0.64	0.13	0.57	*	1.82
PROPYLENE	0.41	0.53	0.87	0.45	*	0.92
CHLOROMETHANE	2.08	2.91	4.16	2.19	*	2.53
VINYL CHLORIDE	ND	ND	ND	ND	*	ND
1,3-BUTADIENE	ND	ND	ND	ND	*	0.03 U
BROMOMETHANE	ND	ND	ND	ND	*	ND
CHLOROETHANE	ND	ND	ND	ND	*	ND
METHYLENE CHLORIDE	0.41	0.18	ND	0.03 U	*	0.06 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	*	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	*	ND
CHLOROPRENE	ND	ND	ND	ND	*	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	*	ND
CHLOROFORM	ND	ND	ND	ND	*	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	*	ND
1,1,1 - TRICHLOROETHANE	0.09	0.06	0.06	0.05	*	0.11
BENZENE	0.31	0.28	0.26	0.22	*	0.51
CARBON TETRACHLORIDE	0.10	0.06	0.06	0.07	*	0.06
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	*	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	*	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	*	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	*	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	*	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	*	ND
TOLUENE	1.12	0.55	0.39	0.38	*	0.92
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	*	ND
N-OCTANE	0.06 U	0.02 U	ND	ND	*	0.09 U
TETRACHLOROETHYLENE	0.01 U	ND	ND	ND	*	ND
CHLOROBENZENE	ND	ND	ND	ND	*	ND
ETHYLBENZENE	0.12	0.08 U	0.13	ND	*	0.16
m,p - XYLENE	0.31	0.23	0.21 U	0.20 U	*	0.45
BROMOFORM	ND	ND	ND	ND	*	ND
STYRENE	ND	ND	ND	ND	*	0.06 U
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	*	ND
o - XYLENE	0.15	0.13	0.10	0.12	*	0.22
m - DICHLOROBENZENE	ND	ND	ND	ND	*	ND
p - DICHLOROBENZENE	0.10 U	ND	ND	ND	*	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	*	ND

U = Detected at less than MDL, but greater than zero
ND = Not Detected
* = Vacuum Criteria Exceeded
# = Sample Voided in Field

Table F-3. VOC Concentrations (ppbv) Measured at Brattleboro, VT (BRVT)

SAMPLE SITE #	BRVT 8153	BRVT 8265	BRVT 8454	BRVT 8580	BRVT 8619	BRVT 8644D1	BRVT 8644R1	BRVT 8646D2
SAMPLE DATE	8/31/96	9/12/96	9/24/96	10/6/96	10/18/96	10/30/96	10/30/96	10/30/96
ANALYSIS DATE		9/25/96	10/10/96	10/30/96	11/10/96	11/12/96	11/19/96	11/12/96
FILE NAME		K/L6IY012	K/L6JJ013	K/L6J$008	K/L6KJ017	K/L6KL015	K/L6KN009	K/L6KL014
UNITS		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	+	1.11	1.30	3.27	4.43	7.08	6.08	6.50
PROPYLENE	+	0.55	0.59	0.69	0.90	1.15	0.92	1.12
CHLOROMETHANE	+	0.34	0.46	0.57	0.58	0.62	0.50	0.64
VINYL CHLORIDE	+	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	+	0.02 U	0.07 U	ND	0.08 U	0.11 U	0.04 U	0.10 U
BROMOMETHANE	+	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	+	0.05 U	0.08 U	0.05 U	0.07 U	0.58	0.46	0.16
trans - 1,2 - DICHLOROETHYLENE	+	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	+	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	+	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	+	0.02 U	ND	ND	0.07 U	0.06 U	0.06 U	0.06 U
1,2 - DICHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	+	0.11 U	0.14 U	0.08 U	0.16	0.10 U	0.13 U	0.12 U
BENZENE	+	0.15	0.31	0.31	0.47	0.54	0.53	0.53
CARBON TETRACHLORIDE	+	0.05 U	0.10	0.06	0.10	0.09	0.09	0.09
1,2 - DICHLOROPROPANE	+	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	+	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	+	ND	ND	ND	ND	0.02	ND	ND
cis - 1,3 - DICHLOROPROPENE	+	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	+	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
TOLUENE	+	0.59	0.76	0.60	1.37	1.81	1.72	1.68
DIBROMOCHLOROMETHANE	+	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	+	0.03 U	0.03 U	0.05 U	0.05 U	0.08 U	0.08 U	0.06 U
TETRACHLOROETHYLENE	+	0.02 U	ND	ND	0.02 U	0.03 U	0.03 U	0.03 U
CHLOROBENZENE	+	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	+	0.20	0.11 U	0.13	0.27	0.31	0.31	0.29
m,p - XYLENE	+	0.43	0.36 U	0.49	1.02	1.20	1.15	1.12
BROMOFORM	+	ND	ND	ND	ND	ND	ND	ND
STYRENE	+	0.07 U	0.43	0.04 U	0.09	0.09	0.08 U	0.07 U
1,1,2,2 - TETRACHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	+	0.16	0.12 U	0.20	0.36	0.40	0.40	0.36
m - DICHLOROBENZENE	+	ND	ND	ND	ND	0.02 U	0.03 U	ND
p - DICHLOROBENZENE	+	ND	ND	ND	ND	0.02 U	0.02 U	ND
o - DICHLOROBENZENE	+	ND	ND	ND	ND	0.01 U	0.03 U	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister In[illegible]ve Leak
* = Vacuum [illegible]ceeded

Table F-3. VOC Concentrations (pp' ' Measured at Brattleboro, VT (BRVT)

SAMPLE SITE #	BRVT 8646R2		BRVT 8687		BRVT 8756		BRVT 8793D1		BRVT 8793R1		BRVT 8795D2		BRVT 8795R2		BRVT 8836	
SAMPLE DATE	10/30/96		11/11/96		11/23/96		12/5/96		12/5/96		12/5/96		12/5/96		12/17/96	
ANALYSIS DATE	11/19/96		12/4/96		12/5/96		12/13/96		12/18/96		12/13/96		12/18/96		12/26/96	
FILE NAME	K/L6KN008		K/L6LD008		K/L6LE006		K/L6LM006		K/L6LR008		K/L6LM007		K/L6LR009		K/L6LZ014	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	6.63		3.49		1.95		4.63		5.15		5.00		4.94		7.50	
PROPYLENE	1.11		0.80		0.52		1.17		1.23		1.10		1.10		2.00	
CHLOROMETHANE	0.61		0.46		0.47		0.47		0.50		0.45		0.47		0.50	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.08	U	0.11	U	ND		0.16	U	0.16	U	0.11	U	0.15	U	0.20	U
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.18		0.06	U	0.04	U	0.08	U	0.09	U	0.08	U	0.09	U	0.10	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	0.05	U	ND		ND		0.03	U	0.03	U	0.03	U	0.03	U	0.07	U
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.12	U	0.29		0.11	U	0.10	U	0.16		0.09	U	0.12	U	0.12	U
BENZENE	0.51		0.56		0.41		0.79		0.85		0.80		0.85		1.11	
CARBON TETRACHLORIDE	0.09		0.08		0.08		0.09		0.09		0.09		0.10		0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		0.01	U	0.01	U	0.01	U	0.02	U	0.01	U
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	1.62		0.98		0.67		1.83		1.82		1.81		1.78		2.85	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.08	U	0.06	U	0.03	U	0.07	U	0.07	U	0.14		0.13		0.12	
TETRACHLOROETHYLENE	0.03	U	0.02	U	ND		0.03	U	0.03	U	0.03	U	0.03	U	0.06	U
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.29		0.17		0.11	U	0.52		0.52		0.55		0.56		0.43	
m,p - XYLENE	1.08		0.51		0.31	U	1.41		1.45		1.45		1.47		1.37	
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	0.08	U	0.06	U	0.03	U	0.06	U	0.07	U	0.06	U	0.06	U	0.10	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.35		0.25		0.16		0.51		0.50		0.56		0.54		0.55	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	0.01	U	0.01	U	ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
' = Vacuum Criteria Exceeded

Table F-3. VOC Concentrations (ppbv) Measured at Brattleboro, VT (BRVT)

SAMPLE SITE #	BRVT 8872		BRVT 8904		BRVT 8946		BRVT 8948	BRVT 8991		BRVT 9025		BRVT 9044		BRVT 9080D1	
SAMPLE DATE	12/29/96		1/10/97		1/21/97		1/21/97	2/3/97		2/9/97		2/15/97		2/21/97	
ANALYSIS DATE	2/3/97		2/6/97		2/6/97			3/1/97		3/4/97		3/14/97		3/5/97	
FILE NAME	K/L7BC014		K/L7BF008		K/L7BF010			K/L7B!016		K/L7CC019		K/L7CN005		K/L7CD017	
UNITS	ppbv		ppbv		ppbv		ppbv	ppbv		ppbv		ppbv		ppbv	
ACETYLENE	3.22		3.47		2.19		*	6.48		1.93		2.77		2.68	
PROPYLENE	1.55		1.26		0.87		*	4.08		0.60		1.25		0.61	
CHLOROMETHANE	0.52		0.44		0.48		*	0.61		0.50		0.45		0.51	
VINYL CHLORIDE	ND		ND		ND		*	ND		ND		ND		ND	
1,3-BUTADIENE	0.13	U	0.10	U	ND		*	0.25	U	ND		0.13	U	ND	
BROMOMETHANE	ND		ND		ND		*	ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		*	ND		ND		ND		ND	
METHYLENE CHLORIDE	0.08	U	0.08	U	0.14	U	*	0.11	U	ND		0.06	U	0.16	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		*	ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		*	ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		*	ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		*	ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		*	0.05	U	0.02	U	ND		0.04	U
1,2 - DICHLOROETHANE	ND		ND		ND		*	ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.09	U	0.11	U	0.10	U	*	0.09	U	0.08	U	0.09	U	0.13	U
BENZENE	0.97		1.03		0.72		*	1.37		0.52		ND		0.59	
CARBON TETRACHLORIDE	0.08		0.06		0.10		*	0.07		0.06		0.89		0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		*	ND		ND		0.07		ND	
BROMODICHLOROMETHANE	ND		ND		ND		*	ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		*	ND		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		*	ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		*	ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		*	ND		ND		ND		ND	
TOLUENE	1.39		1.41		1.27		*	3.06		0.70		1.65		1.25	
DIBROMOCHLOROMETHANE	ND		ND		ND		*	ND		ND		ND		ND	
N-OCTANE	0.08	U	ND		0.07	U	*	0.15		0.04	U	0.06	U	0.03	U
TETRACHLOROETHYLENE	0.06	U	ND		0.05	U	*	0.04	U	ND		0.02	U	0.04	U
CHLOROBENZENE	ND		ND		ND		*	ND		ND		ND		ND	
ETHYLBENZENE	0.27		0.32		0.21		*	0.43		0.11	U	0.29		0.13	
m,p - XYLENE	0.86		1.00		0.66		*	1.29		0.26	U	0.82		0.38	
BROMOFORM	ND		ND		ND		*	ND		ND		ND		ND	
STYRENE	0.06	U	ND		ND		*	0.08	U	ND		0.05	U	0.04	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		*	ND		ND		ND		ND	
o - XYLENE	0.36		0.41		0.28		*	0.63		0.13	U	0.38		0.19	
m - DICHLOROBENZENE	ND		ND		ND		*	ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		*	ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		*	ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
* = Vacuum [illegible] Exceeded

Table F-3. VOC Concentrations (ppbv) Measured at Brattleboro, VT (BRVT)

SAMPLE SITE #	BRVT 9080R1	BRVT 9082D2	BRVT 9082R2	BRVT 9092	BRVT 9141	BRVT 9215	BRVT 9229	BRVT 9275
SAMPLE DATE	2/21/97	2/21/97	2/21/97	2/27/97	3/11/97	3/23/97	4/4/97	4/16/97
ANALYSIS DATE	3/7/97	3/5/97	3/7/97	3/15/97	3/20/97	4/8/97	4/22/97	4/23/97
FILE NAME	K/L7CF016	K/L7CD011	K/L7CF012	K/LCO009	K/LCT003	K/LDH015/14	K/LDV005	K/L7DW007/11
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	20.70	2.97	2.40	5.73	2.87	0.79	1.80	1.63
PROPYLENE	0.72	1.02	1.08	2.39	0.96	0.23	0.75	0.69
CHLOROMETHANE	0.53	0.49	0.56	0.60	0.59	0.43	0.50	0.42
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	0.06 U	ND	0.11 U	0.33	0.14 U	ND	0.07 U	0.04 U
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.32	0.15	0.16	0.21	0.06 U	ND	0.04 U	3.32
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	0.05 U	ND	ND	ND	0.02 U
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.11 U	0.09 U	0.10 U	0.13 U	0.10 U	0.08 U	0.09 U	0.09 U
BENZENE	0.41	0.80	0.78	1.56	0.78	0.30	0.85	0.51
CARBON TETRACHLORIDE	0.07	0.08	0.08	0.09	0.09	0.07	0.09	0.07
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	0.02 U	0.03 U	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.88	1.87	1.72	3.67	1.39	0.21	1.20	0.91
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	ND	0.08 U	0.05 U	0.16	0.05 U	ND	0.05 U	0.02 U
TETRACHLOROETHYLENE	ND	0.07 U	0.06 U	0.09	0.02 U	ND	0.01 U	0.02 U
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.09 U	0.24	0.22	0.52	0.22	0.03 U	0.16	0.14
m,p - XYLENE	0.26 U	0.75	0.64	1.58	0.63	0.08 U	0.45	0.40
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	0.03 U	0.03 U	0.71	0.05 U	ND	ND	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.14	0.38	0.31	ND	0.30	0.04 U	0.23	0.20
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
* = Vacuum Criteria Exceeded

Table F-3. VOC Concentrations (ppbv) Measured at Brattleboro, VT (BRVT)

SAMPLE SITE #	BRVT 9330	BRVT 9378	BRVT 9416	BRVT 9477	BRVT 9553	BRVT 9721	BRVT 9965	BRVT 10194
SAMPLE DATE	4/28/97	5/10/97	5/22/97	6/3/97	6/15/97	6/27/97	7/9/97	7/21/97
ANALYSIS DATE	5/7/97	5/15/97	5/29/97	6/12/97	6/25/97	7/9/97	8/1/97	8/6/97
FILE NAME	L7EF016	L7EP007	L7E#006	L7FL010	L7FY011	L7GI012	L7HA006	L7HF007
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.88	0.86	0.47	0.61	0.38	0.74	1.16	0.84
PROPYLENE	0.39	0.47	0.23	0.42	0.23	0.52	0.63	0.53
CHLOROMETHANE	0.41	0.48	0.32	1.89	0.36	0.48	0.67	0.54
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	4.16	2.66	1.78	0.05 U	1.90	2.45	1.27	1.27
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.08 U	0.07 U	0.07 U	0.11	0.08	0.11	0.09	0.07
BENZENE	0.28	0.29	0.17	0.33	0.19	0.32	0.46	0.34
CARBON TETRACHLORIDE	0.08	0.08	0.08	0.10	0.09	0.10	0.07	0.07
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.74	0.44	0.27	0.66	0.45	0.90	3.88	0.79
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.03 U	0.03 U	ND	ND	ND	0.07 U	0.44	0.03 U
TETRACHLOROETHYLENE	ND	0.01 U	ND	ND	ND	0.02 U	ND	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.11 U	0.07 U	0.04 U	0.06 U	0.06 U	0.13	0.20	0.11 U
m,p - XYLENE	0.34 U	0.16 U	0.13 U	0.19 U	0.19 U	0.36	0.47	0.34
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.15	0.09 U	0.06 U	0.08 U	0.08 U	0.17	0.24	0.14
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
* = Vacuum [illegible] Exceeded

Table F-3. VOC Concentrations (ppbv) Measured at Brattleboro, VT (BRVT)

SAMPLE SITE #	BRVT 10456		BRVT 10718		BRVT 11027	
SAMPLE DATE	8/2/97		8/14/97		8/26/97	
ANALYSIS DATE	8/28/97		9/11/97		9/13/97	
FILE NAME	L7HI008		L7IK010		L7IL014	
UNITS	ppbv		ppbv		ppbv	
ACETYLENE	0.49		0.97		1.11	
PROPYLENE	0.27		0.58		0.61	
CHLOROMETHANE	0.69		0.50		0.45	
VINYL CHLORIDE	ND		ND		ND	
1,3-BUTADIENE	ND		ND		ND	
BROMOMETHANE	ND		ND		ND	
CHLOROETHANE	ND		ND		ND	
METHYLENE CHLORIDE	1.35		1.20		1.18	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND	
CHLOROPRENE	ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND	
CHLOROFORM	ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.06		0.07		0.07	
BENZENE	0.48		0.37		0.45	
CARBON TETRACHLORIDE	0.08		0.07		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND	
TOLUENE	0.72		0.77		1.07	
DIBROMOCHLOROMETHANE	ND		ND		ND	
N-OCTANE	0.07	U	0.07	U	0.04	U
TETRACHLOROETHYLENE	ND		ND		ND	
CHLOROBENZENE	ND		ND		ND	
ETHYLBENZENE	0.10	U	0.16		0.20	
m,p - XYLENE	0.28		0.46		0.54	
BROMOFORM	ND		ND		ND	
STYRENE	ND		0.03	U	0.05	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND	
o - XYLENE	0.14		0.20		0.24	
m - DICHLOROBENZENE	ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
* = Vacuum Criteria Exceeded

Table F-4. VOC Concentrations (ppbv) Measured at Burlington, VT (BUVT)

SAMPLE SITE #	BUVT 8050		BUVT 8255		BUVT 8452		BUVT 8570		BUVT 8618		BUVT 8655D1		BUVT 8655R1		BUVT 8657D2	
SAMPLE DATE	8/31/96		9/12/96		9/24/96		10/6/96		10/18/96		10/30/96		10/30/96		10/30/96	
ANALYSIS DATE	9/21/96		10/3/96		10/7/96		10/24/96		11/10/96		11/11/96		11/12/96		11/11/96	
FILE NAME	K/L6IU007		K/L6JC022		K/L6JG013		K/L6J$006		K/L6KJ018		K/L6KK011		K/L6KL011		K/L6KK010	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	3.39		1.66		2.34		3.36		5.64		7.83		7.96		7.17	
PROPYLENE	1.27		0.58		0.93		0.56		1.21		1.34		1.43		1.28	
CHLOROMETHANE	0.49		0.49		0.43		0.56		0.54		0.68		0.66		0.56	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.17	U	0.05	U	0.10	U	ND		0.12	U	0.12	U	0.13	U	0.12	U
BROMOMETHANE	0.20		0.10	U	0.06	U	0.04	U	0.05	U	0.03	U	0.04	U	ND	
CHLOROETHANE	ND		ND		ND		ND		ND		0.24		0.33		ND	
METHYLENE CHLORIDE	0.10	U	0.05	U	0.08	U	0.07	U	0.10	U	0.11	U	0.11	U	0.12	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		0.03	U	0.03	U	0.02	U	0.04	U	0.03	U	0.03	U	ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.15		0.13	U	0.14	U	0.08	U	0.15		0.10	U	0.13	U	0.10	U
BENZENE	0.65		0.35		0.53		0.24		0.57		0.53		0.67		0.60	
CARBON TETRACHLORIDE	0.10		0.08		0.08		0.08		0.10		0.07		0.10		0.08	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		0.01		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	1.38		0.78		1.53		0.59		1.33		1.40		1.48		1.40	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.08	U	0.05	U	0.31		0.03	U	0.08	U	0.15		0.17		0.13	
TETRACHLOROETHYLENE	0.02	U	ND		0.02	U	0.01	U	0.02	U	0.03	U	0.03	U	0.03	U
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.23		0.15		0.24		0.15		0.34		0.37		0.38		0.36	
m,p - XYLENE	0.74		0.43		0.81		0.56		1.27		1.37		1.44		1.39	
BROMOFORM	0.06	U	0.04	U	0.03	U	0.04	U	0.06	U	0.13		0.13		0.21	
STYRENE	0.50		0.29		0.50		0.03	U	0.07	U	0.11		0.10		0.12	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.27		0.15		0.29		0.21		0.48		0.49		0.51		0.47	
m - DICHLOROBENZENE	ND		ND		ND		0.01		ND		ND		ND		ND	
p - DICHLOROBENZENE	0.02	U	0.02	U	ND		0.01	U	0.01	U	0.01	U	ND		0.01	U
o - DICHLOROBENZENE	ND		ND		ND		0.01		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
I = Lost by Labor

Table F-4. VOC Concentrations (ppbv) Measured at Burlington, VT (BUVT)

SAMPLE SITE #	BUVT 8657R2		BUVT 8689		BUVT 8766		BUVT 8797D1		BUVT 8797R1		BUVT 8799D2		BUVT 8799R2	BUVT 8840	
SAMPLE DATE	10/30/96		11/11/96		11/23/96		12/5/96		12/5/96		12/5/96		12/5/96	12/17/96	
ANALYSIS DATE	11/12/96		11/24/96		12/5/96		12/13/96		12/18/96		12/19/96			12/26/96	
FILE NAME	K/L6KL010		K/L6KX012		K/L6LE010		K/L6LM012		K/L6LR015		K/L6LS012			K/L6LZ013	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	ppbv	
ACETYLENE	7.28		4.58		6.01		5.31		6.67		5.29		!	6.00	
PROPYLENE	1.33		1.05		1.14		1.16		1.21		0.91		!	1.52	
CHLOROMETHANE	0.61		0.42		0.50		0.46		0.51		0.40		!	0.55	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		!	ND	
1,3-BUTADIENE	0.10	U	0.14	U	0.14	U	0.07	U	ND		ND		!	0.26	U
BROMOMETHANE	ND		0.07	U	0.02	U	ND		ND		ND		!	0.05	U
CHLOROETHANE	ND		ND		ND		ND		ND		ND		!	ND	
METHYLENE CHLORIDE	0.11	U	0.07	U	0.05	U	0.11	U	0.12	U	0.09	U	!	0.08	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		!	ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		!	ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		!	ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		!	ND	
CHLOROFORM	ND		ND		0.03	U	0.02	U	0.02	U	ND		!	0.02	U
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		!	ND	
1,1,1 - TRICHLOROETHANE	0.13	U	0.08	U	0.11	U	0.11	U	0.12	U	0.13	U	!	0.12	U
BENZENE	0.68		0.74		0.79		0.89		0.95		0.89		!	1.13	
CARBON TETRACHLORIDE	0.10		0.09		0.09		0.09		0.10		0.08		!	0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		!	ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		!	ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		0.02	U	ND		!	ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		!	ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		!	ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		!	ND	
TOLUENE	1.51		1.88		1.43		1.63		1.58		1.58		!	2.05	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		!	ND	
N-OCTANE	0.16		0.06	U	0.06	U	0.06	U	0.06	U	0.07	U	!	0.08	U
TETRACHLOROETHYLENE	0.03		ND		0.01	U	0.04	U	0.04	U	ND		!	0.04	U
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		!	ND	
ETHYLBENZENE	0.39		0.25		0.27		0.28		0.29		0.28		!	0.41	
m,p - XYLENE	1.48		0.56		0.78		0.86		0.85		0.84		!	1.23	
BROMOFORM	0.21		0.13		0.05	U	ND		ND		0.24		!	0.10	
STYRENE	0.11		0.15		0.06	U	0.06	U	0.05	U	0.04	U	!	0.09	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		!	ND	
o - XYLENE	0.50		0.21		0.38		0.40		0.40		0.38		!	0.57	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		!	ND	
p - DICHLOROBENZENE	0.01	U	ND		0.01	U	ND		0.01	U	ND		!	0.01	U
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		!	ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
! = Lost by Laboratory

Table F-4. VOC Concentrations (ppbv) Measured at Burlington, VT (BUVT)

SAMPLE SITE #	BUVT 8868	BUVT 8906	BUVT 8934D1	BUVT 8934R1	BUVT 8936D2	BUVT 8936R2	BUVT 8982	BUVT 9023
SAMPLE DATE	12/29/96	1/10/97	1/21/97	1/21/97	1/21/97	1/21/97	2/3/97	2/9/97
ANALYSIS DATE	2/4/97	2/4/97	2/6/97	2/7/97	2/6/97	2/7/97	3/1/97	3/4/97
FILE NAME	K/L7BD012	K/L7BD010	K/L7BF015	K/L7BG016	K/L7BF016	K/L7BG017	K/L7BI014	K/L7CC018
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	1.23	0.37	2.29	2.32	2.36	2.39	5.25	5.01
PROPYLENE	0.28	ND	0.83	0.81	0.85	0.86	1.51	1.71
CHLOROMETHANE	0.42	ND	0.58	0.54	0.50	0.58	0.56	0.51
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	ND	ND	ND	ND	ND	0.06 U	0.12 U
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	ND	ND	0.06 U	0.08 U	0.07 U	0.09 U	0.12 U	ND
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.10 U	ND	0.10 U	0.07 U	0.10 U	0.07 U	0.09 U	0.10 U
BENZENE	0.38	0.12	0.72	0.63	0.73	0.70	1.22	1.07
CARBON TETRACHLORIDE	0.09	ND	0.10	0.07	0.10	0.08	0.06	0.07
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	0.02 U	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.34	0.18	0.93	1.16	1.05	1.18	2.29	1.90
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	ND	ND	ND	0.03 U	ND	ND	0.09	0.07 U
TETRACHLOROETHYLENE	ND	ND	ND	ND	ND	ND	0.05 U	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	0.21	0.21	0.22	0.20	0.41	0.31
m,p - XYLENE	0.15	0.12 U	0.69	0.69 U	0.71	0.66	1.16	0.81
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	ND	ND	ND	ND	ND	0.04 U	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.05 U	0.05 U	0.31	0.29	0.32	0.28	0.58	0.41
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
I = Lost by Labor

Table F-4. VOC Concentrations (ppbv) Measured at Burlington, VT (BUVT)

SAMPLE SITE #	BUVT 9046		BUVT 9100		BUVT 9147		BUVT 9203		BUVT 9233		BUVT 9272		BUVT 9302D1		BUVT 9302R1	
SAMPLE DATE	2/15/97		2/27/97		3/11/97		3/23/97		4/4/97		4/16/97		4/22/97		4/22/97	
ANALYSIS DATE	3/14/97		3/15/97		3/20/97		4/8/97		4/18/97		4/23/97		4/229		4/30/97	
FILE NAME	K/L7CN006		K/L7CO007		K/LCT008		K/LDH013/12		K/LDR005		K/L7DW008/12		L7D#008		L7D$006	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	4.27		6.62		3.73		2.50		3.53		2.83		3.33		3.28	
PROPYLENE	1.90		2.45		1.68		0.80		1.30		1.10		1.34		1.35	
CHLOROMETHANE	0.53		0.62		0.60		0.53		0.49		0.45		0.36		0.47	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.23	U	0.35		0.22	U	ND		0.15	U	0.10	U	0.13	U	0.12	U
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.05	U	0.44		0.08	U	0.04	U	0.08	U	0.06	U	0.48		0.47	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.08	U	0.15		0.09	U	0.07	U	0.09	U	0.08	U	0.09	U	0.09	U
BENZENE	1.27		1.62		1.08		0.68		0.96		0.77		1.02		0.94	
CARBON TETRACHLORIDE	0.07		0.09		0.08		0.07		0.08		0.08		0.09		0.08	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		0.05	U	0.05	U
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	2.20		2.83		2.43		1.02		1.76		1.64		2.30		2.17	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.10		0.11		0.09		0.03	U	0.07	U	0.05	U	0.08	U	0.06	U
TETRACHLOROETHYLENE	ND		0.04	U	ND		ND		0.01	U	0.03	U	0.02	U	ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.49		0.55		0.38		0.19		0.38		0.25		0.39		0.35	
m,p - XYLENE	1.49		1.66		1.23		0.50		0.99		0.67		1.06		0.98	
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	0.08	U	0.09		ND		ND		0.04	U	0.03	U	ND		0.07	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.68		0.79		0.61		0.25		0.51		0.34		0.54		0.46	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
! = Lost by Laboratory

Table F-4. VOC Concentrations (ppbv) Measured at Burlington, VT (BUVT)

SAMPLE SITE #	BUVT 9304D2		BUVT 9304R2		BUVT 9326		BUVT 9372		BUVT 9410		BUVT 9470		BUVT 9549		BUVT 9716	
SAMPLE DATE	4/22/97		4/22/97		4/28/97		5/10/97		5/22/97		6/3/97		6/15/97		6/27/97	
ANALYSIS DATE	4/229		4/30/97		5/6/97		5/15/97		5/29/97		6/12/97		6/25/97		7/10/97	
FILE NAME	L7D#009		L7D$007		L7EF012		L7EP005		L7E#008		L7FL006		L7FY012		L7GI009	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	3.15		3.28		1.55		3.52		2.51		1.03		1.06		1.84	
PROPYLENE	1.31		1.30		0.60		1.85		1.25		0.53		0.57		1.11	
CHLOROMETHANE	0.37		0.47		0.46		0.57		0.43		0.46		0.43		0.48	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.15	U	0.15	U	ND		0.19	U	ND		ND		ND		0.05	U
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.49		0.43		0.03	U	0.03	U	ND		0.09		0.01	U	0.09	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		0.26		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.08	U	0.08	U	0.07	U	0.07	U	0.08	U	0.09		0.08		0.10	
BENZENE	1.02		0.94		0.51		1.18		0.86		0.39		0.50		0.89	
CARBON TETRACHLORIDE	0.10		0.08		0.08		0.08		0.08		0.08		0.08		0.12	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	0.06	U	0.06	U	ND		ND		0.01	U	ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	2.14		2.01		0.90		2.25		1.91		0.74		1.08		2.20	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.06	U	0.05	U	0.04	U	0.08	U	0.06	U	0.04	U	ND		0.10	U
TETRACHLOROETHYLENE	0.02	U	ND		0.01	U	0.01	U	0.03	U	0.02	U	0.03	U	0.07	U
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.39		0.36		0.17		0.42		0.30		0.12		0.18		0.37	
m,p - XYLENE	1.09		0.99		0.52		1.28		0.94		0.36		0.54		1.12	
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	0.07	U	0.04	U	ND		0.09		0.04	U	0.08	U	ND		0.04	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.55		0.50		0.25		0.58		0.47		0.19		0.25		0.60	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
I = Lost by Labo

Table F-4. VOC Concentrations (ppbv) Measured at Burlington, VT (BUVT)

SAMPLE SITE #	BUVT 9967	BUVT [illegible]8	BUVT 10458	BUVT 10716	BUVT 11025
SAMPLE DATE	7/9/97	7/21/97	8/2/97	8/14/97	8/26/97
ANALYSIS DATE	8/1/97	8/6/97	8/28/97	9/5/97	9/13/97
FILE NAME	L7HA005	L7HF009	L7HI009	L7ID019	I7IL016
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	3.26	1.79	1.49	1.14	2.30
PROPYLENE	1.68	1.14	0.78	0.71	1.17
CHLOROMETHANE	0.54	0.68	0.78	0.32	0.65
VINYL CHLORIDE	ND	ND	ND	ND	ND
1,3-BUTADIENE	0.11	0.02 U	0.15	0.03 U	0.05 U
BROMOMETHANE	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.16	0.08 U	0.02 U	0.04 U	0.02 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.06	0.07	0.07	0.07	0.08
BENZENE	1.03	0.64	0.99	0.77	0.94
CARBON TETRACHLORIDE	0.07	0.07	0.07	0.07	0.08
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND
TOLUENE	1.89	1.41	1.96	2.20	1.95
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND
N-OCTANE	0.05 U	0.07 U	0.11 U	0.08 U	0.08 U
TETRACHLOROETHYLENE	0.02 U	ND	ND	0.09 U	0.07 U
CHLOROBENZENE	ND	ND	ND	ND	ND
ETHYLBENZENE	0.36	0.25	0.34	0.27	0.41
m,p - XYLENE	1.02	0.70	0.89	0.73	1.03
BROMOFORM	ND	ND	ND	ND	ND
STYRENE	ND	ND	ND	0.06 U	0.08 U
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND
o - XYLENE	0.50	0.36	0.52	0.40	0.49
m - DICHLOROBENZENE	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
I = Lost by Laboratory

Table F-5. VOC Concentrations (ppbv) Measured at Camden, NJ (CANJ)

SAMPLE SITE #	CANJ 8156		CANJ 8339		CANJ 8549		CANJ 8592		CANJ 8630		CANJ 8647D1		CANJ 8647R1		CANJ 8649D2	
SAMPLE DATE	9/6/96		9/18/96		9/30/96		10/12/96		10/24/96		10/30/96		10/30/96		10/30/96	
ANALYSIS DATE	9/25/96		10/7/96		10/14/96		10/31/96		11/15/96		11/11/96		11/12/96		11/11/96	
FILE NAME	K/L6IY005		K/L6JG008		K/L6JN009		K/L6J%013		K/L6KO008		K/L6KK013		K/L6KL013		K/L6KK012	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	0.82		1.29		5.71		12.63		6.82		3.86		3.95		4.07	
PROPYLENE	0.52		0.53		2.67		4.30		1.74		2.17		2.32		2.16	
CHLOROMETHANE	0.68		0.49		0.49		0.61		0.60		0.65		0.64		0.56	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.02	U	0.07	U	0.24	U	0.25	U	0.10	U	0.06	U	0.04	U	0.05	U
BROMOMETHANE	0.44		0.05	U	0.06	U	0.05	U	0.04	U	0.04	U	0.02	U	ND	
CHLOROETHANE	0.11		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.25		0.12	U	0.36		0.27		0.29		0.23		0.22		0.20	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	0.03	U	0.03	U	0.05	U	0.04	U	ND		0.04	U	0.04	U	0.05	U
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.16		0.18		0.24		0.22		0.11	U	0.12	U	0.13	U	0.12	U
BENZENE	0.24		0.33		1.10		1.07		0.56		0.45		0.50		0.44	
CARBON TETRACHLORIDE	0.10		0.08		0.08		0.09		0.09		0.11		0.11		0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		0.04	U	0.11	U	0.02	U	0.01	U	0.01	U	0.01	U	ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	0.69		0.78		2.58		3.06		1.62		0.85		0.89		0.87	
DIBROMOCHLOROMETHANE	ND		0.01		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.05	U	0.05	U	0.19		0.19		0.12		0.10		0.11		0.10	
TETRACHLOROETHYLENE	0.03	U	0.10		0.13		0.14		0.10		0.06	U	0.06	U	0.05	U
CHLOROBENZENE	ND		ND		ND		ND		ND		0.02	U	ND		ND	
ETHYLBENZENE	0.09	U	0.11	U	0.34		0.58		0.29		0.20		0.21		0.19	
m,p - XYLENE	0.35		0.40		1.26		2.49		1.27		0.85		0.92		0.90	
BROMOFORM	0.16		0.12		0.01	U	0.11		0.10		0.03	U	0.03	U	0.12	
STYRENE	0.36		0.36		1.29		0.15		0.09		0.09		0.10		0.09	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		0.01		ND		ND	
o - XYLENE	0.12	U	0.14		0.45		0.86		0.42		0.32		0.33		0.30	
m - DICHLOROBENZENE	ND		ND		ND		0.01	U	ND		0.01	U	0.01	U	ND	
p - DICHLOROBENZENE	ND		0.05	U	0.17		0.13		0.06	U	0.04	U	0.04	U	0.04	U
o - DICHLOROBENZENE	ND		ND		ND		0.01	U	ND		0.01	U	0.02	U	0.01	U

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
# = Sample Voided in Field
I = Lost by Laboratory

Table F-5. VOC Concentrations (ppbv) Measured at Camden, NJ (CANJ)

SAMPLE SITE #	CANJ 8649R2		CANJ 8728	CANJ 8685		CANJ 8779		CANJ 8821D1		CANJ 8821R1	CANJ 8823D2		CANJ 8823R2
SAMPLE DATE	10/30/96		11/17/96	11/5/96		11/29/96		12/11/96		12/11/96	12/11/96		12/11/96
ANALYSIS DATE	11/12/96			11/26/96		12/19/96		12/19/96			12/19/96		
FILE NAME	K/L6KL012			K/L6KZ008		K/L6LS009		K/L6LS013			K/L6LS014		
UNITS	ppbV		ppbv	ppbV		ppbV		ppbv			ppbv		
ACETYLENE	3.13		#	8.86		6.96		10.82		I	9.57		I
PROPYLENE	2.25		#	2.41		5.51		1.89		I	1.72		I
CHLOROMETHANE	ND		#	0.60		0.56		0.50		I	0.54		I
VINYL CHLORIDE	ND		#	ND		ND		ND		I	ND		I
1,3-BUTADIENE	ND		#	0.17	U	ND		0.24	U	I	0.17	U	I
BROMOMETHANE	ND		#	0.05	U	0.08	U	0.03	U	I	0.01	U	I
CHLOROETHANE	ND		#	ND		ND		ND		I	ND		I
METHYLENE CHLORIDE	0.18		#	0.31		0.15		0.29		I	0.25		I
trans - 1,2 - DICHLOROETHYLENE	ND		#	ND		ND		ND		I	ND		I
1,1 - DICHLOROETHANE	ND		#	ND		ND		ND		I	ND		I
CHLOROPRENE	ND		#	ND		ND		ND		I	ND		I
BROMOCHLOROMETHANE	ND		#	ND		ND		ND		I	ND		I
CHLOROFORM	0.03	U	#	0.03	U	ND		0.03	U	I	ND		I
1,2 - DICHLOROETHANE	ND		#	ND		ND		ND		I	ND		I
1,1,1 - TRICHLOROETHANE	0.13	U	#	0.22		0.19		0.22		I	0.20		I
BENZENE	0.47		#	1.11		1.01		1.04		I	0.93		I
CARBON TETRACHLORIDE	0.10		#	0.04	U	0.09		0.09		I	0.08		I
1,2 - DICHLOROPROPANE	ND		#	ND		ND		ND		I	ND		I
BROMODICHLOROMETHANE	ND		#	ND		ND		ND		I	ND		I
TRICHLOROETHYLENE	ND		#	0.06	U	0.03	U	0.03	U	I	0.03	U	I
cis - 1,3 - DICHLOROPROPENE	ND		#	ND		ND		ND		I	ND		I
trans - 1,3 - DICHLOROPROPENE	ND		#	ND		ND		ND		I	ND		I
1,1,2 - TRICHLOROETHANE	ND		#	ND		ND		ND		I	ND		I
TOLUENE	0.93		#	2.47		1.74		2.28		I	2.13		I
DIBROMOCHLOROMETHANE	ND		#	ND		ND		ND		I	ND		I
N-OCTANE	0.10		#	0.20		0.14		0.11		I	0.12		I
TETRACHLOROETHYLENE	0.05	U	#	0.16		0.12		0.22		I	0.19		I
CHLOROBENZENE	ND		#	ND		ND		ND		I	ND		I
ETHYLBENZENE	0.21		#	0.39		0.44		0.35		I	0.31		I
m,p - XYLENE	0.96		#	1.31		1.22		1.11		I	0.98		I
BROMOFORM	0.13		#	ND		0.10		0.07	U	I	0.02	U	I
STYRENE	0.08	U	#	0.19		0.06	U	0.08	U	I	0.08	U	I
1,1,2,2 - TETRACHLOROETHANE	ND		#	ND		ND		ND		I	ND		I
o - XYLENE	0.31		#	0.60		0.36		0.49		I	0.44		I
m - DICHLOROBENZENE	ND		#	ND		ND		ND		I	ND		I
p - DICHLOROBENZENE	0.03	U	#	0.10	U	0.06	U	0.04	U	I	ND		I
o - DICHLOROBENZENE	ND		#	ND		ND		ND		I	ND		I

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
# = Sample Voided in Field
I = Lost by Laboratory

Table F-5. VOC Concentrations (ppbv) Measured at Camden, NJ (CANJ)

SAMPLE SITE #	CANJ 8850		CANJ 8886		CANJ 8918		CANJ 8966D1		CANJ 8966R1		CANJ 8968D2		CANJ 8968R2		CANJ 9011	
SAMPLE DATE	12/23/96		1/4/97		1/16/97		1/28/97		1/28/97		1/28/97		1/28/97		2/9/97	
ANALYSIS DATE	1/24/97		2/4/97		2/20/97		2/27/97		2/28/97		2/27/97		2/28/97		2/28/97	
FILE NAME	K/L7AX010		K/L7BD004		K7BQ011		K7BZ011		K/L7BI004		K/L7BZ012		K/L7BI005		K/L7BI017	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	4.93		1.10		2.77		2.97		2.86		2.91		2.88		3.68	
PROPYLENE	1.84		4.42		0.92		0.88		1.02		1.44		1.07		1.05	
CHLOROMETHANE	0.46		0.99		0.40		0.46		0.32		0.41		0.43		0.41	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.22	U	0.29	U	ND		ND		ND		ND		0.05	U	0.05	U
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		0.05	U
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.21		0.06	U	0.09	U	0.13	U	0.14	U	0.11	U	0.10	U	0.05	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.10	U	0.10	U	0.13	U	0.13	U	0.14	U	0.14	U	0.12	U	0.15	
BENZENE	1.46		2.43		0.54		0.61		0.67		0.60		0.66		0.66	
CARBON TETRACHLORIDE	0.08		0.12		0.11		0.08		0.08		0.05	U	0.04	U	0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		0.01	U	ND		0.02	U	ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	2.37		3.90		0.70		4.07		4.19		4.45		4.15		1.06	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.13		0.21		0.07	U	0.08	U	0.09		0.09		0.12		0.08	U
TETRACHLOROETHYLENE	0.08		ND		0.10		0.77		0.80		0.85		0.80		0.05	U
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.28		0.42		0.17		0.17		0.19		0.16		0.19		0.13	
m,p - XYLENE	0.91		1.22		0.50		0.51		0.58		0.52		0.57		0.41	
BROMOFORM	ND		ND		0.10		0.06	U	0.09	U	ND		ND		0.06	U
STYRENE	0.07	U	ND		0.09		0.04	U	0.04	U	0.03	U	0.05	U	0.03	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.46		0.45		0.21		0.25		0.27		0.27		0.30		0.20	
m - DICHLOROBENZENE	ND		ND		0.02	U	ND		ND		ND		0.01	U	ND	
p - DICHLOROBENZENE	ND		ND		0.05	U	ND		ND		ND		0.01	U	ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
# = Sample Voided in Field
I = Lost by Laboratory

Table F-5. VOC Concentrations (ppbv) Measured at Camden, NJ (CANJ)

SAMPLE SITE #	CANJ 9067	CANJ 9116	CANJ 9189	CANJ 9221	CANJ 9255	CANJ 9268D1	CANJ 9268R1	CANJ 9270D2
SAMPLE DATE	2/21/97	3/5/97	3/23/97	3/29/97	4/10/97	4/16/97	4/16/97	4/16/97
ANALYSIS DATE	3/14/97	3/15/97	4/8/97	4/8/97	4/23/97	4/23/97	4/23/97	4/23/97
FILE NAME	K/L7CN009	K/LCO013	K/LDH009/8	K/LDH020/19	K/LDV012	K/LDV014	K/LDW004	K/LDV015
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	1.81	3.45	1.70	1.64	1.91	1.52	1.50	1.55
PROPYLENE	0.96	1.87	1.69	0.70	0.58	1.86	1.77	1.84
CHLOROMETHANE	0.51	0.56	0.59	0.52	0.53	0.46	0.52	0.53
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	0.10 U	ND	ND	0.02 U	0.02 U	ND	0.02 U
BROMOMETHANE	0.04 U	0.17 U	ND	0.06 U	ND	0.02 U	ND	0.03 U
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.06 U	0.19	0.05 U	0.07 U	0.08 U	0.06 U	0.08 U	0.08 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.09 U	0.12 U	0.12 U	0.09 U	0.10 U	0.11 U	0.11 U	0.11 U
BENZENE	0.42	0.58	0.35	0.40	0.40	0.48	0.47	0.47
CARBON TETRACHLORIDE	0.09	0.10	0.07	0.08	0.08	0.09	0.08	0.08
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	0.01 U	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.60	1.14	0.64	0.08	0.79	1.15	1.22	1.18
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.06 U	0.06 U	0.03 U	0.06 U	0.03 U	0.08 U	0.08 U	0.08 U
TETRACHLOROETHYLENE	0.02 U	0.06 U	0.02 U	0.05 U	0.07 U	0.03 U	0.03 U	0.02 U
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.09 U	0.15	0.08 U	0.11 U	0.09 U	0.08 U	0.08 U	0.08 U
m,p - XYLENE	0.31	0.50	0.28 U	0.38	0.30 U	0.30 U	0.27 U	0.28 U
BROMOFORM	0.09 U	0.15	ND	ND	ND	ND	ND	ND
STYRENE	0.02 U	0.04 U	ND	0.02 U	ND	ND	ND	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.15	0.25	0.16	0.20	0.17	0.15	0.15	0.16
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	0.02 U	0.03 U	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
# = Sample Voided in Field
! = Lost by Laboratory

Table F-5. VOC Concentrations (ppbv) Measured at Camden, NJ (CANJ)

SAMPLE SITE #	CANJ 9270R2		CANJ 9300		CANJ 9361		CANJ 9404		CANJ 9424		CANJ 9495		CANJ 9641		CANJ 9832	
SAMPLE DATE	4/16/97		4/22/97		5/4/97		5/22/97		5/27/97		6/9/97		6/21/97		7/3/97	
ANALYSIS DATE	4/23/97		4/29/97		5/10/97		5/28/97		6/4/97		6/25/97		7/3/97		7/10/97	
FILE NAME	K/LDW005		L7D#012		L7EI019		L7EI010		L7FD006		L7FY007		L7GB007		L7GI015	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	1.51		4.87		0.91		0.92		1.50		1.75		ND		0.78	
PROPYLENE	1.78		2.49		0.31		0.41		0.54		2.67		ND		0.82	
CHLOROMETHANE	0.57		0.54		0.41		0.61		0.54		0.58		ND		0.90	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		0.14	U	ND		ND		0.01	U	ND		ND		ND	
BROMOMETHANE	0.03	U	0.05	U	ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.07	U	0.27		0.02	U	0.09	U	0.20		0.14		0.05	U	0.06	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		0.02	U	ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.11	U	0.21		0.15		0.10	U	0.14	U	0.11		0.16		0.09	
BENZENE	0.44		0.94		0.27		0.25		0.38		0.64		0.30		0.30	
CARBON TETRACHLORIDE	0.08		0.10		0.07		0.08		0.08		0.08		0.13		0.08	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		0.03	U	ND		ND		0.02	U	ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	1.08		2.70		0.62		0.51		3.12		1.20		0.60		0.61	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.07	U	0.16		ND		0.01	U	0.06	U	0.08	U	0.08	U	0.06	U
TETRACHLOROETHYLENE	0.03	U	0.16		0.02	U	0.06	U	0.09		0.08	U	0.04	U	0.03	U
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.09	U	0.34		0.07	U	0.07	U	0.15		0.16		0.09	U	0.09	U
m,p - XYLENE	0.28	U	1.12		0.27	U	0.28	U	0.41		0.55		0.29		0.28	
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	ND		0.09	U	ND		ND		ND		ND		ND		ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.15		0.58		0.14		0.13	U	0.19		0.22		0.16		0.16	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		0.09	U	ND		ND		ND		0.06	U	0.03	U	ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
# = Sample Voided in Field
I = Lost by Laboratory

Table F-5. VOC Concentrations (ppbv) Measured at Camden, NJ (CANJ)

SAMPLE SITE #	CANJ 10032		CANJ 11031		CANJ 10658		CANJ 10912	
SAMPLE DATE	7/15/97		7/27/97		8/8/97		8/20/97	
ANALYSIS DATE	L7HA012		8/7/97		8/29/97		9/12/97	
FILE NAME	L7HA012		L7HF018		L7HI015		L7IL012	
UNITS	ppbv		ppbv		ppbv		ppbv	
ACETYLENE	1.57		0.87		1.43		0.86	
PROPYLENE	4.37		1.56		1.56		0.41	
CHLOROMETHANE	0.99		0.81		0.92		0.82	
VINYL CHLORIDE	ND		ND		ND		ND	
1,3-BUTADIENE	ND		ND		0.10		0.08	U
BROMOMETHANE	ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND	
METHYLENE CHLORIDE	0.09		0.07	U	0.21		0.09	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.09		0.07		0.15		0.08	
BENZENE	0.65		0.34		0.74		0.28	
CARBON TETRACHLORIDE	0.06		0.07		0.07		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND	
TOLUENE	0.74		0.50		1.88		0.55	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND	
N-OCTANE	0.09	U	0.04	U	0.12	U	0.03	U
TETRACHLOROETHYLENE	0.05	U	0.01	U	0.12	U	0.05	U
CHLOROBENZENE	ND		ND		ND		ND	
ETHYLBENZENE	0.13		0.09	U	0.24		0.09	U
m,p - XYLENE	0.35		0.25		0.74		0.28	
BROMOFORM	ND		ND		ND		ND	
STYRENE	ND		ND		ND		0.04	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND	
o - XYLENE	0.20		0.14		0.38		0.14	
m - DICHLOROBENZENE	ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		0.12	U	ND	
o - DICHLOROBENZENE	ND		ND		ND		ND	

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
# = Sample Voided in Field
I = Lost by Laboratory

Table F-6. VOC Concentrations (ppbv) Measured at El Paso, TX (EPTX)

SAMPLE SITE #	EPTX 8154	EPTX 8350	EPTX 8564	EPTX 8606	EPTX 8659D1	EPTX 8659R1	EPTX 8661D2	EPTX 8661R2
SAMPLE DATE	9/6/96	9/18/96	9/30/96	10/12/96	10/24/96	10/24/96	10/24/96	10/24/96
ANALYSIS DATE	9/25/96	10/3/96	10/14/96	10/31/96	11/11/96	11/12/96	11/11/96	11/12/96
FILE NAME	K/L6IY006	K/L6JC023	K/L6JN012	K/L6J%014	K/L6KK009	K/L6KL009	K/L6KK008	K/L6KL009
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	10.05	5.73	2.89	11.54	12.95	12.63	12.00	12.09
PROPYLENE	3.08	1.56	1.05	2.30	1.83	2.04	1.74	1.87
CHLOROMETHANE	0.62	0.58	0.58	0.75	1.00	1.04	0.66	0.77
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	0.41	0.20 U	0.12 U	0.23 U	0.16 U	0.19 U	0.14 U	0.13 U
BROMOMETHANE	0.45	0.24	0.12 U	0.20	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.29	0.03 U	0.10 U	0.24	0.10 U	0.10 U	0.09 U	0.09 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	0.06 U	ND	ND	0.06 U	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.13 U	0.10 U	0.19	0.15	0.13 U	0.12 U	0.30	0.30
BENZENE	2.24	1.14	0.86	1.35	1.09	0.92	1.06	1.11
CARBON TETRACHLORIDE	0.10	0.08	0.08	0.09	0.09	0.08	0.09	0.09
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	0.15 U	ND	0.04 U	0.02 U	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	5.44	1.96	1.87	3.30	2.08	2.24	2.06	2.18
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.22	0.12	0.08 U	0.20	0.10	0.10	0.09	0.11
TETRACHLOROETHYLENE	0.05 U	ND	ND	0.04 U	0.03 U	0.03 U	0.03 U	0.02 U
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.76	0.37	0.36	0.66	0.47	0.51	0.46	0.49
m,p - XYLENE	2.59	1.08	1.23	2.76	1.99	2.09	1.95	2.04
BROMOFORM	0.18	0.03 U	ND	0.06	ND	ND	ND	ND
STYRENE	1.57	0.57	0.57	0.12	0.16	0.13	0.30	0.38
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.92	0.39	0.41	0.96	0.69	0.72	0.69	0.71
m - DICHLOROBENZENE	ND	ND	ND	0.01 U	ND	ND	ND	ND
p - DICHLOROBENZENE	0.31	0.05 U	0.05 U	0.13	0.03 U	0.03 U	0.03 U	0.03 U
o - DICHLOROBENZENE	ND	ND	ND	0.01 U	ND	ND	ND	ND

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
I = Lost by Laboratory
+ = Canister ir[illegible]e Leak

Table F-6. VOC Concentrations (p v) Measured at El Paso, TX (EPTX)

SAMPLE SITE #	EPTX 8699	EPTX 8750	EPTX 8781	EPTX 8832D1	EPTX 8832R1	EPTX 8833D2	EPTX 8833R2	EPTX 8884
SAMPLE DATE	11/5/96	11/17/96	11/29/96	12/11/96	12/11/96	12/11/96	12/11/96	12/23/96
ANALYSIS DATE	11/26/96		12/19/96	12/26/96	1/24/96	12/26/96		2/3/97
FILE NAME	K/L6KZ013		K/L6LS010	K/L6LZ006	K/L7AX004	K/L6LZ007		K/L7BC013
UNITS	pbbv		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	15.30	*	10.58	7.81	4.71	7.76	!	5.13
PROPYLENE	3.41	*	2.02	1.46	1.54	1.37	!	1.45
CHLOROMETHANE	0.66	*	0.91	0.61	0.68	0.67	!	0.90
VINYL CHLORIDE	ND	*	ND	ND	ND	ND	!	ND
1,3-BUTADIENE	0.39	*	0.24 U	0.18 U	0.21 U	0.19 U	!	0.22 U
BROMOMETHANE	0.03 U	*	ND	ND	ND	ND	!	ND
CHLOROETHANE	ND	*	ND	ND	ND	ND	!	ND
METHYLENE CHLORIDE	0.33	*	0.31	0.03 U	0.59	0.04 U	!	0.19
trans - 1,2 - DICHLOROETHYLENE	ND	*	ND	ND	ND	ND	!	ND
1,1 - DICHLOROETHANE	ND	*	ND	ND	ND	ND	!	ND
CHLOROPRENE	ND	*	ND	ND	ND	ND	!	ND
BROMOCHLOROMETHANE	ND	*	ND	ND	ND	ND	!	ND
CHLOROFORM	0.13 U	*	ND	ND	ND	ND	!	ND
1,2 - DICHLOROETHANE	ND	*	ND	ND	ND	ND	!	ND
1,1,1 - TRICHLOROETHANE	0.16	*	0.12 U	0.12 U	0.25	0.12 U	!	0.11 U
BENZENE	2.59	*	1.32	1.12	1.38	1.16	!	1.27
CARBON TETRACHLORIDE	0.10	*	0.09	0.10	0.07	0.08	!	0.06
1,2 - DICHLOROPROPANE	ND	*	ND	ND	ND	ND	!	ND
BROMODICHLOROMETHANE	ND	*	ND	ND	ND	ND	!	ND
TRICHLOROETHYLENE	0.15 U	*	0.04 U	ND	ND	ND	!	5.94
cis - 1,3 - DICHLOROPROPENE	ND	*	ND	ND	ND	ND	!	ND
trans - 1,3 - DICHLOROPROPENE	ND	*	ND	ND	ND	ND	!	ND
1,1,2 - TRICHLOROETHANE	ND	*	ND	ND	ND	ND	!	ND
TOLUENE	5.64	*	5.45	1.84	1.93	1.90	!	7.10
DIBROMOCHLOROMETHANE	0.01 U	*	ND	ND	ND	ND	!	ND
N-OCTANE	0.23	*	0.10	0.07 U	0.10	0.08 U	!	0.13
TETRACHLOROETHYLENE	0.08	*	0.04 U	0.01 U	ND	0.10	!	0.04 U
CHLOROBENZENE	ND	*	ND	ND	ND	ND	!	ND
ETHYLBENZENE	0.88	*	0.51	0.30	0.33	0.31	!	0.53
m,p - XYLENE	2.70	*	1.40	0.97	1.05	1.01	!	1.59
BROMOFORM	0.01 U	*	ND	ND	ND	ND	!	ND
STYRENE	0.17	*	0.07 U	0.10	0.07 U	0.06 U	!	0.28
1,1,2,2 - TETRACHLOROETHANE	ND	*	ND	ND	ND	ND	!	ND
o - XYLENE	1.25	*	0.61	0.47	0.47	0.47	!	0.66
m - DICHLOROBENZENE	ND	*	ND	ND	ND	ND	!	ND
p - DICHLOROBENZENE	0.31	*	0.04 U	0.03 U	0.05 U	0.03 U	!	0.03 U
o - DICHLOROBENZENE	0.02 U	*	ND	ND	0.05 U	ND	!	ND

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
! = Lost by Laboratory
+ = Canister Inlet Valve Leak

Table F-6. VOC Concentrations (ppbv) Measured at El Paso, TX (EPTX)

SAMPLE SITE #	EPTX 8882	EPTX 8914	EPTX 8956D1	EPTX 8956R1	EPTX 8958D2	EPTX 8958R2	EPTX 9020	EPTX 9074
SAMPLE DATE	1/4/97	1/16/97	1/28/97	1/28/97	1/28/97	1/28/97	2/9/97	2/21/97
ANALYSIS DATE		2/19/97	2/27/97	2/28/97	2/28/97	3/4/97	3/4/97	3/15/97
FILE NAME		K/L7BQ010	K7BZ015	K/L7BI008	K/L7BI009	K/L7CC015	K/L7CC017	K/L7CN012
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	+	6.13	4.25	4.16	4.18	4.10	5.77	3.92
PROPYLENE	+	1.73	1.34	1.51	1.51	1.35	1.41	1.29
CHLOROMETHANE	+	0.56	0.52	0.46	0.47	0.47	0.60	0.59
VINYL CHLORIDE	+	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	+	0.16 U	0.14 U	0.15 U	0.15 U	0.13 U	0.13 U	0.20 U
BROMOMETHANE	+	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	+	0.09 U	0.10 U	0.13 U	0.12 U	0.10 U	0.07 U	0.04 U
trans - 1,2 - DICHLOROETHYLENE	+	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	+	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	+	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	+	ND	ND	ND	ND	0.01 U	ND	ND
1,2 - DICHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	+	0.13 U	ND	0.10 U	0.09 U	0.09 U	0.09 U	0.07 U
BENZENE	+	1.23	1.17	1.17	1.15	1.02	1.18	0.87
CARBON TETRACHLORIDE	+	0.09	0.06	0.07	0.05 U	0.04 U	0.08	0.07
1,2 - DICHLOROPROPANE	+	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	+	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	+	0.07 U	ND	0.02 U	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	+	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	+	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
TOLUENE	+	1.64	2.15	2.34	2.42	2.30	2.02	1.17
DIBROMOCHLOROMETHANE	+	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	+	0.13	0.08	0.08 U	0.12	0.10	0.09	ND
TETRACHLOROETHYLENE	+	0.24	ND	0.03 U	0.02 U	0.02 U	0.02 U	0.01 U
CHLOROBENZENE	+	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	+	0.48	0.37	0.35	0.37	0.37	0.34	0.24
m,p - XYLENE	+	1.59	1.12	1.08	1.14	1.13	1.10	0.72
BROMOFORM	+	ND	ND	ND	ND	ND	ND	ND
STYRENE	+	0.18	0.06	0.06 U	0.06 U	0.05 U	0.05 U	0.04 U
1,1,2,2 - TETRACHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	+	0.62	0.52	0.51	0.05	0.54	0.47	0.32
m - DICHLOROBENZENE	+	0.04 U	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	+	0.10 U	ND	ND	ND	ND	0.03 U	ND
o - DICHLOROBENZENE	+	0.05 U	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
I = Lost by Laboratory
+ = Canister [illegible] Leak

Table F-6. VOC Concentrations (p[illegible]v) Measured at El Paso, TX (EPTX)

SAMPLE SITE #	EPTX 9084		EPTX 9120		EPTX 9135		EPTX 9159		EPTX 9219		EPTX 9249		EPTX 9298		EPTX 9345	
SAMPLE DATE	2/27/97		3/5/97		3/11/97		3/17/97		3/29/97		4/10/97		4/22/97		5/4/97	
ANALYSIS DATE	3/15/97		3/17/97		3/20/97		4/8/97		4/8/97		4/22/97		4/29/97		5/8/97	
FILE NAME	K/L7CN013		K/LCQ018		K/LCT007		K/LDH005/4		K/LDH019/18		K/LDV009		L7D#011		L7EH008	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	7.38		3.09		8.68		3.72		3.78		3.56		3.73		2.77	
PROPYLENE	1.80		1.28		2.84		1.29		1.15		1.11		1.31		1.00	
CHLOROMETHANE	0.53		0.60		0.72		0.62		0.62		0.57		0.61		0.69	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.20	U	0.19	U	0.40		0.17	U	0.10	U	0.12	U	0.14	U	0.09	U
BROMOMETHANE	ND		0.02	U	ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.11	U	0.10	U	0.18		0.02	U	ND		0.04	U	0.03	U	0.06	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.08	U	0.09	U	0.10	U	0.08	U	0.08	U	0.09	U	0.08	U	0.08	U
BENZENE	1.39		0.92		2.66		1.02		1.13		1.08		1.26		1.06	
CARBON TETRACHLORIDE	0.07		0.06		0.09		0.08		0.09		0.08		0.08		0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	0.03	U	ND		0.05	U	ND		ND		0.03	U	ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	2.40		1.38		5.53		1.96		1.95		2.36		2.37		1.82	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.06	U	0.06	U	0.16		ND		0.06	U	0.07	U	0.07	U	0.04	U
TETRACHLOROETHYLENE	0.02	U	0.01	U	0.06	U	ND		ND		0.02	U	0.01	U	ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.47		0.23		0.88		0.29		0.35		0.29		0.33		0.27	
m,p - XYLENE	1.34		0.72		2.62		0.93		1.07		0.88		1.10		0.88	
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	0.08	U	0.02	U	0.15		0.04	U	0.05	U	0.05	U	ND		ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.58		0.33		1.26		0.44		0.49		0.46		0.53		0.41	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		0.14		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

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ND = Not Detected
* = Vacuum Criteria Exceeded
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Table F-6. VOC Concentrations (ppbv) Measured at El Paso, TX (EPTX)

SAMPLE SITE #	EPTX 9400D1		EPTX 9400R1		EPTX 9403D2		EPTX 9403R2		EPTX 9422		EPTX 9489		EPTX 9585		EPTX 9829	
SAMPLE DATE	5/16/97		5/16/97		5/16/97		5/16/97		5/28/97		6/9/97		6/21/97		7/3/97	
ANALYSIS DATE	5/22/97		5/23/97		5/22/97		5/23/97		6/4/97		6/13/97		6/21/97		7/9/97	
FILE NAME	L7EV005		L7EW005		L7EV006		L7EW004		L7FD005		L7FL012		L7FY019		L7GI014	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	3.13		2.88		2.96		3.13		3.37		8.59		2.76		3.03	
PROPYLENE	1.31		1.20		1.22		1.21		1.19		2.46		0.94		1.16	
CHLOROMETHANE	0.58		0.61		0.68		0.61		0.57		1.54		0.58		0.68	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.09	U	0.10	U	ND		0.11	U	0.08	U	0.04	U	ND		0.09	
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.04	U	0.03	U	0.05	U	0.05	U	0.11	U	0.14		ND		0.07	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.09	U	0.07	U	0.11	U	0.09	U	0.08	U	0.08		0.08		0.08	
BENZENE	1.28		1.19		1.23		1.34		1.43		0.64		0.86		1.16	
CARBON TETRACHLORIDE	0.07		0.08		0.10		0.08		0.08		0.07		0.07		0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	2.14		2.23		2.29		2.40		2.68		0.88		1.52		2.55	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.07	U	0.05	U	ND		ND		0.06	U	0.13	U	0.06	U	0.10	U
TETRACHLOROETHYLENE	ND		ND		0.01	U	0.05	U	0.04	U	ND		ND		0.02	U
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.36		0.34		0.35		0.36		0.40		0.18		0.25		0.30	
m,p - XYLENE	1.11		1.09		1.17		1.15		1.20		0.37		0.80		0.93	
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	ND		0.05	U	0.07	U	ND		0.04	U	0.11		ND		ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.49		0.48		0.53		0.54		0.57		0.20		0.35		0.44	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
I = Lost by Laboratory
+ = Canister [illegible] a Leak

Table F-6. VOC Concentrations (ppbv) Measured at El Paso, TX (EPTX)

SAMPLE SITE #	EPTX 10062		EPTX 10373		EPTX 10674		EPTX 10868		EPTX 11050	
SAMPLE DATE	7/15/97		7/27/97		8/8/97		8/29/97		9/1/97	
ANALYSIS DATE	8/2/97		8/7/97		8/8/97		9/12/97		9/13/97	
FILE NAME	L7HA011		L7HF019		L7HI016		L7IL013		L7IL024	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	1.63		2.06		2.67		4.39		1.55	
PROPYLENE	1.45		0.75		1.03		1.81		0.75	
CHLOROMETHANE	0.74		0.58		0.96		0.95		0.65	
VINYL CHLORIDE	ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.08	U	ND		0.22		0.19		ND	
BROMOMETHANE	ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	ND		ND		0.04	U	0.11		ND	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.07		0.08		0.07		0.07		0.06	
BENZENE	1.13		0.67		1.69		1.49		0.58	
CARBON TETRACHLORIDE	0.06		0.06		0.08		0.07		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		0.03	U	ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND	
TOLUENE	2.15		1.26		3.25		3.33		1.23	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND	
N-OCTANE	0.08	U	0.04	U	0.12	U	0.15	U	0.06	U
TETRACHLOROETHYLENE	ND		ND		ND		0.03	U	ND	
CHLOROBENZENE	ND		ND		ND		ND		ND	
ETHYLBENZENE	0.38		0.21		0.46		0.51		0.19	
m,p - XYLENE	1.11		0.64		1.30		1.50		0.54	
BROMOFORM	ND		ND		ND		ND		ND	
STYRENE	ND		ND		0.06	U	0.10		0.04	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND	
o - XYLENE	0.53		0.30		0.69		0.70		0.25	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		0.08	U	0.02	U
o - DICHLOROBENZENE	ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, but Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
I = Lost by Laboratory
+ = Canister Inlet Valve Leak

Table F-7. VOC Concentrations (ppbv) Measured at Garyville, LA (GALA)

SAMPLE SITE #	GALA 7990D1		GALA 7990R1		GALA 7991D2		GALA 7991R2		GALA 8236		GALA 8479		GALA 8566		GALA 8622	
SAMPLE DATE	8/31/96		8/31/96		8/31/96		8/31/96		9/12/96		9/24/96		10/6/96		10/18/96	
ANALYSIS DATE	9/22/96		9/23/96		9/22/96		9/23/96		9/25/96		10/10/96		10/30/96		11/14/96	
FILE NAME	K/L6IV004		K/L6IW006		K/L6IV005		K/L6IW007		K/L6IY011		K/L6JJ010		K/L6J$011		K/L6KN006	
UNITS	ppbV		ppbV		ppbV		ppbV		ppbV		ppbV		ppbV		ppbV	
ACETYLENE	0.67		0.57		0.63		0.64		1.03		1.69		0.92		1.26	
PROPYLENE	0.33		0.30		0.33		0.33		0.62		1.62		0.95		0.22	
CHLOROMETHANE	0.80		0.83		0.82		0.77		0.77		0.69		0.71		0.73	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		ND		ND		ND		0.02	U	0.12	U	ND		ND	
BROMOMETHANE	ND		ND		ND		ND		0.03	U	ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.05	U	0.07	U	0.05	U	0.07	U	0.08	U	0.07	U	0.06	U	0.03	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		0.14		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		0.03	U	ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.11	U	0.22		0.11	U	0.18		ND		0.13	U	0.15		0.10	U
BENZENE	0.22		0.25		0.22		0.25		0.55		0.78		0.19		0.22	
CARBON TETRACHLORIDE	0.08		0.10		0.08		0.08		ND		0.10		0.09		0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		0.02	U	ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	0.33		0.29		0.33		0.29		0.76		1.22		0.19		0.26	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	ND		0.02	U	0.02	U	0.02	U	ND		0.05	U	0.01	U	0.02	U
TETRACHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.05	U	0.05	U	0.05	U	0.05	U	0.28		0.32		0.07	U	0.06	U
m,p - XYLENE	0.16	U	0.15	U	0.15	U	0.14	U	0.39		1.09		0.22	U	0.24	U
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	0.29		0.29		0.21		0.29		0.50		0.43		0.03	U	0.04	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.06	U	0.06	U	0.06	U	0.05	U	0.14		0.21		0.06	U	0.09	U
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		0.01	U
p - DICHLOROBENZENE	ND		ND		ND		ND		0.05	U	0.07	U	ND		0.02	U
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		0.01	U

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Table F-7. VOC Concentrations (ppbv) Measured at Garyville, LA (GALA)

SAMPLE SITE #	GALA 8669D1		GALA 8669R1		GALA 8670D2		GALA 8670R2		GALA 8693		GALA 8764		GALA 8815D1	GALA 8817D2
SAMPLE DATE	10/30/96		10/30/96		10/30/96		10/30/96		11/11/96		11/23/96		12/5/96	12/5/96
ANALYSIS DATE	11/14/96		11/19/96		11/14/96		11/19/96		12/4/96		12/5/96			
FILE NAME	K/L6KN015		K/L6KS008		K/L6KN014		K/L6KS009		K/L6LD007		K/L6LE011			
UNITS	ppbV		ppbV		ppbV		ppbV		ppbV		ppbV		ppbv	ppbv
ACETYLENE	2.85		2.87		3.11		3.08		3.93		2.83		#	#
PROPYLENE	0.69		0.73		0.68		0.70		1.61		0.99		#	#
CHLOROMETHANE	0.83		0.96		0.85		0.94		0.52		0.65		#	#
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		#	#
1,3-BUTADIENE	0.03	U	0.06	U	0.03	U	0.05	U	0.74		1.13		#	#
BROMOMETHANE	ND		ND		0.02	U	0.02	U	ND		ND		#	#
CHLOROETHANE	ND		ND		ND		ND		ND		ND		#	#
METHYLENE CHLORIDE	0.06	U	0.06	U	0.07	U	0.07	U	0.09	U	0.13	U	#	#
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		#	#
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		#	#
CHLOROPRENE	ND		ND		ND		ND		5.12		1.43		#	#
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		#	#
CHLOROFORM	0.05	U	0.05	U	ND		ND		0.04	U	0.07	U	#	#
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		#	#
1,1,1 - TRICHLOROETHANE	0.12	U	0.17		0.12	U	0.15		0.27		0.36		#	#
BENZENE	0.46		0.51		0.44		0.48		0.95		0.73		#	#
CARBON TETRACHLORIDE	0.09		0.10		0.09		0.10		0.09		0.08		#	#
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		#	#
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		#	#
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		0.08	U	#	#
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		#	#
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		#	#
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		#	#
TOLUENE	1.48		1.63		1.45		1.60		1.62		2.38		#	#
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		#	#
N-OCTANE	0.04	U	0.05	U	0.04	U	0.06	U	0.17		0.22		#	#
TETRACHLOROETHYLENE	0.01	U	0.01	U	ND		0.01	U	0.02	U	0.37		#	#
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		#	#
ETHYLBENZENE	0.18		0.23		0.18		0.22		0.29		0.28		#	#
m,p - XYLENE	0.70		0.86		0.71		0.84		0.87		0.66		#	#
BROMOFORM	ND		ND		ND		ND		ND		ND		#	#
STYRENE	0.06	U	0.23		0.06	U	0.19		0.06	U	0.14		#	#
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		#	#
o - XYLENE	0.27		0.31		0.26		0.32		0.43		0.33		#	#
m - DICHLOROBENZENE	ND		ND		0.01	U	ND		0.01	U	ND		#	#
p - DICHLOROBENZENE	0.02	U	0.02	U	0.03	U	0.03	U	0.06	U	0.04	U	#	#
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		#	#

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Table F-7. VOC Concentrations (ppbv) Measured at Garyville, LA (GALA)

SAMPLE SITE #	GALA 8819	GALA 8848	GALA 8880	GALA 8928	GALA 9034D1	GALA 9034R1	GALA 9036D2	GALA 9036R2
SAMPLE DATE	12/11/96	12/17/96	12/29/96	1/21/97	2/9/97	2/9/97	2/9/97	2/9/97
ANALYSIS DATE		1/24/97	2/3/97	2/19/97	3/4/97	3/5/97	3/4/97	3/5/97
FILE NAME		K/L7AX009	K/L7BC012	K/L7BQ015	K/L7CD005	K/L7CF008	K/L7CD008	K/L7CF009
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	*	1.12	0.81	0.51	1.15	1.01	1.11	0.99
PROPYLENE	*	0.53	0.88	ND	0.22	0.03 U	0.15 U	0.27
CHLOROMETHANE	*	0.52	0.66	0.51	0.49	0.60	0.48	0.62
VINYL CHLORIDE	*	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	*	ND	ND	0.20 U	ND	ND	ND	ND
BROMOMETHANE	*	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	*	ND	ND	ND	ND	0.03 U	ND	0.04 U
trans - 1,2 - DICHLOROETHYLENE	*	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	*	ND	0.09 U	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	*	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	*	ND	ND	ND	ND	ND	0.02 U	0.02 U
1,2 - DICHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	*	0.07 U	0.08 U	0.12 U	0.08 U	0.10 U	0.09 U	0.08 U
BENZENE	*	0.48	0.41	0.37	0.37	0.31	0.32	0.28
CARBON TETRACHLORIDE	*	0.09	0.07	0.12	ND	0.10	0.08	0.09
1,2 - DICHLOROPROPANE	*	ND	ND	ND	0.08	ND	ND	ND
BROMODICHLOROMETHANE	*	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	*	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	*	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	*	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
TOLUENE	*	0.52	0.45	0.19	0.28	0.29	0.28	0.25
DIBROMOCHLOROMETHANE	*	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	*	0.03 U	0.10	0.03 U	ND	0.01 U	0.02 U	ND
TETRACHLOROETHYLENE	*	ND	ND	ND	ND	ND	ND	ND
CHLOROBENZENE	*	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	*	0.09 U	0.10 U	0.06 U	0.04 U	0.04 U	0.04 U	0.04 U
m,p - XYLENE	*	0.21 U	0.30 U	0.16 U	0.10 U	0.09 U	0.10 U	0.10 U
BROMOFORM	*	ND	ND	ND	ND	ND	ND	ND
STYRENE	*	ND	0.07 U	0.07 U	ND	ND	ND	ND
1,1,2,2 - TETRACHLOROETHANE	*	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	*	0.11 U	0.12 U	0.07 U	0.05 U	0.04 U	0.06 U	0.04 U
m - DICHLOROBENZENE	*	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	*	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	*	ND	ND	ND	ND	ND	ND	ND

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Table F-7. VOC Concentrations (ppbv) Measured at Garyville, LA (GALA)

SAMPLE SITE #	GALA 9060		GALA 9090		GALA 9112		GALA 9127		GALA 9151		GALA 9181		GALA 9187		GALA 9227
SAMPLE DATE	2/15/97		2/21/97		2/27/97		3/5/97		3/11/97		3/17/97		3/23/97		3/29/97
ANALYSIS DATE	3/14/97		3/15/97		3/15/97		3/17/97		3/20/97		4/4/97		4/8/97		
FILE NAME	K/LCN008		K/L7CO006		K/L7CO006		K/LCQ014		K/LCT011		K/LDD014		K/LDH007/6		
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv
ACETYLENE	1.81		0.61		0.83		0.52		0.90		2.37		1.43		#
PROPYLENE	0.40		0.20		0.35		0.22		0.39		1.96		0.55		#
CHLOROMETHANE	0.48		0.70		0.60		0.64		0.78		0.57		0.51		#
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		#
1,3-BUTADIENE	0.04	U	ND		0.03	U	ND		0.02	U	0.18	U	0.08	U	#
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		#
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		#
METHYLENE CHLORIDE	0.04	U	0.03	U	0.03	U	0.03	U	0.07	U	0.07	U	ND		#
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		#
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		#
CHLOROPRENE	ND		ND		ND		ND		ND		5.18		ND		#
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		#
CHLOROFORM	ND		ND		ND		ND		0.03	U	ND		ND		#
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		#
1,1,1 - TRICHLOROETHANE	0.08	U	0.09	U	0.08	U	0.14	U	0.17		0.11	U	0.10	U	#
BENZENE	0.39		0.22		0.33		0.28		0.48		1.54		0.57		#
CARBON TETRACHLORIDE	0.05	U	0.09		0.09		0.09		0.09		0.08		0.08		#
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		#
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		#
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		#
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		#
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		#
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		#
TOLUENE	0.46		0.19		0.29		0.26		0.66		2.03		0.75		#
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		#
N-OCTANE	0.04	U	ND		ND		ND		0.04	U	0.28		0.04	U	#
TETRACHLOROETHYLENE	ND		ND		0.05	U	0.03	U	0.10		0.04	U	0.01	U	#
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		#
ETHYLBENZENE	0.09	U	0.03	U	0.04	U	0.04	U	0.80		0.29		0.11	U	#
m,p - XYLENE	0.24	U	0.07	U	0.09	U	0.10	U	0.24	U	0.80		0.31	U	#
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		#
STYRENE	ND		ND		ND		ND		ND		0.04	U	ND		#
1,1,2,2 - TETRACHLOROETHANE	ND		ND		0.05	U	ND		ND		ND		ND		#
o - XYLENE	0.11	U	0.04	U	0.04	U	0.05	U	0.11	U	0.36		0.14		#
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		#
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		#
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		#

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Table F-7. VOC Concentrations (ppbv) Measured at Garyville, LA (GALA)

SAMPLE SITE #	GALA 9239		GALA 9266		GALA 9295		GALA 9236		GALA 9390		GALA 9435		GALA 9497		GALA 9567	
SAMPLE DATE	4/4/97		4/10/97		4/16/97		4/28/97		5/10/97		5/22/97		6/9/97		6/15/97	
ANALYSIS DATE	4/22/97		4/23/97		4/29/97		5/8/97		5/21/97		6/4/97		6/25/97		6/26/97	
FILE NAME	K/LDV006		K/LDV017		L7D#004		L7EH006		L7EU008		L7FD009		L7FY008		L7FY017	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	0.47		1.01		1.02		0.71		0.91		0.55		1.09		0.51	
PROPYLENE	0.44		1.07		0.37		0.30		0.31		0.30		1.62		0.35	
CHLOROMETHANE	0.62		0.55		0.57		0.44		0.56		0.61		0.58		1.12	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		0.10	U	ND		0.01	U	ND		0.06	U	0.12		ND	
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.03	U	0.05	U	0.07	U	0.03	U	0.01	U	0.04	U	0.14		0.06	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		1.43		ND		ND		ND		0.44		0.68		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.09	U	0.11	U	0.11	U	0.08	U	0.13	U	0.14	U	0.19		0.16	
BENZENE	0.28		0.48		0.48		0.34		0.39		0.47		0.49		0.48	
CARBON TETRACHLORIDE	0.09		0.09		0.09		0.07		0.09		0.09		0.08		0.08	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		0.01	U	ND		ND		ND		ND		0.03	U	0.02	U
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	0.19		0.65		0.97		0.25		0.44		0.40		1.32		0.92	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	ND		0.15		0.04	U	0.07	U	ND		0.04	U	0.12	U	0.04	U
TETRACHLOROETHYLENE	ND		0.15		ND		ND		ND		ND		0.22		0.32	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.03	U	0.08	U	0.26		0.05	U	0.08	U	0.06	U	0.12		0.08	U
m,p - XYLENE	0.09	U	0.24	U	0.33	U	0.10	U	0.25	U	0.15	U	0.33		0.23	
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	ND		0.02	U	ND		ND		ND		ND		0.05	U	ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.04	U	0.12	U	0.15		0.05	U	0.11	U	0.07	U	0.15		0.10	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		0.23		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

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Table F-7. VOC Concentrations (ppbv) Measured at Garyville, LA (GALA)

SAMPLE SITE #	GALA 9706	GALA 9969	GALA 10296	GALA 10656	GALA 10856	GALA 11036
SAMPLE DATE	6/27/97	7/9/97	7/21/97	8/2/97	8/20/97	8/26/97
ANALYSIS DATE	7/9/97	8/6/97		8/29/97	9/12/97	9/13/97
FILE NAME	L7GI006			L7HI007	L7IL009	L7IL018
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.67	0.90	*	0.26	0.57	0.81
PROPYLENE	0.42	0.71	*	0.15	0.39	1.02
CHLOROMETHANE	0.53	0.73	*	0.78	0.71	0.86
VINYL CHLORIDE	ND	ND	*	ND	ND	ND
1,3-BUTADIENE	ND	0.01 U	*	ND	ND	0.09
BROMOMETHANE	ND	ND	*	ND	ND	ND
CHLOROETHANE	ND	ND	*	ND	ND	ND
METHYLENE CHLORIDE	0.04 U	ND	*	ND	ND	0.04 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	*	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	*	ND	ND	ND
CHLOROPRENE	ND	ND	*	ND	ND	0.42
BROMOCHLOROMETHANE	ND	ND	*	ND	ND	ND
CHLOROFORM	ND	ND	*	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	*	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.11	0.11	*	0.08	0.06	0.07
BENZENE	0.50	0.45	*	0.29	0.38	0.50
CARBON TETRACHLORIDE	0.10	0.08	*	0.08	0.07	0.06
1,2 - DICHLOROPROPANE	ND	ND	*	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	*	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	*	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	*	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	*	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	*	ND	ND	ND
TOLUENE	0.97	0.67	*	0.40	0.44	0.75
DIBROMOCHLOROMETHANE	ND	ND	*	ND	ND	ND
N-OCTANE	0.07 U	0.04 U	*	ND	0.03 U	0.07 U
TETRACHLOROETHYLENE	0.03 U	ND	*	ND	ND	ND
CHLOROBENZENE	ND	ND	*	ND	ND	ND
ETHYLBENZENE	0.11 U	0.12	*	0.04 U	0.25	0.14
m,p - XYLENE	0.31	0.33	*	0.11 U	0.23	0.37
BROMOFORM	ND	ND	*	ND	ND	ND
STYRENE	ND	ND	*	ND	ND	0.07 U
1,1,2,2 - TETRACHLOROETHANE	ND	ND	*	ND	ND	ND
o - XYLENE	0.16	0.15	*	0.05 U	0.11	0.18
m - DICHLOROBENZENE	ND	ND	*	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	*	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	*	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
# = Sample Voided in Field
* = Vacuum Criteria Exceeded

Table F-8. VOC Concentrations (ppbv) Measured at Galveston, TX (GATX)

SAMPLE SITE #	GATX 8158		GATX 8355		GATX 8513		GATX 8586		GATX 8626D1		GATX 8626R1		GATX 8628D2		GATX 8628R2	
SAMPLE DATE	9/6/96		9/18/96		9/30/96		10/12/96		10/24/96		10/24/96		10/24/96		10/24/96	
ANALYSIS DATE	9/24/96		10/7/96		10/14/96		10/31/96		11/11/96		11/12/96		11/11/96		11/12/96	
FILE NAME	K/L6IX017		K/L6JG007		K/L6JN011		K/L6J%012		K/L6KK005		K/L6KL005		K/L6KK004		K/L6KL004	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	3.89		0.86		0.89		1.92		2.31		2.27		2.89		2.71	
PROPYLENE	1.72		1.76		1.95		0.42		2.62		2.85		2.83		2.96	
CHLOROMETHANE	0.89		0.83		0.55		0.65		0.73		0.78		1.19		1.14	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		ND		0.15	U	0.01	U	0.04	U	0.04	U	0.05	U	0.03	U
BROMOMETHANE	0.11	U	0.06	U	0.09	U	0.06	U	ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.24		0.10	U	0.08	U	0.08	U	0.11	U	0.10	U	0.14	U	0.15	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	0.06	U	0.05	U	0.08	U	0.07	U	ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.16		0.14	U	0.16		0.11	U	0.13	U	0.42		0.15		0.29	
BENZENE	1.16		0.55		0.35		0.48		0.60		0.54		0.59		0.52	
CARBON TETRACHLORIDE	0.10		0.08		0.10		0.09		0.09		0.08		0.09		0.10	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	0.02	U	0.02	U	ND		ND		0.01	U	ND		0.01	U	ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	2.22		1.51		1.33		1.17		1.12		1.22		1.08		1.18	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	14.58		0.19		0.17		0.10		0.13		0.15		0.14		0.15	
TETRACHLOROETHYLENE	0.06	U	0.02	U	ND		0.01	U	0.03	U	ND		0.02	U	0.03	U
CHLOROBENZENE	ND		ND		ND		0.02	U	ND		ND		0.02	U	ND	
ETHYLBENZENE	0.37		0.28		0.18		0.37		0.23		0.24		0.23		0.24	
m,p - XYLENE	0.97		0.62		0.31	U	0.53		0.54		0.57		0.52		0.58	
BROMOFORM	0.29		0.24		0.22		0.20		ND		ND		ND		ND	
STYRENE	2.71		2.79		2.43		0.44		0.22		0.25		0.22		0.25	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		0.01	U	ND	
o - XYLENE	0.33		0.25		0.18		0.28		0.25		0.26		0.25		0.28	
m - DICHLOROBENZENE	ND		0.01	U	ND		0.01	U	0.01	U	ND		0.02	U	0.02	U
p - DICHLOROBENZENE	0.05	U	0.05	U	ND		0.02	U	0.01	U	0.02	U	0.02	U	0.03	U
o - DICHLOROBENZENE	ND		0.01	U	ND		0.01	U	0.01	U	ND		0.02	U	0.02	U

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criterion Exceeded

Table F-8. VOC Concentrations (ppb Measured at Galveston, TX (GATX)

SAMPLE SITE #	GATX 8671		GATX 8724		GATX 8754		GATX 8825D1		GATX 8825R1		GATX 8827D2		GATX 8827R2		GATX 8856	
SAMPLE DATE	11/5/96		11/17/96		11/29/96		12/11/96		12/11/96		12/11/96		12/11/96		12/23/96	
ANALYSIS DATE	11/26/96		12/4/96		12/5/96		12/26/96		1/24/97		12/26/96		1/24/97		1/24/97	
FILE NAME	K/L6KZ009		K/L6LD010		K/L6LE014		K/L6LZ008		K/L7AX005		K/L6LZ009		K/L7AX006		K/L7AX015	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	2.55		2.08		2.66		2.97		1.96		3.33		1.91		0.83	
PROPYLENE	5.29		3.20		4.50		10.28		9.61		9.85		10.44		7.17	
CHLOROMETHANE	1.13		1.16		1.06		0.93		0.88		0.75		0.73		1.06	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		0.11	U	0.33		0.22	U	0.17	U	0.19	U	0.19	U	0.04	U
BROMOMETHANE	ND		0.07	U	ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.13	U	0.12	U	0.15		0.08	U	0.45		0.06	U	0.65		0.05	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		0.02	U	ND		0.03	U	0.02	U	ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.12	U	0.11	U	0.12	U	0.10	U	0.10	U	0.10	U	0.09	U	0.08	U
BENZENE	0.94		2.53		2.39		2.79		3.52		2.87		3.17		1.54	
CARBON TETRACHLORIDE	0.09		0.09		0.09		0.08		0.07		0.09		0.09		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	0.03	U	0.01	U	ND		0.01	U	ND		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	1.60		1.39		2.14		4.18		4.74		4.20		3.76		1.28	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	44.55		0.27		0.17		0.32		0.38		0.29		0.31		0.23	
TETRACHLOROETHYLENE	0.17		0.01	U	0.02	U	0.02	U	ND		0.02	U	ND		ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.34		0.34		0.45		0.31		0.37		0.29		0.30		0.61	
m,p - XYLENE	1.04		0.89		1.53		0.78		0.98		0.77		0.86		2.60	
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	0.25		0.24		0.26		0.14		0.15		0.12		0.10		0.15	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.48		0.40		0.56		0.32		0.36		0.32		0.33		0.82	
m - DICHLOROBENZENE	ND		ND		ND		0.01	U	ND		ND		ND		ND	
p - DICHLOROBENZENE	0.02	U	0.02	U	0.02	U	0.02	U	0.04	U	0.01	U	ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		0.01	U	ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criterian Exceeded

Table F-8. VOC Concentrations (ppbv) Measured at Galveston, TX (GATX)

SAMPLE SITE #	GATX 8888		GATX 8916		GATX 8997	GATX 8999	GATX 9027		GATX 9063		GATX 9118		GATX 9139	
SAMPLE DATE	1/4/97		1/16/97		1/28/97	1/28/97	2/9/97		2/15/97		3/5/97		3/11/97	
ANALYSIS DATE	2/4/97		2/19/97				3/4/97		3/15/97		3/17/97		3/20/97	
FILE NAME	K/L7BD005		K/L7BQ012				K/L7CD006		K/LCN010		K/LCQ016		K/LCT004	
UNITS	ppbv		ppbv		ppbv	ppbv	ppbv		ppbv		ppbv		ppbv	
ACETYLENE	0.89		1.41		*	*	1.22		1.50		0.97		1.07	
PROPYLENE	0.13	U	1.18		*	*	0.93		3.90		3.20		2.22	
CHLOROMETHANE	0.46		0.51		*	*	0.66		0.80		0.83		0.76	
VINYL CHLORIDE	ND		ND		*	*	ND		0.18	U	ND		ND	
1,3-BUTADIENE	ND		ND		*	*	ND		0.17	U	0.08	U	0.08	U
BROMOMETHANE	ND		ND		*	*	ND		ND		ND		ND	
CHLOROETHANE	ND		ND		*	*	ND		ND		ND		ND	
METHYLENE CHLORIDE	0.02	U	0.14	U	*	*	0.05	U	0.10	U	0.07	U	0.06	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		*	*	ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		*	*	ND		ND		ND		ND	
CHLOROPRENE	ND		ND		*	*	ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		*	*	ND		ND		ND		ND	
CHLOROFORM	ND		ND		*	*	0.02	U	0.10	U	ND		ND	
1,2 - DICHLOROETHANE	ND		ND		*	*	ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.10	U	0.12	U	*	*	0.10	U	0.09	U	0.09	U	0.09	U
BENZENE	0.32		0.57		*	*	0.45		0.55		1.67		1.31	
CARBON TETRACHLORIDE	0.10		0.12		*	*	0.09		0.09		0.09		0.08	
1,2 - DICHLOROPROPANE	ND		ND		*	*	ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		*	*	ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		*	*	ND		0.13	U	ND		0.02	U
cis - 1,3 - DICHLOROPROPENE	ND		ND		*	*	ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		*	*	ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		*	*	ND		ND		ND		ND	
TOLUENE	0.33		1.25		*	*	0.64		1.25		1.81		1.28	
DIBROMOCHLOROMETHANE	ND		ND		*	*	ND		ND		ND		ND	
N-OCTANE	ND		0.11		*	*	0.06	U	0.09		0.19		0.17	
TETRACHLOROETHYLENE	ND		0.04	U	*	*	ND		0.21		0.03	U	ND	
CHLOROBENZENE	ND		ND		*	*	ND		ND		ND		ND	
ETHYLBENZENE	ND		0.14		*	*	0.06	U	0.16		0.28		0.23	
m,p - XYLENE	0.17	U	0.27	U	*	*	0.13	U	0.30	U	1.01		0.52	
BROMOFORM	ND		ND		*	*	ND		ND		ND		ND	
STYRENE	ND		0.07	U	*	*	0.03	U	0.10		0.09		0.16	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		*	*	ND		ND		ND		ND	
o - XYLENE	0.07	U	0.13	U	*	*	0.11	U	0.16		0.34		0.23	
m - DICHLOROBENZENE	ND		ND		*	*	ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		*	*	ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		*	*	ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criterian Exceeded

Table F-8. VOC Concentrations (ppb) Measured at Galveston, TX (GATX)

SAMPLE SITE #	GATX 9161D1		GATX 9161R1		GATX 9163R2		GATX 9163D2		GATX 9207		GATX 9252		GATX 9290		GATX 9342	
SAMPLE DATE	3/17/97		3/17/97		3/17/97		3/17/97		3/29/97		4/10/97		4/22/97		5/4/97	
ANALYSIS DATE	3/28/97		4/4/97		4/4/97		3/28/97		4/8/97		4/23/97		5/1/97		5/9/97	
FILE NAME	K/LC~011		K/LDD017		K/LDD018		K/L~012		K/LDH017/16		K/LDV013		L7EA013		L7EI004	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	1.41		1.36		1.35		1.55		0.98		0.87		0.67		0.62	
PROPYLENE	3.94		3.19		3.59		3.91		5.53		0.68		1.37		1.26	
CHLOROMETHANE	0.66		0.47		0.71		0.86		0.85		0.81		0.66		0.92	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		0.29		ND	
1,3-BUTADIENE	0.14	U	0.10	U	0.09	U	0.11	U	0.17	U	0.12	U	ND		ND	
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.10	U	0.08	U	0.10	U	0.10	U	0.06	U	0.07	U	0.04	U	ND	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	0.13	U	ND		ND		0.15	U	ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.16		0.14		0.16		0.19		0.11	U	0.10	U	0.07	U	0.09	U
BENZENE	1.07		0.94		0.95		1.04		0.99		0.49		0.21		0.50	
CARBON TETRACHLORIDE	0.10		0.08		0.09		0.10		0.10		0.08		0.07		0.08	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		0.01	U	ND		0.05	U	0.01	U	ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	2.22		1.87		1.94		2.39		ND		1.17		0.59		0.59	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.88		0.74		0.84		0.95		0.18		0.09		0.05	U	0.28	
TETRACHLOROETHYLENE	2.34		1.96		2.60		3.20		0.02	U	0.02	U	0.04	U	ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.40		0.34		0.34		0.38		0.25		0.43		0.07	U	0.07	U
m,p - XYLENE	1.03		0.84		0.83		0.90		0.55		0.30	U	0.10	U	0.18	U
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	0.32		0.22		0.20		0.23		0.16		0.19		0.06	U	ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.49		0.39		0.38		0.44		0.30		0.26		0.09	U	0.07	U
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criterian Exceeded

Table F-8. VOC Concentrations (ppbv) Measured at Galveston, TX (GATX)

SAMPLE SITE #	GATX 9397	GATX 9427	GATX 9474	GATX 9582	GATX 9826	GATX 10035	GATX 10309	GATX 10575
SAMPLE DATE	5/15/97	5/28/97	6/9/97	6/21/97	7/3/97	7/15/97	7/27/97	8/8/97
ANALYSIS DATE	5/22/97	6/4/97	6/25/97	6/26/97	7/10/97	8/2/97	8/7/97	9/2/97
FILE NAME	L7EV007	L7FD007	L7FY004	L7FY018	L7GI013	L7HA010	L7HF017	L7IB008
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.78	1.86	8.89	0.58	1.60	1.39	0.70	0.84
PROPYLENE	1.06	4.47	2.46	6.97	2.59	1.36	1.75	4.42
CHLOROMETHANE	0.91	1.29	1.69	2.28	3.09	1.90	1.81	0.60
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	0.18 U	ND	0.05 U	ND	0.72	0.03 U	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.06 U	0.13 U	0.14	0.11	0.22	0.06 U	0.49	0.31
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	0.03 U	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.10 U	0.12 U	0.12	0.11	0.11	0.07	0.07	0.12
BENZENE	0.73	0.94	0.66	0.93	0.53	0.82	0.51	1.32
CARBON TETRACHLORIDE	0.10	0.15	0.10	0.10	0.11	0.07	0.05	0.10
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	1.32	1.49	0.95	0.99	2.28	0.98	1.30	1.64
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.08 U	0.17	0.12 U	0.16 U	0.11 U	0.10 U	0.13 U	0.24
TETRACHLOROETHYLENE	ND	0.06 U	ND	ND	0.37	ND	ND	0.09 U
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.27	0.36	0.16	0.26	0.19	0.32	0.22	0.20
m,p - XYLENE	0.41	0.75	0.32	0.76	0.34	0.54	0.43	0.43
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	0.24	0.25	0.11	0.13	0.15	0.13	0.19	0.10
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.23	0.32	0.17	0.29	0.18	0.29	0.26	0.20
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criterian Exceeded

Table F-8. VOC Concentrations (ppb) Measured at Galveston, TX (GATX)

SAMPLE SITE #	GATX 10870	
SAMPLE DATE	8/20/97	
ANALYSIS DATE	9/13/97	
FILE NAME	L7IL013	
UNITS	ppbv	
ACETYLENE	1.15	
PROPYLENE	2.60	
CHLOROMETHANE	1.16	
VINYL CHLORIDE	ND	
1,3-BUTADIENE	0.05	U
BROMOMETHANE	ND	
CHLOROETHANE	ND	
METHYLENE CHLORIDE	0.08	U
trans - 1,2 - DICHLOROETHYLENE	ND	
1,1 - DICHLOROETHANE	ND	
CHLOROPRENE	ND	
BROMOCHLOROMETHANE	ND	
CHLOROFORM	ND	
1,2 - DICHLOROETHANE	ND	
1,1,1 - TRICHLOROETHANE	0.11	
BENZENE	1.52	
CARBON TETRACHLORIDE	0.06	
1,2 - DICHLOROPROPANE	ND	
BROMODICHLOROMETHANE	ND	
TRICHLOROETHYLENE	ND	
cis - 1,3 - DICHLOROPROPENE	ND	
trans - 1,3 - DICHLOROPROPENE	ND	
1,1,2 - TRICHLOROETHANE	ND	
TOLUENE	2.45	
DIBROMOCHLOROMETHANE	ND	
N-OCTANE	0.15	U
TETRACHLOROETHYLENE	0.13	U
CHLOROBENZENE	ND	
ETHYLBENZENE	0.38	
m,p - XYLENE	0.68	
BROMOFORM	ND	
STYRENE	0.51	
1,1,2,2 - TETRACHLOROETHANE	ND	
o - XYLENE	0.38	
m - DICHLOROBENZENE	ND	
p - DICHLOROBENZENE	ND	
o - DICHLOROBENZENE	ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criterian Exceeded

Table F-9. VOC Concentrations (ppbv) Measured at Hahnville, LA (HALA)

SAMPLE SITE #	HALA 8045D1		HALA 8045R1		HALA 8046D2		HALA 8046R2		HALA 8227	HALA 8484		HALA 8582		HALA 8624	
SAMPLE DATE	8/31/96		8/31/96		8/31/96		8/31/96		9/13/96	9/26/96		10/6/96		10/18/96	
ANALYSIS DATE	9/22/96		9/23/96		9/22/96		9/24/96			10/14/96		10/30/96		11/14/96	
FILE NAME	K/L6IV006		K/L6IW008		K/L6IV007		K/L6IW009			K/L6JN008		K/L6J$009		K/L6KN007	
UNITS	ppbV		ppbV		ppbV		ppbV		ppbv	ppbV		ppbV		ppbV	
ACETYLENE	1.46		1.56		1.51		1.48		+	1.63		1.37		1.55	
PROPYLENE	1.45		1.56		1.42		1.42		+	0.69		3.35		2.71	
CHLOROMETHANE	0.71		0.85		0.77		0.71		+	0.69		0.76		0.61	
VINYL CHLORIDE	ND		ND		ND		ND		+	ND		ND		ND	
1,3-BUTADIENE	0.56		0.56		0.56		0.56		+	0.07	U	0.27	U	0.16	U
BROMOMETHANE	ND		ND		ND		ND		+	ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		+	ND		ND		ND	
METHYLENE CHLORIDE	0.10	U	0.08	U	0.07	U	0.05	U	+	0.08	U	0.06	U	0.03	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		+	ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		+	ND		ND		ND	
CHLOROPRENE	0.12	U	0.12	U	0.13	U	0.13	U	+	ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		+	ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		+	0.05	U	0.03	U	ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		+	ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.24		0.24		0.20		0.16		+	0.22		0.36		0.11	U
BENZENE	0.39		0.39		0.39		0.37		+	0.75		0.50		0.27	
CARBON TETRACHLORIDE	0.08		0.08		0.08		0.08		+	0.10		0.09		0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		+	ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		+	ND		ND		ND	
TRICHLOROETHYLENE	0.04	U	0.04	U	0.02	U	0.02	U	+	0.09	U	ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		+	ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		+	ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		+	ND		ND		ND	
TOLUENE	0.84		0.84		0.80		0.78		+	1.44		0.90		0.39	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		+	ND		ND		ND	
N-OCTANE	0.08	U	0.08	U	0.07	U	0.07	U	+	0.14		0.31		0.05	U
TETRACHLOROETHYLENE	0.05	U	0.05	U	0.03	U	0.03	U	+	0.02	U	0.54		0.01	U
CHLOROBENZENE	ND		ND		ND		ND		+	ND		0.01		ND	
ETHYLBENZENE	0.07	U	0.08	U	0.08	U	0.07	U	+	0.20		0.22		0.07	U
m,p - XYLENE	0.27	U	0.26	U	0.26	U	0.25	U	+	0.74		0.83		0.28	
BROMOFORM	ND		ND		ND		ND		+	ND		ND		ND	
STYRENE	0.29		0.29		0.21		0.29		+	0.57		0.13		0.02	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		+	ND		ND		ND	
o - XYLENE	0.09	U	0.10	U	0.09	U	0.09	U	+	0.24		0.26		0.09	U
m - DICHLOROBENZENE	ND		ND		ND		ND		+	ND		ND		ND	
p - DICHLOROBENZENE	0.05	U	0.05	U	0.02	U	0.02	U	+	0.02	U	ND		0.01	U
o - DICHLOROBENZENE	ND		ND		ND		ND		+	ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak

Table F-9. VOC Concentrations (pr) Measured at Hahnville, LA (HALA)

SAMPLE SITE #	HALA 8701	HALA 8760	HALA 8813	HALA 8852D1	HALA 8852R1	HALA 8854D2	HALA 8854R2	HALA 8878
SAMPLE DATE	11/11/96	11/23/96	12/5/96	12/17/96	12/17/96	12/17/96	12/17/96	12/29/96
ANALYSIS DATE	11/26/96	12/5/96	12/19/96	1/24/97	2/3/97	1/24/97	2/3/97	2/4/97
FILE NAME	K/L6KZ012	K/L6LE007	K/L6LS011	K/L7AX008	K/L7BC011	K/L7AX007	K/L7BC010	K/L7BC015
UNITS	ppbV	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	4.22	2.31	3.77	1.11	1.19	1.16	1.20	0.47
PROPYLENE	1.45	0.86	1.73	0.91	0.91	0.99	0.96	0.23
CHLOROMETHANE	0.57	0.58	0.62	0.52	0.55	0.49	0.59	0.61
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	0.01 U	0.10 U	0.17 U	0.13 U	0.14 U	0.17 U	ND
BROMOMETHANE	ND	0.05 U	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.21 U	0.09 U	0.13 U	0.04 U	0.04 U	0.02 U	0.03 U	0.05 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	0.20	0.20	0.22	0.27	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	0.03 U	ND	ND	0.02 U	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.11 U	0.12 U	0.09 U	0.08 U	0.07 U	0.07 U	0.09 U	0.15
BENZENE	1.13	0.78	0.66	0.50	0.53	0.41	0.49	0.24
CARBON TETRACHLORIDE	0.10	0.09	0.07	0.09	0.08	0.07	0.08	0.09
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	0.01 U	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	1.64	0.93	1.05	0.53	0.51	0.48	0.50	0.82
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.23	0.07 U	0.10	0.08 U	0.07 U	0.05 U	0.09	0.07 U
TETRACHLOROETHYLENE	0.04 U	0.04 U	0.02 U	ND	ND	ND	ND	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.25	0.13	0.18	0.07 U	0.09 U	0.09 U	0.11 U	0.12
m,p - XYLENE	0.74	0.39	0.55	0.20 U	0.22 U	0.24 U	0.25 U	0.36 U
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	0.05 U	0.03 U	0.04 U	ND	ND	ND	0.04 U	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.33	0.19	0.22	0.08 U	0.09 U	0.11 U	0.11 U	0.16
m - DICHLOROBENZENE	ND	0.01 U	ND	ND	ND	ND	0.03 U	ND
p - DICHLOROBENZENE	0.03 U	0.02 U	0.02 U	ND	ND	ND	0.04 U	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	0.01 U	ND	0.04 U	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak

Table F-9. VOC Concentrations (ppbv) Measured at Hahnville, LA (HALA)

SAMPLE SITE #	HALA 8908	HALA 9003	HALA 9069D1	HALA 9069R1	HALA 9071D2	HALA 9071R2	HALA 9088	HALA 9110
SAMPLE DATE	1/10/97	2/3/97	2/15/97	2/15/97	2/15/97	2/15/97	2/21/97	2/27/97
ANALYSIS DATE	2/6/97	2/20/97	3/5/97	3/7/97	3/5/97	3/7/97	3/15/97	3/16/97
FILE NAME	K/L7BF006	K/L7BQ016	K/L7CD014	K/L7CF013	K/L7CD012	K/L7CF011	K/L7CO005	K/L7CO011
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.58	0.92	1.47	1.27	1.46	1.27	1.21	0.99
PROPYLENE	0.29	1.77	3.47	3.49	3.53	3.40	0.44	1.43
CHLOROMETHANE	0.65	0.69	0.47	0.55	0.42	0.55	0.65	0.62
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	0.14 U	0.21	0.26 U	0.27 U	0.26 U	0.02 U	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	0.48	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.04 U	0.06 U	0.05 U	0.08 U	0.04 U	0.05 U	0.10 U	0.03 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.12 U	0.14 U	0.09 U	0.08 U	0.08 U	0.08 U	1.14	0.09 U
BENZENE	0.34	0.54	0.46	0.46	0.49	0.45	0.34	0.38
CARBON TETRACHLORIDE	0.10	0.12	0.07	0.07	0.07	0.08	0.08	0.08
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	0.02 U	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.25	0.44	0.53	0.52	0.52	0.48	1.16	0.53
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.01 U	0.80	0.07 U	0.08 U	0.06 U	0.06 U	0.05 U	0.13
TETRACHLOROETHYLENE	ND	0.03 U	ND	ND	ND	ND	0.14	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	0.13	0.07 U	0.07 U	0.08 U	0.06 U	0.16	0.10 U
m,p - XYLENE	0.09 U	0.38	0.20 U	0.19 U	0.20 U	0.17 U	0.31 U	0.29 U
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	0.06 U	ND	ND	ND	ND	0.11	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.05 U	0.16	0.10 U	0.08 U	0.10 U	0.08 U	0.19	0.12 U
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	0.02 U	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak

Table F-9. VOC Concentrations (pr) Measured at Hahnville, LA (HALA)

SAMPLE SITE #	HALA 9129D1	HALA 9129R1	HALA 9131D2	HALA 9131R2	HALA 9153	HALA 9183	HALA 9185	HALA 9225
SAMPLE DATE	3/5/97	3/5/97	3/5/97	3/5/97	3/11/97	3/17/97	3/23/97	3/29/97
ANALYSIS DATE	3/16/97	3/15/97	3/15/97	3/15/97	3/20/97	4/8/97	4/8/97	4/8/97
FILE NAME	K/LCO015	K/LCQ003	K/LCO016	K/LCQ004	K/LCT010	K/LDH006/5	K/LDH008/7	K/LDH021/20
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.58	0.46	0.63	0.54	1.10	1.42	1.09	0.73
PROPYLENE	0.37	0.33	0.43	0.40	1.48	2.73	0.46	0.82
CHLOROMETHANE	0.64	0.55	0.68	0.69	0.52	0.53	0.68	0.64
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	ND	ND	0.02 U	0.87	6.32	ND	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.01 U	0.03 U	0.03 U	0.04 U	0.06 U	0.04 U	0.05 U	0.02 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	0.02 U	0.02 U	0.03 U	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	0.34 U	ND
1,1,1 - TRICHLOROETHANE	0.09 U	0.08 U	0.09 U	0.09 U	0.10 U	0.08 U	0.53	0.08 U
BENZENE	0.23	0.23	0.24	0.22	0.56	0.82	0.34	1.13
CARBON TETRACHLORIDE	0.09	0.09	0.09	0.09	0.09	0.09	0.11	0.09
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.25	0.23	0.29	0.27	0.94	1.01	0.45	0.89
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.01 U	ND	ND	0.04 U	0.12	0.21	0.03 U	0.16
TETRACHLOROETHYLENE	ND	ND	ND	ND	ND	0.02 U	0.02 U	0.02 U
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.03 U	0.04 U	0.03 U	0.04 U	0.11 U	0.15	0.06 U	0.10 U
m,p - XYLENE	0.09 U	0.13 U	0.10 U	0.11 U	0.32 U	0.48	0.15 U	0.32 U
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	ND	ND	ND	ND	0.02 U	ND	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.04 U	0.05 U	0.04 U	0.05 U	0.15	0.21	0.09 U	0.15
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak

Table F-9. VOC Concentrations (ppbv) Measured at Hahnville, LA (HALA)

SAMPLE SITE #	HALA 9241	HALA 9264	HALA 9292	HALA 9338	HALA 9340	HALA 9387	HALA 9430	HALA 9535
SAMPLE DATE	4/4/97	4/10/97	4/16/97	4/22/97	4/28/97	5/10/97	5/22/97	6/3/97
ANALYSIS DATE	4/22/97	4/23/97	4/29/97	5/8/97	5/8/97	5/21/97	6/4/97	6/25/97
FILE NAME	K/LDV007	K/LDV016	L7D#005	L7EH008	L7EH007	L7EU003	L7FD008	L7FY005
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.05	0.96	1.55	0.37	1.33	0.79	1.29	0.64
PROPYLENE	0.20	0.58	1.27	0.33	0.79	2.09	2.26	1.50
CHLOROMETHANE	0.49	0.44	0.49	0.60	0.37	0.55	0.59	0.48
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	0.11 U	0.24 U	ND	ND	0.02 U	0.25 U	0.16
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.02 U	0.06 U	0.04 U	ND	0.01 U	0.03 U	0.63	0.05 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	0.23	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.08 U	0.10 U	0.08 U	0.09 U	0.07 U	0.12 U	0.37	0.09
BENZENE	0.21	0.46	0.52	0.21	0.30	1.50	1.83	0.42
CARBON TETRACHLORIDE	0.09	0.08	0.09	0.09	0.08	0.11	0.08	0.08
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	0.22	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.25	0.55	0.81	0.20	0.21	0.83	2.96	0.62
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	ND	0.11	0.08 U	ND	ND	0.26	0.17	0.07 U
TETRACHLOROETHYLENE	ND	0.03 U	ND	ND	ND	ND	0.06 U	0.03 U
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.03 U	0.08 U	0.10 U	0.02 U	0.03 U	0.13	0.23	0.10 U
m,p - XYLENE	0.09 U	0.27 U	0.43	0.11 U	0.10 U	0.42	0.56	0.26
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	ND	ND	ND	ND	ND	0.19	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.04 U	0.12 U	0.15	0.03 U	0.02 U	0.18	0.23	0.12
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	0.02 U	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak

Table F-9. VOC Concentrations (pp' ') Measured at Hahnville, LA (HALA)

SAMPLE SITE #	HALA 9569	HALA 9710	HALA 9971	HALA 10300	HALA 10666	HALA 10858	HALA 11040
SAMPLE DATE	6/15/97	6/27/97	7/9/97	7/21/97	8/2/97	8/14/97	8/26/97
ANALYSIS DATE	6/26/97	7/9/97	8/1/97	8/6/97	8/28/97	9/11/97	9/13/97
FILE NAME	L7FY016	L7GI007	L7HA004	L7HF011	L7HI012	L7IK009	L7IL023
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.59	ND	3.38	1.35	0.25	1.15	0.80
PROPYLENE	0.55	ND	2.28	1.68	1.16	0.87	0.60
CHLOROMETHANE	0.84	ND	1.10	0.75	0.71	0.80	0.67
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	0.22	ND	0.23	ND	ND	0.50	0.05 U
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	0.07 U	ND	ND	ND
METHYLENE CHLORIDE	ND	ND	ND	ND	ND	ND	0.01 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	0.60	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.10	0.12	0.07	0.12	0.08	0.08	0.08
BENZENE	0.71	0.49	0.47	0.41	1.92	0.53	0.59
CARBON TETRACHLORIDE	0.11	0.14	0.07	0.08	0.08	0.09	0.06
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.35	0.69	0.67	0.71	0.61	0.52	1.10
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	ND	0.07 U	ND	0.06 U	0.14 U	0.08 U	0.20 U
TETRACHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	0.10 U	0.10 U	0.07 U	0.09 U	0.09 U	0.19
m,p - XYLENE	0.13 U	0.33	0.35	0.23	0.22 U	0.31	0.60
BROMOFORM	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	ND	ND	ND	ND	0.03 U	0.04 U
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	ND	0.15	0.13	0.06 U	0.12	0.13	0.25
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak

Table F-10. VOC Concentrations (ppbv) Measured at Port Neches, TX (PNTX)

SAMPLE SITE #	PNTX 8303		PNTX 8580		PNTX 8562		PNTX 8635		PNTX 8695D1		PNTX 8695R1		PNTX 8697D2		PNTX 8697R2	
SAMPLE DATE	9/6/96		9/24/96		9/30/96		10/12/96		10/24/96		10/24/96		10/24/96		10/24/96	
ANALYSIS DATE	9/25/96		10/10/96		10/14/96		11/10/96		11/24/96		11/26/96		11/24/96		11/26/96	
FILE NAME	K/L6IY007		K/L6JJ011		K/L6JN010		K/L6KJ010		K/L6KX011		K/L6KZ007		K/L6KX010		K/L6KZ006	
UNITS	ppbv		ppbv		ppbv		pbbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	2.81		2.13		1.40		3.84		3.08		3.13		3.23		3.18	
PROPYLENE	1.75		3.82		0.56		0.82		1.09		1.08		1.26		1.25	
CHLOROMETHANE	1.12		0.83		0.57		0.82		0.74		0.68		1.07		1.05	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.85		6.76		3.93		33.72		24.12		16.33		23.76		16.90	
BROMOMETHANE	0.47		0.32		0.06	U	0.18	U	ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.29		0.07	U	0.05	U	0.07	U	0.08	U	0.06	U	0.10	U	0.09	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	0.06	U	ND		0.03	U	ND		0.06	U	0.04	U	ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.29		0.13	U	0.15		0.35		0.11	U	0.13	U	0.10	U	0.15	
BENZENE	1.12		0.55		0.25		0.52		0.60		0.61		0.55		0.61	
CARBON TETRACHLORIDE	0.15		0.10		0.10		0.11		0.11		0.10		0.11		0.10	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		0.03	U	ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		0.02	U	ND		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	1.89		0.96		0.49		0.68		2.46		2.22		2.39		2.26	
DIBROMOCHLOROMETHANE	ND		ND		ND		0.02	U	ND		ND		ND		ND	
N-OCTANE	0.39		0.07	U	0.03	U	0.13		0.08	U	0.08	U	0.08	U	0.08	U
TETRACHLOROETHYLENE	ND		ND		ND		0.04	U	0.02	U	0.01	U	0.01	U	0.01	U
CHLOROBENZENE	ND		ND		ND		0.04	U	ND		ND		ND		ND	
ETHYLBENZENE	0.40		0.23		0.09	U	1.18		0.89		1.06		0.88		1.07	
m,p - XYLENE	1.25		0.42		0.25	U	0.70		0.46		0.69		0.46		0.71	
BROMOFORM	0.02	U	0.05	U	0.06	U	0.11		0.02	U	0.02	U	0.02	U	0.02	U
STYRENE	1.79		23.93		13.36		6.38		3.69		3.18		3.41		3.17	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		0.04		ND		ND		ND		ND	
o - XYLENE	0.46		0.15		0.09	U	0.28		0.16		0.32		0.16		0.33	
m - DICHLOROBENZENE	ND		ND		ND		0.06	U	ND		ND		ND		ND	
p - DICHLOROBENZENE	0.05	U	0.02	U	0.02	U	0.06	U	0.02	U	0.01	U	0.02	U	0.02	U
o - DICHLOROBENZENE	ND		ND		ND		0.07	U	ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
+ = Canister In[illegible]ve Leak
$ = Sample V[illegible] Laboratory
I = Lost by L[illegible]

Table F-10. VOC Concentrations (pp' Measured at Port Neches, TX (PNTX)

SAMPLE SITE #	PNTX 8691	PNTX 8777	PNTX 8834	PNTX 8858D1	PNTX 8860D2	PNTX 8864	PNTX 8920	PNTX 8964
SAMPLE DATE	11/5/96	11/17/96	11/29/96	12/11/96	12/11/96	12/23/96	1/4/97	1/16/97
ANALYSIS DATE	11/26/96	12/5/96	12/26/96			2/6/97	2/4/97	2/19/97
FILE NAME	K/L6KZ004	K/L6LE009	K/L6LZ005			K/L7BF005	K/L7BD008	K/L7BQ013
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	ND	0.92	2.87	$	$	0.82	1.76	0.77
PROPYLENE	6.90	5.53	1.54	$	$	4.06	1.08	0.57
CHLOROMETHANE	1.32	1.35	1.42	$	$	1.85	0.58	0.81
VINYL CHLORIDE	ND	ND	ND	$	$	ND	ND	ND
1,3-BUTADIENE	11.24	4.23	6.88	$	$	1.36	0.05	ND
BROMOMETHANE	ND	ND	ND	$	$	0.04 U	ND	ND
CHLOROETHANE	ND	ND	ND	$	$	ND	ND	ND
METHYLENE CHLORIDE	0.09 U	0.10 U	0.10 U	$	$	0.15	0.07 U	0.06 U
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	$	$	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	$	$	ND	ND	ND
CHLOROPRENE	ND	ND	ND	$	$	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	$	$	ND	ND	ND
CHLOROFORM	ND	ND	0.04 U	$	$	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	$	$	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.13 U	0.14 U	0.10 U	$	$	0.18	0.13 U	0.11 U
BENZENE	0.40	0.30	0.54	$	$	0.70	0.75	0.42
CARBON TETRACHLORIDE	0.09	0.09	0.10	$	$	0.14	0.08	0.12
1,2 - DICHLOROPROPANE	ND	ND	ND	$	$	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	$	$	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	$	$	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	$	$	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	$	$	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	$	$	ND	ND	ND
TOLUENE	2.35	1.72	1.69	$	$	1.87	1.16	0.34
DIBROMOCHLOROMETHANE	ND	ND	ND	$	$	ND	ND	ND
N-OCTANE	0.07 U	0.04 U	0.09	$	$	ND	ND	0.06 U
TETRACHLOROETHYLENE	ND	ND	0.01 U	$	$	ND	ND	ND
CHLOROBENZENE	ND	ND	ND	$	$	ND	ND	ND
ETHYLBENZENE	1.34	0.29	0.30	$	$	0.22	0.29	0.13
m,p - XYLENE	0.92	0.74	0.75	$	$	0.70	0.85	0.40
BROMOFORM	ND	ND	ND	$	$	ND	ND	ND
STYRENE	2.43	0.12	0.95	$	$	0.11	0.19	0.04 U
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	$	$	ND	ND	ND
o - XYLENE	0.44	0.36	0.39	$	$	0.33	0.38	0.21
m - DICHLOROBENZENE	0.01 U	ND	ND	$	$	ND	ND	ND
p - DICHLOROBENZENE	0.02 U	0.01 U	0.01 U	$	$	0.08 U	0.03	0.02 U
o - DICHLOROBENZENE	0.01 U	ND	ND	$	$	0.05 U	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
+ = Canister Inlet Valve Leak
$ = Sample Voided by Laboratory
I = Lost by Laboratory

Table F-10. VOC Concentrations (ppbv) Measured at Port Neches, TX (PNTX)

SAMPLE SITE #	PNTX 8952D1		PNTX 8952R1		PNTX 8954D2		PNTX 8954R2		PNTX 9055		PNTX 9137	PNTX 9171		PNTX 9173D1	
SAMPLE DATE	1/28/97		1/28/97		1/28/97		1/28/97		2/9/97		2/12/97	3/5/97		3/17/97	
ANALYSIS DATE	2/28/97		3/3/97		2/28/97		3/3/97		3/4/97			4/4/97		3/27/97	
FILE NAME	K/LB!009		K/L7CC013		K/L7B!010		K/L7CC016		K/L7CD007			K/LDD011		K/LC~010	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	ppbv		ppbv	
ACETYLENE	1.21		1.20		1.18		1.20		1.45		*	0.76		1.73	
PROPYLENE	0.27		0.24		0.24		0.18	U	0.52		*	1.54		2.17	
CHLOROMETHANE	0.63		0.62		0.49		0.38		0.88		*	0.84		0.94	
VINYL CHLORIDE	ND		ND		ND		ND		ND		*	ND		ND	
1,3-BUTADIENE	ND		ND		ND		ND		4.44		*	0.99		14.91	
BROMOMETHANE	ND		ND		ND		ND		ND		*	ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		*	ND		ND	
METHYLENE CHLORIDE	ND		ND		ND		ND		0.07	U	*	0.14	U	0.07	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		*	ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		*	ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		*	ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		*	ND		ND	
CHLOROFORM	ND		ND		ND		0.01	U	ND		*	ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		*	ND		ND	
1,1,1 - TRICHLOROETHANE	0.09	U	0.08	U	0.09	U	0.09	U	0.10	U	*	0.23		0.10	U
BENZENE	0.42		0.39		0.41		0.38		0.38		*	0.47		0.56	
CARBON TETRACHLORIDE	0.09		0.08		0.10		0.09		0.07		*	0.08		0.10	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		*	ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		*	ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		*	0.02	U	ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		*	ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		*	ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		*	ND		ND	
TOLUENE	0.42		0.38		0.45		0.35		0.74		*	1.24		0.58	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		*	ND		ND	
N-OCTANE	0.03	U	0.04	U	ND		0.04	U	0.04	U	*	0.06	U	0.06	U
TETRACHLOROETHYLENE	ND		ND		ND		ND		ND		*	0.01	U	ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		*	ND		ND	
ETHYLBENZENE	0.06	U	0.06	U	0.06	U	0.06	U	0.10	U	*	0.10	U	0.57	
m,p - XYLENE	0.17	U	0.16	U	0.16	U	0.18	U	0.27	U	*	0.20	U	0.31	U
BROMOFORM	ND		ND		ND		ND		ND		*	ND		ND	
STYRENE	ND		0.02	U	ND		0.02	U	1.53		*	0.79		14.24	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		*	ND		ND	
o - XYLENE	0.08	U	0.10	U	0.10	U	0.11	U	0.16		*	0.11	U	ND	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		*	ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		*	ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		*	ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
+ = Canister I[illegible] Leak
$ = Sample V[illegible] Laboratory
! = Lost by La[illegible]

Table F-10. VOC Concentrations (pp Measured at Port Neches, TX (PNTX)

SAMPLE SITE #	PNTX 9173R1	PNTX 9175D2	PNTX 9175R2	PNTX 9217	PNTX 9247	PNTX 9245	PNTX 9319	PNTX 9322
SAMPLE DATE	3/17/97	3/17/97	3/17/97	3/29/97	4/4/97	4/10/97	4/16/97	4/22/97
ANALYSIS DATE		3/27/97	3/27/97	4/8/97	4/22/97	4/23/97	6/6/97	5/6/97
FILE NAME		K/LC~009	K/LDD015	K/LDH015/16	K/LDV010	K/LDV011	L7EF010	L7EF011
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	+	1.22	1.11	1.49	1.31	0.96	1.35	0.40
PROPYLENE	+	2.32	1.91	2.71	2.98	1.02	0.76	0.29
CHLOROMETHANE	+	0.80	0.70	0.90	1.09	1.08	0.81	0.78
VINYL CHLORIDE	+	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	+	17.68	16.03	12.16	9.08	10.70	1.44	ND
BROMOMETHANE	+	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	+	0.03 U	0.03 U	0.06 U	0.06 U	0.06 U	0.06 U	0.02 U
trans - 1,2 - DICHLOROETHYLENE	+	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	+	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	+	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	+	ND	ND	ND	0.06 U	ND	ND	ND
1,2 - DICHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	+	0.10 U	0.08 U	0.11 U	0.41	0.11 U	0.10 U	0.07 U
BENZENE	+	0.56	0.48	0.66	0.32	0.39	0.86	0.21
CARBON TETRACHLORIDE	+	0.11	0.08	0.10	0.08	0.08	0.08	0.08
1,2 - DICHLOROPROPANE	+	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	+	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	+	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	+	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	+	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
TOLUENE	+	0.41	0.34	0.54	0.66	0.51	0.92	0.23
DIBROMOCHLOROMETHANE	+	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	+	0.11	0.09	0.09	0.13	0.09	0.17	0.02 U
TETRACHLOROETHYLENE	+	ND	ND	ND	0.02 U	ND	0.02 U	ND
CHLOROBENZENE	+	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	+	0.58	0.53	0.29	0.28	0.39	0.28	0.07 U
m,p - XYLENE	+	0.22 U	0.21 U	0.20 U	0.16 U	0.43	0.57	0.22 U
BROMOFORM	+	ND	ND	ND	ND	ND	ND	ND
STYRENE	+	15.37	13.74	2.52	2.42	6.84	0.23	ND
1,1,2,2 - TETRACHLOROETHANE	+	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	+	ND	0.11 U	0.11 U	0.10 U	0.19	0.27	0.11 U
m - DICHLOROBENZENE	+	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	+	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	+	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
+ = Canister Inlet Valve Leak
$ = Sample Voided by Laboratory
I = Lost by Laboratory

Table F-10. VOC Concentrations (ppbv) Measured at Port Neches, TX (PNTX)

SAMPLE SITE #	PNTX 9367		PNTX 9364		PNTX 9418		PNTX 9452		PNTX 9571		PNTX 9903	PNTX 9905		PNTX 10384	
SAMPLE DATE	4/28/97		5/4/97		5/16/97		5/28/97		6/9/97		6/21/97	7/3/97		7/15/97	
ANALYSIS DATE	5/10/97		5/10/97		5/29/97		6/12/97		6/25/97			7/24/97		8/6/97	
FILE NAME	L7EI021		L7EI020		L7E#009		L7FL004		L7FY006			L7GW021		L7HF006	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv			ppbv		ppbv	
ACETYLENE	0.83		0.78		1.16		2.23		0.98		!	0.87		0.81	
PROPYLENE	0.49		0.79		2.11		1.77		1.83		!	1.74		2.19	
CHLOROMETHANE	0.59		0.60		1.09		1.08		1.87		!	6.55		3.12	
VINYL CHLORIDE	ND		ND		ND		ND		ND		!	ND		ND	
1,3-BUTADIENE	2.55		3.33		19.94		22.44		13.40		!	ND		5.91	
BROMOMETHANE	ND		ND		ND		ND		ND		!	ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		!	ND		ND	
METHYLENE CHLORIDE	0.10	U	ND		0.02	U	0.04	U	0.10		!	0.09		0.07	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		!	ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		!	ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		!	ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		!	ND		ND	
CHLOROFORM	ND		0.03	U	ND		ND		ND		!	ND		ND	
1,2 - DICHLOROETHANE	ND		ND		0.41		ND		ND		!	ND		ND	
1,1,1 - TRICHLOROETHANE	0.08	U	0.07	U	0.10	U	0.11	U	0.09		!	0.07		0.10	
BENZENE	0.36		0.34		0.54		1.30		0.53		!	0.29		0.71	
CARBON TETRACHLORIDE	0.08		0.08		0.10		0.12		0.10		!	0.07		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		!	ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		!	ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		!	ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		!	ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		!	ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		!	ND		ND	
TOLUENE	0.50		0.38		0.47		0.77		0.78		!	0.36		1.08	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		!	ND		ND	
N-OCTANE	0.08	U	0.04	U	0.08	U	0.12		0.10	U	!	0.06	U	0.18	U
TETRACHLOROETHYLENE	0.05	U	ND		ND		ND		ND		!	0.06	U	0.03	U
CHLOROBENZENE	ND		ND		ND		ND		ND		!	ND		ND	
ETHYLBENZENE	0.15		0.07	U	0.30		0.62		0.33		!	0.08	U	0.27	
m,p - XYLENE	0.27	U	0.14	U	0.25	U	0.29	U	0.54		!	0.22	U	0.32	
BROMOFORM	ND		ND		ND		ND		ND		!	ND		ND	
STYRENE	1.82		0.83		3.41		2.32		2.51		!	ND		1.06	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		!	ND		ND	
o - XYLENE	0.15		0.08	U	0.12	U	0.14		0.20		!	0.12		0.17	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		!	ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		!	ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		!	ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
+ = Canister [illegible] Leak
$ = Sample [illegible] Laboratory
! = Lost by [illegible]

Table F-10. VOC Concentrations (pp[illegible] Measured at Port Neches, TX (PNTX)

SAMPLE SITE #	PNTX 10550		PNTX 11033	PNTX 11038		PNTX 11285	
SAMPLE DATE	7/27/97		8/8/97	8/20/97		8/26/97	
ANALYSIS DATE	8/23/97			9/13/97		9/15/97	
FILE NAME	L7HV011			I7IL011		L7IO007	
UNITS	ppbv		ppbv	ppbv		ppbv	
ACETYLENE	0.56		*	0.52		1.16	
PROPYLENE	0.26		*	1.70		1.59	
CHLOROMETHANE	0.59		*	3.80		2.26	
VINYL CHLORIDE	ND		*	ND		ND	
1,3-BUTADIENE	ND		*	ND		5.57	
BROMOMETHANE	ND		*	ND		ND	
CHLOROETHANE	ND		*	ND		ND	
METHYLENE CHLORIDE	ND		*	0.07	U	0.03	U
trans - 1,2 - DICHLOROETHYLENE	ND		*	ND		ND	
1,1 - DICHLOROETHANE	ND		*	ND		ND	
CHLOROPRENE	ND		*	ND		ND	
BROMOCHLOROMETHANE	ND		*	ND		ND	
CHLOROFORM	ND		*	ND		ND	
1,2 - DICHLOROETHANE	ND		*	ND		ND	
1,1,1 - TRICHLOROETHANE	0.07		*	0.09		0.15	
BENZENE	0.22		*	0.28		0.51	
CARBON TETRACHLORIDE	0.06		*	0.07		0.07	
1,2 - DICHLOROPROPANE	ND		*	ND		ND	
BROMODICHLOROMETHANE	ND		*	ND		ND	
TRICHLOROETHYLENE	ND		*	ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		*	ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		*	ND		ND	
1,1,2 - TRICHLOROETHANE	ND		*	ND		ND	
TOLUENE	0.47		*	0.41		0.65	
DIBROMOCHLOROMETHANE	ND		*	ND		ND	
N-OCTANE	ND		*	0.07	U	0.11	U
TETRACHLOROETHYLENE	ND		*	0.09	U	ND	
CHLOROBENZENE	ND		*	ND		ND	
ETHYLBENZENE	0.11	U	*	0.10	U	0.14	
m,p - XYLENE	0.30		*	0.29		0.35	
BROMOFORM	ND		*	ND		ND	
STYRENE	ND		*	0.04	U	1.28	
1,1,2,2 - TETRACHLOROETHANE	ND		*	ND		ND	
o - XYLENE	0.13		*	0.15		0.19	
m - DICHLOROBENZENE	ND		*	ND		ND	
p - DICHLOROBENZENE	ND		*	ND		ND	
o - DICHLOROBENZENE	ND		*	ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
+ = Canister Inlet Valve Leak
$ = Sample Voided by Laboratory
I = Lost by Laboratory

Table F-11. VOC Concentrations (ppbv) Measured at Rutland, VT (RUVT)

SAMPLE SITE #	RUVT 8071D1	RUVT 8073D2	RUVT 8281	RUVT 8436	RUVT 8578	RUVT 8621	RUVT 8636D1	RUVT 8638D2
SAMPLE DATE	8/31/96	8/31/96	9/12/96	9/23/96	10/6/96	10/18/96	10/30/96	10/30/96
ANALYSIS DATE			10/3/96	10/7/96	10/30/96	11/10/96		
FILE NAME			K/L6JC021	K/L6JG011	K/L6J$010	K/L6KJ016		
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	*	*	1.63	1.99	4.85	3.86	*	*
PROPYLENE	*	*	0.60	0.71	0.94	0.63	*	*
CHLOROMETHANE	*	*	0.43	0.40	0.50	0.53	*	*
VINYL CHLORIDE	*	*	ND	ND	ND	ND	*	*
1,3-BUTADIENE	*	*	0.10 U	0.10 U	0.09 U	ND	*	*
BROMOMETHANE	*	*	0.03 U	ND	ND	ND	*	*
CHLOROETHANE	*	*	ND	ND	ND	ND	*	*
METHYLENE CHLORIDE	*	*	0.08 U	0.14 U	0.07 U	0.07 U	*	*
trans - 1,2 - DICHLOROETHYLENE	*	*	ND	ND	ND	ND	*	*
1,1 - DICHLOROETHANE	*	*	ND	ND	ND	ND	*	*
CHLOROPRENE	*	*	ND	ND	ND	ND	*	*
BROMOCHLOROMETHANE	*	*	ND	ND	ND	ND	*	*
CHLOROFORM	*	*	0.03 U	ND	0.03 U	0.03 U	*	*
1,2 - DICHLOROETHANE	*	*	ND	ND	ND	ND	*	*
1,1,1 - TRICHLOROETHANE	*	*	0.13 U	0.14 U	0.31	0.09 U	*	*
BENZENE	*	*	0.45	0.45	0.52	0.39	*	*
CARBON TETRACHLORIDE	*	*	0.08	0.08	0.09	0.09	*	*
1,2 - DICHLOROPROPANE	*	*	ND	ND	ND	ND	*	*
BROMODICHLOROMETHANE	*	*	ND	ND	ND	ND	*	*
TRICHLOROETHYLENE	*	*	ND	ND	ND	0.01 U	*	*
cis - 1,3 - DICHLOROPROPENE	*	*	ND	ND	ND	ND	*	*
trans - 1,3 - DICHLOROPROPENE	*	*	ND	ND	ND	ND	*	*
1,1,2 - TRICHLOROETHANE	*	*	ND	ND	ND	ND	*	*
TOLUENE	*	*	1.38	2.38	1.18	1.72	*	*
DIBROMOCHLOROMETHANE	*	*	ND	ND	ND	ND	*	*
N-OCTANE	*	*	0.10	0.08 U	0.06 U	0.07 U	*	*
TETRACHLOROETHYLENE	*	*	0.05 U	0.05 U	0.02 U	0.04 U	*	*
CHLOROBENZENE	*	*	ND	ND	ND	ND	*	*
ETHYLBENZENE	*	*	0.25	0.19	0.29	0.32	*	*
m,p - XYLENE	*	*	0.79	0.62	1.09	1.21	*	*
BROMOFORM	*	*	0.06 U	0.05 U	0.04 U	0.02 U	*	*
STYRENE	*	*	0.50	0.36	0.04 U	0.04 U	*	*
1,1,2,2 - TETRACHLOROETHANE	*	*	ND	ND	ND	ND	*	*
o - XYLENE	*	*	0.26	0.21	0.39	0.39	*	*
m - DICHLOROBENZENE	*	*	0.01 U	ND	ND	0.01 U	*	*
p - DICHLOROBENZENE	*	*	0.05 U	0.02 U	0.01 U	0.02 U	*	*
o - DICHLOROBENZENE	*	*	ND	ND	ND	0.01 U	*	*

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
* = Vacuum Criteria Exceeded
# = Sample Voided in Field
I = Lost by Laboratory
@ = Duplicate Criteria Exceeded

Table F-11. VOC Concentrations (ppbv) Measured at Rutland, VT (RUVT)

SAMPLE SITE #	RUVT 8746	RUVT 8762	RUVT 8805D1	RUVT 8805R1	RUVT 8807D2	RUVT 8807R2	RUVT 8844	RUVT 8870
SAMPLE DATE	11/17/96	11/23/96	12/5/96	12/5/96	12/5/96	12/5/96	12/17/96	12/29/96
ANALYSIS DATE		12/5/96	12/13/96	12/18/96	12/13/96	12/18/96		2/4/97
FILE NAME		K/L6LE012	K/L6LM004	K/L6LR006	K/L6LM005	K/L6LR007		K/L7BD014
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	!	4.02	3.68	4.05	4.35	4.61	#	2.12
PROPYLENE	!	0.80	0.85	1.01	0.85	0.83	#	0.55
CHLOROMETHANE	!	0.46	0.45	0.48	0.47	0.49	#	0.39
VINYL CHLORIDE	!	ND	ND	ND	ND	ND	#	ND
1,3-BUTADIENE	!	0.10 U	0.07 U	0.11 U	0.09 U	0.06 U	#	ND
BROMOMETHANE	!	ND	ND	ND	ND	ND	#	ND
CHLOROETHANE	!	ND	ND	ND	ND	ND	#	ND
METHYLENE CHLORIDE	!	0.05 U	0.14 U	0.27	0.16	0.16	#	0.08 U
trans - 1,2 - DICHLOROETHYLENE	!	ND	ND	ND	ND	ND	#	ND
1,1 - DICHLOROETHANE	!	ND	ND	ND	ND	ND	#	ND
CHLOROPRENE	!	ND	ND	ND	ND	ND	#	ND
BROMOCHLOROMETHANE	!	ND	ND	ND	ND	ND	#	ND
CHLOROFORM	!	0.02 U	0.02 U	ND	0.02 U	ND	#	ND
1,2 - DICHLOROETHANE	!	ND	ND	ND	ND	ND	#	ND
1,1,1 - TRICHLOROETHANE	!	0.10 U	2.23	4.93	0.59	0.95	#	0.07 U
BENZENE	!	0.60	0.63	0.74	0.77	0.62	#	0.51
CARBON TETRACHLORIDE	!	0.09	0.09	0.08	0.08	0.04 U	#	0.07
1,2 - DICHLOROPROPANE	!	ND	ND	ND	ND	ND	#	ND
BROMODICHLOROMETHANE	!	ND	ND	ND	ND	ND	#	ND
TRICHLOROETHYLENE	!	ND	0.01 U	ND	0.02 U	ND	#	ND
cis - 1,3 - DICHLOROPROPENE	!	ND	ND	ND	ND	ND	#	ND
trans - 1,3 - DICHLOROPROPENE	!	ND	ND	ND	ND	ND	#	ND
1,1,2 - TRICHLOROETHANE	!	ND	ND	ND	ND	ND	#	ND
TOLUENE	!	1.15	1.45	1.45	1.48	1.43	#	0.79
DIBROMOCHLOROMETHANE	!	ND	ND	ND	ND	ND	#	ND
N-OCTANE	!	0.09	0.07 U	0.07 U	0.07 U	0.06 U	#	ND
TETRACHLOROETHYLENE	!	0.03 U	0.05 U	0.05 U	0.06 U	0.06 U	#	0.06 U
CHLOROBENZENE	!	ND	ND	ND	ND	ND	#	ND
ETHYLBENZENE	!	0.21	0.23	0.33	0.24	0.25	#	0.16
m,p - XYLENE	!	0.65	0.68	0.85	0.69	0.72	#	0.40
BROMOFORM	!	ND	ND	ND	0.03 U	ND	#	ND
STYRENE	!	0.03 U	0.04 U	0.03 U	0.05 U	0.03 U	#	ND
1,1,2,2 - TETRACHLOROETHANE	!	ND	ND	ND	ND	ND	#	ND
o - XYLENE	!	0.29	0.31	0.29	0.31	0.30	#	0.18
m - DICHLOROBENZENE	!	ND	ND	ND	ND	ND	#	ND
p - DICHLOROBENZENE	!	0.01 U	0.01 U	ND	0.01 U	0.01 U	#	ND
o - DICHLOROBENZENE	!	ND	ND	ND	ND	ND	#	ND

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@ = Duplicate Criteria Exceeded

Table F-11. VOC Concentrations (ppbv) Measured at Rutland, VT (RUVT)

SAMPLE SITE #	RUVT 8902	RUVT 8930D1	RUVT 8930R1	RUVT 8932D2	RUVT 8932R2	RUVT 8985	RUVT 9016	RUVT 9038
SAMPLE DATE	1/10/97	1/21/97	1/21/97	1/21/97	1/21/97	2/3/97	2/9/97	2/15/97
ANALYSIS DATE	2/6/97	2/6/97	2/7/97	2/6/97	2/7/97	3/1/97	3/4/97	
FILE NAME	K/L7BF007	K/L7BF011	K/L7BG012	K/L7BF012	K/L7BG013	K/L7BI013	K/L7CD004	
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	3.87	5.96	5.97	6.03	5.97	6.06	4.63	#
PROPYLENE	1.26	2.52	2.51	2.36	2.35	1.81	1.59	#
CHLOROMETHANE	0.57	0.55	0.63	0.42	0.51	0.52	0.49	#
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	#
1,3-BUTADIENE	0.19 U	0.34	0.36	0.30	0.31	0.21 U	0.18 U	#
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	#
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	#
METHYLENE CHLORIDE	0.08 U	0.13 U	0.16	0.15	0.14 U	0.11 U	0.09 U	#
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	#
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	#
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	#
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	#
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	#
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	#
1,1,1 - TRICHLOROETHANE	0.11 U	0.11 U	0.09 U	0.12 U	0.09 U	0.10 U	0.09 U	#
BENZENE	0.97	1.99	1.59	2.01	1.54	1.41	1.19	#
CARBON TETRACHLORIDE	0.09	0.10	0.08	0.09	0.06	0.08	0.07	#
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	#
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	#
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	#
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	#
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	#
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	#
TOLUENE	1.30	2.81	3.00	3.15	3.24	2.71	1.84	#
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	#
N-OCTANE	0.09	0.15	0.16	0.19	0.16	0.11	0.08	#
TETRACHLOROETHYLENE	ND	ND	ND	ND	ND	0.04	0.01	#
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	#
ETHYLBENZENE	0.30	0.67	0.66	0.75	0.74	0.47	0.26	#
m,p - XYLENE	1.04	2.32	2.43	2.55	2.55	1.29	0.72	#
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	#
STYRENE	ND	ND	0.13	ND	0.10	0.08 U	0.01 U	#
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	#
o - XYLENE	0.44	1.05	0.99	1.11	1.07	0.66	0.33	#
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	#
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	#
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	#

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Table F-11. VOC Concentrations (ppbv) Measured at Rutland, VT (RUVT)

SAMPLE SITE #	RUVT 9076D1	RUVT 9078D2	RUVT 9094	RUVT 9125	RUVT 9145	RUVT 9177	RUVT 9213	RUVT 9235
SAMPLE DATE	2/21/97	2/21/97	2/27/97	3/5/97	3/11/97	3/17/97	3/23/97	4/4/97
ANALYSIS DATE	3/5/97	3/5/97	3/16/97	3/17/97	3/20/97	4/4/97	4/8/97	4/18/97
FILE NAME	K/LCD013	K/LCD014	K/L7CO010	K/LCQ019	K/LCT005	K/LDD013	K/LDH012/11	K/LDR004
UNITS			ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	@	@	5.97	2.82	2.85	3.30	1.47	2.60
PROPYLENE	@	@	2.21	0.95	0.82	1.19	0.46	2.35
CHLOROMETHANE	@	@	0.56	0.51	0.54	0.44	0.41	0.74
VINYL CHLORIDE	@	@	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	@	@	0.31	0.09 U	0.11 U	0.12 U	ND	0.21 U
BROMOMETHANE	@	@	ND	ND	ND	ND	ND	ND
CHLOROETHANE	@	@	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	@	@	0.16	0.20	0.05 U	0.04 U	ND	0.11 U
trans - 1,2 - DICHLOROETHYLENE	@	@	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	@	@	ND	ND	ND	ND	ND	ND
CHLOROPRENE	@	@	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	@	@	ND	ND	ND	ND	ND	ND
CHLOROFORM	@	@	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	@	@	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	@	@	0.11 U	0.12 U	0.09 U	0.07 U	0.07 U	0.09 U
BENZENE	@	@	1.43	0.77	0.72	0.94	0.43	0.84
CARBON TETRACHLORIDE	@	@	0.10 U	0.08	0.09	0.07	0.05 U	0.09
1,2 - DICHLOROPROPANE	@	@	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	@	@	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	@	@	0.06 U	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	@	@	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	@	@	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	@	@	ND	ND	ND	ND	ND	ND
TOLUENE	@	@	2.90	1.51	1.19	1.50	0.62	1.82
DIBROMOCHLOROMETHANE	@	@	ND	ND	ND	ND	ND	ND
N-OCTANE	@	@	0.14	0.06 U	0.06 U	0.07 U	0.02 U	0.20
TETRACHLOROETHYLENE	@	@	0.08	0.04 U	0.06 U	0.01 U	ND	0.03 U
CHLOROBENZENE	@	@	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	@	@	0.48	0.26	0.20	0.26	0.10 U	0.30
m,p - XYLENE	@	@	1.55	0.77	0.59	0.71	0.29 U	0.84
BROMOFORM	@	@	ND	ND	ND	ND	ND	ND
STYRENE	@	@	0.08 U	ND	0.27	0.03 U	ND	0.50 U
1,1,2,2 - TETRACHLOROETHANE	@	@	ND	ND	ND	ND	ND	ND
o - XYLENE	@	@	0.70	0.36	ND	0.34	0.14	0.42
m - DICHLOROBENZENE	@	@	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	@	@	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	@	@	ND	ND	ND	ND	ND	ND

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Table F-11. VOC Concentrations (ppbv) Measured at Rutland, VT (RUVT)

SAMPLE SITE #	RUVT 9287	RUVT 9306D1	RUVT 9308D2	RUVT 9328	RUVT 9375	RUVT 9408	RUVT 9480	RUVT 9557
SAMPLE DATE	4/16/97	4/22/97	4/22/97	4/28/97	5/10/97	5/22/97	6/3/97	6/15/97
ANALYSIS DATE	4/23/97	4/29/97	4/29/97	5/7/97	5/15/97	5/29/97	6/12/97	6/25/97
FILE NAME	K/L7DW005/9	L7D#006	L7D#007	LEF014	L7EI017	L7E#007	L7FL008	L7FY015
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	2.67	*	*	1.09	1.24	0.84	0.77	0.63
PROPYLENE	1.38	*	*	0.52	0.47	0.32	0.41	0.37
CHLOROMETHANE	0.47	*	*	0.42	0.43	0.35	0.44	0.39
VINYL CHLORIDE	ND	*	*	ND	ND	ND	ND	ND
1,3-BUTADIENE	0.13 U	*	*	ND	ND	ND	ND	ND
BROMOMETHANE	ND	*	*	ND	ND	ND	ND	ND
CHLOROETHANE	ND	*	*	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.08 U	*	*	ND	0.03 U	ND	0.13	0.05 U
trans - 1,2 - DICHLOROETHYLENE	ND	*	*	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	*	*	ND	ND	ND	ND	ND
CHLOROPRENE	ND	*	*	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	*	*	ND	ND	ND	ND	ND
CHLOROFORM	ND	*	*	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	*	*	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.09 U	*	*	0.07 U	0.07 U	0.08 U	0.08	0.10
BENZENE	0.78	*	*	0.33	0.39	0.34	0.28	0.32
CARBON TETRACHLORIDE	0.08	*	*	0.08	0.06	0.08	0.08	0.09
1,2 - DICHLOROPROPANE	ND	*	*	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	*	*	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	*	*	ND	ND	ND	0.07	ND
cis - 1,3 - DICHLOROPROPENE	ND	*	*	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	*	*	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	*	*	ND	ND	ND	ND	ND
TOLUENE	1.91	*	*	0.66	0.67	0.77	0.81	0.85
DIBROMOCHLOROMETHANE	ND	*	*	ND	ND	ND	ND	ND
N-OCTANE	0.13	*	*	0.04 U	0.05 U	0.04 U	0.03 U	0.04 U
TETRACHLOROETHYLENE	0.05 U	*	*	0.01 U	0.01 U	ND	0.03 U	ND
CHLOROBENZENE	ND	*	*	ND	ND	ND	ND	ND
ETHYLBENZENE	0.28	*	*	0.12	0.16	0.15	0.13	0.12
m,p - XYLENE	0.86	*	*	0.39	0.49	0.60	0.30	0.38
BROMOFORM	ND	*	*	ND	ND	ND	ND	ND
STYRENE	ND	*	*	ND	ND	ND	ND	ND
1,1,2,2 - TETRACHLOROETHANE	ND	*	*	ND	ND	ND	ND	ND
o - XYLENE	0.45	*	*	0.18	0.22	0.30	0.15	0.20
m - DICHLOROBENZENE	ND	*	*	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	*	*	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	*	*	ND	ND	ND	ND	ND

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Table F-11. VOC Concentrations (ppbv) Measured at Rutland, VT (RUVT)

SAMPLE SITE #	RUVT 9727	RUVT 9959	RUVT 10190	RUVT 10460	RUVT 10722	RUVT 11029	RUVT 11053D1	RUVT 11053R1
SAMPLE DATE	6/27/97	7/9/97	7/21/97	8/2/97	8/14/97	8/26/97	9/1/97	9/1/97
ANALYSIS DATE	7/10/97	8/1/97	8/2/97	8/28/97	9/11/97	9/13/97	9/13/97	9/15/97
FILE NAME	L7GI010	L7HA003	L7HA015	L7HI010	L7IK007	L7IL015	L7IL026	L7IO009
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.82	1.44	2.17	0.69	1.08	1.97	0.97	1.04
PROPYLENE	0.41	0.69	0.84	0.32	0.48	0.82	0.36	0.39
CHLOROMETHANE	0.38	0.59	0.54	0.75	0.51	0.46	0.46	0.48
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	ND	ND	ND	ND	0.03 U	ND	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.05 U	0.05 U	0.01 U	0.04 U	0.01 U	0.06 U	ND	ND
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.09	0.07	0.06	0.08	0.06	0.07	0.06	0.07
BENZENE	0.37	0.50	0.54	0.57	0.46	0.61	0.36	0.37
CARBON TETRACHLORIDE	0.11	0.08	0.06	0.09	0.07	0.07	0.08	0.07
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	1.19	1.12	1.13	1.03	0.97	1.58	0.82	0.81
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.07 U	0.05 U	0.07 U	0.07 U	0.08 U	0.10 U	0.05 U	0.05 U
TETRACHLOROETHYLENE	0.03 U	0.02 U	ND	ND	ND	0.02 U	ND	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.16	0.18	0.18	0.16	0.17	0.28	0.13	0.12
m,p - XYLENE	0.48	0.52	0.51	0.41	0.48	0.79	0.39	0.36
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	ND	ND	ND	0.04 U	0.05 U	0.03 U	0.03 U
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.23	0.26	0.25	0.27	0.24	0.38	0.18	0.19
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

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Table F-11. VOC Concentrations (ppbv) Measured at Rutland, VT (RUVT)

SAMPLE SITE #	RUVT 1055D2		RUVT 11055R2		RUVT 11225	
SAMPLE DATE	9/1/97		9/1/97		9/7/97	
ANALYSIS DATE	9/13/97		9/15/97		9/15/97	
FILE NAME	L7IL025		L7O008		L7IO012	
UNITS	ppbv		ppbv		ppbv	
ACETYLENE	1.00		1.09		1.90	
PROPYLENE	0.40		0.44		0.68	
CHLOROMETHANE	0.51		0.51		0.48	
VINYL CHLORIDE	ND		ND		ND	
1,3-BUTADIENE	ND		ND		ND	
BROMOMETHANE	ND		ND		ND	
CHLOROETHANE	ND		ND		ND	
METHYLENE CHLORIDE	ND		ND		0.05	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND	
CHLOROPRENE	ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND	
CHLOROFORM	ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.07		0.07		0.07	
BENZENE	0.37		0.38		0.64	
CARBON TETRACHLORIDE	0.07		0.08		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND	
TOLUENE	0.88		0.85		1.34	
DIBROMOCHLOROMETHANE	ND		ND		ND	
N-OCTANE	0.06	U	0.06	U	0.14	U
TETRACHLOROETHYLENE	ND		ND		ND	
CHLOROBENZENE	ND		ND		ND	
ETHYLBENZENE	0.15		0.14		0.20	
m,p - XYLENE	0.40		0.39		0.59	
BROMOFORM	ND		ND		ND	
STYRENE	ND		0.03	U	0.04	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND	
o - XYLENE	0.19		0.20		0.31	
m - DICHLOROBENZENE	ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND	

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I = Lost by Laboratory
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Table F-12. VOC Concentrations (ppbv) Measured at Underhill, VT (UNVT)

SAMPLE SITE #	UNVT 8152	UNVT 8285	UNVT 8434	UNVT 8572	UNVT 8620	UNVT 8651D1	UNVT 8651R1	UNVT 8653D2
SAMPLE DATE	8/31/96	9/12/96	9/24/96	10/1/96	10/18/96	10/30/96	10/30/96	10/30/96
ANALYSIS DATE		10/3/96	10/10/96	10/24/96	11/10/96	11/14/96	11/19/96	11/14/96
FILE NAME		K/L6JC018	K/L6JJ012	K/L6J$007	K/L6KJ013	K/L6KN013	K/L6KS012	K/L6KN012
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	+	V	0.23	1.05	0.74	1.29	0.93	1.08
PROPYLENE	+	V	ND	0.06 U	ND	0.07 U	ND	0.11 U
CHLOROMETHANE	+	V	0.42	0.55	0.05 U	0.54	0.55	0.58
VINYL CHLORIDE	+	V	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	+	V	ND	ND	ND	ND	ND	ND
BROMOMETHANE	+	V	0.04 U	ND	ND	ND	ND	ND
CHLOROETHANE	+	V	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	+	V	0.05 U	0.07 U	0.05 U	0.08 U	0.07 U	0.09 U
trans - 1,2 - DICHLOROETHYLENE	+	V	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	+	V	ND	ND	ND	ND	ND	ND
CHLOROPRENE	+	V	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	+	V	ND	ND	ND	ND	ND	ND
CHLOROFORM	+	V	0.02 U	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	+	V	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	+	V	0.11 U	0.08 U	0.10 U	0.08 U	0.17	0.08 U
BENZENE	+	V	0.08	0.09	0.09	0.11	0.13	0.10
CARBON TETRACHLORIDE	+	V	0.10	0.08	0.09	0.07	0.09	0.06
1,2 - DICHLOROPROPANE	+	V	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	+	V	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	+	V	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	+	V	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	+	V	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	+	V	ND	ND	ND	ND	ND	ND
TOLUENE	+	V	0.09	0.38	0.11	0.19	0.21	0.19
DIBROMOCHLOROMETHANE	+	V	ND	ND	ND	ND	ND	ND
N-OCTANE	+	V	0.02 U	ND	ND	0.04 U	0.04 U	0.07 U
TETRACHLOROETHYLENE	+	V	ND	0.01 U	0.01 U	0.02 U	ND	0.02 U
CHLOROBENZENE	+	V	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	+	V	0.04 U	0.12	0.03 U	0.05 U	0.07 U	0.05 U
m,p - XYLENE	+	V	0.06 U	0.28 U	0.07 U	0.11 U	0.14 U	0.13 U
BROMOFORM	+	V	0.02 U	ND	ND	ND	ND	ND
STYRENE	+	V	0.71	0.02 U	0.01 U	ND	0.03 U	ND
1,1,2,2 - TETRACHLOROETHANE	+	V	ND	ND	ND	ND	ND	ND
o - XYLENE	+	V	0.01 U	0.09 U	0.03 U	0.04 U	0.05 U	0.05 U
m - DICHLOROBENZENE	+	V	ND	0.01 U	ND	ND	ND	ND
p - DICHLOROBENZENE	+	V	ND	0.01 U	0.01 U	ND	ND	ND
o - DICHLOROBENZENE	+	V	ND	0.01 U	0.01 U	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
V = Canister void in field

Table F-12. VOC Concentrations (ppbv) Measured at Underhill, VT (UNVT)

SAMPLE SITE #	UNVT 8653R2		UNVT 8683		UNVT 8758		UNVT 8801D1		UNVT 8801R1		UNVT 8803D2		UNVT 8803R2		UNVT 8838	
SAMPLE DATE	10/30/96		11/11/96		11/23/96		12/5/96		12/5/96		12/5/96		12/5/96		12/17/96	
ANALYSIS DATE	11/19/96		11/26/96		12/5/96		12/13/96		12/18/96		12/13/96		12/18/96		12/26/96	
FILE NAME	K/L6KS013		K/L6KZ010		K/L6KE013		K/L6LM010		K/L6LR013		K/L6LM011		K/L6LR014		K/L6LZ012	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	1.03		0.66		0.70		2.30		2.33		2.12		2.32		0.92	
PROPYLENE	ND		ND		ND		0.27		0.30		0.25		0.36		0.05	U
CHLOROMETHANE	0.66		0.41		0.50		0.47		0.49		0.52		0.43		0.51	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.08	U	0.03	U	0.03	U	0.13	U	0.13	U	0.12	U	0.12	U	0.04	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		0.02	U	ND		0.02	U	0.02	U	ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.26		0.09	U	0.08	U	0.11	U	0.09	U	0.09	U	0.13	U	0.09	U
BENZENE	0.13		0.15		0.13		0.44		0.33		0.32		0.44		0.15	
CARBON TETRACHLORIDE	0.07		0.08		0.09		0.09		0.07		0.08		0.09		0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		0.02	U	0.01	U	0.01	U	0.03	U	ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	0.21		0.08		0.12		0.66		0.66		0.74		0.75		0.19	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.07	U	0.05	U	ND		0.03	U	0.04	U	0.03	U	0.03	U	ND	
TETRACHLOROETHYLENE	0.02	U	ND		ND		0.04	U	0.04	U	0.04	U	0.04	U	ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.06	U	0.02	U	0.02	U	0.13		0.13		0.16		0.16		0.03	U
m,p - XYLENE	0.15	U	0.03	U	0.04	U	0.25	U	0.26	U	0.24	U	0.25	U	0.07	U
BROMOFORM	ND		0.02	U	ND		ND		ND		ND		ND		ND	
STYRENE	ND		0.01	U	ND		0.03	U	0.03	U	0.03	U	0.04	U	ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.06	U	0.01	U	0.02	U	0.11	U	0.11	U	0.11	U	0.11	U	0.03	U
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
V = Canister void in field

Table F-12. VOC Concentrations (p[illegible]v) Measured at Underhill, VT (UNVT)

SAMPLE SITE #	UNVT 8866	UNVT 8910	UNVT 8938D1	UNVT 8938R1	UNVT 8940D2	UNVT 8940R2	UNVT 8988	UNVT 9018
SAMPLE DATE	12/29/96	1/10/97	1/21/97	1/21/97	1/21/97	1/21/97	2/3/97	2/9/97
ANALYSIS DATE	2/4/97	2/4/97	2/6/97	2/7/97	2/6/97	2/20/97	2/28/97	3/4/97
FILE NAME	K/L7BD013	K/L7BD006	K/L7BF017	K/L7BG018	K/L7BF018	K/L7BQ014	K/L7BI015	K/L7CD003
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	4.94	0.08 U	0.78	3.04	0.81	0.69	1.88	0.81
PROPYLENE	2.12	0.03 U	0.17 U	0.25	0.09 U	ND	0.27	0.18 U
CHLOROMETHANE	0.46	ND	0.57	0.60	0.46	0.44	0.38	0.55
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.18	ND	0.05 U	0.06 U	ND	0.03 U	0.07 U	ND
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.10 U	ND	0.08 U	0.06 U	0.10 U	0.09 U	0.09 U	0.08 U
BENZENE	1.65	0.10	0.29	0.25	0.36	0.25	0.53	0.27
CARBON TETRACHLORIDE	0.08	0.01 U	0.09	0.06	0.11	0.10	0.07	0.08
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	2.37	0.16	0.29	0.39	0.34	0.25	0.66	0.43
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	0.14	ND	ND	ND	ND	ND	ND	ND
TETRACHLOROETHYLENE	0.07 U	ND	ND	ND	ND	0.02 U	0.04 U	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.57	ND	0.07 U	0.08 U	0.08 U	0.09 U	0.14	ND
m,p - XYLENE	1.78	0.11 U	0.26 U	0.23 U	0.26 U	0.27 U	0.33 U	0.11 U
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	0.09	ND	ND	ND	ND	ND	ND	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.71	0.05 U	0.10 U	0.13 U	0.12 U	0.14	0.23	0.06 U
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	0.04 U	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
V = Canister void in field

Table F-12. VOC Concentrations (ppbv) Measured at Underhill, VT (UNVT)

SAMPLE SITE #	UNVT 9042		UNVT 9096		UNVT 9149		UNVT 9211		UNVT 9231		UNVT 9278		UNVT 9324		UNVT 9381	
SAMPLE DATE	2/15/97		2/27/97		3/11/97		3/23/97		4/4/97		4/16/97		4/28/97		5/10/97	
ANALYSIS DATE	3/4/97		3/16/97		3/20/97		4/8/97		4/18/97		4/23/97		5/6/97		5/15/97	
FILE NAME	K/L7CD011		K/L7CO014		K/L7CT009		K/L7DH014/13		K/L7DR006		K/L7DW004/8		L7EF013		L7EP008	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	1.02		0.87		0.55		0.50		0.70		0.55		0.28		0.39	
PROPYLENE	ND		0.19		ND		0.16	U	0.18	U	0.06	U	0.10	U	0.15	U
CHLOROMETHANE	0.60		0.58		0.55		0.47		0.52		0.51		0.54		0.48	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.04	U	0.07	U	0.02	U	0.04	U	0.05	U	0.03	U	0.02	U	ND	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	0.01	U	ND		ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.07	U	0.09	U	0.08	U	0.07	U	0.09	U	0.08	U	0.07	U	0.06	U
BENZENE	0.27		0.26		0.19		0.22		0.22		0.14		0.10		0.12	
CARBON TETRACHLORIDE	0.05	U	0.09		0.07		0.09		0.09		0.08		0.07		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
TOLUENE	0.37		0.37		0.17		0.16		0.21		0.13		0.12		0.15	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	ND		ND		ND		ND		ND		ND		ND		ND	
TETRACHLOROETHYLENE	ND		ND		ND		ND		0.02	U	ND		ND		ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.07	U	0.08	U	0.04	U	0.04	U	0.05	U	0.03	U	0.03	U	0.04	U
m,p - XYLENE	0.23	U	0.22	U	0.16	U	0.11	U	0.16	U	0.09	U	0.10	U	0.11	U
BROMOFORM	ND		ND		ND		ND		ND		ND		ND		ND	
STYRENE	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.14		0.13	U	0.11	U	0.08	U	0.10	U	0.07	U	0.06	U	0.07	U
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
V = Canister vo[illegible]field

Table F-12. VOC Concentrations (ppbv) Measured at Underhill, VT (UNVT)

SAMPLE SITE #	UNVT 9414	UNVT 9467	UNVT 9555	UNVT 9713	UNVT 9961	UNVT 10249	UNVT 10462	UNVT 10720
SAMPLE DATE	5/22/97	6/3/97	6/15/97	6/27/97	7/9/97	7/21/97	8/2/97	8/14/97
ANALYSIS DATE	5/29/97	6/12/97	6/25/97	7/9/97	8/2/97	8/6/97	8/28/97	9/11/97
FILE NAME	L7E#005	L7FL005	L7FY014	L7GI008	L7HA008	L7HF010	L7HI011	L7IK008
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
ACETYLENE	0.15	2.53	0.07 U	0.12	0.22	0.17	0.20	0.18
PROPYLENE	ND	1.22	0.08 U	0.32	0.22	0.17	0.10	0.19
CHLOROMETHANE	0.50	0.46	0.46	0.92	0.82	0.61	0.71	0.64
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND
1,3-BUTADIENE	ND	0.10	ND	ND	ND	ND	ND	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	0.01 U	0.17	ND	0.06 U	ND	ND	ND	ND
trans - 1,2 - DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROPRENE	ND	ND	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND
1,2 - DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1 - TRICHLOROETHANE	0.07 U	0.09	0.08	0.08	0.06	0.07	0.06	0.06
BENZENE	0.08	0.98	0.06 U	0.10	0.11	0.08	0.19	0.09
CARBON TETRACHLORIDE	0.08	0.08	0.07	0.09	0.05	0.07	0.08	0.08
1,2 - DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
cis - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,3 - DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2 - TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.06	2.29	0.09 U	0.24	0.16 U	0.12 U	0.20 U	0.13 U
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND
N-OCTANE	ND	0.07 U	ND	ND	ND	ND	ND	ND
TETRACHLOROETHYLENE	ND	0.16 U	ND	0.01 U	ND	ND	ND	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.03 U	0.36	ND	0.03 U	ND	ND	ND	0.05 U
m,p - XYLENE	0.07 U	1.08	0.07 U	0.11 U	0.09 U	ND	ND	0.07 U
BROMOFORM	ND	ND	ND	ND	ND	ND	ND	ND
STYRENE	ND	0.05 U	ND	ND	ND	ND	ND	ND
1,1,2,2 - TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND
o - XYLENE	0.05 U	0.52	0.06 U	0.08 U	0.06 U	ND	ND	0.05 U
m - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
p - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
o - DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
V = Canister void in field

Table F-12. VOC Concentrations (ppbv) Measured at Underhill, VT (UNVT)

SAMPLE SITE #	UNVT 11021	
SAMPLE DATE	8/26/97	
ANALYSIS DATE	9/13/97	
FILE NAME	I7IL017	
UNITS	ppbv	
ACETYLENE	0.20	
PROPYLENE	0.12	
CHLOROMETHANE	0.60	
VINYL CHLORIDE	ND	
1,3-BUTADIENE	ND	
BROMOMETHANE	ND	
CHLOROETHANE	ND	
METHYLENE CHLORIDE	ND	
trans - 1,2 - DICHLOROETHYLENE	ND	
1,1 - DICHLOROETHANE	ND	
CHLOROPRENE	ND	
BROMOCHLOROMETHANE	ND	
CHLOROFORM	ND	
1,2 - DICHLOROETHANE	ND	
1,1,1 - TRICHLOROETHANE	0.05	
BENZENE	0.10	
CARBON TETRACHLORIDE	0.05	
1,2 - DICHLOROPROPANE	ND	
BROMODICHLOROMETHANE	ND	
TRICHLOROETHYLENE	ND	
cis - 1,3 - DICHLOROPROPENE	ND	
trans - 1,3 - DICHLOROPROPENE	ND	
1,1,2 - TRICHLOROETHANE	ND	
TOLUENE	0.16	U
DIBROMOCHLOROMETHANE	ND	
N-OCTANE	ND	
TETRACHLOROETHYLENE	ND	
CHLOROBENZENE	ND	
ETHYLBENZENE	0.05	U
m,p - XYLENE	0.08	U
BROMOFORM	ND	
STYRENE	ND	
1,1,2,2 - TETRACHLOROETHANE	ND	
o - XYLENE	0.05	U
m - DICHLOROBENZENE	ND	
p - DICHLOROBENZENE	ND	
o - DICHLOROBENZENE	ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
+ = Canister Inlet Valve Leak
V = Canister void in field

Table F-13. VOC Concentrations (ppbv) Measured at Winooski, VT (WIVT)

SAMPLE SITE	WIVT 8056		WIVT 8253		WIVT 8460		WIVT 8576		WIVT 8617		WIVT 8640D1		WIVT 8640R1	
SAMPLE DATE	8/31/96		9/12/96		9/24/96		10/6/96		10/18/96		10/30/96		10/30/96	
ANALYSIS DATE	9/21/96		10/3/96		10/10/96		10/24/96		11/10/96		11/14/96		11/19/96	
FILE NAME	K/L6IU004		K/L6JC020		K/L6JJ014		K/L6J$005		K/L6KJ019		K/L6KN011		K/L6KS010	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	1.10		0.41		0.67		1.04		2.33		2.15		1.92	
PROPYLENE	0.39		0.12	U	0.23		ND		0.30		0.31		0.29	
CHLOROMETHANE	0.59		0.45		0.42		0.57		0.49		0.52		0.57	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		ND		ND		ND		ND		ND		ND	
BROMOMETHANE	0.10	U	0.05	U	0.04	U	0.04	U	0.04	U	ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.10	U	0.14	U	0.56		0.08	U	0.13	U	0.17		0.17	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	0.04	U	0.02	U	ND		0.02	U	0.03	U	0.02	U	0.02	U
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.14	U	0.22		0.13	U	0.12	U	0.12	U	0.09	U	0.34	
BENZENE	0.23		0.22		0.16		0.12		0.24		0.20		0.19	
CARBON TETRACHLORIDE	0.10		0.08		0.08		0.10		0.08		0.09		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		0.06	U	ND		ND		ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
TOLUENE	0.49		0.40		0.35		0.20		0.53		0.46		0.55	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.03	U	0.03	U	0.03	U	ND		0.04	U	0.02	U	0.03	U
TETRACHLOROETHYLENE	0.03	U	0.08	U	ND		0.02	U	0.04	U	0.03	U	0.03	U
CHLOROBENZENE	0.03	U	ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.15		0.17		0.09	U	0.09	U	0.26		0.13		0.15	
m,p - XYLENE	0.30	U	0.17	U	0.18	U	0.18	U	0.42		0.34	U	0.42	
BROMOFORM	0.10		0.08	U	ND		0.04	U	0.06	U	0.08	U	0.08	U
STYRENE	0.60		0.14		0.14		0.03	U	0.03	U	0.02	U	0.07	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.10	U	0.11	U	0.06	U	0.06	U	0.14		0.11	U	0.15	
m - DICHLOROBENZENE	0.08	U	ND		ND		0.03	U	0.01	U	ND		ND	
p - DICHLOROBENZENE	0.10	U	ND		ND		0.02	U	ND		ND		0.01	U
o - DICHLOROBENZENE	0.08	U	ND		ND		0.03	U	0.01	U	ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
# = Sample Voided in Field

Table F-13. VOC Concentrations (ppbv) Measured at Winooski, VT (WIVT)

SAMPLE SITE #	WIVT 8642D2		WIVT 8642R2		WIVT 8739		WIVY 8768	WIVT 8789D1		WIVT 8789R1		WIVT 8791D2	
SAMPLE DATE	10/30/96		10/30/96		11/17/96		11/23/96	12/5/96		12/5/96		12/5/96	
ANALYSIS DATE	11/14/96		11/19/96		12/4/96			12/13/96		12/18/96		12/13/96	
FILE NAME	K/L6KN010		K/L6KS011		K/L6LD011			K/L6LM008		K/L6LR010		K/L7LM009	
UNITS	ppbv		ppbv		ppbv		ppbv	ppbv		ppbv		ppbv	
ACETYLENE	2.24		2.10		3.54		#	2.36		2.77		2.53	
PROPYLENE	0.27		0.24		0.64		#	0.37		0.40		0.39	
CHLOROMETHANE	0.49		0.56		0.51		#	0.43		0.46		0.51	
VINYL CHLORIDE	ND		ND		ND		#	ND		ND		ND	
1,3-BUTADIENE	ND		ND		0.06	U	#	0.02	U	ND		0.04	U
BROMOMETHANE	0.02	U	ND		0.03	U	#	ND		ND		ND	
CHLOROETHANE	ND		ND		ND		#	ND		ND		ND	
METHYLENE CHLORIDE	0.17		0.16		0.37		#	0.48		0.44		0.49	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		#	ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		#	ND		ND		ND	
CHLOROPRENE	ND		ND		ND		#	ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		#	ND		ND		ND	
CHLOROFORM	0.02	U	ND		0.02	U	#	0.03	U	0.02	U	0.02	U
1,2 - DICHLOROETHANE	ND		ND		ND		#	ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.10	U	0.45		0.19		#	0.11	U	0.11	U	0.08	U
BENZENE	0.21		0.23		0.63		#	0.44		0.47		0.37	
CARBON TETRACHLORIDE	0.08		0.09		0.10		#	0.09		0.09		0.08	
1,2 - DICHLOROPROPANE	ND		ND		ND		#	ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		#	ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		#	0.01	U	0.01	U	ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		#	ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		#	ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		#	ND		ND		ND	
TOLUENE	0.46		0.53		0.80		#	0.77		0.77		0.74	
DIBROMOCHLOROMETHANE	ND		ND		ND		#	ND		ND		ND	
N-OCTANE	0.03	U	ND		0.03	U	#	0.02	U	0.03	U	0.02	U
TETRACHLOROETHYLENE	0.03	U	0.03	U	0.02	U	#	0.07	U	0.07	U	0.07	U
CHLOROBENZENE	ND		ND		ND		#	ND		ND		ND	
ETHYLBENZENE	0.11	U	0.14		0.16		#	0.13		0.13		0.12	
m,p - XYLENE	0.32	U	0.40		0.42		#	0.32	U	0.31	U	0.31	U
BROMOFORM	0.02	U	ND		0.05	U	#	0.01	U	ND		0.04	U
STYRENE	0.02	U	0.06	U	0.03	U	#	0.03	U	0.03	U	0.03	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		#	ND		ND		ND	
o - XYLENE	0.12	U	0.13	U	0.20		#	0.15		0.15		0.14	
m - DICHLOROBENZENE	ND		ND		ND		#	ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		0.01	U	#	ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		#	ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
# = Sample Void

Table F-13. VOC Concentrations (ppbv) Measured at Winooski, VT (WIVT)

SAMPLE SITE #	WIVT 8791R2		WIVT 8842		WIVT 8874		WIVT 8912		WIVT 8942D1		WIVT 8942R1		WIVT 8944D2	
SAMPLE DATE	12/5/96		12/17/96		12/29/96		1/10/97		1/21/97		1/21/97		1/21/97	
ANALYSIS DATE	12/18/96		12/26/96		2/4/97		2/4/97		2/6/97		2/7/97		2/6/97	
FILE NAME	K/L6LR011		K/L6LZ011		K/L7BD015		K/L7BD003		K/L7BF013		K/L7BG014		K/L7BF014	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	2.78		2.29		0.81		4.70		1.15		1.10		1.05	
PROPYLENE	0.40		0.41		3.31		3.45		0.37		0.31		0.32	
CHLOROMETHANE	0.50		0.53		1.33		0.54		0.44		0.53		0.38	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		ND		1.02		0.21	U	ND		ND		ND	
BROMOMETHANE	ND		ND		ND		0.83		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.46		0.09	U	0.11	U	0.32		ND		0.04	U	0.04	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	0.02	U	0.03	U	ND		0.03	U	ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.09	U	0.11	U	0.09	U	0.19		0.10	U	0.07	U	0.10	U
BENZENE	0.37		0.38		0.54		1.10		0.45		0.38		0.42	
CARBON TETRACHLORIDE	0.09		0.09		0.08		0.09		0.11		0.08		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		0.05	U	ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
TOLUENE	0.73		0.93		1.78		2.62		0.53		0.64		0.63	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.02	U	0.03	U	ND		0.15		ND		ND		ND	
TETRACHLOROETHYLENE	0.07	U	0.04	U	ND		0.12		ND		ND		ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.12		0.13		0.16		0.44		0.11	U	0.12		0.12	
m,p - XYLENE	0.30	U	0.32	U	0.52		1.43		0.35	U	0.37		0.32	U
BROMOFORM	0.04	U	0.04	U	ND		ND		ND		ND		ND	
STYRENE	0.02	U	0.03	U	0.05	U	0.14		ND		ND		ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.13	U	0.14		0.23		0.56		0.17		0.19		0.19	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		0.03	U	0.09	U	ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
# = Sample Voided in Field

Table F-13. VOC Concentrations (ppbv) Measured at Winooski, VT (WIVT)

SAMPLE SITE #	WIVT 8944R2		WIVT 8994		WIVT 9040		WIVT 9098		WIVT 9123		WIVT 9143		WIVT 9201	
SAMPLE DATE	1/21/97		2/3/97		2/15/97		2/27/97		3/5/97		3/11/97		3/23/97	
ANALYSIS DATE	2/7/97		3/3/97		3/7/97		3/15/97		3/17/97		3/20/97		4/8/97	
FILE NAME	K/L7BG015		K/L7CC011		K/L7CF010		K/L7CN015		K/LCQ012		K/LCT012		K/LDH011/10	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	1.11		1.94		1.52		1.81		1.46		1.83		0.70	
PROPYLENE	0.30		0.38		0.43		0.53		0.44		0.54		0.15	U
CHLOROMETHANE	0.50		0.54		0.65		0.49		0.52		0.59		0.50	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		ND		0.02	U	0.04	U	0.01	U	0.04	U	ND	
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.04	U	0.07	U	0.06	U	0.37		0.19		0.10	U	ND	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.09	U	0.09	U	0.09	U	0.07	U	0.08	U	0.08	U	0.08	U
BENZENE	0.43		0.53		0.41		0.43		0.46		0.35		0.23	
CARBON TETRACHLORIDE	0.06		0.08		0.08		0.07		0.08		0.08		0.09	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		0.05	U	ND		ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
TOLUENE	0.60		0.83		0.65		0.76		0.76		0.57		0.22	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	ND		0.05	U	0.05	U	0.04	U	0.03	U	ND		ND	
TETRACHLOROETHYLENE	ND		0.07	U	ND		0.06	U	0.05	U	0.03	U	ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.09	U	0.16		0.11	U	0.14		0.11	U	0.08	U	0.05	U
m,p - XYLENE	0.29	U	0.39		0.29	U	0.41		0.30	U	0.23	U	0.10	U
BROMOFORM	ND		ND		ND		ND		ND		ND		ND	
STYRENE	ND		ND		ND		0.02	U	ND		ND		ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.18		0.27		0.18		0.22		0.16	U	0.14		0.06	U
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
# = Sample Void

Table F-13. VOC Concentrations (ppbv) Measured at Winooski, VT (WIVT)

SAMPLE SITE #	WIVT 9237		WIVT 9281		WIVT 9332		WIVT 9369		WIVT 9412		WIVT 9483		WIVT 9551	
SAMPLE DATE	4/4/97		4/16/97		4/28/97		5/10/97		5/22/97		6/3/97		6/15/97	
ANALYSIS DATE	4/22/97		4/23/97		5/7/97		5/15/97		5/29/97		6/12/97		6/25/97	
FILE NAME	K/LDV004		K/L7DW006/10		L7EF015		L7EF015		L7E#003		L7FL009		L7FY013	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	1.23		0.95		0.57		0.24		0.36		0.71		0.26	
PROPYLENE	0.46		0.22		0.27		0.09	U	0.20		0.39		0.16	
CHLOROMETHANE	0.52		0.49		0.54		0.18	U	0.39		0.40		0.46	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	0.03	U	ND		ND		ND		ND		ND		ND	
BROMOMETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.20		0.17		0.06	U	ND		0.03	U	1.65		0.07	U
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.09	U	0.08	U	0.09	U	0.02	U	0.07	U	0.07		0.08	
BENZENE	0.40		0.25		0.19		0.10		0.12		0.21		0.15	
CARBON TETRACHLORIDE	0.08		0.07		0.05	U	0.02	U	0.07		0.09		0.08	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		0.01	U	ND		0.01	U	ND		ND	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
TOLUENE	0.53		0.39		3.43		0.13		0.25		0.47		0.39	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND		ND	
N-OCTANE	0.02	U	ND		0.06	U	0.02	U	ND		ND		ND	
TETRACHLOROETHYLENE	0.04	U	0.02	U	0.10		ND		ND		ND		ND	
CHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.12		0.06	U	0.32		0.05	U	0.05	U	0.05	U	0.10	U
m,p - XYLENE	0.27	U	0.12	U	0.93		0.06	U	0.11	U	0.16	U	0.14	U
BROMOFORM	ND		ND		ND		ND		ND		ND		ND	
STYRENE	ND		ND		0.06	U	ND		ND		ND		ND	
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND		ND	
o - XYLENE	0.15		0.08	U	0.33		0.03	U	0.06	U	0.08	U	0.06	U
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
# = Sample Voided in Field

Table F-13. VOC Concentrations (ppbv) Measured at Winooski, VT (WIVT)

SAMPLE SITE #	WIVT 9724		WIVT 9963		WIVT 10187		WIVT 10454		WIVT 10714		WIVT 11023	
SAMPLE DATE	6/27/97		7/9/97		7/21/97		8/2/97		8/14/97		8/26/97	
ANALYSIS DATE	7/9/97		8/2/97		8/1/97		8/28/97		9/5/97		9/30/97	
FILE NAME	L7GI011		L7HA009		L7HA014		L7HI013		L7ID020		L7I$005	
UNITS	ppbv		ppbv		ppbv		ppbv		ppbv		ppbv	
ACETYLENE	0.42		0.76		0.52		0.38		0.28		0.92	
PROPYLENE	0.30		0.48		0.41		0.19		0.26		0.52	
CHLOROMETHANE	0.47		0.82		0.82		0.78		0.34		0.80	
VINYL CHLORIDE	ND		ND		ND		ND		ND		ND	
1,3-BUTADIENE	ND		ND		ND		ND		ND		ND	
BROMOMETHANE	ND		ND		ND		ND		ND		ND	
CHLOROETHANE	ND		ND		ND		ND		ND		ND	
METHYLENE CHLORIDE	0.13		0.19		0.11		0.14		0.94		1.41	
trans - 1,2 - DICHLOROETHYLENE	ND		ND		ND		ND		ND		ND	
1,1 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND	
CHLOROPRENE	ND		ND		ND		ND		ND		ND	
BROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND	
CHLOROFORM	ND		ND		ND		ND		ND		ND	
1,2 - DICHLOROETHANE	ND		ND		ND		ND		ND		ND	
1,1,1 - TRICHLOROETHANE	0.09		0.07		0.07		0.43		0.10		0.10	
BENZENE	0.20		0.33		0.18		0.41		0.23		0.31	
CARBON TETRACHLORIDE	0.11		0.05		0.05		0.07		0.08		0.07	
1,2 - DICHLOROPROPANE	ND		ND		ND		ND		ND		ND	
BROMODICHLOROMETHANE	ND		ND		ND		ND		ND		ND	
TRICHLOROETHYLENE	ND		ND		ND		ND		ND		0.03	
cis - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND	
trans - 1,3 - DICHLOROPROPENE	ND		ND		ND		ND		ND		ND	
1,1,2 - TRICHLOROETHANE	ND		ND		ND		ND		ND		ND	
TOLUENE	0.59		0.60		0.42		0.77		0.82		0.71	
DIBROMOCHLOROMETHANE	ND		ND		ND		ND		ND		ND	
N-OCTANE	0.03	U	ND		ND		0.07	U	0.07	U	0.05	U
TETRACHLOROETHYLENE	0.31		0.06	U	ND		0.03	U	0.13	U	0.03	U
CHLOROBENZENE	ND		ND		ND		ND		ND		ND	
ETHYLBENZENE	0.11	U	0.16		0.15		0.47		0.22		0.24	
m,p - XYLENE	0.17	U	0.24		0.18	U	0.36		0.27		0.39	
BROMOFORM	ND		ND		ND		ND		ND		ND	
STYRENE	ND		ND		ND		ND		0.05	U	0.04	U
1,1,2,2 - TETRACHLOROETHANE	ND		ND		ND		ND		ND		ND	
o - XYLENE	0.09	U	0.14		0.10		0.17		0.16		0.18	
m - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND	
p - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND	
o - DICHLOROBENZENE	ND		ND		ND		ND		ND		ND	

U = Detected at Less Than MDL, But Greater Than Zero
ND = Not Detected
# = Sample Voided

APPENDIX G

CARBONYL RAW MONITORING DATA

Table G-1. Carbonyl Concentrations (ppbv) at Baton Rouge, LA (B2LA)

SAMPLE #	8015	8232	8414	8575	8609	8664 D1	8664 R1
SAMPLE DATE	8/31/96	9/12/96	9/24/96	10/1/96	10/18/96	10/30/96	10/30/96
EXTRACTION DATE	10/22/96	10/22/96	10/22/96	11/5/96	11/5/96	12/5/96	12/5/96
ANALYSIS DATE	1/6/97	10/29/96	10/29/96	11/25/96	11/25/96	12/28/96	12/28/96
FILE NAME	O7AF005	N6JI022	N6JI023	O6KX012	O6KX013	O6LX032	O6LX033
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.32	4.98	3.15	0.81	1.66	2.27	2.17
Acetaldehyde	5.02	2.19	2.46	0.52	1.08	1.30	1.22
Acrolein	0.10	0.24	0.42	ND	ND	ND	ND
Acetone	0.40	1.20	0.84	0.35	1.38	1.38	1.36
Propionaldehyde	0.09	0.32	0.36	0.05	0.05	0.18	0.18
Crotonaldehyde	0.12	0.76	0.14	0.04	0.08	0.11	0.10
Butyr/Isobutyraldehyde	0.09	0.18	0.20	0.05	0.14	0.18	0.16
Benzaldehyde	0.03	ND	0.07	ND	0.01	ND	ND
Isovaleraldehyde	0.09	0.08	0.08	ND	ND	ND	ND
Valeraldehyde	0.04	ND	0.11	0.02	0.01	0.03	0.03
Tolualdehydes	0.10	ND	0.13	ND	0.03u	0.04u	ND
Hexaldehyde	0.09	0.14	0.09	0.05	0.03	0.05	0.07
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 4/4 and 5/22/97 include laboratory blank subtraction.

Table G-1. Carbonyl Concentrations (ppbv) at Baton Rouge, LA (B2LA)

SAMPLE #	8666 D2	8666 R2	8753	8810 D1	8810 R1	8812 D2	8812 R2
SAMPLE DATE	10/30/96	10/30/96	11/23/96	12/5/96	12/5/96	12/5/96	12/5/96
EXTRACTION DATE	12/5/96	12/5/96	12/24/96	1/21/97	1/21/97	1/21/97	1/21/97
ANALYSIS DATE	12/28/96	12/28/96	12/28/96	2/12/97	2/12/97	2/12/97	2/12/97
FILE NAME	O6LX034	O6LX035	O6LX039	O7BK029	O7BK030	O7BK031	O7BK032
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.15	2.18	0.08	2.90	2.97	2.91	3.06
Acetaldehyde	0.32	0.56	0.07	2.05	2.11	2.12	2.20
Acrolein	ND	ND	ND	0.04	0.04	0.04	0.04
Acetone	0.56	0.53	0.16	2.34	2.40	2.33	2.44
Propionaldehyde	0.05	0.04	ND	0.18	0.17	0.19	0.18
Crotonaldehyde	0.02	0.03	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.10	0.10	ND	0.25	0.26	0.26	0.27
Benzaldehyde	ND	ND	ND	0.08	0.08	0.07	0.08
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	ND	ND	ND	0.04	0.04	0.04	0.04
Tolualdehydes	ND	0.09	ND	0.02u	0.02u	0.02u	0.02u
Hexaldehyde	0.13	0.12	0.03	0.05	0.04	0.05	0.05
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	0.01	0.01

u - Concentration is below the detection limit.
Note: Results for samples taken between 4/4 and 5/22/97 include laboratory blank subtraction.

Table G-1. Carbonyl Concentrations (ppbv) at Baton Rouge, LA (B2LA)

SAMPLE #	8847	8863	8901	8961 D1	8961 R1	8963 D2	8963 R2
SAMPLE DATE	12/17/96	12/29/96	1/10/97	1/28/97	1/28/97	1/28/97	1/28/97
EXTRACTION DATE	1/21/97	1/21/97	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97
ANALYSIS DATE	2/11/97	2/11/97	2/22/97	2/22/97	2/22/97	2/22/97	2/22/97
FILE NAME	O7BK007	O7BK008	O7BU025	O7BU049	O7BU050	O7BU051	O7BU052
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.76	1.38	1.45	0.86	0.85	0.85	0.85
Acetaldehyde	0.91	1.04	0.81	0.59	0.60	0.63	0.63
Acrolein	0.02	0.05	0.01	0.02	0.01	0.01	0.01
Acetone	1.20	0.52	1.09	0.88	0.87	0.91	0.91
Propionaldehyde	0.13	0.09	0.11	0.09	0.08	0.09	0.09
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.15	0.10	0.10	0.10	0.10	0.09	0.10
Benzaldehyde	0.02	0.03	0.01	0.02	0.02	0.02	0.02
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.04	0.03	0.02	0.02	0.02	0.02	0.02
Tolualdehydes	ND	0.05	ND	ND	ND	ND	ND
Hexaldehyde	0.02	0.02	0.02	0.03	0.03	0.02	0.03
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 4/4 and 5/22/97 include laboratory blank subtraction.

Table G-1. Carbonyl Concentrations (ppbv) at Baton Rouge, LA (B2LA)

SAMPLE #	8976	9033	9115	9134	9180	9224	9244
SAMPLE DATE	2/3/97	2/15/97	3/5/97	3/11/97	3/23/97	4/4/97	4/10/97
EXTRACTION DATE	2/18/97	3/13/97	4/1/97	4/1/97	4/1/97	4/22/97	4/22/97
ANALYSIS DATE	2/22/97	3/15/97	4/2/97	4/2/97	4/2/97	4/28/97	4/28/97
FILE NAME	O7BU027	O7CN031	O7DA013	O7DA016	O7DA014	O7DI005	O7DI006
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.65	1.85	2.48	4.51	2.89	1.87	2.48
Acetaldehyde	0.97	1.21	0.87	4.37	1.97	0.83	1.40
Acrolein	0.01	0.02	0.02	0.06	0.02	0.02	0.02
Acetone	0.40	2.03	0.53	1.39	2.31	0.63	1.98
Propionaldehyde	0.14	0.13	0.12	0.85	0.29	0.11	0.17
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.09	0.17	0.10	0.46	0.24	0.10	0.21
Benzaldehyde	0.03	0.03	0.03	0.06	0.06	0.02	0.04
Isovaleraldehyde	ND	ND	0.01	0.02	0.01	ND	0.001u
Valeraldehyde	0.03	0.02	0.02	0.12	0.05	0.02	0.04
Tolualdehydes	0.01u	0.03u	0.01u	0.01u	0.01u	ND	ND
Hexaldehyde	0.03	0.02	0.03	0.07	0.04	0.04	0.04
2,5-Dimethylbenzaldehyde	0.01	ND	ND	0.01	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 4/4 and 5/22/97 include laboratory blank subtraction.

Table G-1. Carbonyl Concentrations (ppbv) at Baton Rouge, LA (B2LA)

SAMPLE #	9262	9318	9385	9407	9440	9541	9687
SAMPLE DATE	4/16/97	4/28/97	5/10/97	5/22/97	6/3/97	6/15/97	6/27/97
EXTRACTION DATE	4/28/97	5/14/97	6/3/97	6/3/97	6/17/97	7/2/97	7/10/97
ANALYSIS DATE	4/30/97	5/27/97	6/6/97	6/6/97	6/19/97	7/4/97	7/18/97
FILE NAME	O7D$008	O7E~018	O7FF020	O7FF021	O7FS020	O7GC052	O7GQ022
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.06	1.29	2.62	3.47	3.78	1.92	2.08
Acetaldehyde	1.24	0.64	1.56	1.38	1.55	0.17	0.70
Acrolein	0.01	0.02	0.03	0.16	0.04	0.06	0.08
Acetone	2.28	0.94	2.09	0.49	1.45	0.12	0.22
Propionaldehyde	0.19	0.09	0.20	0.24	0.38	0.07	0.15
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.21	0.09	0.22	0.22	0.17	0.09	0.17
Benzaldehyde	0.04	0.02	0.07	0.05	0.03	0.03	0.04
Isovaleraldehyde	0.01	ND	0.01	ND	0.01	ND	ND
Valeraldehyde	0.04	0.03	0.06	0.07	0.04	0.02	0.04
Tolualdehydes	0.01u	ND	0.06	0.04	0.05	ND	ND
Hexaldehyde	0.02	0.03	0.04	0.06	0.05	0.05	0.06
2,5-Dimethylbenzaldehyde	ND	ND	0.02	ND	ND	ND	0.02

u - Concentration is below the detection limit.
Note: Results for samples taken between 4/4 and 5/22/97 include laboratory blank subtraction.

Table G-1. Carbonyl Concentrations (ppbv) at Baton Rouge, LA (B2LA)

SAMPLE #	9974	10172	10416	10688	11186	11306	11505 D1
SAMPLE DATE	7/9/97	7/21/97	8/2/97	8/14/97	9/7/97	9/13/97	10/13/97
EXTRACTION DATE	7/23/97	7/29/97	8/13/97	9/24/97	9/24/97	10/7/97	10/30/97
ANALYSIS DATE	9/2/97	7/31/97	8/14/97	9/26/97	9/26/97	10/9/97	10/31/97
FILE NAME	P7IA009	O7G#035A	O7HM014	O7IZ013	O7IZ014	O7JH038	O7J$047
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.63	3.91	3.64	1.39	2.69	6.31	0.93
Acetaldehyde	0.06	0.47	1.11	0.06	0.80	2.05	0.45
Acrolein	0.03	0.09	0.04	0.01	0.19	0.20	0.003u
Acetone	0.09	0.12	0.91	0.03	0.76	2.64	0.62
Propionaldehyde	0.05	0.15	0.21	0.01	0.12	0.29	0.06
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.07	0.14	0.15	0.02	0.13	0.25	0.06
Benzaldehyde	0.02	0.03	0.11	0.003	0.03	0.10	0.01
Isovaleraldehyde	ND	ND	0.01	ND	ND	0.01	ND
Valeraldehyde	0.03	0.03	0.04	0.03	0.04	0.05	0.01
Tolualdehydes	ND	0.03	ND	ND	0.01	0.06	0.002u
Hexaldehyde	0.04	0.06	0.04	0.03	0.05	0.05	0.01
2,5-Dimethylbenzaldehyde	0.02	0.03	0.02	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 4/4 and 5/22/97 include laboratory blank subtraction.

Table G-1. Carbonyl Concentrations (ppbv) at Baton Rouge, LA (B2LA)

SAMPLE #	11505 R1	11507 D2	11507 R2	11545 D1	11545 R1	11547 D2	11547 R2
SAMPLE DATE	10/13/97	10/13/97	10/13/97	10/19/97	10/19/97	10/19/97	10/19/97
EXTRACTION DATE	10/30/97	10/30/97	10/30/97	11/19/97	11/19/97	11/19/97	11/19/97
ANALYSIS DATE	10/31/97	10/31/97	10/31/97	11/21/97	11/21/97	11/21/97	11/21/97
FILE NAME	O7J$048	O7J$049	O7J$050	O7KT044	O7KT045	O7KT046	O7KT047
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.99	1.29	1.29	2.94	2.99	2.68	2.80
Acetaldehyde	0.48	0.62	0.62	1.43	1.44	1.31	1.32
Acrolein	0.002u	0.003u	0.01	0.03	0.02	0.02	0.02
Acetone	0.65	0.77	0.77	2.86	2.89	2.58	2.61
Propionaldehyde	0.06	0.08	0.08	0.14	0.16	0.13	0.14
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.06	0.09	0.08	0.28	0.29	0.25	0.26
Benzaldehyde	0.01	0.01	0.01	0.04	0.04	0.03	0.04
Isovaleraldehyde	ND	ND	ND	0.001u	0.01	0.003u	0.001u
Valeraldehyde	0.01	0.01	0.01	0.03	0.03	0.03	0.05
Tolualdehydes	0.003u	0.002u	0.001u	0.01	0.01	0.01	0.01
Hexaldehyde	0.02	0.02	0.02	0.03	0.03	0.03	0.03
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 4/4 and 5/22/97 include laboratory blank subtraction.

Table G-1. Carbonyl Concentrations (ppbv) at Baton Rouge, LA (B2LA)

SAMPLE #	11624 D1	11624 R1	11626 D2	11626 R2
SAMPLE DATE	11/6/97	11/6/97	11/6/97	11/6/97
EXTRACTION DATE	11/13/97	11/13/97	11/13/97	11/13/97
ANALYSIS DATE	11/17/97	11/17/97	11/17/97	11/17/97
FILE NAME	O7KQ006	O7KQ007	O7KQ008	O7KQ009
UNITS	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.80	0.84	0.88	0.94
Acetaldehyde	0.56	0.58	0.61	0.66
Acrolein	0.002u	0.002u	0.003u	0.004u
Acetone	1.46	1.53	1.60	1.70
Propionaldehyde	0.06	0.06	0.07	0.07
Crotonaldehyde	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.07	0.07	0.08	0.08
Benzaldehyde	0.01	0.01	0.01	0.01
Isovaleraldehyde	ND	ND	ND	ND
Valeraldehyde	0.01	0.01	0.01	0.01
Tolualdehydes	ND	ND	ND	ND
Hexaldehyde	0.01	0.01	0.01	0.01
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 4/4 and 5/22/97 include laboratory blank subtraction.

Table G-2. Carbonyl Concentrations (ppbv) at Brownsville, TX (BRTX)

SAMPLE #	8217	8446	8585	8591	8735 D1	8735 R1	8736 D2
SAMPLE DATE	9/6/96	9/18/96	9/30/96	10/12/95	10/24/96	10/24/96	10/24/96
EXTRACTION DATE	10/22/96	10/22/96	11/5/96	11/5/96	12/5/96	12/5/96	12/5/96
ANALYSIS DATE	10/29/96	10/29/96	11/25/96	11/25/96	12/28/96	12/28/96	12/28/96
FILE NAME	N6JI011	N6JI012	O6KX006	O6KX007	O6LX019	O6LX020	O6LX021
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.90	2.49	3.37	2.17	2.10	2.11	1.84
Acetaldehyde	11.76	12.66	1.41	3.68	10.09	9.26	11.22
Acrolein	ND	ND	ND	ND	0.26	0.20	0.18
Acetone	0.48	0.53	2.09	2.71	0.33	0.29	0.28
Propionaldehyde	0.09	0.15	0.08	0.10	0.03	0.02	0.04
Crotonaldehyde	0.10	0.19	0.07	0.09	0.14	0.14	0.19
Butyr/Isobutyraldehyde	0.14	0.08	0.13	0.13	0.16	0.17	0.17
Benzaldehyde	0.04	0.04	0.02	ND	0.06	0.07	0.05
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.07	0.05	ND	0.07	0.02	0.02	0.06
Tolualdehydes	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	0.35	0.10	0.10	0.17	0.19	0.19	0.21
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/29 and 5/10/97 include laboratory blank subtraction.

Table G-2. Carbonyl Concentrations (ppbv) at Brownsville, TX (BRTX)

SAMPLE #	8736 R2	8732	8738	8891	8897	8893	8895
SAMPLE DATE	10/24/96	11/5/96	11/17/96	11/29/96	12/11/96	12/23/96	1/10/97
EXTRACTION DATE	12/5/96	12/5/96	12/5/96	2/18/97	2/18/97	2/18/97	2/18/97
ANALYSIS DATE	12/28/96	12/27/96	12/27/96	2/21/97	2/21/97	2/22/97	2/22/97
FILE NAME	O6LX022	O6LX007	O6LX008	O7BU019	O7BU020	O7BU021	O7BU022
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.94	0.73	0.75	1.98	0.57	1.30	3.11
Acetaldehyde	11.26	6.14	7.75	1.56	0.54	0.77	1.81
Acrolein	0.14	ND	0.10	0.04	0.10	0.02	0.04
Acetone	0.27	0.10	0.41	0.99	0.33	0.29	1.98
Propionaldehyde	0.03	0.07	0.11	0.29	0.08	0.15	0.29
Crotonaldehyde	0.20	0.05	0.04	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.18	0.05	0.08	0.16	0.09	0.10	0.22
Benzaldehyde	0.05	0.03	0.07	0.05	0.02	0.03	0.08
Isovaleraldehyde	0.07	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.08	ND	ND	0.05	0.02	0.03	0.05
Tolualdehydes	ND	ND	0.03u	0.02u	0.01u	0.003u	0.04
Hexaldehyde	0.20	0.04	0.07	0.05	0.03	0.03	0.05
2,5-Dimethylbenzaldehyde	ND	ND	ND	0.01	ND	ND	0.01

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/29 and 5/10/97 include laboratory blank subtraction.

Table G-2. Carbonyl Concentrations (ppbv) at Brownsville, TX (BRTX)

SAMPLE #	8979 D1	8979 R1	8981 D2	8981 R2	9053	9059	9066
SAMPLE DATE	1/28/97	1/28/97	1/28/97	1/28/97	2/9/97	2/15/97	2/21/97
EXTRACTION DATE	2/18/97	2/18/97	2/18/97	2/18/97	3/11/97	3/13/97	3/13/97
ANALYSIS DATE	2/22/97	2/22/97	2/22/97	2/22/97	3/14/97	3/15/97	3/15/97
FILE NAME	O7BU044	O7BU045	O7BU046	O7BU047	O7CN014	O7CN034	O7CN035
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.68	1.69	1.70	1.67	2.18	2.39	1.83
Acetaldehyde	0.84	0.83	0.85	0.84	0.90	1.25	0.76
Acrolein	0.01	0.01	0.02	0.01	0.01	0.02	0.03
Acetone	1.15	1.16	1.20	1.18	0.38	1.35	0.35
Propionaldehyde	0.12	0.12	0.12	0.10	0.15	0.18	0.12
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.10	0.11	0.12	0.11	0.12	0.16	0.11
Benzaldehyde	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.02	0.02	0.02	0.02	0.02	0.03	0.02
Tolualdehydes	0.01u	0.01u	0.01	0.01u	0.03u	0.04	0.01
Hexaldehyde	0.02	0.02	0.03	0.03	0.03	0.03	0.02
2,5-Dimethylbenzaldehyde	ND	0.01	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/29 and 5/10/97 include laboratory blank subtraction.

Table G-2. Carbonyl Concentrations (ppbv) at Brownsville, TX (BRTX)

SAMPLE #	9103	9156	9168	9158	9206	9285	9311 D1
SAMPLE DATE	2/27/97	3/5/97	3/11/97	3/17/97	3/29/97	4/10/97	4/16/97
EXTRACTION DATE	3/13/97	4/1/97	4/1/97	4/1/97	4/22/97	4/22/97	4/28/97
ANALYSIS DATE	3/15/97	4/2/97	4/2/97	4/2/97	4/28/97	4/25/97	5/5/97
FILE NAME	O7CN036	O7DA017	O7DA019	O7DA018	O7DI009	O7DV020	O7EE005
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.16	1.47	1.49	1.23	0.85	1.83	1.29
Acetaldehyde	0.90	0.51	0.57	0.47	0.36	0.33	0.63
Acrolein	0.02	0.01	0.02	0.01	0.13	0.03	0.01
Acetone	1.21	0.39	0.36	0.33	0.18	0.16	0.62
Propionaldehyde	0.13	0.07	0.10	0.07	0.11	0.05	0.07
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.12	0.10	0.08	0.06	0.07	0.06	0.09
Benzaldehyde	0.03	0.02	0.03	0.02	0.02	0.02	0.04
Isovaleraldehyde	ND	ND	ND	ND	ND	0.01	ND
Valeraldehyde	0.02	0.02	0.02	0.01	0.02	0.02	0.02
Tolualdehydes	0.01	0.004u	0.005u	0.002u	0.01u	ND	0.01u
Hexaldehyde	0.02	0.03	0.02	0.02	0.02	0.03	0.01
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/29 and 5/10/97 include laboratory blank subtraction.

Table G-2. Carbonyl Concentrations (ppbv) at Brownsville, TX (BRTX)

SAMPLE #	9311 R1	9313 D2	9313 R2	9335	9359	9394 D1	9394 R1
SAMPLE DATE	4/16/97	4/16/97	4/16/97	4/28/97	5/4/97	5/10/97	5/10/97
EXTRACTION DATE	4/28/97	4/28/97	4/28/97	5/14/97	5/14/97	6/3/97	6/3/97
ANALYSIS DATE	5/5/97	5/5/97	5/5/97	5/27/97	5/27/97	6/12/97	6/12/97
FILE NAME	O7EE006	O7EE007	O7EE008	O7E~021	O7E~022	O7FK021	O7FK022
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.26	1.24	1.28	3.12	3.03	2.24	2.14
Acetaldehyde	0.60	0.62	0.64	1.99	1.35	0.91	0.92
Acrolein	0.005	0.01	0.02	0.05	0.03	0.04	0.05
Acetone	0.59	0.67	0.72	1.33	0.56	0.45	0.47
Propionaldehyde	0.08	0.07	0.07	0.38	0.26	0.12	0.12
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.09	0.09	0.10	0.24	0.14	0.10	0.09
Benzaldehyde	0.04	0.04	0.03	0.09	0.05	0.03	0.04
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.01	0.01	0.01	0.08	0.06	0.03	0.03
Tolualdehydes	0.003u	0.004u	0.002u	0.05	0.05	0.04	0.05
Hexaldehyde	0.005	0.01	0.01	0.05	0.06	0.04	0.03
2,5-Dimethylbenzaldehyde	ND	ND	ND	0.02	0.02	0.02	0.02

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/29 and 5/10/97 include laboratory blank subtraction.

Table G-2. Carbonyl Concentrations (ppbv) at Brownsville, TX (BRTX)

SAMPLE #	9396 D2	9396 R2	9456	9581	9698	9902	10167
SAMPLE DATE	5/10/97	5/10/97	6/3/97	6/9/97	6/21/97	7/3/97	7/15/97
EXTRACTION DATE	6/3/97	6/3/97	6/17/97	7/2/97	7/10/97	7/23/97	7/29/97
ANALYSIS DATE	6/12/97	6/12/97	6/19/97	7/4/97	7/15/97	9/2/97	7/31/97
FILE NAME	O7FK023	O7FK024	O7FS018	O7GC053	O7GO016	P7IA012	O7G#037
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.34	2.03	1.67	1.00	1.38	0.95	1.30
Acetaldehyde	1.00	0.95	0.69	0.40	0.49	0.41	0.50
Acrolein	0.06	0.06	0.03	0.03	0.10	0.06	0.05
Acetone	0.56	0.52	0.65	0.31	0.28	0.17	0.19
Propionaldehyde	0.12	0.12	0.11	0.08	0.11	0.10	0.10
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.12	0.12	0.07	0.05	0.07	0.06	0.08
Benzaldehyde	0.04	0.04	0.04	0.03	0.03	0.03	0.03
Isovaleraldehyde	ND	ND	0.02	0.02	0.01	0.02	0.02
Valeraldehyde	0.03	0.03	0.03	0.04	0.03	0.03	0.03
Tolualdehydes	0.04u	0.05	0.03	ND	0.03	0.03	0.03
Hexaldehyde	0.04	0.04	0.08	0.06	0.05	0.05	0.05
2,5-Dimethylbenzaldehyde	0.02	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/29 and 5/10/97 include laboratory blank subtraction.

Table G-2. Carbonyl Concentrations (ppbv) at Brownsville, TX (BRTX)

SAMPLE #	10369	10685	11043
SAMPLE DATE	7/27/97	8/8/97	8/26/97
EXTRACTION DATE	8/13/97	9/24/97	9/24/97
ANALYSIS DATE	8/15/97	9/27/97	9/27/97
FILE NAME	O7HM020	O7IZ018	O7IZ019
UNITS	ppbv	ppbv	ppbv
Formaldehyde	0.94	1.48	2.00
Acetaldehyde	0.31	0.50	1.09
Acrolein	0.09	0.11	0.21
Acetone	0.18	0.17	0.40
Propionaldehyde	0.09	0.07	0.17
Crotonaldehyde	ND	ND	ND
Butyr/Isobutyraldehyde	0.06	0.04	0.13
Benzaldehyde	0.03	0.01	0.03
Isovaleraldehyde	0.02	0.003u	0.02
Valeraldehyde	0.03	0.04	0.05
Tolualdehydes	ND	0.01	0.02
Hexaldehyde	0.05	0.05	0.07
2,5-Dimethylbenzaldehyde	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/29 and 5/10/97 include laboratory blank subtraction.

Table G-3. Carbonyl Concentrations (ppbv) at Brattleboro, VT (BRVT)

SAMPLE #	8052	8266	8455	8581	8614	8645	8688
SAMPLE DATE	8/31/96	9/12/96	9/24/96	10/6/96	10/18/96	10/30/96	11/11/96
EXTRACTION DATE	10/22/96	10/22/96	10/22/96	11/5/96	11/5/96	11/22/96	11/22/96
ANALYSIS DATE	10/29/96	10/29/96	10/29/96	11/25/96	11/25/96	12/6/96	12/6/96
FILE NAME	N6JI014	N6JI016	N6JI017	O6KX008	O6KX009	O6LF007	O6LF008
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.65	1.59	1.24	1.21	1.37	1.28	1.01
Acetaldehyde	1.20	0.89	0.48	0.73	0.77	0.71	0.53
Acrolein	ND	ND	ND	ND	ND	0.03	ND
Acetone	1.30	1.19	1.18	1.44	1.57	2.02	0.85
Propionaldehyde	0.15	0.11	0.10	0.07	0.10	0.09	0.06
Crotonaldehyde	0.43	0.15	0.06	0.06	0.06	0.07	0.04
Butyr/Isobutyraldehyde	0.12	0.07	0.10	0.11	0.11	0.13	0.08
Benzaldehyde	0.05	0.03	0.03	ND	ND	ND	ND
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.03	0.07	0.05	ND	ND	0.11	ND
Tolualdehydes	0.15	0.07	ND	0.06	ND	ND	ND
Hexaldehyde	0.31	0.11	0.06	0.05	0.07	0.08	0.06
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-3. Carbonyl Concentrations (ppbv) at Brattleboro, VT (BRVT)

SAMPLE #	8757	8794 D1	8794 R1	8796 D2	8796 R2	8837	8873
SAMPLE DATE	11/23/96	12/5/96	12/5/96	12/5/96	12/5/96	12/17/96	12/29/96
EXTRACTION DATE	12/24/96	1/21/97	1/21/97	1/21/97	1/21/97	1/21/97	1/21/97
ANALYSIS DATE	12/28/96	2/12/97	2/12/97	2/12/97	2/12/97	2/11/97	2/11/97
FILE NAME	O6LX040	O7BK033	O7BK034	O7BK035	O7BK036	O7BK009	O7BK010
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.65	1.85	1.79	1.92	2.06	1.58	1.20
Acetaldehyde	0.91	0.81	0.82	0.83	0.87	0.68	0.75
Acrolein	0.02	0.03	0.03	0.03	0.03	0.04	0.02
Acetone	1.22	1.92	1.99	2.06	2.15	1.56	1.14
Propionaldehyde	0.12	0.07	0.06	0.09	0.08	0.07	0.09
Crotonaldehyde	0.04	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.13	0.14	0.15	0.15	0.14	0.13	0.11
Benzaldehyde	ND	0.05	0.05	0.05	0.05	0.05	0.03
Isovaleraldehyde	ND	0.03	0.03	0.04	0.04	ND	ND
Valeraldehyde	ND	0.02	0.02	0.02	0.02	0.02	0.01
Tolualdehydes	ND	0.01u	0.01u	0.01u	0.01u	ND	ND
Hexaldehyde	0.06	0.06	0.05	0.06	0.06	0.03	0.06
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-3. Carbonyl Concentrations (ppbv) at Brattleboro, VT (BRVT)

SAMPLE #	8905	8947 D1	8947 R1	8949 D2	8949 R2	8992	9026
SAMPLE DATE	1/10/97	1/22/97	1/22/97	1/22/97	1/22/97	2/3/97	2/9/97
EXTRACTION DATE	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97
ANALYSIS DATE	2/21/97	2/22/97	2/22/97	2/22/97	2/22/97	2/21/97	2/21/97
FILE NAME	O7BU012	O7BU035	O7BU036	O7BU038	O7BU039	O7BU013	O7BU014
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.02	1.66	1.65	1.64	1.64	2.58	2.83
Acetaldehyde	1.06	1.10	1.09	1.09	1.08	1.65	1.15
Acrolein	0.04	0.03	0.03	0.03	0.03	0.06	0.04
Acetone	1.26	1.28	1.26	1.27	1.27	2.98	1.08
Propionaldehyde	0.14	0.15	0.14	0.14	0.14	0.21	0.16
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.22	0.14	0.15	0.15	0.14	0.29	0.12
Benzaldehyde	0.06	0.04	0.04	0.05	0.06	0.10	0.03
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.04	0.02	0.02	0.02	0.04	0.05	0.03
Tolualdehydes	0.01u	ND	ND	ND	ND	0.01u	0.02
Hexaldehyde	0.09	0.04	0.04	0.04	0.04	0.05	0.04
2,5-Dimethylbenzaldehyde	ND	0.005u	0.01	0.01	0.01	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-3. Carbonyl Concentrations (ppbv) at Brattleboro, VT (BRVT)

SAMPLE #	9045	9081 D1	9081 R1	9083 D2	9083 R2	9093	9142
SAMPLE DATE	2/15/97	2/21/97	2/21/97	2/21/97	2/21/97	2/27/97	3/11/97
EXTRACTION DATE	3/13/97	3/13/97	3/13/97	3/13/97	3/13/97	3/13/97	4/1/97
ANALYSIS DATE	3/15/97	3/16/97	3/16/97	3/16/97	3/16/97	3/15/97	4/2/97
FILE NAME	O7CN033	O7CN055	O7CN056	O7CN057	O7CN058	O7CN020	O7DA020
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.10	2.19	2.16	2.08	2.07	2.17	2.28
Acetaldehyde	1.19	1.41	1.41	1.36	1.38	1.05	1.16
Acrolein	0.04	0.02	0.02	0.02	0.02	0.04	0.02
Acetone	1.82	1.56	1.56	1.60	1.60	2.40	1.32
Propionaldehyde	0.13	0.16	0.16	0.14	0.14	ND	0.12
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.17	0.19	0.19	0.19	0.18	0.25	0.18
Benzaldehyde	0.06	0.05	0.04	0.05	0.05	0.07	0.06
Isovaleraldehyde	0.10	0.07	0.06	0.08	0.08	0.008	ND
Valeraldehyde	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Tolualdehydes	0.08	0.05	0.07	0.05	0.01	0.09	0.02u
Hexaldehyde	0.05	0.04	0.05	0.07	0.06	0.10	0.07
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-3. Carbonyl Concentrations (ppbv) at Brattleboro, VT (BRVT)

SAMPLE #	9216	9230	9276	9331	9379	9417	9478
SAMPLE DATE	3/23/97	4/4/97	4/16/97	4/28/97	5/10/97	5/22/97	6/3/97
EXTRACTION DATE	4/22/97	4/22/97	4/22/97	5/14/97	6/3/97	6/3/97	6/17/97
ANALYSIS DATE	4/28/97	4/28/97	4/24/97	5/27/97	6/7/97	6/7/97	6/19/97
FILE NAME	O7DI010	O7DI011	O7DV011	O7E-019	O7FF022	O7FF023	O7FS021
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.42	2.48	2.45	1.39	1.38	1.23	4.32
Acetaldehyde	1.85	1.31	1.13	0.71	0.75	0.50	1.85
Acrolein	0.04	0.01	0.02	0.02	0.02	0.01	0.05
Acetone	2.61	1.16	1.93	1.34	0.93	0.67	3.02
Propionaldehyde	0.24	0.10	0.10	0.13	0.11	0.09	0.23
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.22	0.13	0.20	0.17	0.10	0.07	0.25
Benzaldehyde	0.06	0.03	0.06	0.03	0.03	0.02	0.09
Isovaleraldehyde	ND	ND	ND	0.01	ND	ND	0.04
Valeraldehyde	0.07	0.02	0.03	0.06	0.05	0.04	0.12
Tolualdehydes	0.02u	0.001u	0.02u	0.02u	0.03u	0.03u	0.05
Hexaldehyde	0.09	0.04	0.06	0.08	0.05	0.05	0.19
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-3. Carbonyl Concentrations (ppbv) at Brattleboro, VT (BRVT)

SAMPLE #	9554	9722	9966	10195	10457	10719	11028
SAMPLE DATE	6/15/97	6/27/97	7/9/97	7/21/97	8/2/97	8/14/97	8/26/97
EXTRACTION DATE	7/10/97	7/10/97	7/23/97	8/13/97	8/13/97	9/24/97	9/24/97
ANALYSIS DATE	7/18/97	7/18/97	9/2/97	8/14/97	8/15/97	9/27/97	9/27/97
FILE NAME	O7GQ024	O7GQ025	P7IA011	O7HM016	O7HM017	O7IZ016	O7IZ017
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	6.13	5.15	5.66	4.29	9.57	4.44	4.24
Acetaldehyde	2.77	2.11	2.43	1.92	3.94	1.61	1.48
Acrolein	0.06	0.06	0.10	0.07	0.09	0.04	0.05
Acetone	4.15	2.57	1.52	1.47	3.50	2.26	1.29
Propionaldehyde	0.40	0.29	0.44	0.32	0.53	0.13	0.21
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.32	0.22	0.28	0.31	0.46	0.12	0.12
Benzaldehyde	0.13	0.11	0.12	0.15	0.16	0.06	0.09
Isovaleraldehyde	0.04	0.03	0.03	0.05	0.03	ND	0.001u
Valeraldehyde	0.15	0.12	0.12	0.10	0.20	0.06	0.05
Tolualdehydes	0.07	0.06	0.07	0.08	0.08	0.03	0.03
Hexaldehyde	0.23	0.18	0.21	0.17	0.30	0.13	0.12
2,5-Dimethylbenzaldehyde	0.03	0.03	0.03	0.03	0.05	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-4. Carbonyl Concentrations (ppbv) at Burlington, VT (BUVT)

SAMPLE #	8051	8256	8453	8571	8612	8656 D1	8656 R1
SAMPLE DATE	8/31/96	9/12/96	9/24/96	10/6/96	10/18/96	10/30/96	10/30/96
EXTRACTION DATE	10/22/96	10/22/96	10/22/96	11/5/96	11/5/96	11/22/96	11/22/96
ANALYSIS DATE	10/29/96	10/29/96	1/6/97	11/25/96	11/26/96	12/7/96	12/7/96
FILE NAME	N6JI018	N6JI019	O7AF006	O6KX014	O6KX016	O6LF019	O6LF020
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	7.33	6.11	4.21	1.56	5.80	3.88	3.53
Acetaldehyde	2.38	1.92	1.61	5.77	2.95	1.88	1.78
Acrolein	ND	ND	0.07	ND	ND	ND	0.05
Acetone	2.98	2.35	2.77	3.78	3.98	2.78	2.53
Propionaldehyde	0.40	0.23	0.21	ND	0.25	0.23	0.20
Crotonaldehyde	0.55	0.39	0.16	0.13	0.16	0.14	0.13
Butyr/Isobutyraldehyde	0.28	0.22	0.29	0.26	0.36	0.27	0.26
Benzaldehyde	0.13	0.06	0.11	0.03	0.13	0.11	0.09
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.08	0.02	0.04	0.07	0.04	0.03	0.05
Tolualdehydes	ND	ND	0.17	ND	0.17	ND	0.13
Hexaldehyde	0.33	0.13	0.11	0.08	0.10	0.11	0.11
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-4. Carbonyl Concentrations (ppbv) at Burlington, VT (BUVT)

SAMPLE #	8658 D2	8658 R2	8690	8767	8798 D1	8798 R1	8800 D2
SAMPLE DATE	10/30/96	10/30/96	11/11/96	11/23/96	12/5/96	12/5/96	12/5/96
EXTRACTION DATE	11/22/96	11/22/96	11/22/96	12/5/96	1/21/97	1/21/97	1/21/97
ANALYSIS DATE	12/7/96	12/7/96	12/6/96	12/28/96	2/12/97	2/12/97	2/12/97
FILE NAME	O6LF021	O6LF022	O6LF009	O6LX018	O7BK038	O7BK039	O7BK040
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.89	3.60	5.05	4.47	3.83	4.00	3.54
Acetaldehyde	1.97	1.80	1.86	0.99	2.08	2.18	1.88
Acrolein	0.06	ND	0.05	0.06	0.07	0.07	0.07
Acetone	2.83	2.64	2.23	2.16	2.63	2.76	2.39
Propionaldehyde	0.21	0.19	0.19	0.20	0.18	0.19	0.17
Crotonaldehyde	0.15	0.13	0.11	0.13	ND	ND	ND
Butyr/Isobutyraldehyde	0.28	0.26	0.23	0.23	0.25	0.26	0.25
Benzaldehyde	0.10	0.09	ND	ND	0.12	0.13	0.10
Isovaleraldehyde	0.05	ND	ND	ND	0.08	0.09	0.09
Valeraldehyde	0.08	0.02	ND	ND	0.03	0.03	0.03
Tolualdehydes	ND	ND	ND	0.38	0.03u	0.02u	0.03u
Hexaldehyde	0.14	0.14	0.09	0.13	0.09	0.10	0.09
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-4. Carbonyl Concentrations (ppbv) at Burlington, VT (BUVT)

SAMPLE #	8800 R2	8841	8869	8907	8935 D1	8935 R1	8937 D2
SAMPLE DATE	12/5/96	12/17/96	12/29/96	1/10/97	1/22/97	1/22/97	1/22/97
EXTRACTION DATE	1/21/97	1/21/97	1/21/97	2/18/97	2/18/97	2/18/97	2/18/97
ANALYSIS DATE	2/12/97	2/11/97	2/11/97	2/21/97	2/22/97	2/22/97	2/22/97
FILE NAME	O7BK041	O7BK011	O7BK012	O7BU016	O7BU040	O7BU041	O7BU042
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.80	4.38	4.27	6.91	2.01	2.01	2.38
Acetaldehyde	2.02	1.72	2.20	3.40	1.07	1.07	1.26
Acrolein	0.06	0.05	0.06	0.12	0.02	0.02	0.02
Acetone	2.57	1.33	2.33	2.50	1.13	1.11	1.35
Propionaldehyde	0.19	0.18	0.26	0.43	0.14	0.13	0.16
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.24	0.22	0.29	0.39	0.11	0.13	0.16
Benzaldehyde	0.10	0.12	0.09	0.20	0.04	0.04	0.05
Isovaleraldehyde	0.10	0.01	0.02	0.04	ND	ND	ND
Valeraldehyde	0.03	0.04	0.04	0.08	0.02	0.02	0.02
Tolualdehydes	0.02u	0.13	0.12	0.10	ND	ND	ND
Hexaldehyde	0.12	0.07	0.05	0.11	0.02	0.03	0.09
2,5-Dimethylbenzaldehyde	ND	ND	0.02	0.03	0.01	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-4. Carbonyl Concentrations (ppbv) at Burlington, VT (BUVT)

SAMPLE #	8937 R2	8983	9024	9047	9101	9148	9204
SAMPLE DATE	1/22/97	2/3/97	2/9/97	2/15/97	2/27/97	3/11/97	3/23/97
EXTRACTION DATE	2/18/97	2/18/97	2/18/97	3/13/97	3/13/97	4/1/97	4/22/97
ANALYSIS DATE	2/22/97	2/21/97	2/21/97	3/15/97	3/15/97	4/2/97	4/28/97
FILE NAME	O7BU043	O7BU017	O7BU018	O7CN021	O7CN022	O7DA021	O7D!007
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.37	3.50	3.04	3.28	2.52	2.67	1.93
Acetaldehyde	1.28	1.56	1.63	1.51	1.38	1.06	0.66
Acrolein	0.02	0.04	0.07	0.04	0.03	0.02	0.01
Acetone	1.36	2.35	1.36	1.45	1.84	1.38	1.03
Propionaldehyde	0.16	0.26	0.20	0.16	0.13	0.12	0.09
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.16	0.25	0.13	0.17	0.17	0.13	0.08
Benzaldehyde	0.04	0.08	0.05	0.08	0.07	0.05	0.03
Isovaleraldehyde	ND	0.02	0.01	0.02	ND	ND	ND
Valeraldehyde	0.02	0.03	0.02	0.03	0.02	0.02	0.02
Tolualdehydes	ND	0.06	0.01	0.07	0.07	0.01u	ND
Hexaldehyde	0.03	0.05	0.04	0.07	0.04	0.02	0.02
2,5-Dimethylbenzaldehyde	ND	0.01	ND	ND	ND	0.01	0.02

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-4. Carbonyl Concentrations (ppbv) at Burlington, VT (BUVT)

SAMPLE #	9234	9273	9303 D1	9303 R1	9305 D2	9305 R2	9327
SAMPLE DATE	4/4/97	4/16/97	4/22/97	4/22/97	4/22/97	4/22/97	4/28/97
EXTRACTION DATE	4/22/97	4/28/97	4/28/97	4/28/97	4/28/97	4/28/97	5/14/97
ANALYSIS DATE	4/28/97	4/30/97	5/1/97	5/1/97	5/1/97	5/1/97	5/27/97
FILE NAME	O7DI008	O7D$009	O7D$021	O7D$022	O7D$023	O7D$024	O7E~020
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.21	3.89	2.95	3.15	3.37	3.37	2.04
Acetaldehyde	1.17	1.58	1.27	1.35	1.46	1.46	1.21
Acrolein	0.02	0.04	0.03	0.04	0.03	0.05	0.02
Acetone	1.95	2.15	1.70	1.87	1.95	1.98	1.44
Propionaldehyde	0.13	0.17	0.15	0.18	0.17	0.18	0.12
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.16	0.17	0.15	0.15	0.19	0.17	0.13
Benzaldehyde	0.06	0.06	0.07	0.08	0.08	0.08	0.04
Isovaleraldehyde	ND	0.01	ND	ND	ND	ND	0.02
Valeraldehyde	0.02	0.03	0.03	0.03	0.03	0.04	0.04
Tolualdehydes	0.02u	0.01u	0.02u	0.03u	0.03u	0.02u	0.05u
Hexaldehyde	0.03	0.02	0.03	0.03	0.04	0.03	0.05
2,5-Dimethylbenzaldehyde	ND	0.02	0.01	0.01	0.02	0.02	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-4. Carbonyl Concentrations (ppbv) at Burlington, VT (BUVT)

SAMPLE #	9373	9411	9471	9550	9717	9968	10199
SAMPLE DATE	5/10/97	5/22/97	6/3/97	6/15/97	6/27/97	7/9/97	7/21/97
EXTRACTION DATE	6/3/97	6/3/97	6/17/97	7/2/97	7/10/97	7/23/97	8/13/97
ANALYSIS DATE	6/7/97	6/7/97	6/20/97	7/5/97	7/18/97	9/2/97	8/15/97
FILE NAME	O7FF024	O7FF025	O7FS022	O7GC054A	O7GQ023	P7IA010	O7HM018
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.37	2.26	4.12	2.89	3.97	2.10	3.21
Acetaldehyde	0.93	0.74	1.70	0.99	1.25	0.82	1.03
Acrolein	0.04	0.03	0.06	0.05	0.05	0.12	0.08
Acetone	1.19	0.88	2.64	1.63	1.76	0.93	1.29
Propionaldehyde	0.13	0.10	0.21	0.14	0.14	0.16	0.14
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.13	0.10	0.19	0.09	0.18	0.12	0.17
Benzaldehyde	0.07	0.06	0.11	0.04	0.08	0.07	0.08
Isovaleraldehyde	0.02	ND	0.03	0.02	0.02	0.04	0.01
Valeraldehyde	0.03	0.03	0.05	0.03	0.04	0.04	0.04
Tolualdehydes	0.06	0.05	0.05	0.11	0.05	0.05	0.05
Hexaldehyde	0.04	0.03	0.08	0.04	0.07	0.07	0.05
2,5-Dimethylbenzaldehyde	0.02	0.02	ND	0.06	0.02	0.02	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-4. Carbonyl Concentrations (ppbv) at Burlington, VT (BUVT)

SAMPLE #	10459	10717	11026
SAMPLE DATE	8/2/97	8/14/97	8/26/97
EXTRACTION DATE	8/13/97	9/24/97	9/24/97
ANALYSIS DATE	8/15/97	9/27/97	9/27/97
FILE NAME	O7HM019	O7IZ020	O7IZ021
UNITS	ppbv	ppbv	ppbv
Formaldehyde	3.28	1.63	2.27
Acetaldehyde	1.48	0.49	0.89
Acrolein	0.13	0.15	0.08
Acetone	0.82	1.09	0.93
Propionaldehyde	0.27	0.05	0.10
Crotonaldehyde	ND	ND	ND
Butyr/Isobutyraldehyde	0.18	0.08	0.11
Benzaldehyde	0.06	0.03	0.04
Isovaleraldehyde	0.03	ND	0.00
Valeraldehyde	0.05	0.02	0.05
Tolualdehydes	0.06	0.01	0.03
Hexaldehyde	0.06	0.04	0.07
2,5-Dimethylbenzaldehyde	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-5. Carbonyl Concentrations (ppbv) at Camden, NJ (CANJ)

SAMPLE #	8157	8340	8550	8593	8631	8648	8686
SAMPLE DATE	9/6/96	9/18/96	9/30/96	10/12/96	10/24/96	10/30/96	11/5/96
EXTRACTION DATE	10/22/96	10/22/96	10/24/96	11/5/96	11/5/96	11/22/96	11/22/96
ANALYSIS DATE	10/29/96	10/29/96	11/19/96	11/26/96	11/21/96	12/6/96	12/6/96
FILE NAME	N6JI024	N6JI025	O6KS006	O6KX020	O6KU019	O6LF010	O6LF011
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.97	9.27	9.49	12.78	15.37	15.78	16.10
Acetaldehyde	0.66	2.24	7.79	2.47	2.35	2.11	1.91
Acrolein	ND	ND	0.07	0.24	ND	0.06	ND
Acetone	0.79	1.60	1.44	2.27	1.96	1.95	0.12
Propionaldehyde	0.07	0.08	0.11	0.23	ND	ND	1.74
Crotonaldehyde	0.25	0.40	0.27	0.22	0.28	0.29	ND
Butyr/Isobutyraldehyde	ND	ND	0.36	0.42	0.49	0.29	ND
Benzaldehyde	0.04	0.05	ND	0.06	0.08	ND	ND
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	ND	ND	0.08	ND	0.07	0.02	ND
Tolualdehydes	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	0.25	0.16	0.18	0.11	0.19	0.14	0.12
2,5-Dimethylbenzaldehyde	ND	ND	0.06	ND	ND	ND	ND

u - Concentration is below the detection limit.

d - Concentration based on a dilution.

Note: Results for samples taken between 3/29 and 5/27/97 include laboratory blank subtraction.

Table G-5. Carbonyl Concentrations (ppbv) at Camden, NJ (CANJ)

SAMPLE #	8729	8780	8822 D1	8822 R1	8824 D2	8824 R2	8851
SAMPLE DATE	11/17/96	11/29/96	12/11/96	12/11/96	12/11/96	12/11/96	12/23/96
EXTRACTION DATE	12/5/96	12/24/96	1/21/97	1/21/97	1/21/97	1/21/97	1/21/97
ANALYSIS DATE	12/27/96	12/28/96	2/12/97	2/12/97	2/12/97	2/12/97	2/11/97
FILE NAME	O6LX010	O6LX041	O7BK042	O7BK043	O7BK044	O7BK045	O7BK013
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	6.48	7.20	21.57	21.56	22.19d	22.79d	13.08
Acetaldehyde	1.63	1.07	3.13	3.20	3.20	3.28	2.40
Acrolein	ND	ND	0.09	0.09	0.08	0.08	0.05
Acetone	0.10	ND	2.62	2.66	2.52	2.57	1.61
Propionaldehyde	2.94	0.87	0.10	0.10	0.10	0.10	0.08
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	ND	ND	0.31	0.29	0.25	0.26	0.23
Benzaldehyde	ND	ND	0.11	0.12	0.11	0.11	0.07
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	ND	ND	0.02	0.02	0.02	0.02	ND
Tolualdehydes	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	0.13	0.07	0.02	0.01	0.01	0.01	0.06
2,5-Dimethylbenzaldehyde	0.05	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution.
Note: Results for samples taken between 3/29 and 5/27/97 include laboratory blank subtraction.

Table G-5. Carbonyl Concentrations (ppbv) at Camden, NJ (CANJ)

SAMPLE #	8887	8919	8967 D1	8967 R1	8969 D2	8969 R2	9012
SAMPLE DATE	1/4/97	1/16/97	1/28/97	1/28/97	1/28/97	1/28/97	2/9/97
EXTRACTION DATE	1/21/97	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97
ANALYSIS DATE	2/11/97	2/22/97	2/22/97	2/22/97	2/22/97	2/22/97	2/22/97
FILE NAME	O7BK014	O7BU028	O7BU053	O7BU054	O7BU055	O7BU056	O7BU029
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	25.59	12.47	19.45	19.26	20.67d	20.65d	12.17
Acetaldehyde	2.77	1.26	2.76	2.75	2.70	2.70	1.57
Acrolein	0.12	0.05	0.08	0.08	0.07	0.08	0.07
Acetone	2.46	1.25	2.04	2.04	1.88	1.87	1.34
Propionaldehyde	0.09	0.07	0.15	0.16	0.14	0.15	0.08
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.51	0.14	0.35	0.33	0.29	0.28	0.16
Benzaldehyde	0.10	0.06	0.10	0.10	0.10	0.09	0.06
Isovaleraldehyde	ND	ND	ND	ND	0.02	0.02	ND
Valeraldehyde	ND	0.01u	0.04	0.04	0.03	0.03	0.03
Tolualdehydes	ND	0.02u	ND	ND	ND	ND	0.04u
Hexaldehyde	0.05	0.02	0.08	0.10	0.07	0.06	0.08
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution.
Note: Results for samples taken between 3/29 and 5/27/97 include laboratory blank subtraction.

Table G-5. Carbonyl Concentrations (ppbv) at Camden, NJ (CANJ)

SAMPLE #	9068	9117	9190	9222	9256	9269 D1	9269 R1
SAMPLE DATE	2/21/97	3/5/97	3/23/97	3/29/97	4/10/97	4/16/97	4/16/97
EXTRACTION DATE	3/13/97	4/1/97	4/1/97	4/22/97	4/28/97	4/28/97	4/28/97
ANALYSIS DATE	3/15/97	4/2/97	4/2/97	4/28/97	4/30/97	5/5/97	5/5/97
FILE NAME	O7CN038	O7DA022	O7DA023	O7DI012	O7D$010	O7EE009	O7EE010
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	21.70	7.15	1.02	1.82	1.01	1.38	1.39
Acetaldehyde	2.58	1.06	0.58	1.06	0.63	1.06	1.08
Acrolein	0.09	0.03	0.01	0.01	0.01	0.01	0.01
Acetone	2.26	0.67	0.66	1.07	0.79	1.16	1.20
Propionaldehyde	0.15	0.04	0.06	0.12	0.06	0.10	0.10
Crotonaldehyde	ND	ND	ND	0.01	ND	ND	ND
Butyr/Isobutyraldehyde	0.23	0.07	0.06	0.12	0.07	0.11	0.12
Benzaldehyde	0.07	0.03	0.01	0.02	0.01	0.02	0.02
Isovaleraldehyde	0.02	ND	ND	ND	ND	ND	ND
Valeraldehyde	ND	0.01	0.01	0.02	0.01	0.01	0.01
Tolualdehydes	ND	0.01u	ND	ND	ND	0.002u	0.001u
Hexaldehyde	0.05	0.02	0.01	0.02	0.005	0.004	0.004
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.

d - Concentration based on a dilution.

Note: Results for samples taken between 3/29 and 5/27/97 include laboratory blank subtraction.

Table G-5. Carbonyl Concentrations (ppbv) at Camden, NJ (CANJ)

SAMPLE #	9271 D2	9271 R2	9301	9362	9405	9425	9496
SAMPLE DATE	4/16/97	4/16/97	4/22/97	5/4/97	5/22/97	5/27/97	6/9/97
EXTRACTION DATE	4/28/97	4/28/97	4/28/97	5/14/97	6/3/97	6/3/97	6/17/97
ANALYSIS DATE	5/5/97	5/5/97	4/30/97	5/28/97	6/11/97	6/12/97	6/20/97
FILE NAME	O7EE011	O7EE012	O7D$011	O7E~023	O7FK005	O7FK018	O7FS027
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.37	1.43	1.85	1.06	2.26	3.66	7.11
Acetaldehyde	1.07	1.11	1.20	0.62	1.23	1.99	2.29
Acrolein	0.01	0.01	0.02	0.01	0.02	0.05	0.05
Acetone	1.19	1.25	1.71	1.00	1.61	1.89	1.21
Propionaldehyde	0.10	0.10	0.14	0.07	0.14	0.28	0.40
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.12	0.13	0.14	0.08	0.15	0.25	0.28
Benzaldehyde	0.02	0.02	0.04	0.01	0.03	0.05	0.16
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.01	0.01	0.03	0.02	0.04	0.07	0.10
Tolualdehydes	0.001u	0.002u	0.002u	ND	ND	0.02u	0.03
Hexaldehyde	0.01	0.01	0.02	0.02	0.04	0.07	0.52
2,5-Dimethylbenzaldehyde	ND	ND	0.004	ND	0.02	0.02	0.05

u - Concentration is below the detection limit.
d - Concentration based on a dilution.
Note: Results for samples taken between 3/29 and 5/27/97 include laboratory blank subtraction.

Table G-5. Carbonyl Concentrations (ppbv) at Camden, NJ (CANJ)

SAMPLE #	9642	9833	10033	10312	10659	10913
SAMPLE DATE	6/21/97	7/3/97	7/15/97	7/27/97	8/8/97	8/20/97
EXTRACTION DATE	7/2/97	7/10/97	7/23/97	8/13/97	9/24/97	9/24/97
ANALYSIS DATE	7/5/97	7/18/97	9/2/97	8/15/97	9/27/97	9/27/97
FILE NAME	O7GC055A	O7GQ030	P7IA013	O7HM021	O7IZ022	O7IZ023
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	6.84	5.45	13.19d	7.18	5.93	2.24
Acetaldehyde	3.00	1.93	4.16	2.74	2.19	0.97
Acrolein	0.06	0.07	0.10	0.19	0.06	0.03
Acetone	0.79	1.11	1.22	0.62	1.72	0.51
Propionaldehyde	0.42	0.28	0.62	0.34	0.30	0.12
Crotonaldehyde	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.23	0.17	0.32	0.22	0.25	0.07
Benzaldehyde	0.09	0.07	0.13	0.08	0.09	0.02
Isovaleraldehyde	0.03	0.03	0.05	0.03	0.00	ND
Valeraldehyde	0.07	0.04	0.07	0.04	0.04	0.02
Tolualdehydes	0.05	0.05	0.078	0.06	0.051	0.004u
Hexaldehyde	0.10	0.06	0.140	0.083	0.077	0.03
2,5-Dimethylbenzaldehyde	0.04	0.04	0.10	0.05	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution.
Note: Results for samples taken between 3/29 and 5/27/97 include laboratory blank subtraction.

Table G-6. Carbonyl Concentrations (ppbv) at El Paso, TX (EPTX)

SAMPLE #	8155	8351	8565	8607	8660 D1	8660 R1	8662 D2
SAMPLE DATE	9/6/96	9/18/96	9/30/96	10/12/96	10/24/96	10/24/96	10/24/96
EXTRACTION DATE	10/24/96	10/24/96	10/24/96	11/5/96	11/22/96	11/22/96	11/22/96
ANALYSIS DATE	11/19/96	11/19/96	11/19/96	11/26/96	12/7/96	12/7/96	12/7/96
FILE NAME	O6KS007	O6KS008	O6KS009	O6KX021	O6LF023	O6LF024	O6LF026
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.85	2.56	3.41	4.69	1.71	1.65	1.54
Acetaldehyde	1.78	0.72	2.15	3.26	0.82	0.75	0.73
Acrolein	ND	ND	ND	ND	ND	ND	ND
Acetone	2.55	1.07	4.16	3.80	1.17	1.10	1.08
Propionaldehyde	0.32	0.07	0.19	0.18	0.09	0.08	0.08
Crotonaldehyde	0.15	0.12	0.13	0.12	0.05	0.05	0.05
Butyr/Isobutyraldehyde	0.29	0.14	0.28	0.33	0.10	0.09	0.09
Benzaldehyde	0.10	0.04	0.06	0.07	0.03	0.04	0.04
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.03	ND	0.02	0.04	0.02	0.02	0.01
Tolualdehydes	0.26	ND	ND	0.16	ND	ND	ND
Hexaldehyde	0.13	0.08	0.10	0.11	0.09	0.09	0.06
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on dilution.
Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-6. Carbonyl Concentrations (ppbv) at El Paso, TX (EPTX)

SAMPLE #	8662 R2	8700	8751	8782	8830 D1	8830 R2	8831 D2
SAMPLE DATE	10/24/96	11/5/96	11/17/96	11/29/96	12/11/96	12/11/96	12/11/96
EXTRACTION DATE	11/22/96	11/22/96	12/5/96	12/24/96	1/21/97	1/21/97	1/21/97
ANALYSIS DATE	12/7/96	12/7/96	12/27/96	12/28/96	2/12/97	2/12/97	2/12/97
FILE NAME	O6LF027	O6LF016	O6LX011	O6LX042	O7BK046	O7BK047	O7BK049
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.58	15.41d	13.60	12.57d	1.78	1.89	1.86
Acetaldehyde	0.73	11.45d	2.37	1.70	0.65	0.69	0.69
Acrolein	ND	0.19	0.10	0.11	0.01	0.01	0.01
Acetone	1.07	7.19	3.05	4.75	0.67	0.71	0.72
Propionaldehyde	0.08	1.37	0.40	0.31	0.05	0.05	0.05
Crotonaldehyde	0.04	0.32	0.16	0.13	ND	ND	ND
Butyr/Isobutyraldehyde	0.09	1.10	0.38	0.34	0.07	0.08	0.10
Benzaldehyde	0.04	ND	ND	ND	0.04	0.04	0.04
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.01	0.25	0.27	0.24	0.01	0.01	0.01
Tolualdehydes	ND	ND	0.12	0.47	0.02u	0.02u	0.02u
Hexaldehyde	0.07	1.08	0.75	0.52	ND	ND	ND
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	0.01	0.01	0.01

u - Concentration is below the detection limit.

d - Concentration based on dilution.

Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-6. Carbonyl Concentrations (ppbv) at El Paso, TX (EPTX)

SAMPLE #	8831 R2	8885 (1:2)	8883 (1:4)	8915	8957 D1	8957 R1	8959 D2
SAMPLE DATE	12/11/96	12/23/96	1/4/97	1/16/97	1/28/97	1/28/97	1/28/97
EXTRACTION DATE	1/21/97	1/21/97	1/21/97	2/18/97	2/18/97	2/18/97	2/18/97
ANALYSIS DATE	2/12/97	2/12/97	2/12/97	2/22/97	2/23/97	2/23/97	2/23/97
FILE NAME	O7BK050	O7BK016	O7BK017	O7BU030	O7BU057	O7BU058	O7BU060
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.94	7.54	19.30	5.39	1.70	1.59	1.56
Acetaldehyde	0.73	4.36	3.16	2.08	1.07	1.00	0.95
Acrolein	0.02	0.06	0.17	0.05	0.02	0.01	0.02
Acetone	0.76	2.89	2.21	2.30	1.06	0.99	0.93
Propionaldehyde	0.04	0.27	0.13	0.15	0.10	0.10	0.09
Crotonaldehyde	ND	ND	ND	0.01	ND	ND	ND
Butyr/Isobutyraldehyde	0.11	0.29	0.29	0.19	0.14	0.14	0.12
Benzaldehyde	0.04	0.15	0.19	0.10	0.05	0.04	0.04
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.01	0.05	0.05	0.06	0.02	0.02	0.02
Tolualdehydes	0.02u	0.32	0.01	0.01	0.00	0.00	0.004u
Hexaldehyde	ND	0.27	0.19	0.15	0.04	0.03	0.04
2,5-Dimethylbenzaldehyde	0.01	0.05	ND	0.04	0.01	ND	0.01

u - Concentration is below the detection limit.
d - Concentration based on dilution.
Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-6. Carbonyl Concentrations (ppbv) at El Paso, TX (EPTX)

SAMPLE #	8959 R2	9021	9075	9085	9121	9136	9160
SAMPLE DATE	1/28/97	2/9/97	2/21/97	2/27/97	3/5/97	3/11/97	3/17/97
EXTRACTION DATE	2/18/97	2/18/97	3/13/97	3/13/97	4/1/97	4/1/97	4/1/97
ANALYSIS DATE	2/23/97	2/22/97	3/15/97	3/15/97	4/2/97	4/2/97	4/2/97
FILE NAME	O7BU061	O7BU031	O7CN039	O7CN040	O7DA024	O7DA025	O7DA027
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.66	2.43	10.05	8.78	7.21	15.59d	7.94
Acetaldehyde	1.01	1.29	2.39	2.54	9.94	6.56	2.21
Acrolein	0.02	0.03	0.07	0.08	0.28	0.20	0.09
Acetone	1.00	2.00	2.53	2.56	6.38	6.18	1.89
Propionaldehyde	0.10	0.17	0.12	0.19	0.69	0.53	0.11
Crotonaldehyde	ND	ND	ND	ND	0.08	0.06	0.02
Butyr/Isobutyraldehyde	0.13	0.20	0.22	0.25	0.84	0.72	0.22
Benzaldehyde	0.05	0.05	0.17	0.16	0.29	0.37	0.16
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.02	0.03	0.06	0.08	0.12	0.17	0.04
Tolualdehydes	0.003u	ND	0.14	0.13	0.17	0.18	0.09
Hexaldehyde	0.04	0.04	0.18	0.16	0.18	0.26	0.12
2,5-Dimethylbenzaldehyde	0.01	ND	0.03	0.01	0.04	0.04	0.02

u - Concentration is below the detection limit.
d - Concentration based on dilution.
Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-6. Carbonyl Concentrations (ppbv) at El Paso, TX (EPTX)

SAMPLE #	9220	9250	9299	9346	9401	9423	9586
SAMPLE DATE	3/29/97	4/10/97	4/22/97	5/4/97	5/16/97	5/28/97	6/21/97
EXTRACTION DATE	4/22/97	4/28/97	4/28/97	5/14/97	6/3/97	6/3/97	7/2/97
ANALYSIS DATE	4/28/97	4/30/97	4/30/97	5/28/97	6/11/97	6/12/97	7/5/97
FILE NAME	O7DI013	O7D$012	O7D$013	O7E-024	O7FK006	O7FK017	O7GC056
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	17.80d	3.90	11.42d	12.68d	20.36d	16.10d	3.22
Acetaldehyde	5.88	1.20	3.14	4.88	8.13	8.21	0.70
Acrolein	0.17	0.03	0.09	0.17	0.37	0.48	0.02
Acetone	4.83	1.24	2.87	4.13	1.86	2.83	1.31
Propionaldehyde	0.35	0.09	0.16	0.28	0.52	0.49	0.08
Crotonaldehyde	0.04	ND	0.04	0.03	0.08	0.08	ND
Butyr/Isobutyraldehyde	0.48	0.12	0.33	0.51	0.71	0.84	0.12
Benzaldehyde	0.41	0.07	0.22	0.30	0.44	0.41	0.05
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	0.01
Valeraldehyde	0.30	0.05	0.10	0.15	0.20	0.17	0.03
Tolualdehydes	0.22	0.04u	0.13	0.22	0.18	0.16	0.04
Hexaldehyde	0.29	0.07	0.17	0.23	0.22	0.29	0.04
2,5-Dimethylbenzaldehyde	0.02	ND	0.01	0.04	0.04	0.04	0.01

u - Concentration is below the detection limit.
d - Concentration based on dilution.
Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-6. Carbonyl Concentrations (ppbv) at El Paso, TX (EPTX)

SAMPLE #	9830	10063	10374	10675	10869	11051
SAMPLE DATE	7/3/97	7/15/97	7/27/97	8/8/97	8/20/97	9/1/97
EXTRACTION DATE	7/10/97	7/23/97	8/13/97	9/24/97	9/24/97	9/24/97
ANALYSIS DATE	7/18/97	9/3/97	8/15/97	9/29/97	9/29/97	9/30/97
FILE NAME	O7GQ029	P7IA021	O7HM025	O7I#014	O7I#016	O7I#017
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	4.17	30.97d	33.18d	3.94	41.77d	3.21
Acetaldehyde	1.62	14.79d	6.61d	1.64	6.88d	1.03
Acrolein	0.04	1.22	0.79	0.04	1.13	0.03
Acetone	2.03	0.69	0.51	1.97	0.22	1.44
Propionaldehyde	0.20	2.42	0.40	0.21	0.44	0.13
Crotonaldehyde	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.22	1.61	0.34	0.29	0.39	0.17
Benzaldehyde	0.08	0.48	0.59	0.09	0.99	0.04
Isovaleraldehyde	0.03	0.43	0.06	0.01	0.11	0.01
Valeraldehyde	0.05	0.94	0.12	0.06	0.17	0.04
Tolualdehydes	0.03	0.51	0.19	0.07	0.28	0.03
Hexaldehyde	0.07	2.07	0.28	0.11	1.11	0.06
2,5-Dimethylbenzaldehyde	0.03	0.14	0.04	0.00	0.01	ND

u - Concentration is below the detection limit.

d - Concentration based on dilution.

Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-7. Carbonyl Concentrations (ppbv) at Garyville, LA (GALA)

SAMPLE #	7792 D1	7792 R1	7793 D2	7793 R2	8237	8480	8567
SAMPLE DATE	8/31/96	8/31/96	8/31/96	8/31/96	9/12/96	9/24/96	10/6/96
EXTRACTION DATE	10/24/96	10/24/96	10/24/96	10/24/96	10/24/96	10/24/96	10/24/96
ANALYSIS DATE	11/20/96	11/20/96	11/20/96	11/20/96	11/19/96	11/19/96	11/19/96
FILE NAME	O6KS021	O6KS022	O6KS023	O6KS024	O6KS010	O6KS011	O6KS012
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.48	1.57	1.58	1.65	3.45	2.38	1.14
Acetaldehyde	1.24	1.32	1.44	1.47	1.30	1.38	0.55
Acrolein	ND	ND	ND	ND	ND	ND	ND
Acetone	0.40	0.42	0.52	0.53	0.52	0.55	0.26
Propionaldehyde	0.08	0.09	0.10	0.10	0.27	0.28	0.13
Crotonaldehyde	0.15	0.17	0.18	0.18	0.36	0.14	0.08
Butyr/Isobutyraldehyde	0.09	0.08	0.10	0.10	0.19	0.20	0.14
Benzaldehyde	ND	ND	ND	ND	0.04	ND	ND
Isovaleraldehyde	ND	ND	ND	ND	0.14	ND	ND
Valeraldehyde	0.10	0.12	0.14	0.16	0.29	0.29	0.28
Tolualdehydes	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	0.26	0.25	0.24	0.24	0.53	0.37	0.27
2,5-Dimethylbenzaldehyde	0.03	ND	ND	ND	0.07	ND	0.02

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-7. Carbonyl Concentrations (ppbv) at Garyville, LA (GALA)

SAMPLE #	8623	8673	8694	8765	8816 D1	8816 R1	8818 D2
SAMPLE DATE	10/18/96	10/30/96	11/11/96	11/23/96	12/5/96	12/5/96	12/5/96
EXTRACTION DATE	11/5/96	11/22/96	11/22/96	12/5/96	1/21/97	1/21/97	1/21/97
ANALYSIS DATE	11/26/96	12/7/96	12/6/96	12/28/96	2/9/97	2/9/97	2/9/97
FILE NAME	O6KX022	O6LF017	O6LF012	O6LX017	O7BG051	O7BG052	O7BG053
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.78	1.32	2.53	1.89	2.04	1.94	2.12
Acetaldehyde	0.77	0.67	1.64	0.69	1.42	1.31	1.42
Acrolein	ND	ND	ND	ND	0.04	0.03	0.03
Acetone	1.14	0.45	0.89	0.53	1.00	0.92	1.05
Propionaldehyde	ND	0.13	0.26	0.21	0.23@	0.22@	0.23@
Crotonaldehyde	0.08	0.11	0.08	0.06	ND	ND	ND
Butyr/Isobutyraldehyde	0.15	0.10	0.19	0.08	0.19	0.17	0.19
Benzaldehyde	0.02	ND	ND	ND	0.05	0.04	0.05
Isovaleraldehyde	ND	ND	ND	0.30	0.12	0.10	0.12
Valeraldehyde	0.29	ND	ND	ND	0.17	0.16	0.18
Tolualdehydes	0.07	0.02u	ND	ND	0.01u	0.01u	0.01u
Hexaldehyde	0.36	0.26	0.32	0.35	0.09	0.09	0.10
2,5-Dimethylbenzaldehyde	0.03	ND	ND	ND	0.03	0.03	ND

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-7. Carbonyl Concentrations (ppbv) at Garyville, LA (GALA)

SAMPLE #	8818 R2	8820	8849	8881	8929	9035 D1	9035 R1
SAMPLE DATE	12/5/96	12/11/96	12/17/96	12/29/96	1/22/97	2/9/97	2/9/97
EXTRACTION DATE	1/21/97	1/21/97	1/21/97	1/21/97	2/18/97	3/11/97	3/11/97
ANALYSIS DATE	2/10/97	2/12/97	2/12/97	2/12/97	2/22/97	3/15/97	3/15/97
FILE NAME	O7BG054	O7BK018	O7BK019	O7BK020	O7BU032	O7CN042	O7CN043
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.09	1.54	1.14	1.20	1.72	1.14	1.15
Acetaldehyde	1.42	0.76	0.92	0.78	0.86	0.74	0.76
Acrolein	0.04	0.03	0.02	0.02	0.03	0.02	0.02
Acetone	1.05	0.18	0.97	0.20	0.22	0.67	0.68
Propionaldehyde	0.23@	0.23	0.23	0.16	0.32	0.22	0.22
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.19	0.17	0.25	0.10	0.15	0.19	0.18
Benzaldehyde	0.05	0.03	0.04	0.02	0.02	0.03	0.03
Isovaleraldehyde	0.12	0.08	0.07	0.01	ND	0.07	0.07
Valeraldehyde	0.18	0.29	0.25	0.11	0.43	0.29	0.29
Tolualdehydes	0.01u	0.03u	0.01u	0.001u	0.003u	0.02u	0.03u
Hexaldehyde	0.09	0.11	0.09	0.09	0.19	0.13	0.14
2,5-Dimethylbenzaldehyde	ND	0.03	0.02	0.01	ND	0.03	0.03

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-7. Carbonyl Concentrations (ppbv) at Garyville, LA (GALA)

SAMPLE #	9037 D2	9037 R2	9061	9091	9113	9128	9152
SAMPLE DATE	2/9/97	2/9/97	2/15/97	2/21/97	2/27/97	3/5/97	3/11/97
EXTRACTION DATE	3/11/97	3/11/97	3/13/97	3/13/97	3/13/97	4/1/97	4/1/97
ANALYSIS DATE	3/15/97	3/15/97	3/15/97	3/15/97	3/15/97	4/2/97	4/2/97
FILE NAME	O7CN044	O7CN045	O7CN041	O7CN017	O7CN018	O7DA028	O7DA029
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.10	1.11	1.64	1.58	1.38	1.53	1.95
Acetaldehyde	0.72	0.72	0.90	0.73	0.81	0.67	1.00
Acrolein	0.02	0.02	0.01	0.02	0.03	0.02	0.02
Acetone	0.71	0.73	1.17	0.28	0.43	0.39	0.33
Propionaldehyde	0.22	0.22	0.28	0.25	0.28	0.21	0.25
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.18	0.18	0.23	0.17	0.18	0.13	0.15
Benzaldehyde	0.03	0.03	0.03	0.02	0.01	0.02	0.02
Isovaleraldehyde	0.06	0.07	0.04	0.02	0.01	ND	ND
Valeraldehyde	0.28	0.29	0.21	0.29	0.24	0.18	0.12
Tolualdehydes	0.02u	ND	0.03u	0.04	0.05	ND	0.01
Hexaldehyde	0.13	0.13	0.08	0.12	0.09	0.11	0.11
2,5-Dimethylbenzaldehyde	0.03	0.03	0.02	0.02	0.01	0.01	0.01

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-7. Carbonyl Concentrations (ppbv) at Garyville, LA (GALA)

SAMPLE #	9182	9188	9240	9267	9296	9337	9391
SAMPLE DATE	3/17/97	3/23/97	4/4/97	4/10/97	4/16/97	4/28/97	5/10/97
EXTRACTION DATE	4/1/97	4/22/97	4/22/97	4/28/97	4/28/97	5/14/97	6/3/97
ANALYSIS DATE	4/2/97	4/28/97	4/28/97	4/30/97	5/1/97	5/28/97	6/11/97
FILE NAME	O7DA030	O7DI014	O7DI016	O7D$014	O7D$016	O7E-025	O7FK007
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.64	3.35	1.87	4.10	3.29	1.74	2.79
Acetaldehyde	1.85	1.64	0.76	2.41	1.27	1.02	1.25
Acrolein	0.03	0.02	0.02	0.03	0.02	0.02	0.04
Acetone	0.40	1.22	0.11	0.78	1.68	0.64	0.55
Propionaldehyde	0.37	0.32	0.30	0.56	0.26	0.31	0.44
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.20	0.21	0.20	0.28	0.22	0.24	0.31
Benzaldehyde	0.05	0.04	0.02	0.04	0.04	0.05	0.06
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.09	0.12	0.32	0.25	0.13	0.42	0.51
Tolualdehydes	0.02u	0.02u	0.01u	0.01u	0.01u	0.03u	0.03u
Hexaldehyde	0.09	0.12	0.10	0.08	0.09	0.12	0.25
2,5-Dimethylbenzaldehyde	0.01	0.01	0.01	0.02	0.02	0.03	0.06

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-7. Carbonyl Concentrations (ppbv) at Garyville, LA (GALA)

SAMPLE #	9436	9498	9568	9707	9970	10297	10657
SAMPLE DATE	5/22/97	6/9/97	6/15/97	6/27/97	7/9/97	7/21/97	8/2/97
EXTRACTION DATE	6/17/97	7/2/97	7/2/97	7/10/97	7/23/97	8/13/97	9/24/97
ANALYSIS DATE	6/19/97	7/5/97	7/7/97	7/18/97	9/3/97	8/15/97	9/30/97
FILE NAME	O7FS017	O7GC057	O7GG005	O7GQ031	P7IA022	O7HM027	O7I#018
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.57	2.76	2.53	2.05	1.37	5.19	2.90
Acetaldehyde	1.85	1.28	0.84	0.78	0.59	1.96	1.02
Acrolein	0.04	0.04	0.04	0.05	0.06	0.09	0.04
Acetone	0.14	0.26	0.25	0.27	0.19	0.27	0.45
Propionaldehyde	0.46	0.29	0.23	0.26	0.17	0.48	0.28
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.26	0.16	0.18	0.16	0.09	0.34	0.20
Benzaldehyde	0.03	0.03	0.05	0.03	0.05	0.09	0.05
Isovaleraldehyde	ND	0.02	0.02	0.02	0.02	0.04	0.01
Valeraldehyde	0.36	0.28	0.17	0.23	0.09	0.38	0.28
Tolualdehydes	0.03	0.03	0.03	0.04	0.08	0.03	0.04
Hexaldehyde	0.19	0.30	0.13	0.19	0.21	0.29	0.65
2,5-Dimethylbenzaldehyde	0.04	0.03	0.04	0.04	0.02	0.07	0.04

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-7. Carbonyl Concentrations (ppbv) at Garyville, LA (GALA)

SAMPLE #	10857	11037
SAMPLE DATE	8/20/97	8/26/97
EXTRACTION DATE	9/24/97	9/24/97
ANALYSIS DATE	9/30/97	9/30/97
FILE NAME	O7I#019	O7I#020
UNITS	ppbv	ppbv
Formaldehyde	2.79	2.67
Acetaldehyde	0.78	0.98
Acrolein	0.03	0.03
Acetone	0.28	0.28
Propionaldehyde	0.20	0.24
Crotonaldehyde	ND	ND
Butyr/Isobutyraldehyde	0.18	0.20
Benzaldehyde	0.02	0.02
Isovaleraldehyde	0.005u	0.01
Valeraldehyde	0.17	0.21
Tolualdehydes	0.01	0.01
Hexaldehyde	0.37	0.41
2,5-Dimethylbenzaldehyde	0.005	0.01

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-8. Carbonyl Concentrations (ppbv) at Galveston, TX (GATX)

SAMPLE #	8159	8356	8514	8587	8627	8629	8672
SAMPLE DATE	9/6/96	9/18/96	9/30/96	10/12/96	10/24/96	10/24/96	11/5/96
EXTRACTION DATE	10/24/96	10/24/96	10/24/96	11/5/96	11/5/96	11/5/96	11/22/96
ANALYSIS DATE	11/20/96	11/20/96	11/20/96	11/26/96	11/21/96	11/21/96	12/7/96
FILE NAME	O6KS013	O6KS014	O6KS016	O6KX023	O6KU017	O6KU018	O6LF013
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.93d	2.59	3.38d	2.24	1.23	1.31	2.32
Acetaldehyde	1.80	0.94	1.36	0.93	0.78	0.85	1.20
Acrolein	ND	0.05	ND	0.02	ND	ND	ND
Acetone	0.32	0.20	0.49	0.59	0.57	0.70	0.36
Propionaldehyde	0.23	0.12	0.16	0.19	0.11	0.12	0.15
Crotonaldehyde	0.06	0.05	0.11	0.04	0.03	0.03	0.04
Butyr/Isobutyraldehyde	0.14	0.08	0.14	0.11	0.08	0.09	0.10
Benzaldehyde	ND	ND	ND	0.03	0.02	0.02	ND
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.08	0.06	0.04	0.03	ND	ND	0.03
Tolualdehydes	ND	ND	ND	0.10	ND	ND	0.12
Hexaldehyde	0.10	0.07	0.09	0.06	0.05	0.05	0.03
2,5-Dimethylbenzaldehyde	ND	ND	0.02	0.02	ND	ND	ND

u - Concentration is below the detection limit.
d - Dilution factor has been applied.
@ - QC was outside criterion for this component of the sample.
Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-8. Carbonyl Concentrations (ppbv) at Galveston, TX (GATX)

SAMPLE #	8725	8755	8826 D1	8826 R1	8828 D2	8828 R2	8857
SAMPLE DATE	11/17/96	11/29/96	12/11/96	12/11/96	12/11/96	12/11/96	12/23/96
EXTRACTION DATE	12/5/96	12/24/96	1/21/97	1/21/97	1/21/97	1/21/97	1/21/97
ANALYSIS DATE	12/27/96	12/28/96	2/10/97	2/10/97	2/10/97	2/10/97	2/12/97
FILE NAME	O6LX013	O6LX043	O7BG055	O7BG056	O7BG057	O7BG058	O7BK021
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.68	2.09	2.11	2.21	1.86	1.79	3.19
Acetaldehyde	0.42	1.40	1.18	1.27	1.01	0.97	1.92
Acrolein	ND	0.02	0.06	0.06	0.14	0.14	0.03
Acetone	0.40	1.92	1.00	1.09	0.96	0.91	0.39
Propionaldehyde	0.11	0.18	0.93@	0.97@	0.90@	0.86@	0.31
Crotonaldehyde	0.05	0.04	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.08	0.16	0.40	0.43	0.46	0.44	0.21
Benzaldehyde	ND	ND	0.01	0.01	0.01	0.01	0.04
Isovaleraldehyde	0.02	ND	ND	ND	ND	ND	ND
Valeraldehyde	ND	0.05	0.10	0.11	0.12	0.12	0.04
Tolualdehydes	ND	0.04	0.01u	0.02u	ND	0.004u	0.02u
Hexaldehyde	0.19	0.05	0.02	0.02	0.02	0.01	0.03
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	0.01

u - Concentration is below the detection limit.
d - Dilution factor has been applied.
@ - QC was outside criterion for this component of the sample.
Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-8. Carbonyl Concentrations (ppbv) at Galveston, TX (GATX)

SAMPLE #	8889	8917	9028	9064	9119	9140	9162 D1
SAMPLE DATE	1/4/97	1/16/97	2/9/97	2/21/97	3/5/97	3/11/97	3/17/97
EXTRACTION DATE	1/21/97	2/18/97	3/11/97	3/13/97	4/1/97	4/1/97	4/1/97
ANALYSIS DATE	2/12/97	3/5/97	3/14/97	3/15/97	4/2/97	4/2/97	4/3/97
FILE NAME	O7BK022	O7CE010	O7CN009	O7CN019	O7DA031	O7DA032	O7DA053
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.22	1.98	1.62	2.46	2.34	1.57	2.76
Acetaldehyde	1.06	0.96	0.83	1.41	0.98	0.94	1.36
Acrolein	0.02	0.02	0.02	0.01	0.009	0.03	0.05
Acetone	5.37	1.33	0.92	0.88	1.02	0.33	0.33
Propionaldehyde	0.21	0.12	0.10	0.27	0.16	0.14	0.20
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.33	0.13	0.09	0.26	0.25	0.12	0.14
Benzaldehyde	0.01	0.02	0.01	0.02	0.02	0.02	0.02
Isovaleraldehyde	ND	ND	ND	ND	0.03	ND	0.02
Valeraldehyde	0.19	0.02	0.01	0.06	0.04	0.02	0.03
Tolualdehydes	0.11	ND	ND	0.02u	ND	ND	0.004u
Hexaldehyde	0.02	0.02	ND	0.02	0.01	0.02	0.03
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Dilution factor has been applied.
@ - QC was outside criterion for this component of the sample.
Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-8. Carbonyl Concentrations (ppbv) at Galveston, TX (GATX)

SAMPLE #	9162 R1	9164 D2	9164 R2	9208	9253	9291	9398
SAMPLE DATE	3/17/97	3/17/97	3/17/97	3/29/97	4/10/97	4/22/97	5/16/97
EXTRACTION DATE	4/1/97	4/1/97	4/1/97	4/22/97	4/28/97	4/28/97	6/3/97
ANALYSIS DATE	4/3/97	4/3/97	4/3/97	4/29/97	5/1/97	5/1/97	6/11/97
FILE NAME	O7DA054	O7DA055	O7DA056	O7DI017	O7D$017	O7D$018	O7FK008
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.59	2.99	2.69	2.51	3.50	3.32	2.87
Acetaldehyde	1.26	1.47	1.34	1.76	1.20	1.24	1.22
Acrolein	0.04	0.09	0.07	0.22	0.03	0.03	0.03
Acetone	0.30	0.49	0.44	0.35	0.40	0.90	0.53
Propionaldehyde	0.18	0.21	0.19	0.36	0.24	0.18	0.22
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.14	0.16	0.14	0.19	0.13	0.32	0.16
Benzaldehyde	0.02	0.02	0.03	0.02	0.03	0.02	0.04
Isovaleraldehyde	0.02	0.02	0.02	ND	0.005u	ND	ND
Valeraldehyde	0.02	0.03	0.02	0.04	0.04	0.04	0.05
Tolualdehydes	0.004u	0.01	0.005u	0.01u	0.002u	ND	0.03u
Hexaldehyde	0.03	0.04	0.03	0.02	0.02	0.01	0.05
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	0.01	ND	0.01

u - Concentration is below the detection limit.
d - Dilution factor has been applied.
@ - QC was outside criterion for this component of the sample.
Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-8. Carbonyl Concentrations (ppbv) at Galveston, TX (GATX)

SAMPLE #	9428	9475	9583	9827	10036	10310	10871
SAMPLE DATE	5/28/97	6/9/97	6/21/97	7/3/97	7/15/97	7/27/97	8/20/97
EXTRACTION DATE	6/3/97	7/2/97	7/10/97	7/10/97	7/23/97	8/13/97	10/7/97
ANALYSIS DATE	6/12/97	7/7/97	7/18/97	7/18/97	9/3/97	8/15/97	10/8/97
FILE NAME	O7FK019	O7GG006	O7GQ027	O7GQ028	P7IA023	O7HM028	O7JH012
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.48	1.34	1.17	37.01d	4.48	50.42d	1.57
Acetaldehyde	1.17	0.50	0.29	5.73	1.65	4.10	0.58
Acrolein	0.05	0.08	0.05	0.51	0.06	0.54	0.32
Acetone	0.32	0.28	0.12	0.69	0.66	0.39	0.38
Propionaldehyde	0.23	0.14	0.09	0.29	0.29	0.39	0.25
Crotonaldehyde	ND	ND	ND	ND	ND	0.04	ND
Butyr/Isobutyraldehyde	0.19	0.08	0.09	0.44	0.16	0.35	0.21
Benzaldehyde	0.04	0.02	ND	0.28	0.03	0.30	0.01
Isovaleraldehyde	0.02	ND	ND	0.04	0.02	0.06	ND
Valeraldehyde	0.03	0.02	0.02	0.11	0.05	0.14	0.01
Tolualdehydes	0.04	ND	ND	0.10	ND	0.10	0.002
Hexaldehyde	0.03	0.03	0.03	0.21	0.03	0.75	0.02
2,5-Dimethylbenzaldehyde	ND	ND	ND	0.04	ND	0.04	ND

u - Concentration is below the detection limit.
d - Dilution factor has been applied.
@ - QC was outside criterion for this component of the sample.
Note: Results for samples taken between 3/29 and 5/28/97 include laboratory blank subtraction.

Table G-9. Carbonyl Concentrations (ppbv) at Hahnville, LA (HALA)

SAMPLE #	8043 D1	8043 R1	8044 D2	8044 R2	8228	8485	8583
SAMPLE DATE	8/31/96	8/31/96	8/31/96	8/31/96	9/12/96	9/24/96	10/6/96
EXTRACTION DATE	10/24/96	10/24/96	10/24/96	10/24/96	10/24/96	10/24/96	11/5/96
ANALYSIS DATE	11/20/96	11/20/96	11/20/96	11/20/96	11/20/96	11/20/96	11/26/96
FILE NAME	O6KS026	O6KS027	O6KS028	O6KS029	O6KS017	O6KS018	O6KX017
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.76	1.77	1.98	1.98	5.17	3.12	1.79
Acetaldehyde	5.92	5.95	7.28	7.30	2.18	2.33	0.81
Acrolein	0.13	0.15	0.22	0.24	0.32	ND	ND
Acetone	0.38	0.37	0.78	0.78	0.88	1.24	0.58
Propionaldehyde	0.18	0.18	0.20	0.20	0.35	0.32	0.18
Crotonaldehyde	0.12	0.13	0.17	0.17	0.30	0.21	0.10
Butyr/Isobutyraldehyde	0.19	0.18	0.26	0.26	0.19	0.37	0.11
Benzaldehyde	ND	ND	ND	ND	ND	ND	ND
Isovaleraldehyde	ND	ND	ND	0.02	0.04	ND	ND
Valeraldehyde	0.11	0.12	0.14	0.14	0.20	0.17	0.07
Tolualdehydes	ND	ND	ND	ND	ND	ND	0.03u
Hexaldehyde	0.17	0.17	0.18	0.18	0.23	0.21	0.09
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
@ - QC was outside criterion for this component of the sample.
d - Calculation based on a dilution factor.
Note: Results for samples taken between 3/11 and 5/22/97 include laboratory blank subtraction.

Table G-9. Carbonyl Concentrations (ppbv) at Hahnville, LA (HALA)

SAMPLE #	8625	8702	8761	8814	8855 D2 (1:2)	8855 R2 (1:2)	8879
SAMPLE DATE	10/18/96	11/11/96	11/23/96	12/5/96	12/17/96	12/17/96	12/29/96
EXTRACTION DATE	11/5/96	11/22/96	12/24/96	1/21/97	1/21/97	1/21/97	1/21/97
ANALYSIS DATE	11/26/96	12/7/96	12/27/96	2/12/97	2/13/97	2/13/97	2/12/97
FILE NAME	O6KX018	O6LF014	O6LX044	O7BK023	O7BK053	O7BK054	O7BK024
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.36	3.49	2.62	2.31	16.61	16.26	1.40
Acetaldehyde	1.23	2.18	1.57	1.60	2.43	2.38	0.92
Acrolein	ND	ND	0.03	0.03	0.01	0.01	0.02
Acetone	1.92	1.41	0.79	1.12	4.38	4.33	0.32
Propionaldehyde	0.06	0.30	0.25	0.25	0.18@	0.18@	0.16
Crotonaldehyde	0.09	0.11	0.09	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.20	0.28	0.24	0.23	0.55	0.55	0.15
Benzaldehyde	ND	ND	ND	0.05	0.12	0.12	0.02
Isovaleraldehyde	ND	ND	ND	0.03	0.58	0.57	0.01
Valeraldehyde	0.04	0.04	0.06	0.10	0.89	0.88	0.09
Tolualdehydes	0.03u	ND	ND	0.02u	ND	ND	0.002u
Hexaldehyde	0.12	0.11	0.14	0.08	2.96	2.89	0.09
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
@ - QC was outside criterion for this component of the sample.
d - Calculation based on a dilution factor.
Note: Results for samples taken between 3/11 and 5/22/97 include laboratory blank subtraction.

Table G-9. Carbonyl Concentrations (ppbv) at Hahnville, LA (HALA)

SAMPLE #	8909	9004	9070 D1	9070 R1	9072 D2	9072 R2	9089
SAMPLE DATE	1/11/97	2/3/97	2/15/97	2/15/97	2/15/97	2/15/97	2/21/97
EXTRACTION DATE	2/18/97	2/18/97	3/13/97	3/13/97	3/13/97	3/13/97	3/13/97
ANALYSIS DATE	2/22/97	2/22/97	3/15/97	3/16/97	3/16/97	3/16/97	3/15/97
FILE NAME	O7BU023	O7BU024	O7CN051	O7CN052	O7CN053	O7CN054	O7CN024
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.58	1.54	1.81	1.84	2.12	2.14	1.55
Acetaldehyde	1.02	1.00	1.21	1.23	1.39	1.41	0.92
Acrolein	0.01	0.01	0.02	0.01	0.02	0.02	0.02
Acetone	0.99	0.34	1.61	1.61	1.54	1.57	0.34
Propionaldehyde	0.25	0.25	0.20	0.19	0.23	0.23	0.27
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.26	0.20	0.30	0.28	0.34	0.35	0.22
Benzaldehyde	0.03	0.02	0.03	0.03	0.03	0.03	0.01
Isovaleraldehyde	ND	ND	0.04	0.04	0.04	0.01	0.04
Valeraldehyde	0.25	0.16	0.25	0.21	0.28	0.28	0.23
Tolualdehydes	ND	0.01u	ND	0.01u	0.04u	0.04u	0.03u
Hexaldehyde	0.06	0.09	0.05	0.05	0.06	0.05	0.06
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
@ - QC was outside criterion for this component of the sample.
d - Calculation based on a dilution factor.
Note: Results for samples taken between 3/11 and 5/22/97 include laboratory blank subtraction.

Table G-9. Carbonyl Concentrations (ppbv) at Hahnville, LA (HALA)

SAMPLE #	9111	9130 D1	9130 R1	9132 D2	9132 R2	9154	9184
SAMPLE DATE	2/27/97	3/5/97	3/5/97	3/5/97	3/5/97	3/11/97	3/17/97
EXTRACTION DATE	3/13/97	4/1/97	4/1/97	4/1/97	4/1/97	4/1/97	4/1/97
ANALYSIS DATE	3/15/97	4/2/97	4/2/97	4/2/97	4/3/97	4/2/97	4/2/97
FILE NAME	O7CN025	O7DA044	O7DA045	O7DA046	O7DA047	O7DA033	O7DA034
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.55	1.40	1.41	1.31	1.27	11.66d	3.44
Acetaldehyde	1.10	0.92	0.91	0.79	0.77	3.14	1.81
Acrolein	0.01	0.01	0.01	0.01	0.01	0.09	0.03
Acetone	0.46	0.42	0.42	0.53	0.51	3.16	0.69
Propionaldehyde	0.28	0.24	0.24	0.22	0.20	0.40	0.38
Crotonaldehyde	ND	ND	ND	ND	ND	0.02	ND
Butyr/Isobutyraldehyde	0.20	0.19	0.19	0.18	0.17	0.47	0.41
Benzaldehyde	0.03	0.01	0.01	0.01	0.01	0.14	0.05
Isovaleraldehyde	0.02	ND	ND	ND	ND	ND	0.01
Valeraldehyde	0.17	0.18	0.18	0.16	0.14	0.97	0.15
Tolualdehydes	0.04u	ND	ND	ND	ND	0.02	0.01
Hexaldehyde	0.06	0.06	0.05	0.05	0.04	3.13	0.09
2,5-Dimethylbenzaldehyde	ND	ND	0.01	ND	ND	0.01	0.01

u - Concentration is below the detection limit.
@ - QC was outside criterion for this component of the sample.
d - Calculation based on a dilution factor.
Note: Results for samples taken between 3/11 and 5/22/97 include laboratory blank subtraction.

Table G-9. Carbonyl Concentrations (ppbv) at Hahnville, LA (HALA)

SAMPLE #	9186	9226	9242	9265	9293	9339	9341
SAMPLE DATE	3/23/97	3/29/97	4/4/97	4/10/97	4/16/97	4/22/97	4/28/97
EXTRACTION DATE	4/22/97	4/22/97	4/22/97	4/22/97	4/28/97	5/14/97	5/14/97
ANALYSIS DATE	4/29/97	4/29/97	4/29/97	4/25/97	5/1/97	5/28/97	5/28/97
FILE NAME	O7DI018	O7DI019	O7DI020	O7DV019	O7D$019	O7E~028	O7E~027
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.37	1.92	1.49	3.51	3.74	1.92	1.99
Acetaldehyde	2.22	1.20	0.94	1.85	2.32	1.09	1.64
Acrolein	0.02	0.03	0.01	0.02	0.02	0.02	0.03
Acetone	1.70	0.39	0.25	1.00	2.88	0.58	1.08
Propionaldehyde	0.48	0.29	0.29	0.46	0.41	0.31	0.36
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.35	0.17	0.18	0.31	0.38	0.23	0.23
Benzaldehyde	0.05	0.02	0.01	0.04	0.05	0.02	0.02
Isovaleraldehyde	0.01	ND	ND	0.03	0.01	ND	ND
Valeraldehyde	0.23	0.17	0.14	0.22	0.28	0.25	0.18
Tolualdehydes	0.02	ND	ND	0.01	0.002u	0.04	ND
Hexaldehyde	0.09	0.08	0.05	0.07	0.07	0.07	0.06
2,5-Dimethylbenzaldehyde	0.01	0.01	ND	0.01	0.02	0.02	ND

u - Concentration is below the detection limit.
@ - QC was outside criterion for this component of the sample.
d - Calculation based on a dilution factor.
Note: Results for samples taken between 3/11 and 5/22/97 include laboratory blank subtraction.

Table G-9. Carbonyl Concentrations (ppbv) at Hahnville, LA (HALA)

SAMPLE #	9388	9431	9536	9570	9711	9972	10301
SAMPLE DATE	5/10/97	5/22/97	6/3/97	6/15/97	6/27/97	7/9/97	7/21/97
EXTRACTION DATE	6/3/97	6/3/97	7/2/97	7/10/97	7/10/97	7/23/97	8/13/97
ANALYSIS DATE	6/11/97	6/12/97	7/7/97	7/18/97	7/18/97	9/3/97	8/15/97
FILE NAME	O7FK009	O7FK020	O7GG007	O7GQ032	O7GQ033	P7IA024	O7HM029
UNITS	ppbv	ppbv	ppbv	1021.00	ppbv	ppbv	ppbv
Formaldehyde	3.27	0.01	2.57	2.43	1.83	2.55	6.37
Acetaldehyde	1.78	0.03	1.66	1.00	0.79	1.40	3.24
Acrolein	0.03	ND	0.08	0.21	0.04	0.05	0.15
Acetone	1.19	0.01	0.68	0.29	0.43	0.24	0.54
Propionaldehyde	0.35	ND	0.26	0.19	0.21	0.21	0.55
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.27	ND	0.16	0.12	0.24	0.14	0.36
Benzaldehyde	0.05	ND	0.09	0.02	0.02	0.03	0.10
Isovaleraldehyde	0.03	ND	ND	0.01	0.01	0.01	0.04
Valeraldehyde	0.18	ND	0.03	0.08	0.13	0.07	0.42
Tolualdehydes	0.04	ND	0.03	0.04	0.03	0.03	0.05
Hexaldehyde	0.09	ND	0.06	0.03	0.03	0.08	0.16
2,5-Dimethylbenzaldehyde	0.03	ND	ND	0.02	0.02	ND	0.05

u - Concentration is below the detection limit.
@ - QC was outside criterion for this component of the sample.
d - Calculation based on a dilution factor.
Note: Results for samples taken between 3/11 and 5/22/97 include laboratory blank subtraction.

Table G-9. Carbonyl Concentrations (ppbv) at Hahnville, LA (HALA)

SAMPLE #	10667	10859	11041
SAMPLE DATE	8/2/97	8/14/97	8/26/97
EXTRACTION DATE	10/7/97	10/7/97	10/7/97
ANALYSIS DATE	10/8/97	10/9/97	10/9/97
FILE NAME	O7JH013	O7JH014	O7JH016
UNITS	ppbv	ppbv	ppbv
Formaldehyde	4.11	2.25	3.35
Acetaldehyde	1.30	0.78	1.53
Acrolein	0.12	0.19	0.12
Acetone	0.76	0.26	0.86
Propionaldehyde	0.27	0.18	0.41
Crotonaldehyde	ND	ND	ND
Butyr/Isobutyraldehyde	0.32	0.19	0.28
Benzaldehyde	0.07	0.01	0.04
Isovaleraldehyde	0.01	0.01	0.05
Valeraldehyde	0.17	0.16	0.22
Tolualdehydes	0.03	0.01	0.04
Hexaldehyde	0.07	0.10	0.08
2,5-Dimethylbenzaldehyde	ND	ND	0.02

u - Concentration is below the detection limit.
@ - QC was outside criterion for this component of the sample.
d - Calculation based on a dilution factor.
Note: Results for samples taken between 3/11 and 5/22/97 include laboratory blank subtraction.

Table G-10. Carbonyl Concentrations (ppbv) at Port Neches, TX (PNTX)

SAMPLE #	8300	8304	8561	8563	8632	8696 D1	8696 R1
SAMPLE DATE	8/25/96	9/6/96	9/24/96	9/30/96	10/12/96	10/24/96	10/24/96
EXTRACTION DATE	10/24/96	10/24/96	10/24/96	10/28/96	11/5/96	11/22/96	11/22/96
ANALYSIS DATE	11/4/96	11/20/96	11/20/96	11/22/96	11/26/96	12/7/96	12/7/96
FILE NAME	N6KD006	O6KS019	O6KS020	O6KU042	O6KX024	O6LF028	O6LF029
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	4.41	2.98	1.57	2.85	3.97	2.08	2.19
Acetaldehyde	ND	16.07	10.04	2.00	1.90	1.64	1.72
Acrolein	ND	ND	0.12	ND	ND	0.05	0.05
Acetone	1.66	0.87	0.25	3.23	3.51	1.22	1.24
Propionaldehyde	0.65	0.37	0.03	0.18	0.17	0.15	0.16
Crotonaldehyde	ND	0.26	0.19	0.22	0.07	0.06	0.07
Butyr/Isobutyraldehyde	0.37	0.28	0.14	0.21	0.15	0.18	0.17
Benzaldehyde	0.26	ND	ND	0.08	0.10	0.08	0.09
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.13	0.07	ND	ND	ND	0.03	0.03
Tolualdehydes	ND	ND	ND	ND	0.09u	ND	ND
Hexaldehyde	0.37	0.11	0.08	0.08	0.12	0.06	0.06
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution factor.
Note: Results for samples taken between 3/23 and 5/28/97 include laboratory blank subtraction.

Table G-10. Carbonyl Concentrations (ppbv) at Port Neches, TX (PNTX)

SAMPLE #	8698 D2	8698 R2	8692	8778	8835	8859 D1	8859 R1
SAMPLE DATE	10/24/96	10/24/96	11/5/96	11/17/96	11/29/96	12/11/96	12/11/96
EXTRACTION DATE	11/22/96	11/22/96	11/22/96	12/5/96	12/24/96	1/21/97	1/21/97
ANALYSIS DATE	12/7/96	12/7/96	12/7/96	12/27/96	12/28/96	2/10/97	2/10/97
FILE NAME	O6LF030	O6LF031	O6LF018	O6LX014	O6LX045	O7BG064	O7BG065
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.81	1.89	2.73	1.20	1.47	0.81	0.80
Acetaldehyde	1.47	1.54	4.26	1.09	1.06	0.33	0.33
Acrolein	0.07	0.06	0.11	0.08	0.04	0.004	0.005
Acetone	1.53	1.61	0.42	0.44	0.39	0.15	0.15
Propionaldehyde	0.14	0.14	0.40	0.19	0.16	0.05	0.06
Crotonaldehyde	0.05	0.05	0.11	0.04	ND	ND	ND
Butyr/Isobutyraldehyde	0.21	0.21	0.19	0.07	0.11	0.04	0.04
Benzaldehyde	0.07	0.07	0.06	ND	0.02	0.01	0.01
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.03	0.04	0.07	ND	0.03	0.01	0.01
Tolualdehydes	ND	ND	0.09	0.01u	0.05	ND	ND
Hexaldehyde	0.08	0.09	0.10	0.04	0.06	0.02	0.02
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution factor.
Note: Results for samples taken between 3/23 and 5/28/97 include laboratory blank subtraction.

Table G-10. Carbonyl Concentrations (ppbv) at Port Neches, TX (PNTX)

SAMPLE #	8861 D2	8861 R2	8865	8921	8965	8953 D1	8953 R1
SAMPLE DATE	12/11/96	12/11/96	12/23/96	1/4/97	1/16/97	1/28/97	1/28/97
EXTRACTION DATE	1/21/97	1/21/97	1/21/97	2/18/97	2/18/97	2/18/97	2/18/97
ANALYSIS DATE	2/10/97	2/10/97	2/12/97	2/22/97	2/22/97	2/23/97	2/23/97
FILE NAME	O7BG066	O7BG067	O7BK025	O7BU033	O7BU034	O7BU062	O7BU063
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.79	0.82	1.35	0.25	0.92	0.68	0.67
Acetaldehyde	0.35	0.36	0.89	0.09	0.73	0.52	0.52
Acrolein	0.01	0.01	0.01	0.00	0.02	0.01	0.01
Acetone	0.16	0.17	0.25	0.19	1.13	0.89	0.87
Propionaldehyde	0.06	0.06	0.14	0.01	0.09	0.05	0.05
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.04	0.05	0.09	0.04	0.09	0.06	0.07
Benzaldehyde	0.01	0.01	0.02	0.01	0.02	0.01	0.01
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.01	0.01	0.02	0.01	0.02	0.01	0.01
Tolualdehydes	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	0.02	0.02	0.02	0.01	0.01	0.01	0.01
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution factor.
Note: Results for samples taken between 3/23 and 5/28/97 include laboratory blank subtraction.

Table G-10. Carbonyl Concentrations (ppbv) at Port Neches, TX (PNTX)

SAMPLE #	8955 D2	8955 R2	9056	9138	9172	9174 D1	9174 R1
SAMPLE DATE	1/28/97	1/28/97	2/9/97	2/21/97	3/5/97	3/17/97	3/17/97
EXTRACTION DATE	2/18/97	2/18/97	3/11/97	4/1/97	4/1/97	4/1/97	4/1/97
ANALYSIS DATE	2/23/97	2/23/97	3/15/97	4/2/97	4/2/97	4/3/97	4/3/97
FILE NAME	O7BU064	O7BU065	O7CN016	O7DA035	O7DA036	O7DA049	O7DA050
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.65	0.67	1.03	2.27	1.50	1.47	1.49
Acetaldehyde	0.55	0.43	0.69	1.28	0.70	0.89	0.90
Acrolein	0.01	0.01	0.02	0.02	0.02	0.04	0.03
Acetone	0.88	0.90	1.33	1.19	0.97	0.50	0.49
Propionaldehyde	0.06	0.07	0.06	0.14	0.10	0.14	0.14
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.08	0.08	0.10	0.11	0.09	0.07	0.08
Benzaldehyde	0.02	0.01	0.03	0.02	0.02	0.07	0.07
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Tolualdehydes	ND	ND	0.003u	0.01	0.01u	ND	ND
Hexaldehyde	0.01	0.01	0.01	0.03	0.01	0.02	0.02
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution factor.
Note: Results for samples taken between 3/23 and 5/28/97 include laboratory blank subtraction.

Table G-10. Carbonyl Concentrations (ppbv) at Port Neches, TX (PNTX)

SAMPLE #	9176 D2	9176 R2	9218	9248	9246	9320	9323
SAMPLE DATE	3/17/97	3/17/97	3/23/97	4/4/97	4/10/97	4/16/97	4/22/97
EXTRACTION DATE	4/1/97	4/1/97	4/22/97	4/22/97	4/22/97	5/14/97	5/14/97
ANALYSIS DATE	4/3/97	4/3/97	4/29/97	4/25/97	4/25/97	5/28/97	5/28/97
FILE NAME	O7DA051	O7DA052	O7DI021	O7DV022	O7DV021	O7E~029	O7E~030
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.58	1.53	0.08	39.42d	2.65	3.15	1.84
Acetaldehyde	0.92	0.92	0.01	3.95	1.42	1.82	0.67
Acrolein	0.03	0.03	ND	0.58	0.04	0.03	0.02
Acetone	0.51	0.52	0.06	0.39	0.60	2.32	0.78
Propionaldehyde	0.13	0.13	ND	0.28	0.17	0.23	0.09
Crotonaldehyde	ND	ND	ND	0.04	ND	ND	ND
Butyr/Isobutyraldehyde	0.08	0.08	0.02	0.56	0.14	0.24	0.08
Benzaldehyde	0.07	0.07	ND	1.00	0.12	0.07	0.02
Isovaleraldehyde	ND	ND	ND	0.52	ND	ND	ND
Valeraldehyde	0.02	0.02	ND	0.20	0.03	0.06	0.03
Tolualdehydes	ND	0.004u	ND	0.11	ND	0.04u	ND
Hexaldehyde	0.02	0.02	ND	0.62	0.03	0.06	0.03
2,5-Dimethylbenzaldehyde	ND	ND	ND	0.05	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution factor.
Note: Results for samples taken between 3/23 and 5/28/97 include laboratory blank subtraction.

Table G-10. Carbonyl Concentrations (ppbv) at Port Neches, TX (PNTX)

SAMPLE #	9368	9365	9453	9572	9904	9906	10385
SAMPLE DATE	4/28/97	5/4/97	5/28/97	6/9/97	6/21/97	7/3/97	7/15/97
EXTRACTION DATE	5/14/97	5/14/97	6/17/97	7/2/97	7/23/97	7/23/97	8/13/97
ANALYSIS DATE	5/28/97	5/28/97	6/19/97	7/7/97	8/10/97	8/10/97	8/15/97
FILE NAME	O7E~031	O7E~032	o7fs019	O7GG008	O7HI038	O7HI039	O7HM032
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.66	3.06	3.27	3.86	1.24	1.55	2.94
Acetaldehyde	1.20	1.57	1.31	1.99	0.37	0.37	0.83
Acrolein	0.03	0.06	0.08	0.04	0.02	0.04	0.07
Acetone	1.95	1.60	0.30	0.90	0.23	0.12	0.33
Propionaldehyde	0.16	0.20	0.24	0.35	0.09	0.10	0.24
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.15	0.22	0.10	0.26	0.04	0.07	0.11
Benzaldehyde	0.07	0.05	0.08	0.03	0.03	0.03	0.04
Isovaleraldehyde	ND	ND	ND	0.03	ND	ND	0.01
Valeraldehyde	0.04	0.05	0.03	0.14	0.02	0.03	0.02
Tolualdehydes	ND	ND	0.03u	0.04	ND	0.03	ND
Hexaldehyde	0.03	0.04	0.05	0.11	0.02	0.06	0.05
2,5-Dimethylbenzaldehyde	ND	ND	ND	0.04	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution factor.
Note: Results for samples taken between 3/23 and 5/28/97 include laboratory blank subtraction.

Table G-10. Carbonyl Concentrations (ppbv) at Port Neches, TX (PNTX)

SAMPLE #	10551	11034	11039	11286
SAMPLE DATE	7/27/97	8/8/97	8/20/97	8/26/97
EXTRACTION DATE	10/7/97	10/7/97	10/7/97	10/7/97
ANALYSIS DATE	10/9/97	10/9/97	10/9/97	10/9/97
FILE NAME	O7JH024	O7JH025	O7JH027	O7JH036
UNITS	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.75	59.80d	1.02	4.45
Acetaldehyde	0.31	6.68	0.27	1.47
Acrolein	0.06	0.37	0.02	0.15
Acetone	0.19	0.39	0.16	0.63
Propionaldehyde	0.10	0.44	0.08	0.20
Crotonaldehyde	ND	0.05	ND	ND
Butyr/Isobutyraldehyde	0.11	0.87	0.05	0.12
Benzaldehyde	0.05	1.19	0.01	0.09
Isovaleraldehyde	ND	ND	ND	ND
Valeraldehyde	0.04	0.40	0.02	0.03
Tolualdehydes	ND	0.12	0.01	0.08
Hexaldehyde	0.04	0.94	0.03	0.05
2,5-Dimethylbenzaldehyde	ND	0.03	0.14	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution factor.
Note: Results for samples taken between 3/23 and 5/28/97 include laboratory blank subtraction.

Table G-11. Carbonyl Concentrations (ppbv) at Rutland, VT (RUVT)

SAMPLE #	8072 D1	8072 R1	8074 D2	8074 R2	8282	8437	8579
SAMPLE DATE	8/31/96	8/31/96	8/31/96	8/31/96	9/12/96	9/23/96	10/6/96
EXTRACTION DATE	10/28/96	10/28/96	10/28/96	10/28/96	10/28/96	10/28/96	11/5/96
ANALYSIS DATE	11/22/96	11/22/96	11/22/96	11/22/96	11/22/96	11/22/96	11/25/96
FILE NAME	O6KU052	O6KU053	O6KU054	O6KU055	O6KU046	O6KU047	O6KX010
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	5.52	5.37	7.45	6.99	4.93	4.17	6.41
Acetaldehyde	2.50	2.46	3.46	3.23	1.78	1.88	3.66
Acrolein	ND	ND	ND	ND	ND	ND	0.08
Acetone	3.94	3.90	4.46	4.35	2.24	3.18	4.27
Propionaldehyde	0.37	0.37	0.41	0.41	0.21	0.22	0.29
Crotonaldehyde	0.57	0.55	0.75	0.73	0.29	0.17	0.18
Butyr/Isobutyraldehyde	0.28	0.31	0.38	0.38	0.26	0.37	ND
Benzaldehyde	0.09	0.08	0.11	0.12	0.09	0.09	0.09
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.13	0.13	0.11	0.10	0.08	0.03	0.08
Tolualdehydes	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	0.21	0.22	0.27	0.26	0.11	0.12	0.10
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-11. Carbonyl Concentrations (ppbv) at Rutland, VT (RUVT)

SAMPLE #	8616	8637 D1	8637 R1	8639 D2	8639 R2	8747	8763
SAMPLE DATE	10/18/96	10/30/96	10/30/96	10/30/96	10/30/96	11/17/96	11/2/96
EXTRACTION DATE	11/5/96	11/22/96	11/22/96	11/22/96	11/22/96	12/5/96	12/5/96
ANALYSIS DATE	11/25/96	12/7/96	12/7/96	12/7/96	12/7/96	12/27/96	12/28/96
FILE NAME	O6KX011	O6LF032	O6LF033	O6LF034	O6LF035	O6LX009	O6LX016
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	6.15	5.18	4.74	5.24	4.82	12.61	6.69
Acetaldehyde	2.50	2.23	2.05	2.22	2.06	3.94	2.86
Acrolein	ND	0.08	0.07	0.07	0.07	0.42	0.10
Acetone	3.83	4.14	3.78	4.01	3.81	5.72	2.91
Propionaldehyde	0.17	0.29	0.27	0.29	0.28	0.83	0.36
Crotonaldehyde	0.12	0.15	0.14	0.14	0.14	0.45	0.16
Butyr/Isobutyraldehyde	0.31	0.34	0.32	0.33	0.33	0.26	0.35
Benzaldehyde	0.06	0.10	0.09	0.10	0.09	0.06	ND
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.03	0.05	0.05	0.06	0.06	0.31	ND
Tolualdehydes	ND	ND	ND	ND	ND	0.55	ND
Hexaldehyde	0.11	0.12	0.12	0.13	0.13	0.24	0.11
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-11. Carbonyl Concentrations (ppbv) at Rutland, VT (RUVT)

SAMPLE #	8806 D1	8806 R1	8808 D2	8808 R2	8845	8871	8903
SAMPLE DATE	12/5/96	12/5/96	12/5/96	12/5/96	12/17/96	12/29/96	1/10/97
EXTRACTION DATE	1/21/97	1/21/97	1/21/97	1/21/97	1/21/97	1/21/97	2/18/97
ANALYSIS DATE	2/10/97	2/10/97	2/10/97	2/10/97	2/12/97	2/12/97	3/5/97
FILE NAME	O7BG068	O7BG069	O7BG071	O7BG072	O7BK027	O7BK028	O7CE011
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	5.53	5.48	5.72	5.75	5.29	6.16	6.31
Acetaldehyde	2.52	2.49	2.53	2.66	2.28	3.62	2.83
Acrolein	0.07	0.06	0.08	0.08	0.09	0.17	0.08
Acetone	3.56	3.64	3.73	3.94	1.98	3.45	2.24
Propionaldehyde	0.20@	0.18@	0.23@	0.21@	0.25	0.34	0.34
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.31	0.30	0.33	0.31	0.25	0.11	0.28
Benzaldehyde	0.11	0.11	0.12	0.12	0.11	0.16	0.12
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.06	0.05	0.06	0.06	0.06	0.07	0.07
Tolualdehydes	0.03u	0.01u	0.01	ND	0.09	0.11	0.04u
Hexaldehyde	0.08	0.10	0.10	0.11	0.08	0.13	0.05
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	0.01

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-11. Carbonyl Concentrations (ppbv) at Rutland, VT (RUVT)

SAMPLE #	8931 D1	8931 R1	9017	9077 D1	9077 R1	9079 D2	9079 R2
SAMPLE DATE	1/21/97	1/21/97	2/9/97	2/21/97	2/21/97	2/21/97	2/21/97
EXTRACTION DATE	2/18/97	2/18/97	2/18/97	3/13/97	3/13/97	3/13/97	3/13/97
ANALYSIS DATE	3/6/97	3/6/97	3/5/97	3/15/97	3/15/97	3/15/97	3/15/97
FILE NAME	O7CE029	O7CE030	O7CE013	O7CN046	O7CN047	O7CN049	O7CN050
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.01	2.09	3.58	3.44	3.40	3.47	3.45
Acetaldehyde	1.11	1.17	2.35	2.13	2.11	2.15	2.15
Acrolein	0.05	0.05	0.17	0.06	0.06	0.07	0.07
Acetone	1.07	1.14	1.65	2.26	2.22	2.08	2.09
Propionaldehyde	0.14	0.15	0.29	0.24	0.25	0.26	0.25
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.18	0.18	0.32	0.28	0.25	0.23	0.24
Benzaldehyde	0.06	0.06	0.08	0.10	0.11	0.10	0.10
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.02	0.02	0.04	0.06	0.05	0.04	0.04
Tolualdehydes	0.02u	0.02u	0.03u	0.12	0.08	0.10	0.12
Hexaldehyde	0.02	0.02	0.04	0.05	0.05	0.05	0.05
2,5-Dimethylbenzaldehyde	0.01	0.01	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-11. Carbonyl Concentrations (ppbv) at Rutland, VT (RUVT)

SAMPLE #	9095	9126	9146	9178	9214	9236	9288
SAMPLE DATE	2/27/97	3/5/97	3/11/97	3/17/97	3/23/97	4/4/97	4/16/97
EXTRACTION DATE	3/13/97	4/1/97	4/1/97	4/1/97	4/22/97	4/22/97	4/28/97
ANALYSIS DATE	3/15/97	4/2/97	4/2/97	4/2/97	4/29/97	4/29/97	5/1/97
FILE NAME	O7CN023	O7DA038	O7DA039	O7DA040	O7DI022	O7DI023	O7D$020
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.00	1.93	2.49	2.68	1.84	3.04	4.08
Acetaldehyde	1.71	1.11	1.45	1.26	0.91	1.41	2.07
Acrolein	0.05	0.04	0.03	0.06	0.04	0.04	0.05
Acetone	2.16	1.24	1.36	1.63	1.14	1.84	2.69
Propionaldehyde	0.18	0.15	0.18	0.18	0.10	0.15	0.27
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.22	0.17	0.16	0.20	0.11	0.18	0.23
Benzaldehyde	0.07	0.05	0.04	0.07	0.02	0.05	0.07
Isovaleraldehyde	0.01	0.01	0.01	0.03	ND	ND	0.02
Valeraldehyde	0.04	0.02	0.03	0.02	0.01	0.03	0.04
Tolualdehydes	0.09	0.01u	0.00	0.03u	0.002u	0.01u	0.04
Hexaldehyde	0.08	0.03	0.03	0.03	0.02	0.04	0.05
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	0.01	0.01

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-11. Carbonyl Concentrations (ppbv) at Rutland, VT (RUVT)

SAMPLE #	9307 D1	9307 R1	9309 D2	9309 R2	9329	9376	9409
SAMPLE DATE	4/22/97	4/22/97	4/22/97	4/22/97	4/28/97	5/10/97	5/22/97
EXTRACTION DATE	5/14/97	5/14/97	5/14/97	5/14/97	5/14/97	6/3/97	6/3/97
ANALYSIS DATE	5/28/97	5/28/97	5/28/97	5/28/97	5/28/97	6/11/97	6/11/97
FILE NAME	O7E~038	O7E~039	O7E~040	O7E~041	O7E~033	O7FK010	O7FK011
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.13	0.12	0.14	0.17	2.21	1.52	1.25
Acetaldehyde	0.06	0.06	0.04	0.05	0.76	0.71	0.47
Acrolein	ND	ND	ND	ND	0.02	0.03	0.02
Acetone	0.08	0.06	0.07	0.08	1.29	1.14	0.58
Propionaldehyde	ND	ND	ND	ND	0.09	0.10	0.07
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.03	0.02	0.02	0.02	0.10	0.10	0.06
Benzaldehyde	0.02	0.02	0.02	0.02	0.03	0.03	0.03
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	ND	ND	ND	ND	0.04	0.04	0.03
Tolualdehydes	ND	ND	ND	ND	0.03	ND	0.02
Hexaldehyde	0.02	0.02	0.02	0.02	0.04	0.03	0.04
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-11. Carbonyl Concentrations (ppbv) at Rutland, VT (RUVT)

SAMPLE #	9481	9558	9728	10191	9960	10461	10723
SAMPLE DATE	6/3/97	6/15/97	6/27/97	7/21/97	7/9/97	8/2/97	8/14/97
EXTRACTION DATE	6/17/97	7/10/97	7/10/97	8/13/97	7/23/97	10/7/97	10/7/97
ANALYSIS DATE	6/20/97	7/18/97	7/18/97	8/15/97	9/3/97	10/9/97	10/9/97
FILE NAME	O7FS023	O7GQ034	O7GQ035	O7HM033	P7IA027	O7JH028	O7JH029
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.46	2.57	2.78	1.88	2.57	3.22	2.33
Acetaldehyde	0.87	1.08	1.09	0.82	1.08	1.31	0.80
Acrolein	0.02	0.03	0.04	0.03	0.07	0.31	0.04
Acetone	1.58	1.58	1.20	0.63	0.54	0.92	1.02
Propionaldehyde	0.11	0.17	0.17	0.13	0.22	0.21	0.10
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.11	0.13	0.13	0.13	0.14	0.16	0.11
Benzaldehyde	0.06	0.05	0.06	0.06	0.06	0.03	0.03
Isovaleraldehyde	0.02	0.02	0.02	0.01	0.02	0.02	0.01
Valeraldehyde	0.04	0.05	0.05	0.04	0.05	0.08	0.03
Tolualdehydes	0.02	0.03	0.03	0.05	0.04	0.03	0.02
Hexaldehyde	0.05	0.06	0.06	0.05	0.06	0.07	0.05
2,5-Dimethylbenzaldehyde	ND	0.01	ND	ND	0.01	ND	ND

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-11. Carbonyl Concentrations (ppbv) at Rutland, VT (RUVT)

SAMPLE #	11030	11054 D1	11054 R1	11056 D2	11056 R2	11226
SAMPLE DATE	8/26/97	9/1/97	9/1/97	9/1/97	9/1/97	9/7/97
EXTRACTION DATE	10/7/97	10/7/97	10/7/97	10/7/97	10/7/97	10/30/97
ANALYSIS DATE	10/9/97	10/10/97	10/10/97	10/10/97	10/10/97	10/31/97
FILE NAME	O7JH030	O7JH051	O7JH052	O7JH053	O7JH054	O7J$040
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	2.86	2.37	2.37	2.17	2.14	1.66
Acetaldehyde	1.17	0.86	0.88	0.79	0.79	0.97
Acrolein	0.06	0.03	0.04	0.03	0.04	0.06
Acetone	1.18	0.92	0.96	0.71	0.71	0.67
Propionaldehyde	0.15	0.11	0.10	0.09	0.09	0.16
Crotonaldehyde	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.15	0.12	0.13	0.12	0.11	0.15
Benzaldehyde	0.07	0.02	0.03	0.04	0.02	0.02
Isovaleraldehyde	0.02	0.02	0.02	0.02	0.02	0.03
Valeraldehyde	0.04	0.03	0.03	0.03	0.03	0.03
Tolualdehydes	0.03	0.02	0.02	0.02	0.03	0.03
Hexaldehyde	0.06	0.05	0.05	0.01	0.04	0.04
2,5-Dimethylbenzaldehyde	0.02	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.

@ - QC was outside criterion for this component of the sample.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-12. Carbonyl Concentrations (ppbv) at Underhill, VT (UNVT)

SAMPLE #	8435	8573	8615	8652 D1	8652 R1	8654 D2	8654 R2
SAMPLE DATE	9/24/96	10/6/96	10/18/96	10/30/96	10/30/96	10/30/96	10/30/96
EXTRACTION DATE	10/28/96	11/5/96	11/5/96	12/5/96	12/5/96	12/5/96	12/5/96
ANALYSIS DATE	11/22/96	11/26/96	11/21/96	12/28/96	12/28/96	12/28/96	12/28/96
FILE NAME	O6KU045	O6KX025	O6KU016	O6LX028	O6LX029	O6LX030	O6LX031
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.94	1.31	1.16	1.33	1.33	1.25	1.24
Acetaldehyde	1.82	0.77	0.80	0.61	0.60	0.31	0.32
Acrolein	ND	ND	ND	ND	ND	ND	ND
Acetone	0.71	1.08	1.06	0.89	0.88	0.79	0.82
Propionaldehyde	0.09	0.01	ND	0.04	0.04	0.04	0.04
Crotonaldehyde	0.03	0.01	0.01	0.01	0.01	0.01	0.01
Butyr/Isobutyraldehyde	0.05	0.03	0.04	0.04	0.04	0.04	0.04
Benzaldehyde	0.01	ND	ND	ND	ND	ND	ND
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.01	0.01	0.01	ND	ND	ND	ND
Tolualdehydes	ND	ND	ND	ND	0.01u	ND	ND
Hexaldehyde	0.02	0.01	0.02	0.02	0.02	0.02	0.02
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-12. Carbonyl Concentrations (ppbv) at Underhill, VT (UNVT)

SAMPLE #	8684	8802 D1	8802 R1	8804 D2	8804 R2	8839	8867
SAMPLE DATE	11/11/96	12/5/96	12/5/96	12/5/96	12/5/96	12/17/97	12/29/96
EXTRACTION DATE	12/5/96	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97
ANALYSIS DATE	12/27/96	3/6/97	3/6/97	3/6/97	3/6/97	3/5/97	3/5/97
FILE NAME	O6LX006	O7CE033	O7CE034	O7CE035	O7CE036	O7CE014	O7CE016
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.83	0.65	0.63	0.68	0.71	0.58	0.62
Acetaldehyde	0.33	0.50	0.50	0.54	0.56	0.29	0.55
Acrolein	ND	0.01	0.01	0.01	0.01	0.00	0.01
Acetone	0.56	0.71	0.71	0.76	0.79	0.30	0.63
Propionaldehyde	ND	0.04	0.04	0.04	0.05	0.02	0.04
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	ND	0.05	0.05	0.07	0.06	0.02	0.05
Benzaldehyde	ND	0.01	0.01	0.01	0.01	ND	0.01
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	ND	0.01	0.01	0.01	0.01	0.01	ND
Tolualdehydes	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	0.02	0.01	0.01	0.01	0.01	0.01	0.01
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.

d - Concentration based on a dilution.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-12. Carbonyl Concentrations (ppbv) at Underhill, VT (UNVT)

SAMPLE #	8911	8939 D1	8939 R1	8941 D2	8941 R2	8989	9019
SAMPLE DATE	1/10/97	1/22/97	1/22/97	1/22/97	1/22/97	2/3/97	2/9/97
EXTRACTION DATE	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97	2/18/97
ANALYSIS DATE	3/5/97	3/6/97	3/6/97	3/6/97	3/6/97	3/5/97	3/5/97
FILE NAME	O7CE017	O7CE038	O7CE039	O7CE040	O7CE041	O7CE019	O7CE018
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.69	1.06	1.00	0.99	1.00	1.73	1.08
Acetaldehyde	0.63	0.72	0.69	0.70	0.71	1.42	0.66
Acrolein	0.00	0.01	0.01	0.01	0.01	0.02	0.02
Acetone	0.52	1.12	1.08	1.06	1.08	1.94	0.87
Propionaldehyde	0.03	0.09	0.09	0.09	0.09	0.18	0.09
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.04	0.10	0.09	0.09	0.09	0.19	0.09
Benzaldehyde	0.01	0.02	0.02	0.02	0.02	0.03	0.01
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.01	0.02	0.02	0.02	0.02	0.03	0.02
Tolualdehydes	0.01u	ND	ND	ND	ND	ND	ND
Hexaldehyde	0.01	0.03	0.03	0.03	0.03	0.02	0.01
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.

d - Concentration based on a dilution.

Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-12. Carbonyl Concentrations (ppbv) at Underhill, VT (UNVT)

SAMPLE #	9043	9097	9150	9212	9232	9279	9325
SAMPLE DATE	2/15/97	2/27/97	3/11/97	3/23/97	4/4/97	4/16/97	4/28/97
EXTRACTION DATE	3/13/97	3/13/97	4/1/97	4/22/97	4/22/97	5/14/97	5/14/97
ANALYSIS DATE	3/15/97	3/15/97	4/2/97	4/29/97	4/29/97	5/28/97	5/28/97
FILE NAME	O7CN027	O7CN028	O7DA041	O7D!024	O7D!025	O7E~034	O7E~035
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.12	0.88	0.93	0.68	1.48	1.58	0.83
Acetaldehyde	0.90	0.76	0.69	0.51	0.77	0.70	0.41
Acrolein	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Acetone	1.04	1.45	1.26	0.91	1.69	1.72	1.10
Propionaldehyde	0.10	0.09	0.07	0.06	0.09	0.10	0.07
Crotonaldehyde	ND	ND	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.15	0.10	0.09	0.08	0.12	0.11	0.06
Benzaldehyde	0.03	0.01	0.01u	0.01u	0.02	0.02	0.02
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.04	0.02	0.02	0.02	0.02	0.03	0.03
Tolualdehydes	ND	ND	ND	ND	ND	0.03u	ND
Hexaldehyde	0.04	0.02	0.02	0.02	0.03	0.03	0.03
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-12. Carbonyl Concentrations (ppbv) at Underhill, VT (UNVT)

SAMPLE #	9382	9415	9468	9556	9714	9962	10250
SAMPLE DATE	5/10/97	5/22/97	6/3/97	6/15/97	6/27/97	7/9/97	7/21/97
EXTRACTION DATE	6/3/97	6/3/97	6/17/97	7/10/97	7/10/97	7/29/97	8/13/97
ANALYSIS DATE	6/11/97	6/11/97	6/20/97	7/18/97	7/18/97	7/31/97	8/15/97
FILE NAME	O7FK012	O7FK013	O7FS024	O7GQ036	O7GQ038	O7G#039	O7HM034
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	0.85	0.73	2.13	34.26d	2.17	1.86	1.76
Acetaldehyde	0.45	0.26	0.72	3.84	0.66	0.60	0.48
Acrolein	0.02	0.01	ND	0.08	0.01	0.02	0.02
Acetone	1.07	0.47	1.63	2.77	1.04	0.84	0.81
Propionaldehyde	0.08	0.05	0.10	0.31	0.11	0.09	0.08
Crotonaldehyde	ND	ND	ND	0.06	ND	ND	ND
Butyr/Isobutyraldehyde	0.07	0.04	0.07	0.45	0.09	0.09	0.09
Benzaldehyde	0.02	0.02	0.03	0.49	0.04	0.03	0.03
Isovaleraldehyde	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.03	0.02	0.02	0.33	0.03	0.03	0.02
Tolualdehydes	ND	0.03u	ND	0.17	0.03	0.03	0.02
Hexaldehyde	0.03	0.02	0.04	0.95	0.04	0.04	0.03
2,5-Dimethylbenzaldehyde	ND	ND	ND	0.03	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-12. Carbonyl Concentrations (ppbv) at Underhill, VT (UNVT)

SAMPLE #	10463	10721	11022
SAMPLE DATE	8/2/97	8/14/97	8/26/97
EXTRACTION DATE	10/7/97	10/7/97	10/7/97
ANALYSIS DATE	10/9/97	10/9/97	10/9/97
FILE NAME	O7JH031	O7JH032	O7JH033
UNITS	ppbv	ppbv	ppbv
Formaldehyde	2.74	1.61	1.90
Acetaldehyde	0.73	0.44	0.55
Acrolein	0.08	0.01	0.07
Acetone	1.27	1.07	1.28
Propionaldehyde	0.14	0.05	0.09
Crotonaldehyde	ND	ND	ND
Butyr/Isobutyraldehyde	0.13	0.07	0.13
Benzaldehyde	0.02	0.01	0.04
Isovaleraldehyde	ND	ND	0.01
Valeraldehyde	0.03	0.01	0.02
Tolualdehydes	0.05	ND	0.02
Hexaldehyde	0.03	0.01	0.03
2,5-Dimethylbenzaldehyde	ND	ND	ND

u - Concentration is below the detection limit.
d - Concentration based on a dilution.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-13. Carbonyl Concentrations (ppbv) at Winooski, VT (WIVT)

SAMPLE #	8057	8254	8535	8577	8613	8741 D1	8641 R1
SAMPLE DATE	8/31/96	9/12/96	9/24/96	10/6/96	10/18/96	10/30/96	10/30/96
EXTRACTION DATE	10/28/96	10/28/96	10/28/96	11/5/96	11/5/96	12/5/96	12/5/96
ANALYSIS DATE	11/22/96	11/22/96	11/22/96	11/26/96	11/21/96	12/28/96	12/28/96
FILE NAME	O6KU049	O6KU050	O6KU051	O6KX027	O6KU014	O6LX023	O6LX024
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	3.00	4.62	2.45	2.33	3.04	2.11	2.17
Acetaldehyde	5.81	1.21	0.85	1.80	2.08	0.78	0.79
Acrolein	0.39	ND	ND	ND	0.05	0.05	0.05
Acetone	0.76	1.70	2.77	3.44	3.25	2.88	2.92
Propionaldehyde	0.22	0.17	0.16	0.07	0.27	0.20	0.19
Crotonaldehyde	0.35	0.32	0.08	0.11	0.10	0.08	0.08
Butyr/Isobutyraldehyde	0.21	0.11	0.15	0.22	0.24	0.20	0.19
Benzaldehyde	0.06	0.07	0.07	0.07	0.08	ND	ND
Isovaleraldehyde	0.06	ND	ND	ND	ND	ND	ND
Valeraldehyde	0.06	0.03	ND	0.04	0.06	ND	ND
Tolualdehydes	ND	ND	ND	ND	ND	ND	0.03u
Hexaldehyde	0.18	0.16	0.10	0.07	0.10	0.09	0.09
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND	ND	ND	ND

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.

Table G-13. Carbonyl Concentrations (ppbv) at Winooski, VT (WIVT)

SAMPLE #	9964	10186	10455	10715#	11024
SAMPLE DATE	7/9/97	7/21/97	8/2/97	8/14/97	8/26/97
EXTRACTION DATE	7/23/97	8/13/97	8/13/97	10/7/97	10/7/97
ANALYSIS DATE	8/10/97	8/15/97	8/15/97	10/9/97	10/9/97
FILE NAME	O7HI040	O7HM035	O7HM036	O7JH034	O7JH035
UNITS	ppbv	ppbv	ppbv	ppbv	ppbv
Formaldehyde	1.44	1.52	2.37	1.53	1.88
Acetaldehyde	0.67	0.58	1.00	0.56	0.68
Acrolein	0.02	0.02	0.03	0.02	0.02
Acetone	0.93	0.71	0.92	1.49	1.12
Propionaldehyde	0.11	0.10	0.16	0.06	0.11
Crotonaldehyde	ND	ND	ND	ND	ND
Butyr/Isobutyraldehyde	0.12	0.10	0.14	0.09	0.10
Benzaldehyde	0.08	0.07	0.07	0.06	0.07
Isovaleraldehyde	0.02	0.03	0.03	0.01	0.01
Valeraldehyde	0.03	0.03	0.04	0.02	0.02
Tolualdehydes	0.04	0.03	0.04	0.04	0.02
Hexaldehyde	0.05	0.05	0.06	0.04	0.04
2,5-Dimethylbenzaldehyde	0.02	0.01	0.02	0.01	0.01

u - Concentration is below the detection limit.
Note: Results for samples taken between 3/23 and 5/22/97 include laboratory blank subtraction.