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1990 URBAN AIR TOXICS MONITORING PROGRAM

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SYMBOLS AND ABBREVIATIONS

AC, A.C., or a.c.	area counts, generated from a gas chromatograph
A/D	analog to digital
ADELTA	absolute value of DELTA
AIRS	Aerometric Information Retrieval System
a.m.	ante meridiem
Apr	April
AREAL	Atmospheric Research and Exposure Assessment Laboratory
Aug	August
BRLA	Baton Rouge, Louisiana (AIRS No. 22-033-0004)
BTX	benzene, toluene, m/p-xylene, o-xylene
C4IL	Chicago, Illinois (AIRS No. 17-031-0060)
Cal., or Calib.	calibration
CANJ	Camden, New Jersey (AIRS No. 34-007-0003)
cm	centimeter
DLTX	Dallas, Texas (AIRS No. 48-113-0069)
DNPH	dinitrophenylhydrazine
Dup.	duplicate
e	base of natural logarithm, 2.71828...
ECD	electron capture detector
EPA	United States Environmental Protection Agency
F	Friday
FID	flame ionization detector
FLFL	Fort Lauderdale, Florida (AIRS No. 12-011-1003)
GC/ECD	gas chromatograph/electron capture detector
GC/FID	gas chromatograph/flame ionization detector
GC/MD	gas chromatograph/multiple detector
GC/MS	gas chromatograph/mass spectrometer
H	high level of confidence
H1TX	Houston, Texas (AIRS No. 48-201-1034)
Hi-Vol	High-Volume (filter)
Hg	mercury
HPLC	high performance liquid chromatography
Hr	hour

SYMBOLS AND ABBREVIATIONS (Continued)

i.d.	inside diameter
ID	identification
IDL	instrument detection limit
IL	Illinois
in.	inches
INST.	instrument
Jul	July
Jun	June
L	liter
L	low level of confidence
Lpm	liters per minute
m	meter
M	medium level of confidence
MAX	maximum
mb	megabyte
MDL	method detection limit
MID	multiple ion detection
MIFL	Miami, Florida (AIRS No. 12-025-4002)
MIN	minimum
min.	minute
mL	milliliter
mm	millimeter
NC	North Carolina
NJ	New Jersey
NMOC	Nonmethane organic compound
No.	Number
Oct	October
o.d.	outside diameter
Off.	Office
OH	Ohio
ORFL	Orlando, Florida (AIRS No. 12-095-2002)

SYMBOLS AND ABBREVIATIONS (Continued)

PDFID	cryogenic preconcentration and direct flame ionization detection
PEFL	Pensacola, Florida (AIRS No. 12-033-0004)
PID	photoionization detector
p.m.	post meridiem
PNTX	Port Neches, Texas (AIRS No. 48-245-4007)
ppb	parts per billion
ppbv	parts per billion by volume
ppm	parts per million
ppmC	parts per million by volume as carbon
ppmv	parts per million by volume
psi	pounds (force) per square inch
psig	pounds (force) per square inch gauge
QA	quality assurance
QAD	Quality Assurance Division (EPA)
QAPP	Quality Assurance Project Plan
QC	quality control
RT	retention time
RTP	Research Triangle Park
SAIL	Sauget, Illinois (AIRS No. 17-163-1010)
SAROAD	Storage and Retrieval of Aerometric Data
Sep	September
SOP	standard operating procedure
STD	standard deviation
T	Tuesday
TLOH	Toledo, Ohio (AIRS No. 39-095-0081)
UATMP	Urban Air Toxics Monitoring Program
U.S.	United States
W1DC	Washington, District of Columbia (AIRS No. 11-001-0025)
W1KS	Wichita, Kansas (AIRS No. 20-173-0010)
W2DC	Washington, District of Columbia (AIRS No. 11-001-0039)
W	Wednesday
°C	degrees Celsius
°F	degrees Fahrenheit
%CV	percent coefficient of variation
%Diff	percent difference
$\mu g/m^3$	microgram per standard cubic meter (at 25°C and 1.0 atmosphere)
μm	micrometer

1.0 SUMMARY

The Urban Air Toxics Monitoring Program (UATMP) was developed in 1987 by the United States Environmental Protection Agency (U.S. EPA). The data discussed in this report are from the analyses of samples collected during the 1990 program, from March 12, 1990, through February 23, 1991. During the 1990 program, 349 valid samples were collected in 6-liter (L) SUMMA®-treated canisters. Four sites operated on different schedules. PEFL began sampling on a 12-day schedule on February 10, 1990, and completed sampling on February 23, 1991. TLOH began sampling on a 12-day schedule on April 5, 1990, and completed sampling on December 13, 1990. BRLA and ORFL began sampling on a 6-day sampling schedule on July 10, 1990, and completed sampling on February 23, 1991. In every case for the 1990 UATMP, 24-hour samples were obtained. These samples were collected from 12 sites in the United States every 12 days, for a 24-hour collection period.

Table 1-1 lists the 1990 UATMP sites, along with the EPA Region, the city in which the site is located, the Radian site code, and the Aerometric Information Retrieval System (AIRS) number for the site. Nine of the 1990 sites also participated in the 1989 UATMP: CANJ, W1DC, W2DC, PEFL, C4IL, SAIL, H1TX, BRLA, and W1KS.

UATMP canister samples were analyzed by a gas chromatograph/multiple detector (GC/MD) system for 38 target organic compounds. The estimated reporting limit for each of the 38 compounds is listed in Table 1-2. A portion of the samples were also analyzed using a gas chromatograph/mass spectrometer (GC/MS) as identification confirmation of the GC/MD results. The estimated reporting limits for GC/MS are also listed in Table 1-2. These estimated reporting limits were used as guidelines for precision and quantitation only. Data were not excluded as a result of being below the estimated reporting limit.

Table 1-3 presents summary statistics for the 1990 UATMP compound identifications pooled for all the sites. Compound identifications and quantitation included all cases in which identification criteria of retention time and detector response ratio(s) were met, regardless of whether the compound concentration was above or below the IDLs given in Table 1-2.

Table 1-1

1990 Urban Air Toxics Monitoring Program Sites

EPA Region	City	Radian Site Code	AIRS Number
II	Camden, NJ	CANJ	34-007-0003
III	Washington, DC	W1DC	11-001-0025
	Washington, DC	W2DC	11-001-0039
IV	Orlando, FL	ORFL	12-095-2002
	Pensacola, FL	PEFL	12-033-0004
V	Chicago, IL	C4IL	17-031-0060
	Sauget, IL	SAIL	17-163-1010
	Toledo, OH	TLOH	39-095-0081
VI	Houston, TX	H1TX	48-201-1034
	Baton Rouge, LA	BRLA	22-033-0006
	Port Neches, TX	PNTX	48-245-4007
VII	Wichita, KS	W1KS	20-173-0010

Table 1-2

1990 UATMP Estimated Reporting Limits, GC/MD and GC/MS

Compound	GC/MD ppbv	GC/MS[a] ppbv
Acetylene	1.00	b
Propylene	0.10	0.40
1,3-Butadiene	0.10	0.57
Vinyl chloride	0.20	0.43
Chloromethane	0.20	0.56
Chloroethane	0.10	0.38
Bromomethane	0.20	0.25
Methylene chloride	0.11	0.31
trans-1,2-Dichloroethylene	0.04	0.39
1,1-Dichloroethane	0.04	0.53
Chloroprene	0.06	0.57
Bromochloromethane	0.003	0.48
Chloroform	0.006	0.27
1,1,1-Trichloroethane	0.001	0.70
Carbon tetrachloride	0.001	0.37
1,2-Dichloroethane	0 04	0.59
Benzene	0.04	0.34
Trichloroethylene	0.004	0.37
1,2-Dichloropropane	0.04	0.44
Bromodichloromethane	0.001	0.22
trans-1,3-Dichloropropylene	0.04	0.50
Toluene	0.02	0.50
n-Octane	0.03	0.29
cis-1,3-Dichloropropylene	0.04	0.80
1,1,2-Trichloroethane	0.04	0.22
Tetrachloroethylene	0.07	0.32
Dibromochloromethane	0.001	0.25
Chlorobenzene	0.02	0.57
Ethylbenzene	0.02	0.72
m/p-Xylene	0.04	0.46
Styrene	0.02	0.46
o-Xylene	0.02	0.39
Bromoform	0.001	0.27
1,1,2,2-Tetrachloroethane	0.002	0.37
m-Dichlorobenzene	0.02	0.28
p-Dichlorobenzene	0.09	0 56
o-Dichlorobenzene	0.02	0.37

[a] GC/MS operated in the multiple ion detection (MID) mode using a 512-milliliter (mL) sample, twice the volume of GC/MD samples.
[b] Below GC/MS scan range.

Table 1-3

1990 UATMP Compound Identifications for All Sites

Compound	Cases[a] No.	Cases[a] Percent Freq.[b]	Minimum ppb	Maximum ppbv	Mean[c] ppbv	Mean[c] µg/m³	Mean[d] ppbv	Mean[e] ppbv	Median ppbv	STD[f] ppbv
Acetylene	53	15.2	0.63	14.14	4.07	4.40	1.04	0.62	2.57	3.28
1,3-Butadiene	106	30.4	0.03	142.66	3.24	7.29	1.02	0.98	0.31	14.60
Vinyl chloride	10	2.9	8.04	77.78	22.83	59.31	0.75	0.65	15.60	22.10
Chloromethane	2	0.6	0.03	2.45	1.24	2.60	0.11	0.01	1.24	1.71
Chloroethane	7	2.0	0.02	0.44	0.11	0.30	0.05	0.002	0.05	0.15
Bromomethane	4	1.1	0.02	0.56	0.18	0.70	0.10	0.002	0.07	0.26
Methylene chloride	47	13.5	0.39	31.52	5.70	20.13	0.82	0.77	3.15	6.63
trans-1,2-Dichloroethylene	27	7.7	0.02	0.94	0.41	1.64	0.05	0.03	0.27	0.29
1,1-Dichloroethane	14	4.0	0.03	0.91	0.17	0.70	0.03	0.01	0.05	0.26
Chloroprene	88	25.2	0.01	1.78	0.26	0.94	0.09	0.06	0.12	0.34
Chloroform	17	4.9	0.07	23.13	2.30	11.40	0.11	0.11	0.29	5.94
1,1,1-Trichloroethane	346	99.1	0.05	88.48	1.41	7.80	1.39	1.39	0.38	5.55
Carbon tetrachloride	346	99.1	0.01	4.34	0.25	1.61	0.25	0.25	0.15	0.45
1,2-Dichloroethane	1	0.3	0.08	0.08	0.08	0.33	0.02	0.0002	0.08	----
Benzene	349	100.0	0.04	20.72	1.47	4.77	1.47	1.47	1.02	1.71
Trichloroethylene	123	35.2	0.01	29.64	1.35	7.38	0.48	0.48	2.30	4.34
1,2-Dichloropropane	68	19.5	0.02	2.66	0.51	2.38	0.12	0.10	0.35	0.46
Bromodichloromethane	17	4.9	0.03	0.17	0.07	0.50	0.004	0.004	0.06	0.04
trans-1,3-Dichloropropylene	15	4.3	0.01	2.62	0.70	3.25	0.05	0.03	0.17	0.82
Toluene	349	100.0	0.06	195.83	5.20	19.93	5.20	5.20	1.93	14.2
n-Octane	45	12.9	0.01	1.83	0.51	2.41	0.08	0.07	0.30	0.52
n-Octane/trans-1,3-dichloropropylene	14	4.0	0.01	3.36	0.50	2.31	0.04	0.02	0.10	0.97
cis-1,3-Dichloropropylene	10	2.9	0.04	0.59	0.23	2.13	0.03	0.01	0.22	0.18
1,1,2-Trichloroethane	59	16.9	0.01	2.86	0.26	1.45	0.06	0.04	0.04	0.58
Tetrachloroethylene	333	95.4	0.01	15.08	0.94	6.45	0.89	0.89	0.31	1.63
Dibromochloromethane	5	1.4	0.03	0.18	0.09	0.81	0.002	0.001	0.08	0.05
Chlorobenzene	49	14.0	0.01	1.95	0.18	0.86	0.03	0.03	0.03	0.36
Ethylbenzene	345	98.9	0.02	4.19	0.39	1.72	0.38	0.38	0.24	0.51
m/p-Xylene	346	99.1	0.02	20.78	1.67	14.72	1.65	1.65	0.99	2.32
Styrene/o-xylene	346	99.1	0.01	38.47	1.58	13.82	1.57	1.57	0.55	3.78
1,1,2,2-Tetrachloroethane	27	7.7	0.01	1.04	0.20	1.38	0.02	0.02	0.10	0.26
m-Dichlorobenzene	58	16.6	0.01	5.11	0.31	1.89	0.06	0.05	0.07	0.73
p-Dichlorobenzene	130	37.2	0.04	3.85	0.37	2.25	0.17	0.14	0.21	0.48
o-Dichlorobenzene	39	11.2	0.02	2.62	0.30	1.83	0.04	0.03	0.16	0.44
Propylene	55	15.8	0.08	515.49	14.82	25.93	2.38	2.34	4.16	68.9

[a] A total of 349 samples were analyzed by GC/MD.
[b] Percent of the total samples analyzed in which the compound was identified.
[c] The arithmetic average concentration of all cases in which the compound was identified.
[d] The arithmetic average concentration of all samples, using half the MDL value for samples in which the compound was not identified.
[e] The arithmetic average concentration of all samples, using zero for samples in which the compound was not identified.
[f] The standard deviation of all cases in which the compound was identified. Dashes indicate that the standard deviation is not defined for this target compound.

Benzene and toluene were identified in 100% of all the samples analyzed. Carbon tetrachloride, 1,1,1-trichloroethane, ethylbenzene, m/p-xylene, and styrene/o-xylene appeared in more than 98.9% of the samples, while tetrachloroethylene was identified in 95.4% of the samples. The compound identification frequency then dropped to 37.2% for p-dichlorobenzene, 35.2% for trichloroethylene, and 30.4% for 1,3-butadiene. Vinyl chloride, chloromethane, chloroethane, bromomethane, trans-1,2-dichloroethylene, 1,1-dichloroethylene, chloroform, 1,2-dichloroethane, bromodichloromethane, trans-1,3-dichloropropylene, n-octane/trans-1,3-dichloropropylene, cis-1,3-dichloropropylene, dibromochloromethane, and 1,1,2,2-tetrachloroethane were all identified in fewer than 10% of the samples.

The concentration ranges for target compounds identified, presented in Table 1-3 as minima and maxima, ranged from 0.01 parts per billion by volume (ppbv) to 515.49 ppbv. The maximum overall concentration of 515.49 ppbv was for propylene. The maximum toluene concentration identified was 195.87 ppbv. Eight compounds had maximum concentrations below 1.0 ppbv. Table 1-3 also gives the medians, standard deviations, and three types of means, or averages, for the target compounds. Column six of Table 1-3 lists the mean, or the arithmetic average concentration, for those cases in which the compound was identified. In the next column, the mean is calculated using one-half the estimated reporting limit (Table 1-2) for samples in which the compound was not identified. Finally, column eight of Table 1-3 gives the mean concentrations, using zero for samples in which the compound was not identified.

Although concentrations of air toxic pollutants have been shown to be closer to lognormally distributed than to normally distributed[1-3], arithmetic averages (or means) have been used in this study. Means calculated in columns seven and eight may be viewed as annual means, because the overall time period of the data span about one year. Standard deviations given in Table 1-3 are calculated using only the cases in which the compound was identified.

Analytical precision was measured in terms of percent coefficient of variation (% CV) for repeated analyses of the same sample, and ranged from 2.23 to 29.00, with an average of 8.41. Sampling and analysis precision was

determined from analyses of duplicate samples. Percent CV for duplicates ranged from 1.83 to 28.00, averaging 11.67.

Accuracy was determined from six external audits conducted by the Quality Assurance Division (QAD) of the Atmospheric Research and Environmental Assessment Laboratory (AREAL) of the USEPA. The average bias calculated for each audited compound, ranged from -14.6% for ethylbenzene and bromomethane, to 21.5% for methylene chloride. The overall average bias for all audited compounds was -1.2 percent. Compound concentrations in the audit samples ranged from about 2 to 8 ppbv.

About 15% of the UATMP samples were analyzed by GC/MS to confirm the GC/MD analyses. Identifications were confirmed if both GC/MD and GC/MS identified, or did not identify, the compound. GC/MS confirmed 89.4% of the GC/MD results in the 1990 UATMP sample analyses.

The replicate and duplicate precision results, along with the audit bias results for determining accuracy, reflect the quality of the data presented in this report. The high percentage of GC/MS confirmed results indicates the reliability and the representativeness of the compound identifications and concentrations reported for UATMP.

2.0 INTRODUCTION

The UATMP was developed in 1987 to help state and local agencies determine if an air toxics problem existed and, if one existed, what was the nature and extent of it. From its origin, the UATMP has been regarded as a screening program. That is, to assess the kinds of metals and organic compounds, and their relative concentrations, which may be in urban atmospheres. Because there may be hundreds of these substances in urban environments, and because it is not possible to measure all of them in small samples, the UATMP was deliberately structured to confine analysis of the samples to a limited number of compounds which were of special concern to health professionals.

Nonmethane organic compound (NMOC) and 3-hour air toxics monitoring programs for 1990 are companion programs to UATMP. Sampling for the 1990 NMOC and 3-hour air toxics monitoring programs began on June 2, 1990, and completed on September 23, 1990. The results of the NMOC and 3-hour air toxics monitoring programs are presented in a separate report.[1]

The UATMP consists of three analytical fractions: filter samples to be analyzed for selected metals and benzo(a)pyrene, dinitrophenylhydrazine (DNPH) cartridges samples for collection of carbonyl compounds, and canister samples to be analyzed for 38 gaseous organic compounds. The DNPH cartridges are also called "aldehyde cartridges," although both aldehydes (formaldehyde and acetaldehyde) and a ketone (acetone) are quantitatively derivatized. Throughout the remainder of this report, the DNPH cartridges will be referred to as the aldehyde cartridges. The results from canister samples will be presented and discussed in this report. The results from the aldehyde cartridge samples will be presented in a separate report. Not all the sites participated in the Hi-Vol filter collection part of the program.

The samples for each analytical fraction were collected simultaneously, i.e., timers were programmed to start Hi-Vol filters, to start pumps that draw air through cartridges that trap carbonyl compounds, and to open a valve to start the canister sampling--all beginning at midnight on each scheduled day. Samples were collected from March 12, 1990, through February 23, 1991, on a 12-day cycle, for the 1990 UATMP. Hi-Vol filter samples were sent by site personnel directly to the U.S. EPA for analysis. Aldehyde cartridges and the UATMP 6-L canisters were returned to Radian's Research Triangle Park (RTP),

NC, laboratory. The aldehyde cartridges were transported to the U.S. EPA for analysis, and the UATMP samples were analyzed by Radian.

Section 3.0 presents the descriptions of the UATMP field sampling equipment, the GC/MD and GC/MS analytical equipment, the standards preparation apparatus, and the canister cleanup system. Section 4.0 summarizes the analytical results obtained for the 1990 UATMP, and Section 5.0 discusses the data characterizations for the UATMP results. Section 6.0 gives recommendations for future programs, and Section 7.0 provides the references cited.

3.0 URBAN AIR TOXICS TECHNICAL NOTES

This section presents descriptions of the equipment and procedures used in the 1990 UATMP. The sampling equipment, sample interface, analytical systems, compound identification and confirmation procedures, calibration standard generation apparatus, and the canister cleaning system are detailed in this section.

3.1 SAMPLING EQUIPMENT

A perspective view of the UATMP sampler is given in Figure 3-1, and Figure 3-2 shows the detailed layout of the sample lines, flow controller, and the other components of the UATMP sampler. The sampler was designed to obtain a 24-hour integrated ambient air sample in an evacuated stainless steel canister. Separate sample lines are used for the canister sample and for the aldehyde sample cartridges. The aldehyde sample lines are heated from the inlet to the aldehyde cartridges.

The aldehyde sample cartridges were prepared by an EPA on-site contractor and sent to Radian Corporation's RTP laboratory for shipment to the UATMP sites. Each aldehyde cartridge was given a unique serial number. Three cartridges, one blank and two duplicates, were enclosed with each canister sent to the sites. After ambient air sample collection was complete, site operators returned the aldehyde cartridges to the Radian laboratory in the canister shipment container along with sample canisters and sample custody records. The aldehyde cartridges were transferred to the U.S. EPA AREAL for analysis. The aldehyde results will be reported in a separate report.

The UATMP samplers were set to begin drawing air at a flow rate of 150 mL/minute (min.) through the sample inlet and sample lines about six hours before the air was directed into the evacuated sample canister(s). This procedure ensured that once the flow in the sample line was directed into the canister, the sample line had been well conditioned with ambient air. The sample flow rate into the 6-L canister was controlled at approximately 3.5 mL/min. The resulting pressure in the canister after 24 hours was approximately 1.0 to 5.0 inches (in.) mercury (Hg) vacuum. Section 4.7 presents and discusses the actual canister pressure distribution after the

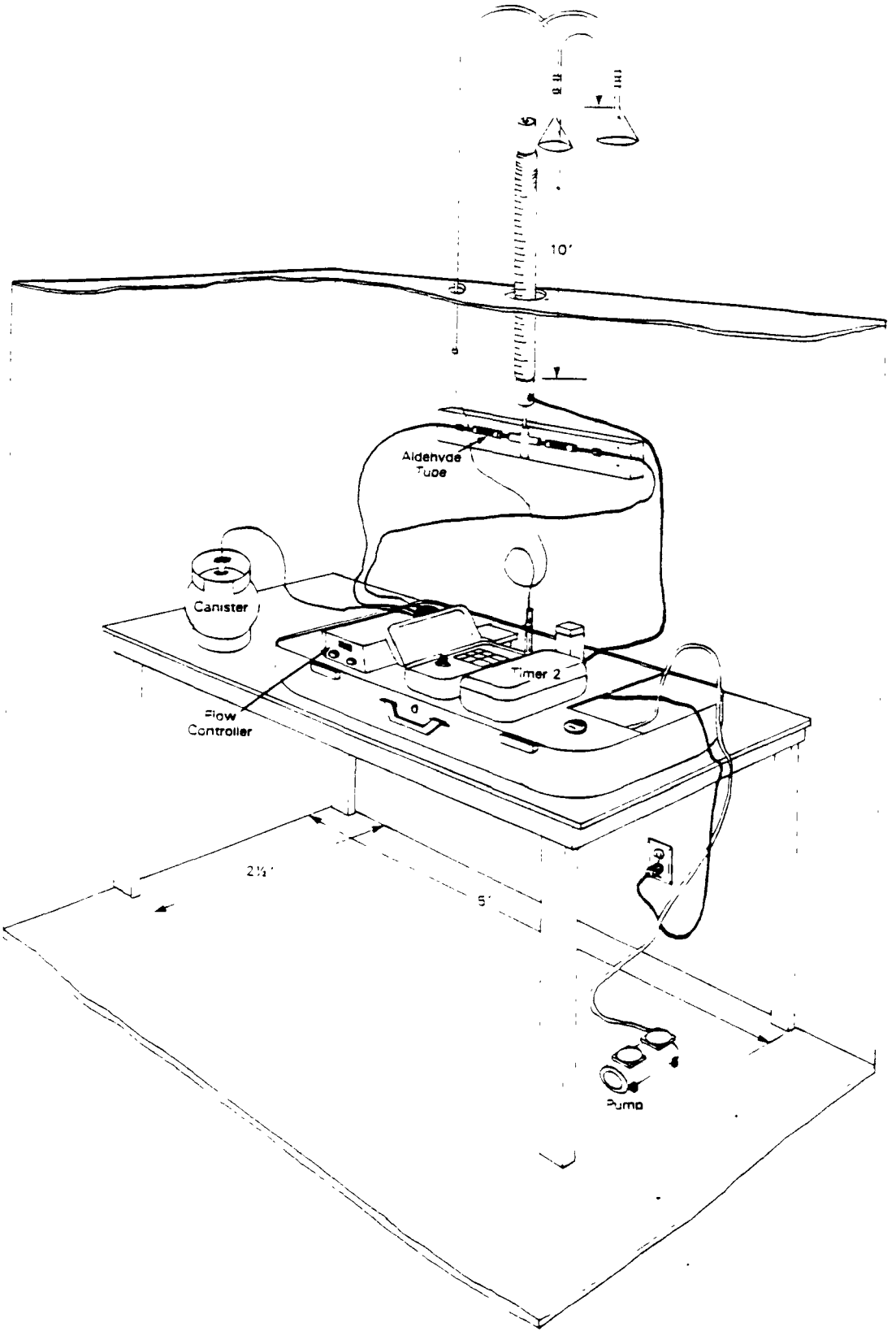

Figure 3-1. Perspective view of UATMP sampler.

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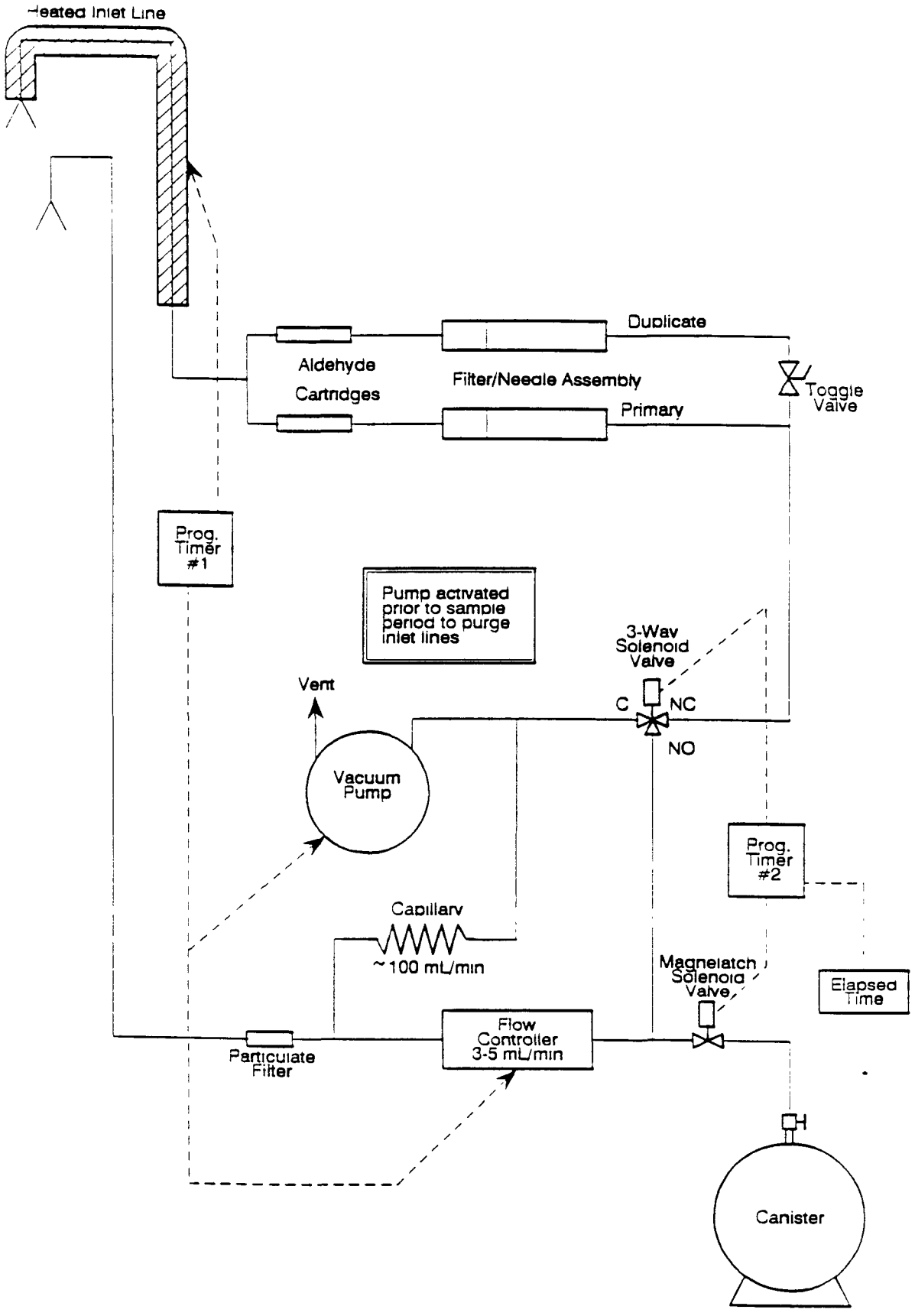

Figure 3-2. Sampling assembly for the UATMP.

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canisters were received in Radian's RTP laboratory. The sample was drawn into a canister from a sampling manifold in which the ambient air flow was several times greater than the sampling rate. The canister was initially under vacuum (about 29.72 in. Hg vacuum). This method of sample collection was used to avoid potential contamination from the pump.

3.2 SAMPLER PRESEASON PREPARATION AND CERTIFICATION

The UATMP samplers were cleaned and prepared for deployment to the field sites prior to the 1990 season. The samplers used in the 1989 program were returned from the field sites to the Radian RTP laboratory for refurbishment. The refurbishment involved cleaning and extensive checks of the electrical and mechanical components of the sampler. Any worn or damaged parts were replaced. The samplers were then reassembled and leak checked. Flow rates for the aldehyde and canister subsystems were checked against a primary flow standard.

All samplers were cleaned through an extended purge with humidified zero air following the TO-14 procedure for humid zero air certification.[5] Because of the large air volume required to purge the samplers, a dedicated zero certification manifold was utilized. After the samplers were prepared and purged, a final analysis of the humid zero purge air was performed to serve as part of the permanent record of any residual contaminant levels for the UATMP target compounds. Background levels from zero air and the canister were measured and subtracted from the certification samples collected through each sampler unit. All analyses were performed on the GC/MD analytical system dedicated to the UATMP program. Each sampler collected a 4-hour sample from the zero air manifold in which the flow rate was six times the normal sampling rate.

Acceptance criteria for the cleaned and blanked canisters used for the sampler zero check were approximately 0.2 ppbv per target compound or the compound reporting limit, whichever was higher. The majority of the samplers deployed to the field met the criteria of 0.2 ppbv, or the limit, whichever was larger, per target analyte and 25 ppbv total for all species as measured by the flame ionization detector (FID) of the GC/MD analytical system. The total of 25 ppbv was based on total area counts, including target compounds arbitrarily using an average response factor of 0.001 ppbv/area count.

3.3 SAMPLE INTERFACE SYSTEM

Figure 3-3 shows the UATMP GC/MD system that includes the Sample Interface System, the Analytical System, and the Data System. Figure 3-4 diagrams the sample valve configurations of the interface system. The upper half of Figure 3-4 shows the configuration of the interface system valve for the loading of sample through Trap 1 in which the organic compounds in the sample are condensed (trapped) by flowing through a 1/8-in. stainless steel glass-bead-filled trap that is immersed in liquid argon. The lower half of Figure 3-4 shows the sample interface system valve in the position for injecting the cryogenically trapped sample onto the column in the GC/MD. In the latter mode, the argon is removed from around the trap, and the trap is heated to about 200 degrees Celsius (°C).

The sample interface withdraws a constant sample volume of 256 mL from the sample canister and preconcentrates the sample by cryogenic trapping (see Load Trap 1 in Figure 3-4). Following sample preconcentration, the eight-port sampling valve is placed in the inject position (Inject Trap 1 in Figure 3-4) and the sample trap is rapidly heated. Helium carrier gas transports the trapped sample directly onto the column.

Initial calibration of the GC/MD system showed that the sample interface system provides a consistent sample volume with a precision (percent coefficiency of variation, % CV) of less than 3.0 percent.

3.4 CALIBRATION STANDARDS GENERATION

Calibration standards were generated with a dynamic flow dilution apparatus shown in Figure 3-5. The flow dilution system uses vendor-certified gases ±5% to ±10% accuracy and dilutes them with zero-grade air that has been routed through a catalytic oxidizer and then humidified with HPLC-grade water. The gases are mixed in a SUMMA®-treated mixing sphere prior to flowing into an evacuated canister. One dilution stream of the zero-grade air is routed through a SUMMA®-treated bubbler containing HPLC-grade water to humidify it, and the other stream is not humidified. The dilution air streams are then brought together for mixing with the streams from four certified standard cylinders. Flow rates from all streams are gauged and controlled by mass flow controllers. The split air dilution streams are metered by wet and dry

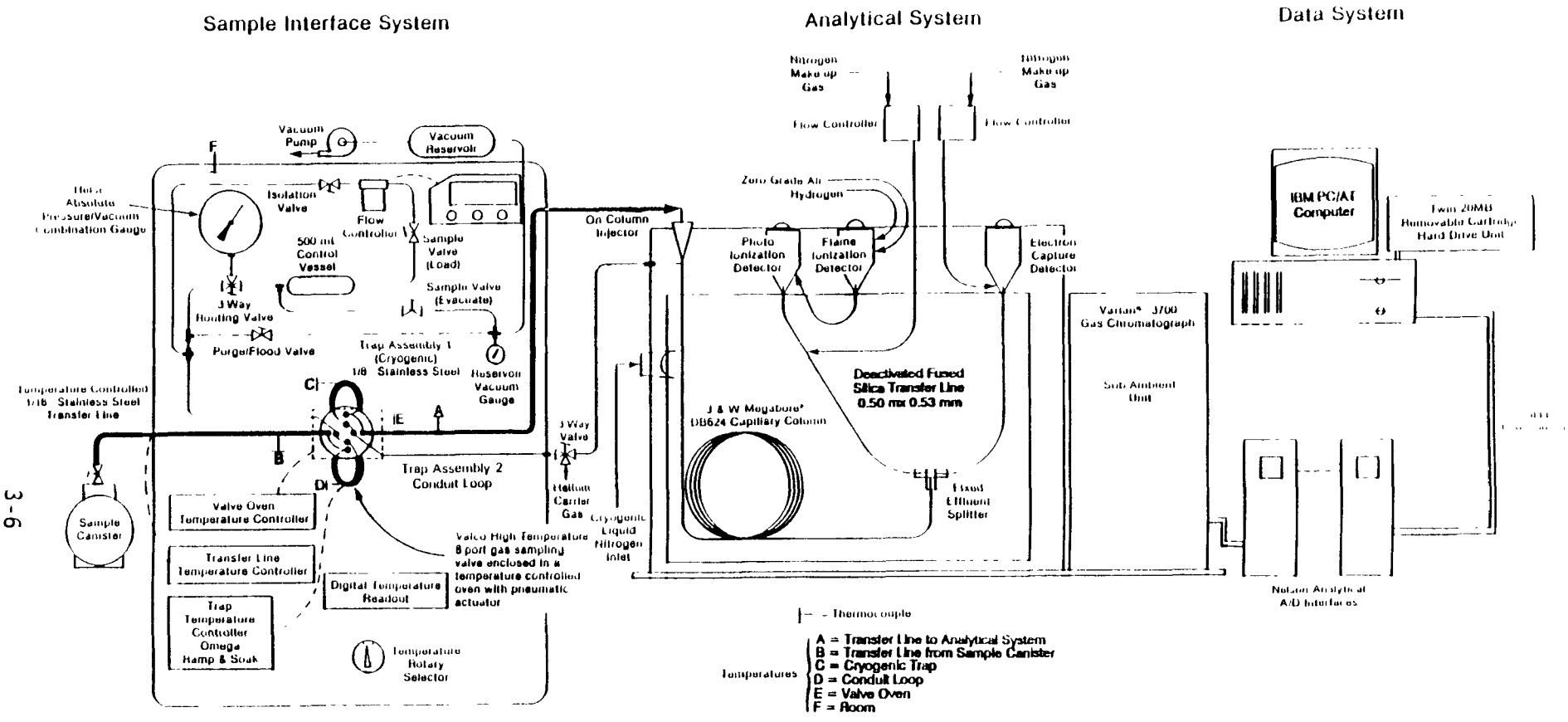

Figure 3-3. UATMP Gas Chromatograph Multiple Detector System.

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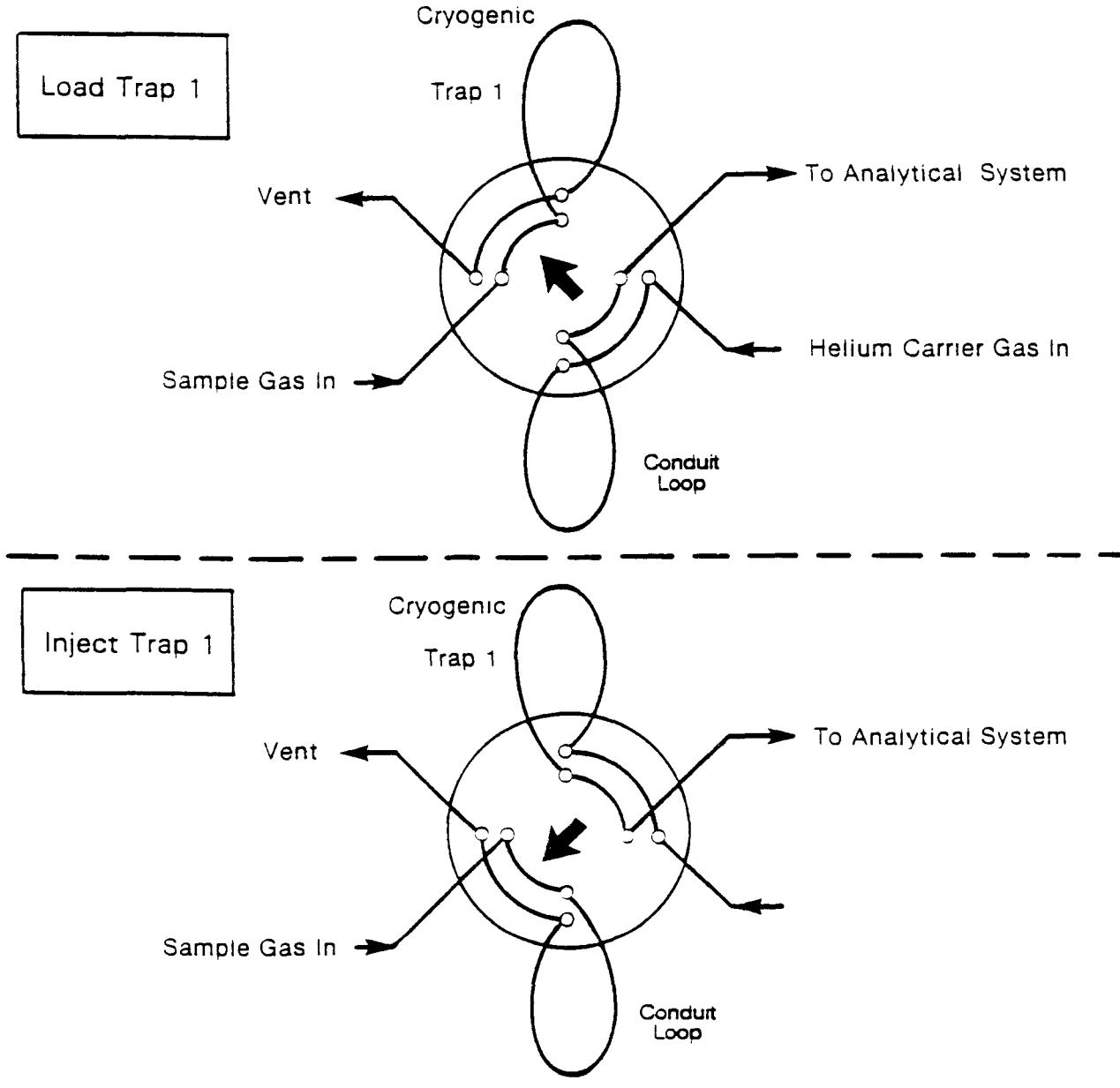

Valve viewed from handle

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Figure 3-4. Interface sample valve configuration.

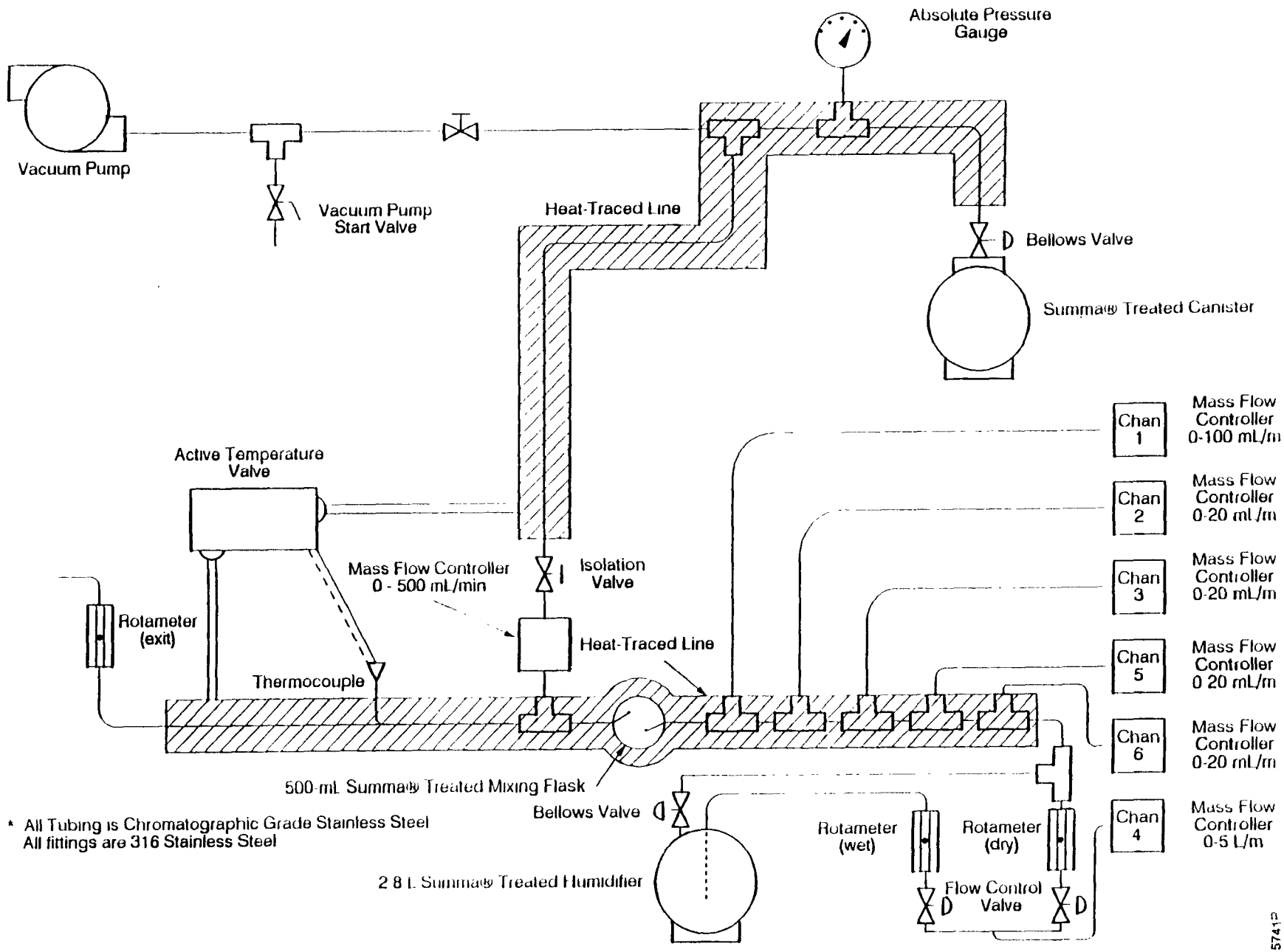

Figure 3-5. Dynamic Flow Dilution Apparatus.

rotameters from the humidified and unhumidified dilution air streams, respectively. The lines and the mixing flask containing the diluted gases are heated to 100°C to prevent condensation of liquids on the surfaces and to reduce adsorption of organic compounds on the surfaces.

The system is evacuated with a vacuum pump while the closed canister is connected. A precision absolute pressure gauge measures the canister pressure before and after filling. The lines leading to the canister and to the mixing sphere are flushed for at least 15 minutes with the diluted standard gases before being connected to the canister for filling.

3.5 ANALYSIS

UATMP samples were analyzed for 38 target compounds by the GC/MD system. Having simultaneous detector responses from the electron capture detector (ECD), photoionization detector (PID), and the flame ionization detection (FID) allowed the analyst to identify target compounds with greater accuracy. Quantitation was done primarily using the FID response, although the ECD was used for quantitation of most halogenated compounds. About 15% of the 1990 UATMP samples were also analyzed for compound identification confirmation by GC/MS, operating in the MID mode.

3.5.1 GC/MD Instrumentation

The gas chromatograph used with the multiple detector system was a VARIAN 3700. The operating conditions for the GC/MD system are given in Table 3-1. Figure 3-6 shows the multiple detector system arrangement. The oven of the gas chromatograph, which contained the DB-624 capillary column, was cooled to -30°C with liquid nitrogen at the beginning of the sample injection. The -30°C temperature remained constant for one minute, and then the temperature was increased at the rate of 3°C per minute, to a final temperature of 200°C. The column effluent was routed through a 1:10 fixed splitter that divided the flow to the ECD and the PID/FID. The smaller gas stream from the splitter went to the ECD, and the larger fraction went first to the PID and then the FID.

Table 3-1

1990 UATMP GC/MD Operating Conditions

Parameter	Operating Value
Sample Volume	256 mL
J&W Megabore® DB-624 Capillary Column	
Length	30 m
Inside Diameter	0.53 mm
Oven Temperature	-30°C for 1 min. Temperature programmed at 3°C/min. to 175°C
Film Thickness	3 μm
Injector Oven Temperature	200°C
Detector Temperatures	
FID	250°C
PID	225°C
ECD	250°C
Gas Flow Rates	
Helium Carrier Gas	5 mL/min.
N_2 Make-up	25 mL/min.
H_2 to FID	30 mL/min.
Air to FID	300 mL/min.

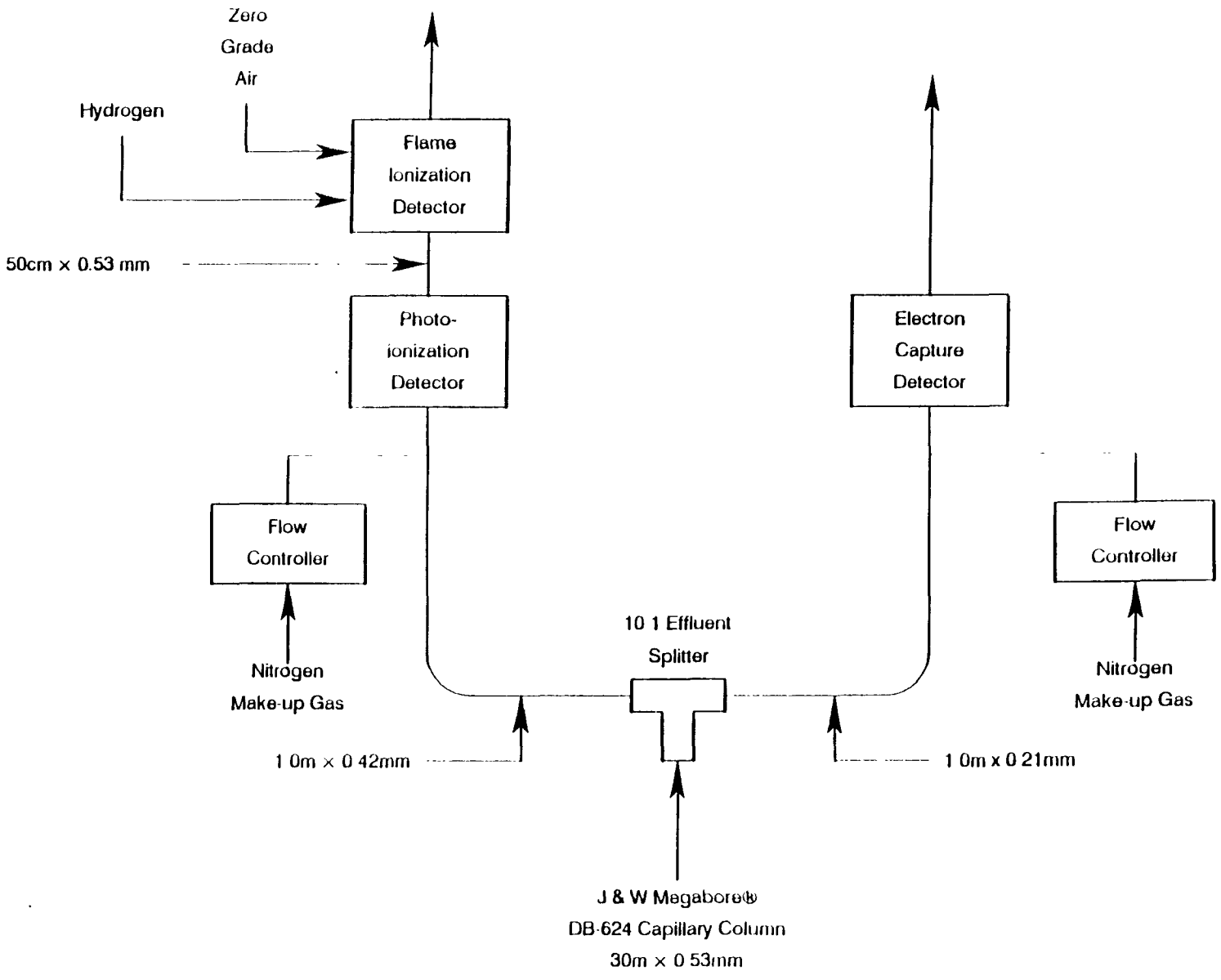

Figure 3-6. UATMP multiple detector configuration.

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3.5.2 GC/MS Instrumentation

A total of 48 UATMP samples were analyzed by GC/MS using a FINNIGAN 4500 operating primarily in the multiple ion detection (MID) mode to enhance instrument sensitivity. The GC/MS operating conditions are given in Table 3-2. The full-scan mode was used occasionally to detect non-target compounds when an interference was suspected or apparent. The MID mode was used for all other confirmation analyses.

3.6 CANISTER CLEANUP

The sample canister cleanup system used for the 1990 UATMP is the same as the one described in the 1990 NMOC and 1990 UATMP Quality Assurance Project Plans (QAPPs)[2,3] and the 1990 NMOC Monitoring Program.[1] The canister cleanup apparatus diagram is shown in Figure 3-7.

To clean the UATMP canisters, a bank of eight canisters is connected to each manifold shown in Figure 3-7. The valve on each canister is opened, with the shutoff valves and the bellows valves closed. The vacuum pump is started and one of the bellows valves is opened, drawing a vacuum on the canisters connected to the corresponding manifold. After reaching 0.5-mm Hg absolute pressure as indicated on the absolute pressure gauge, the vacuum is maintained for 30 minutes. The bellows valve is then closed. Next, air that has been filtered, dried, and cleaned, and then humidified at about 80% humidity is introduced to the evacuated canisters until the pressure reaches 20 pounds (force) per square inch gauge (psig). The canisters are filled from the clean air system at the rate of 12.0 L/min. This flow rate is the result of 6.0 L/min. passing through each catalytic oxidizer. A flow rate of 6.0 L/min. is recommended by the manufacturer as the highest flow rate at which the catalytic oxidizers eliminate hydrocarbons with a minimum 99.7% efficiency.

When the first manifold has completed the evacuation phase and is being pressurized, the second manifold is then subjected to vacuum by opening its bellows valve. After 15 min., the second manifold is isolated from the vacuum and connected to the cleaned, dried, and then humidified air. The first manifold of canisters is then taken through a second cycle of evacuation and pressurization. Each manifold bank of eight canisters is subjected to these cleanup cycles.

Table 3-2

1990 UATMP GC/MS Operating Conditions

Parameter	Operating Value
Sample Volume	512 mL
J&W Megabore® DB-624 Capillary Column	
Length	30 m
Inside Diameter	0.53 mm
Oven Temperature	0°C for 4 min. Temperature programmed at 6°C/min. to 200°C
Film Thickness	3 μ m
Injector Oven Temperature	110°C
Separator Temperature	220°C
Manifold Temperature	100°C
Gas Flow Rates	
Helium Carrier Gas	15 mL/min.
Helium Make-up	15 mL/min.

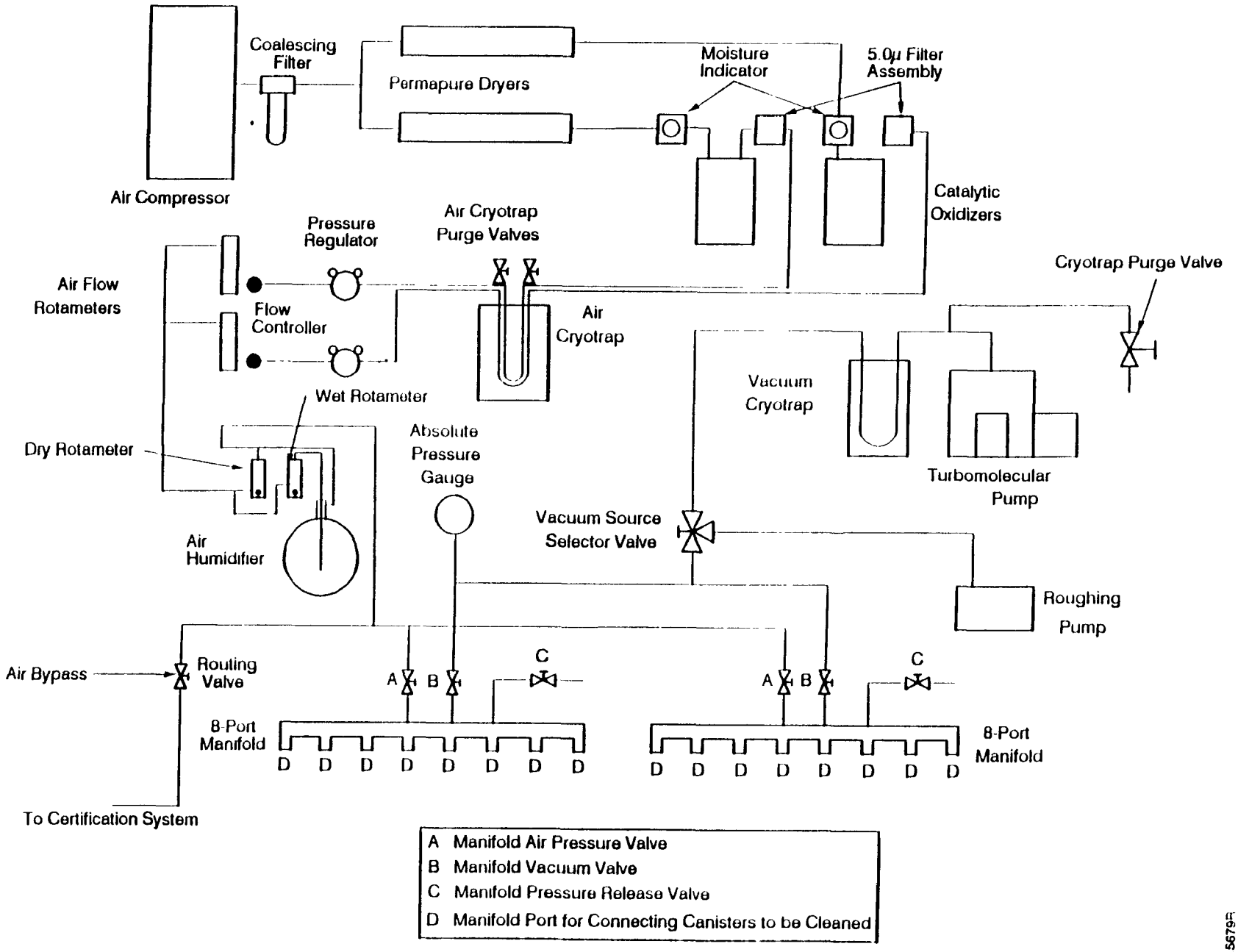

Figure 3-7. Canister Cleanup Apparatus.

During the third vacuum/pressurization cycle, the canisters are pressurized to 20 psig with air that has been filtered, dried, cleaned, and then humidified. Each UATMP canister is blanked by the cryogenic preconcentration and direct flame ionization detection (PDFID) method. If the total NMOC determined by PDFID is less than 0.030 parts per million by volume as carbon (ppmC), the eight canisters on the manifold are considered clean. Finally, the canisters are again evacuated to 0.5-mm Hg pressure absolute, capped under vacuum, and packed into containers to be shipped to the field sites.

The UATMP canisters were designated from the start of the program for a specific site. UATMP canisters from a given site are returned after analysis and cleanup to the same site for the next sample.

4.0 RESULTS

4.1 DATA SUMMARY

This section summarizes the GC/MD analytical results. Data for each sample, including site code, sample date, compounds identified, concentrations for each identified compound, and the identification confidence level, are tabulated in Appendix A. The site code descriptions, as listed in the AIRS database, are given in Appendix B.

Table 4-1 summarizes the number of 1990 UATMP canister samples for each site and the analyses performed. The second column of Table 4-1 is the number of valid canister samples taken at each UATMP site. The third and fourth columns show the number of duplicate pairs and replicate analyses pairs for each site, respectively. At least one pair of duplicate samples was attempted each quarter for each site. The duplicate samples were not always valid, therefore, the number of duplicates is lower for some sites. Replicate analyses were performed on each duplicate canister sample to measure sampling and analysis precision. The total number of GC/MS analyses are shown in column five of Table 4-1. Finally, the total number of GC/MS confirmation analyses are shown in the last column of the table.

The reported concentrations for some target analytes were below the reporting limits listed in Table 1-2. However, each identified compound was reported and quantified, even if the concentration was below its estimated reporting limit. All the compound identifications in the tables of Appendix A show the level of confidence in the identification--low (L), medium (M), and high (H). Compounds were identified in the UATMP study by retention times and detector response ratios. If a compound in the sample was within a retention time window (average retention time ± about 10%) for a target compound, the response ratio for the target compound in the sample was compared to an average response ratio for the target compound in the daily QC check standard. The response ratios are the ratios of area count responses from two detectors, e.g., ECD and the FID in the GC/MD analytical instrument. The precision (percent coefficient of variation, % CV) was calculated for the compound response ratio in the sample and the compound response ratio in the standard.

Table 4-1

1990 UATMP Ambient Air Samples and Analysis

Site Code	No. of Valid Samples	GC/MD Analyses		Total GC/MD Analyses	Total GC/MS Analyses
		Duplicate Pairs	Replicate Pairs		
BRLA	29	5	5	39	3
C4IL	29	4	4	37	5
CANJ	30	4	4	38	3
H1TX	28	4	4	36	6
ORFL	28	4	4	36	3
PEFL	42	5	5	52	6
PNTX	28	4	4	36	6
SAIL	27	4	4	35	3
TLOH	21	2	2	25	2
W1DC	30	4	4	38	4
W2DC	27	1	1	29	2
W1KS	30	4	4	38	5
Total	349	45	45	439	48

If the precision was within ±20 % CV, the compound was identified with a high level of confidence (H). If the precision was between ±20 and ±35 % CV, the compound was identified with a medium level of confidence (M). If the precision was between ±35 and ±40 % CV, the compound was identified with a low level of confidence (L). Compounds with response ratios outside ±40 % CV were usually not identified, unless there was additional evidence to indicate the compound was actually in the sample.

Sample concentration results are grouped in two ways, by compound and by site, and are discussed in the following subsections, 4.1.1 and 4.1.2, respectively. For each target compound identified at all of the 12 sites, summary concentrations are given as minima, maxima, and means. Site-specific data summaries show which target compounds were identified in samples from each site, and give minimum, maximum, and mean concentrations.

4.1.1 Overall Data Summary by Compound

Table 4-2 presents the UATMP target compounds identified for all the sites. The number of cases of identification for each compound is given, along with the frequency at which they were identified. The frequency of occurrence is expressed as a percent of the 349 total GC/MD analyses. Samples collected in duplicate reflect only one sampling event, but result in two analyses. Since duplicate samples were also analyzed in replicate, this results in a total of four analyses from one sampling event. To avoid any bias in the data by counting four results from one sampling event, the duplicate and replicate results for each compound identified were averaged. This average result was used in the statistical summaries and the frequency calculations in Table 4-2. If a compound was identified in less than all four analyses, the results were averaged for the analyses in which it was identified.

Benzene and toluene were identified in each of the 349 GC/MD samples. In addition, 1,1,1-tri-chloroethane, m/p xylene, and styrene/o-xylene, ethylbenzene and carbon tetrachloride were reported in at least 345 out of the 349 total samples. m-Xylene and p-xylene coelute on the analytical column used in the GC/MD system. These compounds were reported together, because it

Table 4-2

1990 UATMP Compound Identifications for All Sites

Compound	Cases[a] No.	Cases[a] Percent Freq[b]	Minimum ppbv	Maximum ppbv	Mean[c] ppbv	Mean[c] µg/m³	Mean[d] ppbv	Mean[e] ppbv	Median ppbv	STD[f] ppbv
Acetylene	53	15.2	0.63	14.14	4.07	4.40	1.04	0.62	2.57	3.28
1,3-Butadiene	106	30.4	0.03	142.66	3.24	7.29	1.02	0.98	0.31	14.60
Vinyl chloride	10	2.9	8.04	77.78	22.83	59.31	0.75	0.65	15.60	22.10
Chloromethane	2	0.6	0.03	2.45	1.24	2.60	0.11	0.01	1.24	1.71
Chloroethane	7	2.0	0.02	0.44	0.11	0.30	0.05	0.002	0.05	0.15
Bromomethane	4	1.1	0.02	0.56	0.18	0.70	0.10	0.002	0.07	0.26
Methylene chloride	47	13.5	0.39	31.52	5.70	20.13	0.82	0.77	3.15	6.63
trans-1,2-Dichloroethylene	27	7.7	0.02	0.94	0.41	1.64	0.05	0.03	0.27	0.29
1,1-Dichloroethane	14	4.0	0.03	0.91	0.17	0.70	0.03	0.01	0.05	0.26
Chloroprene	88	25.2	0.01	1.78	0.26	0.94	0.09	0.06	0.12	0.34
Chloroform	17	4.9	0.07	23.13	2.30	11.40	0.11	0.11	0.29	5.94
1,1,1-Trichloroethane	346	99.1	0.05	88.48	1.41	7.80	1.39	1.39	0.38	5.55
Carbon tetrachloride	346	99.1	0.01	4.34	0.25	1.61	0.25	0.25	0.15	0.45
1,2-Dichloroethane	1	0.3	0.08	0.08	0.08	0.33	0.02	0.0002	0.08	----
Benzene	349	100.0	0.04	20.72	1.47	4.77	1.47	1.47	1.02	1.71
Trichloroethylene	123	35.2	0.01	29.64	1.35	7.38	0.48	0.48	2.30	4.34
1,2-Dichloropropane	68	19.5	0.02	2.66	0.51	2.38	0.12	0.10	0.35	0.46
Bromodichloromethane	17	4.9	0.03	0.17	0.07	0.50	0.004	0.004	0.06	0.04
trans-1,3-Dichloropropylene	15	4.3	0.01	2.62	0.70	3.25	0.05	0.03	0.17	0.82
Toluene	349	100.0	0.06	195.83	5.20	19.93	5.20	5.20	1.93	14.2
n-Octane	45	12.9	0.01	1.83	0.51	2.41	0.08	0.07	0.30	0.52
n-Octane/trans-1,3-dichloropropylene	14	4.0	0.01	3.36	0.50	2.31	0.04	0.02	0.10	0.97
cis-1,3-Dichloropropylene	10	2.9	0.04	0.59	0.23	2.13	0.03	0.01	0.22	0.18
1,1,2-Trichloroethane	59	16.9	0.01	2.86	0.26	1.45	0.06	0.04	0.04	0.58
Tetrachloroethylene	333	95.4	0.01	15.08	0.94	6.45	0.89	0.89	0.31	1.63
Dibromochloromethane	5	1.4	0.03	0.18	0.09	0.81	0.002	0.001	0.08	0.05
Chlorobenzene	49	14.0	0.01	1.95	0.18	0.86	0.03	0.03	0.03	0.36
Ethylbenzene	345	98.9	0.02	4.19	0.39	1.72	0.38	0.38	0.24	0.51
m/p-Xylene	346	99.1	0.02	20.78	1.67	14.72	1.65	1.65	0.99	2.32
Styrene/o-xylene	346	99.1	0.01	38.47	1.58	13.82	1.57	1.57	0.55	3.78
1,1,2,2-Tetrachloroethane	27	7.7	0.01	1.04	0.20	1.38	0.02	0.02	0.10	0.26
m-Dichlorobenzene	58	16.6	0.01	5.11	0.31	1.89	0.06	0.05	0.07	0.73
p-Dichlorobenzene	130	37.2	0.04	3.85	0.37	2.25	0.17	0.14	0.21	0.48
o-Dichlorobenzene	39	11.2	0.02	2.62	0.30	1.83	0.04	0.03	0.16	0.44
Propylene	55	15.8	0.08	515.49	14.82	25.93	2.38	2.34	4.16	58.9

[a] A total of 349 samples were analyzed by GC/MD.
[b] Percent of the total samples analyzed in which the compound was identified.
[c] The arithmetic average concentration of all cases in which the compound was identified.
[d] The arithmetic average concentration of all samples, using half the MDL value for samples in which the compound was not identified.
[e] The arithmetic average concentration of all samples; using zero for samples in which the compound was not identified.
[f] The standard deviation of all cases in which the compound was identified. Dashes indicate that the standard deviation was not defined for the target compound.

was not possible to distinguish whether one or both compounds were present in the sample. This was also the situation with o-xylene and styrene. n-Octane and trans-1,3-dichloropropylene coeluted only during the first and second quarters of 1990. On August 10, 1990, the chromatography column (DB-624) was replaced. The new column (another DB-624) resulted in separation of n-octane and trans-1,3-dichloropropylene. These two compounds, therefore, are listed separately and as coeluters, since they could be distinguished from one another for part of the year. 1,2-Dichloroethane was identified in only one of the 1990 UATMP samples, and chloromethane was seen only twice. Reported concentrations of the target compounds ranged from 0.01 ppbv for 12 compounds to 515 ppbv for propylene. Average concentrations ranged from 0.07 ppbv for dibromochloromethane to 22.83 ppbv for vinyl chloride. The concentration range for each compound is given as minimum and maximum. The average concentration for each compound identified is expressed in parts per billion by volume and micrograms per standard cubic meter ($\mu g/m^3$). In the latter dimensions, the cubic-meter term is a "standard" cubic meter calculated at 25°C and 1.0 atmosphere pressure.

Table 4-3 groups the compounds by frequency of occurrence for the target compounds in the UATMP samples. The most obvious feature of these results is the large gap in frequency of occurrence between 95.4% for tetrachloroethylene and 37.2% for p-dichlorobenzene. All the halogenated methane compounds containing bromide radicals fall in the frequency-of-occurrence range of less than 5.0 percent. This may be a reflection of the low concentrations of bromine and bromine derivatives in ambient urban air.

4.1.2 Site-Specific Overall Data Summary

Site-specific compound identifications by GC/MD are presented in Tables 4-4 through 4-15. The "cases" column is the number of samples in which the compound was identified at a particular site. Concentration ranges are given in terms of minima and maxima for each compound. The mean, or average, concentrations are reported in the fifth through eighth columns of each table. Means are calculated in the same way as discussed in Table 4-3. Medians and standard deviations of the identified concentrations found in the samples complete the data summaries for each UATMP site. Each site table shows the total samples taken at each site throughout the year.

Table 4-3

1990 UATMP Frequency of Occurrence of Target Compounds

Range for Frequency of Occurrence	Target Compounds	
100 to 95.4%	1,1,1-Trichloroethane Carbon tetrachloride Benzene Toluene	Tetrachloroethylene Ethylbenzene m/p-Xylene Styrene/o-xylene
37 to 25%	1,3-Butadiene Chloroprene	Trichloroethylene p-Dichlorobenzene
20 to 11%	Acetylene Propylene Methylene Chloride 1,2-Dichloropropane n-Octane	1,1,2-Trichloroethane Chlorobenzene m-Dichlorobenzene o-Dichlorobenzene
8 to >0%	Chloromethane Vinyl Chloride Chloroethane trans-1,3-Dichloroethylene 1,1-Dichloroethane Chloroform 1,2-Dichloroethane	cis-1,3-Dichloropropylene trans-1,3-Dichloropropylene Dibromochloromethane Bromomethane Bromodichloromethane 1,1,2,2-Tetrachloroethane n-Octane/trans-1,3-dichloropropylene

Table 4-4

1990 UATMP Compound Identifications for BRLA

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] $\mu g/m^3$	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	5	2.59	10.08	6.67	7.22	1.56	1.15	6.44	2.88
1,3-Butadiene	8	0.18	5.58	1.18	2.66	0.36	0.33	0.65	1.80
Chloroethane	1	0.08	0.08	0.08	0.21	0.05	0.003	0.08	---[e]
Methylene chloride	2	0.39	7.87	4.13	14.58	0.34	0.28	4.13	5.29
trans-1,2-Dichloroethylene	2	0.02	0.91	0.47	1.87	0.05	0.03	0.47	0.63
1,1-Dichloroethane	1	0.10	0.10	0.10	0.41	0.02	0.003	0.10	---[e]
Chloroprene	9	0.02	0.82	0.25	0.92	0.10	0.08	0.09	0.30
Chloroform	5	0.07	10.76	2.52	12.49	0.44	0.43	0.30	4 63
1,1,1-Trichloroethane	28	0.14	11.65	1.73	9.61	1.67	1.67	0.49	3.15
Carbon tetrachloride	28	0.12	1.11	0.26	1.63	0.25	0.25	0.18	0.19
Benzene	29	0.06	3.90	1.37	4.45	1.37	1.37	1.03	0.81
Trichloroethylene	11	0.19	23.26	7.02	38.36	2.67	2.66	2.43	9.31
1,2-Dichloropropane	6	0.12	1.04	0.43	2.00	0.10	0.09	0.33	0.34
Bromodichloromethane	2	0.05	0.07	0.06	0.41	0.005	0.004	0.06	0.01
Toluene	29	0.09	15.75	3.35	12.82	3.35	3.35	1.73	3.80
n-Octane	5	0.04	0.99	0.49	2.35	0.10	0.09	0.34	0.43
cis-1,3-Dichloropropylene	3	0.06	0.59	0.28	2.62	0.05	0.03	0.19	0.28
1,1,2-Trichloroethane	3	0.04	0.23	0.15	0.85	0.03	0.02	0.19	0.10
Tetrachloroethylene	27	0.02	8.92	1.46	10.06	1.36	1.36	0.37	2.53
Chlorobenzene	2	0.07	0.24	0.16	0.73	0.02	0.01	0.16	0.12
Ethylbenzene	29	0.02	0.89	0.32	1.42	0.32	0.32	0.26	0.22
m/p-Xylene	29	0.02	7.03	1.50	13.25	1.50	1.50	1.18	1.42
Styrene/o-xylene	29	0.01	4.28	0.90	7.87	0.90	0.90	0.73	0.86
1,1,2,2-Tetrachloroethane	6	0.06	0.13	0.10	0.67	0.02	0.02	0.10	0.03
m-Dichlorobenzene	4	0.02	0.17	0.06	0.38	0 02	0.01	0.03	0.07
p-Dichlorobenzene	10	0.16	0.55	0.31	1.91	0.14	0.11	0.30	0.12
o-Dichlorobenzene	2	0.15	0.16	0.16	0.95	0.02	0.01	0.16	0.01

[a] A total of 29 samples were collected and analyzed by GC/MD.
[b] The arithmetic average concentration of all the compound identification cases.
[c] The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d] The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e] The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-5

1990 UATMP Compound Identifications for C4IL

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] µg/m³	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	4	0.94	11.70	4.18	4.52	1.01	0.58	2.04	5.04
1,3-Butadiene	4	0.10	0.18	0.13	0.30	0.06	0.02	0.13	0.03
Vinyl chloride	1	8.50	8.50	8.50	22.08	0.39	0.29	8.50	---[e]
Chloromethane	1	2.45	2.45	2.45	5.14	0.18	0.08	2.45	---[e]
Methylene chloride	12	0.87	25.05	8.66	30.58	3.62	3.58	7.24	7.06
trans-1,2-Dichloroethylene	4	0.14	0.94	0.40	1.60	0.07	0.05	0.26	0.37
1,1-Dichloroethane	1	0.49	0.49	0.49	2.02	0.04	0.02	0.49	---[e]
Chloroprene	6	0.05	1.05	0.28	1.02	0.08	0.06	0.12	0.39
1,1,1-Trichloroethane	29	0.28	7.94	1.44	7.96	1.44	1.44	0.94	1.64
Carbon tetrachloride	29	0.11	3.48	0.44	2.78	0.44	0.44	0.16	0.82
Benzene	29	0.09	5.51	1.55	5.04	1.55	1.55	1.27	1.07
Trichloroethylene	16	0.02	0.83	0.36	1.95	0.20	0.20	0.26	0.27
1,2-Dichloropropane	4	0.08	1.09	0.73	3.44	0.12	0.10	0.88	0.46
Bromodichloromethane	2	0.07	0.16	0.12	0.78	0.01	0.01	0.12	0.06
trans-1,3-Dichloropropylene	2	0.70	1.45	1.08	4.96	0.09	0.07	1.08	0.53
Toluene	29	0.64	8.53	3.04	11.65	3.04	3.04	2.26	2.20
n-Octane	6	0.04	1.83	0.68	3.21	0.15	0.14	0.35	0.74
n-Octane/t-1,3-dichloropropylene	2	0.16	0.76	0.46	2.12	0.05	0.03	0.46	0.42
cis-1,3-Dichloropropylene	1	0.32	0.32	0.32	3.00	0.03	0.01	0.32	---[e]
1,1,2-Trichloroethane	4	0.02	0.04	0.03	0.18	0.02	0.004	0.04	0.01
Tetrachloroethylene	29	0.17	5.78	1.53	10.52	1.53	1.53	0.93	1.34
Chlorobenzene	3	0.02	0.04	0.03	0.14	0.01	0.003	0.03	0.01
Ethylbenzene	29	0.05	1.46	0.39	1.74	0.39	0.39	0.27	0.32
m/p-Xylene	29	0.22	8.74	2.18	19.20	2.18	2.18	1.32	2.18
Styrene/o-xylene	29	0.07	2.86	0.84	7.32	0.84	0.84	0.54	0.67
1,1,2,2-Tetrachloroethane	3	0.05	1.04	0.38	2.65	0.04	0.04	0.05	0.57
m-Dichlorobenzene	6	0.01	0.27	0.08	0.46	0.02	0.02	0.03	0.10
p-Dichlorobenzene	12	0.08	1.48	0.30	1.82	0.15	0.12	0.19	0.39
o-Dichlorobenzene	4	0.05	0.88	0.33	2.02	0.05	0.05	0.20	0.38
Propylene	4	3.05	14.97	7.21	12.61	1.04	0.99	5.41	5.29

[a]A total of 29 samples were collected and analyzed by GC/MD.
[b]The arithmetic average concentration of all the compound identification cases.
[c]The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d]The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e]The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-6

1990 UATMP Compound Identifications for CANJ

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] µg/m³	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	4	1.14	5.27	2.37	2.57	0.75	0.32	1 54	1.95
1,3-Butadiene	9	0.03	0.95	0.22	0.49	0.10	0.07	0.15	0.29
Vinyl chloride	1	17.56	17.56	17.56	45.62	0.68	0.59	17.56	---[e]
Chloroethane	1	0.44	0.44	0.44	1.17	0.06	0.01	0.44	---[e]
Bromomethane	1	0.09	0.09	0.09	0.36	0.10	0.003	0.09	---[e]
Methylene chloride	3	0.49	15.32	6.05	21.37	0.65	0.61	2.35	8.08
trans-1,2-Dichloroethylene	5	0.04	0.74	0.30	1.20	0.07	0.05	0.19	0.29
1,1-Dichloroethane	1	0.06	0.06	0.06	0.25	0.02	0.002	0.06	---[e]
Chloroprene	9	0.01	0.84	0.26	0.97	0.10	0.08	0.07	0 33
1,1,1-Trichloroethane	30	0.23	20.57	1.40	7.78	1.40	1.40	0.48	3.81
Carbon tetrachloride	30	0.10	2.71	0.28	1.80	0.28	0.28	0.15	0.48
Benzene	30	0.31	3.35	1.40	4.54	1.40	1 40	1.12	0.82
Trichloroethylene	11	0.09	13.07	1.44	7 87	0.53	0 53	0.19	3.86
1,2-Dichloropropane	5	0.34	0.99	0.68	3.19	0.13	0 11	0.63	0 28
Bromodichloromethane	2	0.04	0.07	0.06	0.37	0.004	0 004	0 06	0 02
trans-1,3-Dichloropropylene	2	1.24	1.24	1.24	5.72	0.10	0.08	1 24	0.00
Toluene	30	0.76	52.26	3.96	15.16	3.96	3.96	2.12	9.21
n-Octane	3	0.30	1.23	0.75	3.55	0.09	0.07	0.71	0.47
n-Octane/t-1,3-dichloropropylene	2	0.08	3.36	1.72	7.93	0.13	0.11	1.72	2.32
1,1,2-Trichloroethane	4	0.02	0.11	0.06	0.31	0.02	0.01	0.05	0.04
Tetrachloroethylene	30	0.09	5.46	0.86	5.96	0.86	0.86	0.50	1.02
Dibromochloromethane	1	0.08	0.08	0.08	0.69	0.003	0.003	0.08	---[e]
Chlorobenzene	3	0.01	0.05	0.03	0.14	0.01	0.003	0.03	0.02
Ethylbenzene	30	0.06	2.97	0.33	1.44	0.33	0.33	1.95	0 52
m/p-Xylene	30	0.29	11.32	1.50	13.21	1.50	1.50	0.96	2.01
Styrene/o-xylene	30	0.12	6.40	0.76	6.67	0.76	0.76	0.47	1.15
1,1,2,2-Tetrachloroethane	5	0.02	0.88	0.31	2.19	0.05	0.05	0.22	0.33
m-Dichlorobenzene	4	0.06	1 67	0.87	5.32	0.12	0.12	0.88	0 71
p-Dichlorobenzene	15	0 07	0.68	0 22	1.32	0 13	0.11	0 17	0 15
o-Dichlorobenzene	2	0.24	0.36	0 30	1 83	0.03	0 02	0.30	0.08
Propylene	5	1.18	6 78	4 32	7 56	0.76	0 72	4 02	2.22

[a]A total of 30 samples were collected and analyzed by GC/MD.
[b]The arithmetic average concentration of all the compound identification cases.
[c]The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d]The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e]The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-7

1990 UATMP Compound Identifications for H1TX

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] $\mu g/m^3$	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	5	4.00	8.54	5.58	6.04	1.41	1.00	4.94	1.84
1,3-Butadiene	17	0.23	3.14	0.75	1.68	0.47	0.45	0.52	0.72
Methylene chloride	1	1.80	1.80	1.80	6.36	0.12	0.06	1.80	---[e]
trans-1,2-Dichloroethylene	2	0.59	0.84	0.72	2.88	0.07	0.05	0.72	0.18
1,1-Dichloroethane	1	0.03	0.03	0.03	0.12	0.02	0.001	0.03	---[e]
Chloroprene	7	0.04	0.65	0.24	0.87	0.08	0.06	0.17	0.20
Chloroform	9	0.08	0.72	0.34	1.70	0.11	0.11	0.29	0.20
1,1,1-Trichloroethane	28	0.12	1.87	0.39	2.16	0.39	0.39	0.31	0.32
Carbon tetrachloride	28	0.06	0.65	0.23	1.48	0.23	0.23	0.21	0.12
Benzene	28	0.60	14.04	2.69	8.75	2.69	2.69	2.08	2.50
Trichloroethylene	3	0.06	0.39	0.17	0.94	0.02	0.02	0.07	0.19
1,2-Dichloropropane	14	0.04	1.26	0.55	2.58	0.29	0.28	0.53	0.33
Toluene	28	1.38	14.22	3.14	12.05	3.14	3.14	2.46	2.44
n-Octane	3	0.02	0.79	0.44	2.11	0.06	0.05	0.52	0.39
n-Octane/t-1,3-dichloropropylene	1	0.22	0.22	0.22	1.01	0.03	0.01	0.22	---[e]
1,1,2-Trichloroethane	6	0.03	0.17	0.10	0.55	0.04	0.02	0.10	0.06
Tetrachloroethylene	26	0.03	1.60	0.40	2.73	0.37	0.37	0.20	0.51
Chlorobenzene	4	0.02	0.07	0.04	0.16	0.01	0.01	0.03	0.02
Ethylbenzene	28	0.19	1 80	0.47	2.09	0.47	0.47	0.36	0.32
m/p-Xylene	28	0.57	4.20	1.80	15.86	1.80	1.80	1.57	0.98
Styrene/o-xylene	28	0.33	2.67	0.79	6.92	0.79	0.79	0.71	0.46
1,1,2,2-Tetrachloroethane	1	0.02	0.02	0.02	0.14	0.002	0.001	0.02	---[e]
m-Dichlorobenzene	3	0.01	1.40	0.48	2.91	0.06	0.05	0.02	0.80
p-Dichlorobenzene	11	0.06	0.85	0.30	1.85	0.15	0.12	0.18	0.24
o-Dichlorobenzene	7	0.07	0.29	0.13	0.81	0.04	0.03	0.09	0.09
Propylene	2	17.79	29.28	23.54	41.17	1.73	1.68	23.54	8.12

[a]A total of 28 samples were collected and analyzed by GC/MD.
[b]The arithmetic average concentration of all the compound identification cases.
[c]The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d]The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e]The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-8

1990 UATMP Compound Identifications for PNTX

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] µg/m³	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	6	2.05	14.14	6.97	7.54	1.89	1.49	6.16	4.44
1,3-Butadiene	24	0.14	142.66	12.93	29.08	11.09	11.08	3.23	28.98
Vinyl chloride	4	17.77	77.78	40.84	106.12	5.92	5.83	33.91	26.91
Methylene chloride	4	1.49	4.31	2.85	10.07	0.45	0.41	2.81	1.16
trans-1,2-Dichloroethylene	4	0.19	0.69	0.37	1.50	0.07	0.05	0.31	0.23
1,1-Dichloroethane	1	0.04	0.04	0.04	0.16	0.02	0.001	0.04	---[e]
Chloroprene	6	0.01	0.62	0.24	0.88	0.08	0.05	0.20	0.21
1,1,1-Trichloroethane	28	0.12	4.17	0.48	2.64	0.48	0.48	0.21	0.83
Carbon tetrachloride	28	0.11	0.58	0.18	1.17	0.18	0.18	0.15	0.10
Benzene	28	0.19	5.07	1.39	4.53	1.39	1.39	1.06	0.96
Trichloroethylene	7	0.05	0.62	0.18	0.96	0.05	0.04	0.13	0.20
1,2-Dichloropropane	9	0.06	0.90	0.33	1.54	0.12	0.11	0.22	0.28
Bromodichloromethane	1	0.06	0.06	0.06	0.41	0.003	0.002	0.06	---[e]
trans-1,3-Dichloropropylene	1	0.08	0.08	0.08	0.37	0.02	0.003	0.08	---[e]
Toluene	28	0.64	32.69	3.09	11.85	3.09	3.09	1.57	6.22
n-Octane	7	0.07	1.66	0.74	3.53	0.20	0.19	0.47	0.57
n-Octane/t-1,3-dichloropropylene	2	0.09	0.10	0.10	0.44	0.03	0.01	0.10	0.01
cis-1,3-Dichloropropylene	1	0.42	0.42	0.42	3.93	0.03	0.02	0.42	---[e]
1,1,2-Trichloroethane	7	0.02	1.49	0.44	2.42	0.12	0.11	0.10	0.63
Tetrachloroethylene	26	0.02	2.77	0.28	1.96	0.27	0.26	0.11	0.56
Dibromochloromethane	1	0.10	0.10	0.10	0.87	0.004	0.004	0.10	---[e]
Chlorobenzene	4	0.01	0.03	0.02	0.09	0.01	0.003	0.02	0.01
Ethylbenzene	28	0.07	1.41	0.41	1.79	0.41	0.41	0.35	0.31
m/p-Xylene	28	0.23	4.17	0.89	7.84	0.89	0.89	0.63	0.87
Styrene/o-xylene	28	0.13	38.47	6.78	59.31	6.78	6.78	2.77	9.55
m-Dichlorobenzene	2	0.06	0.09	0.08	0.46	0.01	0.01	0.08	0.02
p-Dichlorobenzene	10	0.05	0.85	0.20	1.20	0.10	0.07	0.13	0.24
o-Dichlorobenzene	1	0.22	0.22	0.22	1.34	0.02	0.01	0.22	---[e]
Propylene	4	6.66	14.47	10.59	18.52	1.56	1.51	10.61	3.96

[a] A total of 28 samples were collected and analyzed by GC/MD.
[b] The arithmetic average concentration of all the compound identification cases.
[c] The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d] The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e] The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-9

1990 UATMP Compound Identifications for WIKS

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] $\mu g/m^3$	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	3	1.39	6.89	3.54	3.83	0.80	0.35	2.33	2.941
1,3-Butadiene	1	0.21	0.21	0.21	0.47	0.06	0.01	0.21	---[e]
Chloroethane	2	0.02	0.05	0.04	0.09	0.05	0.002	0.04	0.021
Methylene chloride	2	1.37	2.59	1.98	6.99	0.18	0.13	1.98	0.862
trans-1,2-Dichloroethylene	1	0.82	0.82	0.82	3.30	0.05	0.03	0.82	---[e]
Chloroprene	7	0.03	0.38	0.11	0.39	0.05	0.02	0.05	0.125
1,1,1-Trichloroethane	30	0.13	4.57	0.45	2.48	0.45	0.45	0.25	0.798
Carbon tetrachloride	30	0.05	2.01	0.26	1.67	0.26	0.26	0.15	0.359
Benzene	30	0.40	4.43	1.18	3.84	1.18	1.18	0.76	0.982
Trichloroethylene	13	0.01	3.78	0.90	4.94	0.39	0.39	0.76	1.017
1,2-Dichloropropane	4	0.09	2.66	1.00	4.69	0.15	0.13	0.62	1.194
Bromodichloromethane	1	0.06	0.06	0.06	0.41	0.002	0.002	0.06	---[e]
trans-1,3-Dichloropropylene	2	0.06	0.08	0.07	0.32	0.02	0.005	0.07	0.014
Toluene	30	0.37	8.20	2.17	8.33	2.17	2.17	1.43	2.13
n-Octane	5	0.02	0.81	0.36	1.72	0.07	0.06	0.26	0.307
n-Octane/t-1,3-dichloropropylene	1	0.06	0.06	0.06	0.28	0.02	0.002	0.06	---[e]
cis-1,3-Dichloropropylene	1	0.06	0.06	0.06	0.56	0.02	0.002	0.06	---[e]
1,1,2-Trichloroethane	4	0.02	1.58	0.44	2.45	0.08	0.06	0.09	0.759
Tetrachloroethylene	29	0.01	3.62	0.54	3.74	0.53	0.52	0.20	0.791
Chlorobenzene	2	0.03	0.05	0.04	0.19	0.01	0.003	0.04	0.014
Ethylbenzene	30	0.04	0.96	0.27	1.19	0.27	0.27	0.17	0.276
m/p-Xylene	30	0.14	3.88	1.19	10.46	1.19	1.19	0.73	1.143
Styrene/o-xylene	30	0.06	2.85	0.62	5.42	0.62	0.62	0.42	0.668
1,1,2,2-Tetrachloroethane	2	0.13	0.20	0.17	1.15	0.01	0.01	0.17	0.049
m-Dichlorobenzene	5	0.02	0.09	0.05	0.32	0.02	0.01	0.06	0.027
p-Dichlorobenzene	12	0.06	0.98	0.22	1.35	0.12	0.09	0.12	0.258
o-Dichlorobenzene	4	0.02	0.43	0.21	1.25	0.04	0.03	0.19	0.189
Propylene	3	0.56	14.54	7.72	13.50	0.82	0.77	8.06	6.996

[a] A total of 30 samples were collected and analyzed by GC/MD.
[b] The arithmetic average concentration of all the compound identification cases.
[c] The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d] The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e] The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-10

1990 UATMP Compound Identifications for ORFL

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] $\mu g/m^3$	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	3	0.81	9.64	5.79	6.27	1.07	0.62	6.92	4.52
1,3-Butadiene	8	0.03	1.18	0.22	0.49	0.10	0.06	0.10	0.39
Vinyl chloride	1	8.67	8.67	8.67	22.53	0.41	0.31	8.67	---[e]
Bromomethane	1	0.56	0.56	0.56	2.21	0.12	0.02	0.56	---[e]
Methylene chloride	4	1.76	31.52	10.47	36.97	1.54	1.50	4.31	14.22
1,1-Dichloroethane	2	0.03	0.91	0.47	1.93	0.05	0.03	0.47	0.62
Chloroprene	5	0.12	1.39	0.41	1.52	0.10	0.07	0.13	0.55
Chloroform	2	0.07	0.18	0.13	0.62	0.01	0.01	0.13	0.08
1,1,1-Trichloroethane	27	0.16	88.48	5.09	28.25	4.91	4.91	0.30	17.81
Carbon tetrachloride	27	0.10	4.34	0.31	1.95	0.29	0.29	0.14	0.81
Benzene	28	0.06	8.08	1.00	3.23	1.00	1.00	0.63	1.44
Trichloroethylene	10	0.02	29.64	3.44	18.82	1.23	1.23	0.25	9.22
1,2-Dichloropropane	8	0.07	1.49	0.30	1.39	0.10	0.08	0.12	0.49
Bromodichloromethane	1	0.10	0.10	0.10	0.68	0.004	0.004	0.10	---[e]
trans-1,3-Dichloropropylene	2	0.01	0.02	0.01	0.07	0.02	0.001	0.02	0.01
Toluene	28	0.07	195.83	21.75	83.30	21.75	21.75	5.88	39.66
n-Octane	3	0.03	1.46	0.80	3.78	0.10	0.09	0.90	0.72
cis-1,3-Dichloropropylene	1	0.09	0.09	0.09	0.84	0.02	0.003	0.09	---[e]
1,1,2-Trichloroethane	3	0.04	0.06	0.05	0.26	0.02	0.01	0.04	0.01
Tetrachloroethylene	27	0.02	15.08	1.47	10.11	1.42	1.41	0.24	3.33
Chlorobenzene	6	0.01	0.88	0.29	1.33	0.07	0.06	0.06	0.39
Ethylbenzene	27	0.09	3.80	0.92	4.05	0.89	0.88	0.38	1.13
m/p-Xylene	27	0.36	18.17	3.75	33.13	3.62	3.62	1.26	5.07
Styrene/o-xylene	27	0.21	12.53	2.06	18.05	1.99	1.99	0.75	3.03
1,1,2,2-Tetrachloroethane	3	0.07	0.25	0.13	0.91	0.01	0.01	0.07	0.10
m-Dichlorobenzene	3	0.05	0.17	0.12	0.75	0.02	0.01	0.15	0.06
p-Dichlorobenzene	7	0.15	0.94	0.43	2.65	0.14	0.11	0.42	0.30
Propylene	6	0.08	4.37	2.63	4.60	0.60	0.56	2.67	1.57

[a] A total of 28 samples were collected and analyzed by GC/MD.
[b] The arithmetic average concentration of all the compound identification cases.
[c] The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d] The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e] The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-11

1990 UATMP Compound Identifications for PEFL

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] $\mu g/m^3$	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	3	0.96	1.59	1.29	1.40	0.56	0.09	1.33	0.32
1,3-Butadiene	6	0.03	0.27	0.11	0.24	0.06	0.02	0.09	0.90
Vinyl chloride	1	8.04	8.04	8.04	20.89	0.29	0.19	8.04	---[e]
Chloroethane	1	0.04	0.04	0.04	0.11	0.05	0.001	0.04	---[e]
Bromomethane	2	0.02	0.04	0.03	0.12	0.10	0.001	0.03	0.01
Methylene chloride	7	1.87	20.06	6.96	24.58	1.21	1.16	4.91	6.13
1,1-Dichloroethane	3	0.04	0.12	0.07	0.27	0.02	0.005	0.04	0.05
Chloroprene	11	0.07	0.38	0.15	0.56	0.06	0.04	0.12	0.87
Chloroform	1	23.13	23.13	23.13	114.77	0 55	0.55	23.13	---[e]
1,1,1-Trichloroethane	41	0.07	20.02	1.99	11.01	1.94	1.94	0.49	3.89
Carbon tetrachloride	41	0.01	0.29	0.15	0.95	0.14	0.14	0.14	0.05
Benzene	42	0.04	20.72	1.24	4.02	1.24	1.24	0.66	3.11
Trichloroethylene	17	0.05	4.56	0.61	3.31	0.25	0 25	0.12	1.12
1,2-Dichloropropane	5	0 02	0.94	0.34	1.61	0.06	0 04	0.21	0.64
Bromodichloromethane	6	0.04	0.17	0.08	0.56	0.01	0.01	0.07	0.05
Toluene	42	0.06	74 78	8.05	30.83	8.05	8.05	1.87	16.81
n-Octane	1	0.14	0.14	0.14	0.66	0.02	0.003	0 14	---[e]
n-Octane/t-1,3-dichloropropylene	2	0.01	0.08	0.04	0.21	0.02	0.002	0.05	0.05
cis-1,3-Dichloropropylene	1	0.04	0.04	0.04	0.37	0.02	0.001	0.04	---[e]
1,1,2-Trichloroethane	8	0.01	2.86	0.73	4.02	0.15	0.14	0.04	1.29
Tetrachloroethylene	36	0.02	5.07	0.49	3.39	0.43	0.42	0.15	1.03
Dibromochloromethane	2	0.08	0.18	0.13	1.13	0.01	0.01	0.13	0.07
Chlorobenzene	5	0.01	0.45	0.13	0.63	0.02	0.02	0.03	0.19
Ethylbenzene	39	0.04	4 19	0.37	1.64	0.35	0.34	0.17	0.69
m/p-Xylene	40	0.12	20.78	1.52	13.40	1.45	1.45	0.78	3.26
Styrene/o-xylene	40	0.02	18.03	1.04	9.10	0.99	0.99	0.46	2.89
1,1,2,2-Tetrachloroethane	3	0.01	0.07	0.04	0.26	0.004	0.003	0.03	0.03
m-Dichlorobenzene	10	0.01	5.11	0.74	4.54	0.18	0.18	0.10	1.58
p-Dichlorobenzene	14	0.04	1.65	0.50	3.03	0.20	0.17	0.48	0.40
o-Dichlorobenzene	4	0.10	2.62	0.83	5.04	0.09	0 08	0.29	1.20
Propylene	3	1.15	515.49	172.75	302.19	12.39	12.34	1.60	296.82

[a]A total of 42 samples were collected and analyzed by GC/MD.
[b]The arithmetic average concentration of all the compound identification cases.
[c]The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d]The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e]The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-12

1990 UATMP Compound Identifications for SAIL

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] $\mu g/m^3$	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	2	0.99	1.20	1.10	1.19	0.54	0.08	1.10	0.15
1,3-Butadiene	2	0.03	0.23	0.13	0.29	0.06	0.01	0.13	0.14
Chloroethane	1	0.05	0.05	0.05	0.13	0.05	0.002	0.05	---[e]
Methylene chloride	3	0.77	1.14	0.94	3.33	0.15	0.10	0.92	0.19
trans-1,2-Dichloroethylene	1	0.69	0.69	0.69	2.78	0.04	0.03	0.69	---[e]
Chloroprene	3	0.02	0.88	0.47	1.74	0.08	0.05	0.52	0.43
1,1,1-Trichloroethane	27	0.05	13.79	1.46	8.10	1.46	1.46	0.36	2.95
Carbon tetrachloride	27	0.11	2.43	0.26	1.66	0.26	0.26	0.15	0.45
Benzene	27	0.22	10.08	1.94	6.30	1.94	1.94	1.09	2.47
Trichloroethylene	12	0.06	1.00	0.37	2.00	0.16	0.16	0.35	0.25
1,2-Dichloropropane	4	0.17	1.24	0.60	2.79	0.11	0.09	0.49	0.46
trans-1,3-Dichloropropylene	2	0.01	0.17	0.09	0.42	0.03	0.01	0.09	0.11
Toluene	27	0.35	11.78	1.83	7.00	1.83	1.83	1.07	2.30
n-Octane	4	0.01	1.05	0.30	1.45	0.06	0.05	0.08	0.50
n-Octane/t-1,3-dichloropropylene	2	0.02	0.14	0.08	0.37	0.02	0.01	0.08	0.08
1,1,2-Trichloroethane	5	0.01	0.47	0.12	0.65	0.04	0.02	0.04	0.20
Tetrachloroethylene	26	0.01	1.09	0.29	2.03	0.28	0.28	0.20	0.25
Chlorobenzene	13	0.02	1.95	0.42	1.94	0.21	0.20	0.15	0.59
Ethylbenzene	27	0.03	0.83	0.20	0.90	0.20	0.20	0.16	0.17
m/p-Xylene	27	0.08	5.58	0.90	7.90	0.90	0.90	0.55	1.08
Styrene/o-xylene	27	0.04	18.85	3.00	26.19	3.00	3.00	0.46	5.41
m-Dichlorobenzene	6	0.03	0.53	0.18	1.13	0.05	0.04	0.12	0.19
p-Dichlorobenzene	8	0.15	3.85	1.22	7.46	0.39	0.36	0.78	1.35
o-Dichlorobenzene	5	0.11	0.61	0.26	1.59	0.06	0.05	0.17	0.21
Propylene	3	0.50	6.78	2.60	4.54	0.33	0.29	0.51	3.62

[a]A total of 27 samples were collected and analyzed by GC/MD.
[b]The arithmetic average concentration of all the compound identification cases.
[c]The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d]The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e]The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-13

1990 UATMP Compound Identifications for TLOH

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] µg/m³	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	4	0.63	7.74	3.00	3.24	0.98	0.57	1.81	3.26
1,3-Butadiene	4	0.05	0.20	0.09	0.21	0.06	0.02	0.06	0.07
Vinyl chloride	1	13.64	13.64	13.64	35.44	0.74	0.65	13.64	---[e]
Chloromethane	1	0.03	0.03	0.03	0.06	0.10	0.001	0.03	---[e]
Methylene chloride	4	0.55	3.15	1.81	6.39	0.39	0.34	1.77	1.12
trans-1,2-Dichloroethylene	2	0.14	0.27	0.21	0.83	0.04	0.02	0.21	0.09
1,1-Dichloroethane	1	0.05	0.05	0.05	0.21	0.02	0.002	0.05	---[e]
Chloroprene	4	0.07	0.25	0.17	0.61	0.06	0.03	0.17	0.09
1,1,1-Trichloroethane	21	0.15	3.47	0.55	3.04	0.55	0.55	0.35	0.73
Carbon tetrachloride	21	0.1	0.22	0.14	0.90	0.14	0.14	0.14	0.03
Benzene	21	0.19	1.82	0.84	2.72	0.84	0.84	0.80	0.45
Trichloroethylene	9	0.04	0.89	0.20	1.09	0.09	0.09	0.11	0.27
1,2-Dichloropropane	2	0.29	0.79	0.54	2.54	0.07	0.05	0.54	0.35
trans-1,3-Dichloropropylene	1	1.78	1.78	1.78	8.21	0.10	0.08	1.78	---[e]
Toluene	21	0.23	14.50	2.40	9.20	2.40	2.40	1.09	3.48
n-Octane	3	0.01	0.15	0.06	0.27	0.02	0.01	0.01	0.08
n-Octane/t-1,3-dichloropropylene	1	0.01	0.01	0.01	0.05	0.02	0.0005	0.01	---[e]
1,1,2-Trichloroethane	5	0.01	0.75	0.29	1.61	0.08	0.07	0.03	0.37
Tetrachloroethylene	20	0.04	5.72	1.10	7.59	1.05	1.05	0.22	1.73
Chlorobenzene	3	0.02	0.26	0.11	0.51	0.02	0.02	0.05	0.13
Ethylbenzene	21	0.04	0.67	0.18	0.81	0.18	0.18	0.14	0.16
m/p-Xylene	21	0.18	3.73	1.00	8.87	1.00	1.00	0.59	0.92
Styrene/o-xylene	21	0.05	2.25	0.51	4.42	0.51	0.51	0.36	0.58
m-Dichlorobenzene	7	0.02	0.72	0.29	1.77	0.10	0.10	0.26	0.24
p-Dichlorobenzene	7	0.07	0.78	0.30	1.83	0.13	0.10	0.26	0.24
o-Dichlorobenzene	4	0.09	0.71	0.26	1.56	0.06	0.05	0.11	0.30
Propylene	3	1.24	3.27	2.53	4.42	0.40	0.36	3.07	1.12

[a]A total of 21 samples were collected and analyzed by GC/MD.
[b]The arithmetic average concentration of all the compound identification cases.
[c]The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d]The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e]The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-14

1990 UATMP Compound Identifications for WIDC

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] $\mu g/m^3$	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	4	1.56	2.57	2.08	2.25	0.71	0.28	2.10	0.42
1,3-Butadiene	11	0.04	0.35	0.18	0.41	0.10	0.07	0.16	0.11
Vinyl chloride	1	8.48	8.48	8.48	22.03	0.38	0.28	8.48	---[e]
Methylene chloride	2	0.92	1.43	1.18	4.15	0.13	0.08	1.18	0.36
trans-1,2-Dichloroethylene	2	0.09	0.56	0.33	1.31	0.04	0.02	0.33	0.33
1,1-Dichloroethane	1	0.39	0.39	0.39	1.60	0.03	0.01	0.39	---[e]
Chloroprene	10	0.01	0.46	0.10	0.35	0.05	0.03	0.05	0.13
1,1,1-Trichloroethane	30	0.21	14.07	1.00	5.54	1.00	1.00	0 39	2.55
Carbon tetrachloride	30	0.10	2.66	0.26	1.65	0.26	0.26	0.15	0.46
Benzene	30	0.46	3.14	1.28	4 14	1.28	1.28	0.99	0.73
Trichloroethylene	9	0.04	0.55	0.17	0.93	0.05	0.05	0.12	0.16
1,2-Dichloropropane	4	0.19	1.45	0.64	3.02	0.10	0.09	0.47	0.59
trans-1,3-Dichloropropylene	3	0.01	2.62	1.24	5.72	0.14	0 12	1.09	1 31
Toluene	30	0 49	41.17	4 02	15.38	4 02	4 02	2.26	7 40
n-Octane	4	0.01	1.40	0.43	2.03	0.07	0.06	0 15	0.66
n-Octane/t-1,3-dichloropropylene	1	1.92	1.92	1.92	8.86	0.08	0.06	1.92	---[e]
cis-1,3-Dichloropropylene	1	0.24	0.24	0.24	2.25	0.03	0.01	0.24	---[e]
1,1,2-Trichloroethane	6	0.01	0.29	0.09	0.52	0.03	0.02	0.02	0.12
Tetrachloroethylene	30	0.14	6.64	1.60	11.03	1.60	1.60	0.70	1.77
Chlorobenzene	1	0.03	0.03	0.03	0.14	0.01	0.001	0.03	---[e]
Ethylbenzene	30	0.06	2.18	0.37	1.64	0.37	0.37	0 27	0.41
m/p-Xylene	30	0.20	8.53	1.71	15.13	1.71	1.71	1.33	1.77
Styrene/o-xylene	30	0.17	5.56	0.85	7.45	0.85	0.85	0.55	1.07
1,1,2,2-Tetrachloroethane	3	0.02	0.74	0.36	2.51	0.04	0.04	0.32	0.36
m-Dichlorobenzene	4	0.04	0.32	0.12	0.73	0.02	0.02	0.06	0.13
p-Dichlorobenzene	11	0.06	0.82	0.32	1.97	0.15	0.12	0.30	0.26
o-Dichlorobenzene	3	0.04	0.16	0.09	0.57	0.02	0.01	0.08	0.06
Propylene	9	3.06	10.23	5.47	9.58	1.68	1.64	4 55	2.31

[a] A total of 30 samples were collected and analyzed by GC/MD.
[b] The arithmetic average concentration of all the compound identification cases.
[c] The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d] The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e] The dashes indicate that the standard deviation is not defined for the target compound.

Table 4-15

1990 UATMP Compound Identifications for W2DC

Compound	Cases[a]	Minimum ppbv	Maximum ppbv	Mean[b] ppbv	Mean[b] $\mu g/m^3$	Mean[c] ppbv	Mean[d] ppbv	Median ppbv	Standard Dev. ppbv
Acetylene	10	1.26	8.90	3.19	3.45	1.50	1.18	2.39	2.37
1,3-Butadiene	12	0.06	0.61	0.28	0.64	0.15	0.13	0.25	0.15
Chloroethane	1	0.10	0.10	0.10	0.27	0.05	0.004	0.10	---[e]
Methylene chloride	3	2.74	7.81	5.80	20.47	0.69	0.64	6.84	2.69
trans-1,2-Dichloroethylene	4	0.22	0.58	0.37	1.48	0.07	0.05	0.34	0.18
1,1-Dichloroethane	2	0.03	0.04	0.04	0.14	0.02	0.003	0.04	0.01
Chloroprene	11	0.03	1.78	0.51	1.87	0.22	0.21	0.23	0.59
1,1,1-Trichloroethane	27	0.19	6.59	0.62	3.45	0.62	0.62	0.34	1.20
Carbon tetrachloride	27	0.10	3.14	0.28	1.78	0.28	0.28	0.14	0.57
1,2-Dichloroethane	1	0.08	0.08	0.08	0.33	0.02	0.003	0.08	---[e]
Benzene	27	0.75	4.71	1.78	5.78	1.78	1.78	1.60	0.98
Trichloroethylene	5	0.11	0.56	0.27	1.48	0.05	0.05	0.19	0.20
1,2-Dichloropropane	3	0.29	0.31	0.30	1.39	0.05	0.03	0.29	0.01
Bromodichloromethane	2	0.03	0.05	0.04	0.28	0.004	0.003	0.04	0.01
Toluene	27	0.83	13.63	3.87	14.84	3.87	3.87	2.48	3.16
n-Octane	1	0.08	0.08	0.08	0.38	0.02	0.003	0.08	---[e]
cis-1,3-Dichloropropylene	1	0.26	0.26	0.26	2.43	0.03	0.01	0.26	---[e]
1,1,2-Trichloroethane	4	0.02	0.42	0.15	0.83	0.04	0.02	0.08	0.19
Tetrachloroethylene	27	0.11	5.17	1.24	8.58	1.24	1.24	0.67	1.34
Dibromochloromethane	1	0.03	0.03	0.03	0.26	0.002	0.001	0.03	---[e]
Chlorobenzene	3	0.01	0.05	0.03	0.12	0.01	0.003	0.02	0.02
Ethylbenzene	27	0.10	1.68	0.42	1.83	0.42	0.42	0.26	0.34
m/p-Xylene	27	0.32	7.17	2.07	18.30	2.07	2.07	1.38	1.67
Styrene/o-xylene	27	0.05	4.70	1.00	8.77	1.00	1.00	0.64	0.95
1,1,2,2-Tetrachloroethane	1	0.13	0.13	0.13	0.91	0.01	0.005	0.13	---[e]
m-Dichlorobenzene	4	0.02	0.28	0.12	0.73	0.03	0.02	0.09	0.11
p-Dichlorobenzene	13	0.07	1.19	0.36	2.18	0.20	0.17	0.20	0.38
o-Dichlorobenzene	3	0.18	0.79	0.52	3.16	0.07	0.06	0.58	0.31
Propylene	13	1.85	8.47	4.12	7.21	2.01	1.98	4.06	2.06

[a] A total of 27 samples were collected and analyzed by GC/MD.
[b] The arithmetic average concentration of all the compound identification cases.
[c] The arithmetic average concentration of all the sample cases using half the MDL values for compounds not detected.
[d] The arithmetic average concentration of all the sample cases using zero for compounds not detected.
[e] The dashes indicate that the standard deviation is not defined for the target compound.

4.2 PRECISION

Analytical precision was estimated by comparing analytical results for repeated, or replicate, analyses of site samples. The overall precision results are given in Table 4-16 for all compounds and all sites. The "mean" in Table 4-16 refers to the average concentration for each replicate pair analysis for a given compound. The "average" in Table 4-16 is the arithmetic mean of the concentration means of all replicate pairs, averaged over all sites and all target compounds. The overall average concentration of the replicate analyses ranged from 0.054 ppbv for bromodichloromethane to 107.69 ppbv for propylene, as shown in Table 4-17. The mean (and standard deviation) for propylene is biased by one sample (two replicates) whose concentration was about 515 ppbv. The precisions reported in Table 4-16 presents a realistic assessment of the performance of the analytical portion of the method.

Table 4-17 shows the analytical precision of the GC/MD analysis for all of the replicate analyses. Statistics are given for the standard deviation, the average % CV, the pooled standard deviation, and the pooled % CV. The precision results average 8.41% in terms of average % CV for all compounds and all sites. In the 1990 UATMP, duplicate samples were taken and replicate analyses were performed for each of the duplicate canisters. The only results included in Table 4-17 are for those cases in which all four analyses were above the reporting limit for the compound. The several statistics given in Table 4-17 are defined below:

For a given ambient sample, let:

x_{11} = the first analytical result for a given compound for the first duplicate canister, in ppbv;

x_{12} = the second analytical result for a given compound from the first duplicate canister, ppbv;

x_{21} = the first analytical result for a given compound from the second duplicate canister, ppbv; and

x_{22} = the second analytical result for a given compound for a second duplicate canister, ppbv.

Table 4-16

1990 UATMP Overall Precision for Replicate Pairs

Replicate Pair Statistics[a]	Minimum	Maximum	Average
Mean, ppbv	0.008	518.49	3.14
Standard Deviation, ppbv	0.000	48.85	0.21
% Coefficient of Variation (% CV)	0.000	124.28	8.41
Absolute Percent Difference	0.000	174.75	11.88

[a] 1548 Compound identifications in 774 replicate pair analyses.

Table 4-17

1990 UATMP Replicate Statistics by Compound

Compound	Replicate Pairs	Overall Mean ppbv	Average Standard Deviation ppbv	Average % CV	Pooled Standard Deviation ppbv	Pooled % CV
Acetylene	2	4.945	0.481	9.23	0.544	11.00
Propylene	10	107.693	6.564	9.25	16.116	14.97
1,3-Butadiene	14	6.109	0.172	10.15	0.240	3.92
Vinyl chloride	2	43.381	0.969	2.23	0.969	2.23
Bromomethane	2	0.565	0.092	16.93	0.094	16.70
Methylene chloride	4	4.724	0.560	18.25	0.655	13.86
Chloroform	2	0.288	0.011	3.68	0.011	3.89
1,1,1-Trichloroethane	88	1.623	0.163	8.03	0.547	33.68
Carbon tetrachloride	88	0.427	0.033	7.41	0.093	21.72
Benzene	90	1.560	0.076	5.58	0.127	8.17
Trichloroethylene	10	3.842	0.355	13.65	0.781	20.34
1,2-Dichloropropane	2	1.453	0.046	3.05	0.052	3.59
Bromodichloromethane	2	0.054	0.013	24.53	0.013	24.19
Toluene	90	4.131	0.176	5.31	0.421	10.18
Tetrachloroethylene	86	1.102	0.159	13.35	0.607	55.09
Dibromochloromethane	2	0.075	0.021	29.04	0.022	29.81
Chlorobenzene	4	0.425	0.014	18.96	0.017	4.08
Ethylbenzene	88	0.381	0.035	9.95	0.077	20.21
m/p-Xylene	88	1.489	0.078	5.92	0.188	12.61
Styrene/o-xylene	88	1.786	0.063	8.75	0.143	8.03
p-Dichlorobenzene	10	0.207	0.020	11.50	0.024	11.53
o-Dichlorobenzene	2	0.095	0.021	20.09	0.051	54.19
		Overall Weighted Average		8.41		

Then:

$$\overline{x_1} = \frac{(x_{11}+x_{12})}{2} \tag{4-1}$$

is the average concentration for the first canister, and

$$\overline{x_2} = \frac{(x_{21}+x_{22})}{2} \tag{4-2}$$

is the average concentration for the second canister.
The standard deviations for the two canisters were calculated as follows:

$$s_1 = \frac{|x_{12}-x_{11}|}{\sqrt{2}}, \text{and} \tag{4-3}$$

$$s_2 = \frac{|x_{22}-x_{21}|}{\sqrt{2}}. \tag{4-4}$$

Replicate coefficients of variation (% CVs) were calculated as shown in Equations 4-5 and 4-6.

$$(\%CV)_1 = \frac{s_1}{\overline{x_1}} * 100 \tag{4-5}$$

$$(\%CV)_2 = \frac{s_2}{\overline{x_2}} * 100 \tag{4-6}$$

For each UATMP target compound, means, standard deviations, and % CVs were calculated for each canister and each ambient air sample according to Equations 4-1 through 4-6. Arithmetic averages of the canister means, the replicate standard deviations and the replicate coefficient of variation were calculated for each target compound and are shown in Columns 3, 4, and 5 of

Table 4-17. Column 1 shows the target compound name, and Column 2 gives the number of replicate pairs reported for each target compound. The pooled standard deviation, s_p, was calculated as follows:

$$s_p = \left[\frac{(s_1^2 + s_2^2 + s_3^2 + \ldots + s_n^2)}{n} \right]^{1/2}, \qquad (4\text{-}7)$$

where n equals the number of replicate pairs reported for each compound. The pooled standard deviation is given in the penultimate column of Table 4-17 for each compound. The final column, the pooled % CV is the pooled standard deviation (Column 6) divided by the overall mean (Column 3), expressed as a percentage. Notice that the pooled standard deviation is higher than the average standard deviation except in three cases (each having only two replicate pairs) in which the standard deviations are equal. Comparing the pooled % CV with the average % CV shows that 15 pooled % CVs are larger, 6 are smaller, and only one is equal.

To better understand which set of statistics, the average and the pooled values, better describes the overall precision, it is necessary to examine some additional detail about the standard deviations. The pooled standard deviation (Equation 4-7) is the appropriate overall statistic if all of the standard deviations, from which it is calculated, are equal.

Figures 4-1 through 4-8, plot the replicate standard deviations as functions of concentration for 1,1,1-trichloroethane, carbon tetrachloride, benzene, toluene, tetrachloroethylene, ethylbenzene, m/p-xylene and styrene/o-xylene, respectively. Figure 4-1 through 4-8 also show the regression line determined by the method of least squares. Although the liner relationship is not exact, it does show that the standard deviations are not equal and not independent of concentration. The presence of a number of larger standard deviations in the case of every compound heavily influences the "pooled" standard deviation calculation, biasing the overall measure of precision to a larger-than-appropriate measure.

Because the standard deviations appear to be functions of concentration, the average standard deviations given in Table 4-17 are appropriate "overall" measures of precision. These results indicate a high degree of precision,

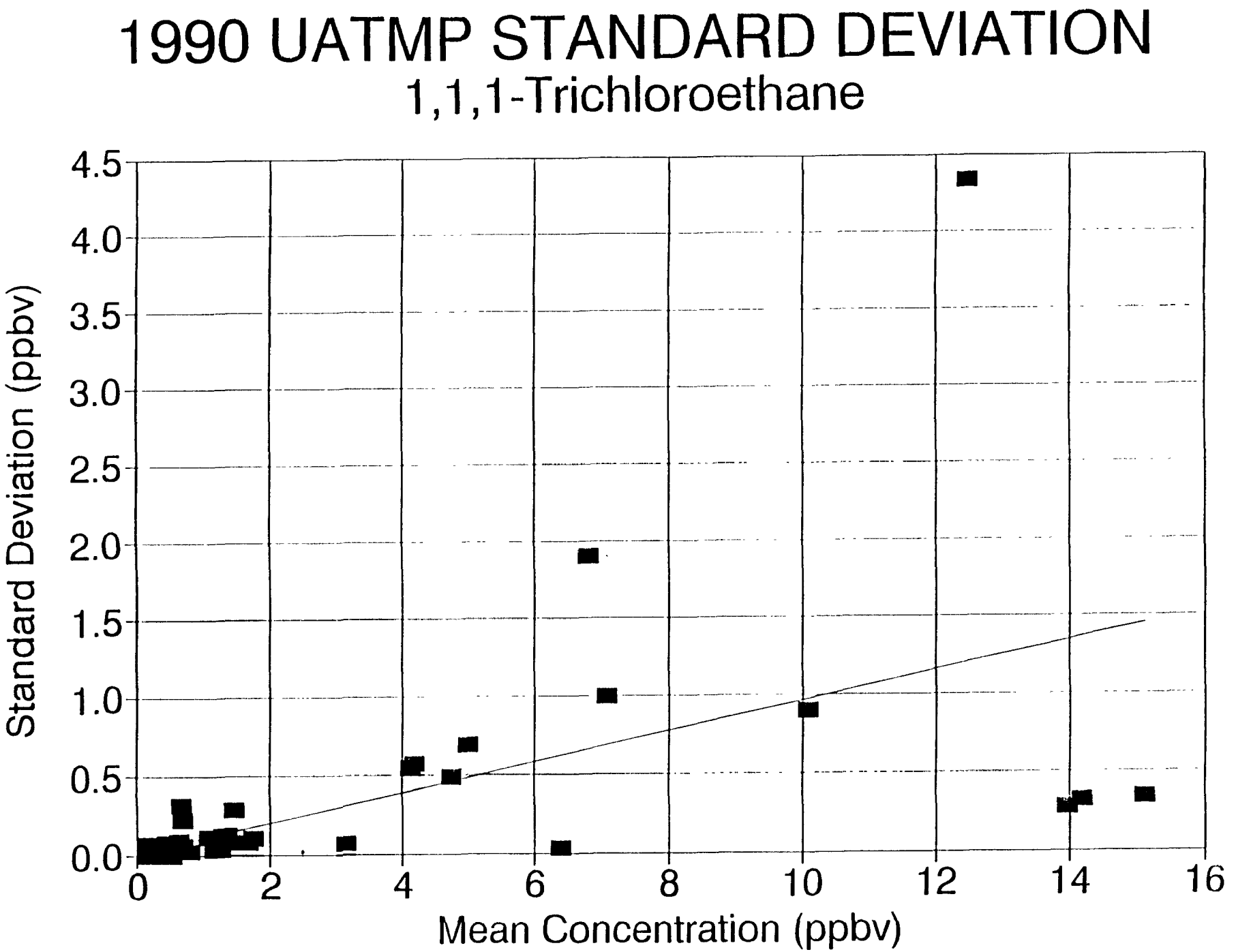

Figure 4-1. Standard Deviation of 1,1,1-Trichloroethane Replicate Analyses as a Function of Concentration.

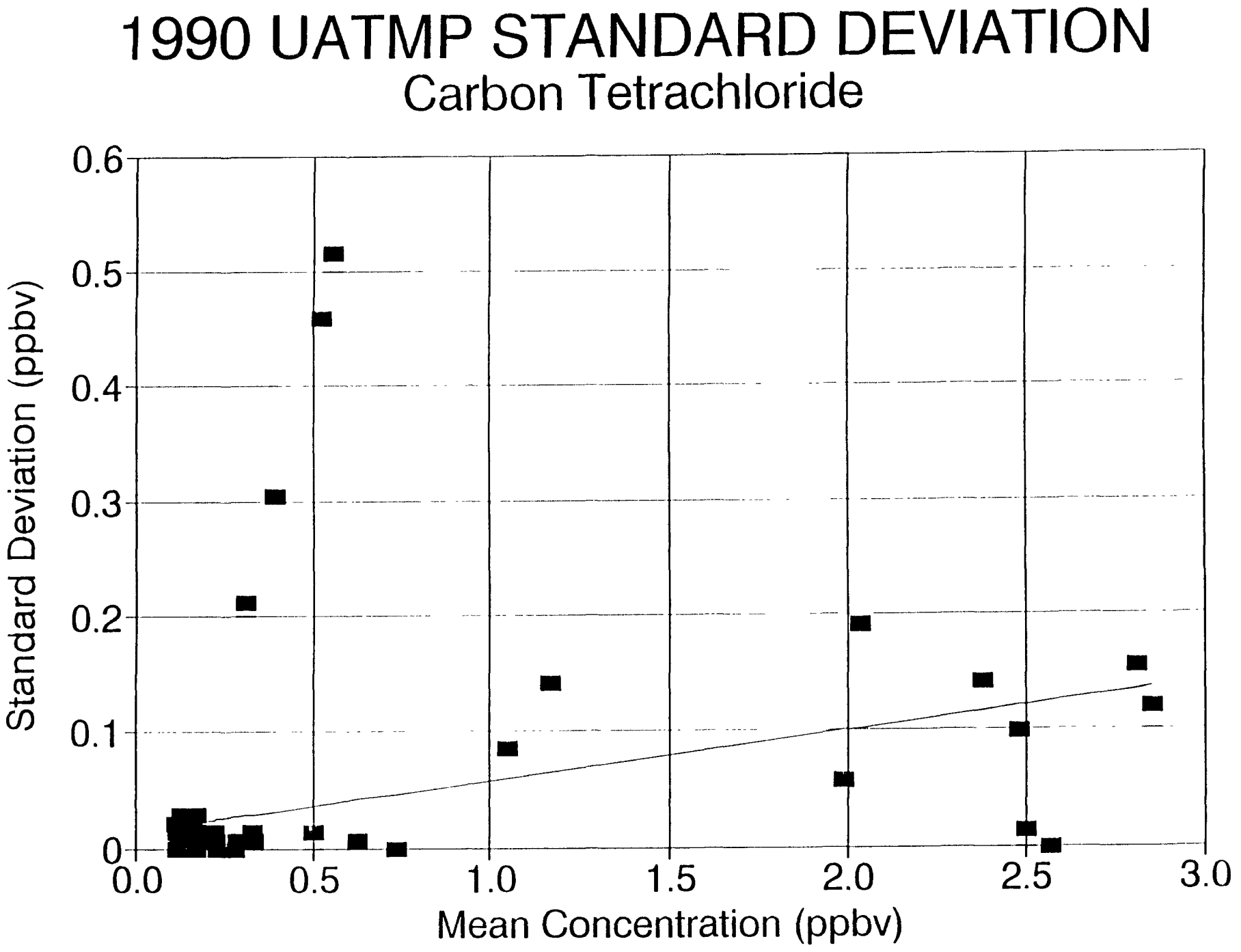

Figure 4.8 Standard Deviation of Carbon tetrachloride Replicate Analyses as a Function of Concentration

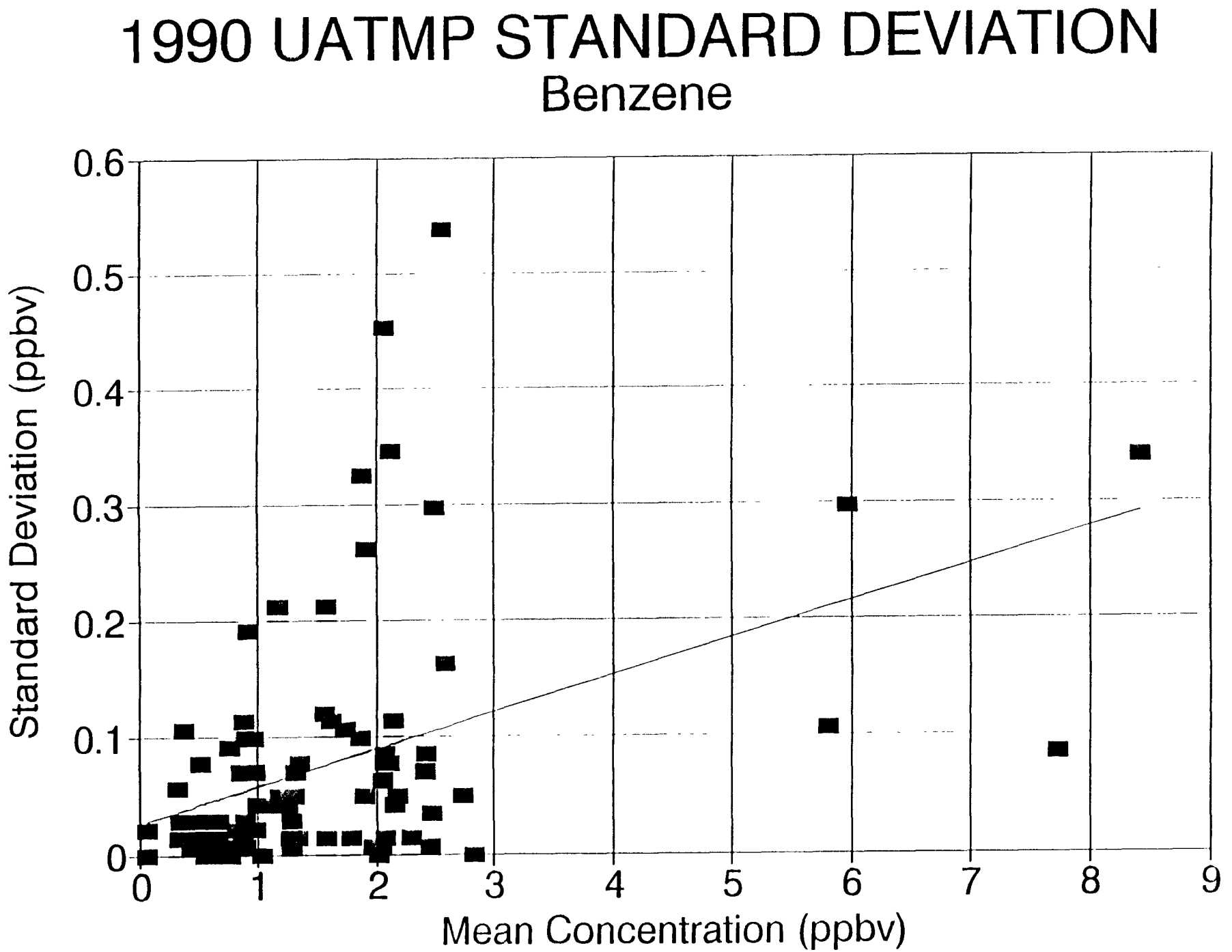

Figure 4-3. Standard Deviation of Benzen plicate Analyses as a Function of Concentration

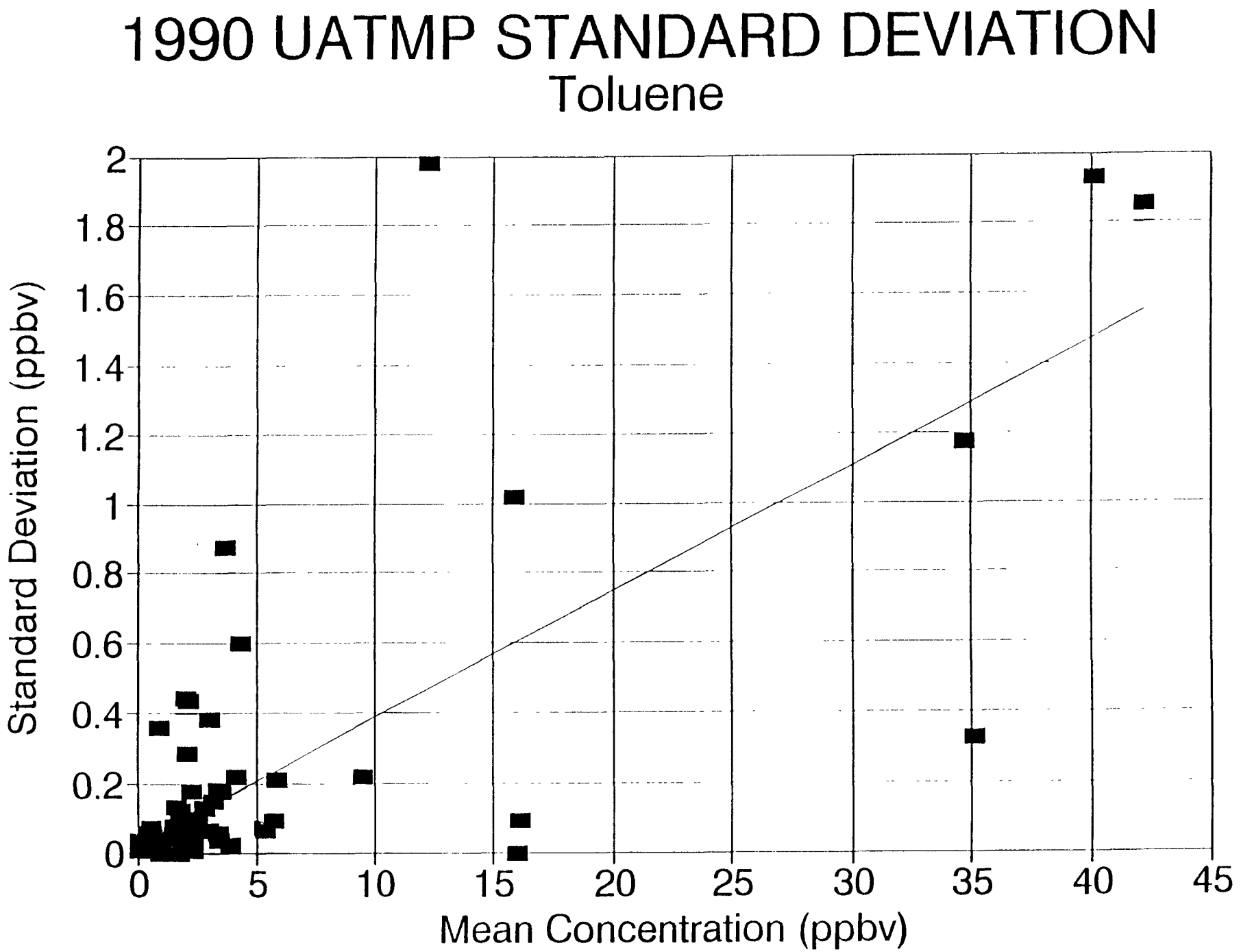

Figure 4-4. Standard Deviation of Toluene Replicate Analyses as a Function of Concentration

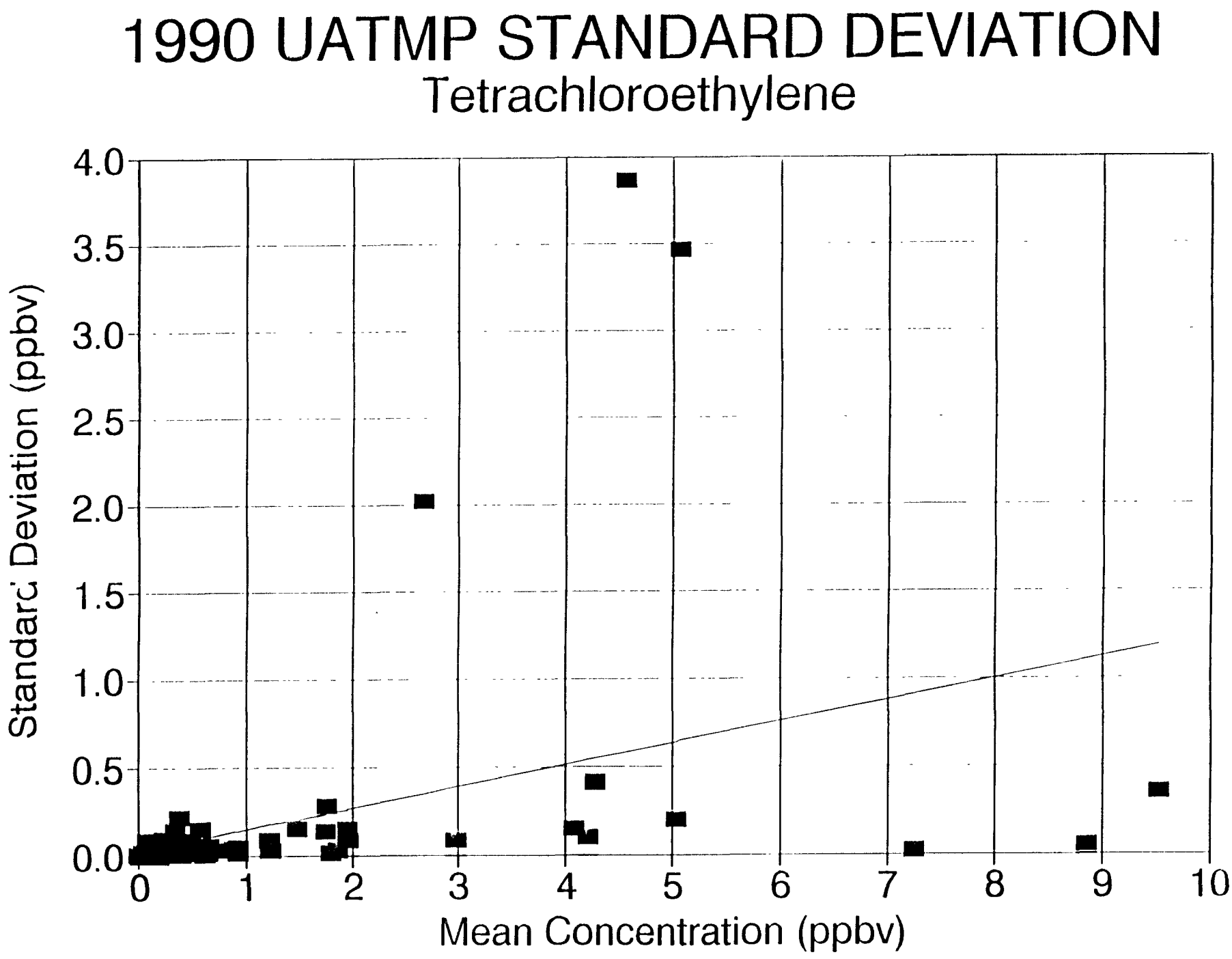

Figure 4-5. Standard Deviation of Tetrachloroethylene Replicate Analyses as a Function of Concentration

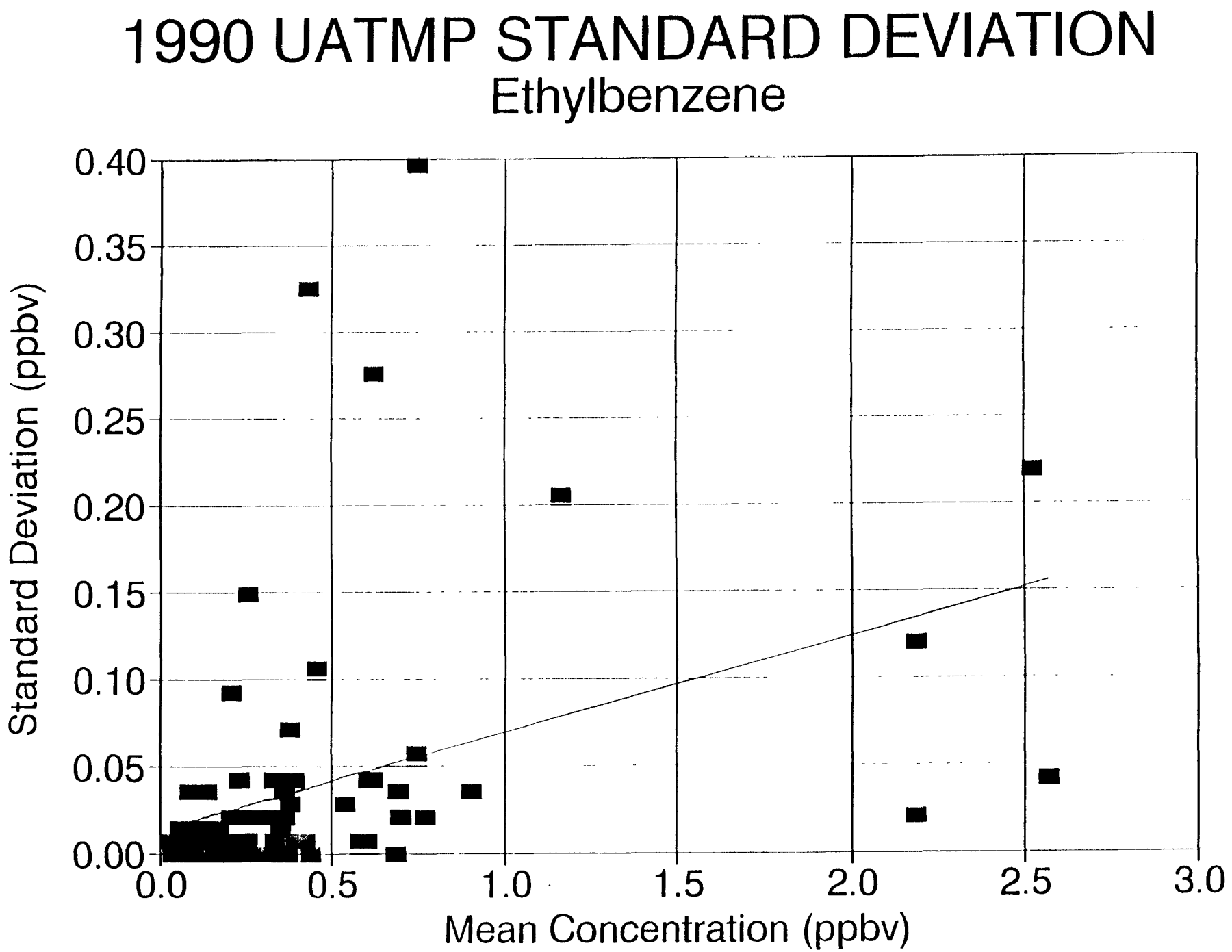

Figure 4-6. Standard Deviation of Ethylbenzene Replicate Analyses as a Function of Concentration.

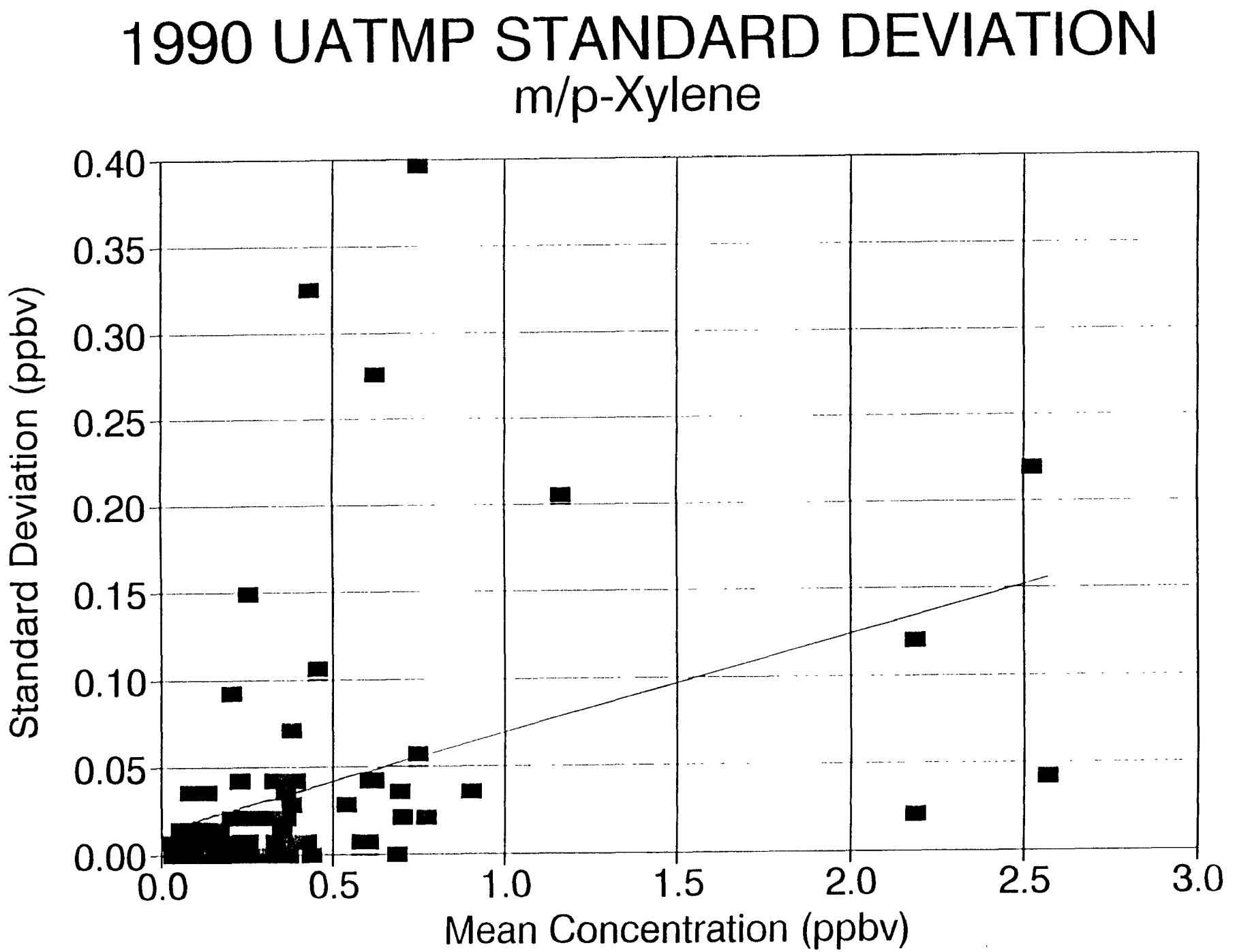

Figure 4-7. Standard Deviation of m/p-Xylene Replicate Analyses as a Function of Concentration.

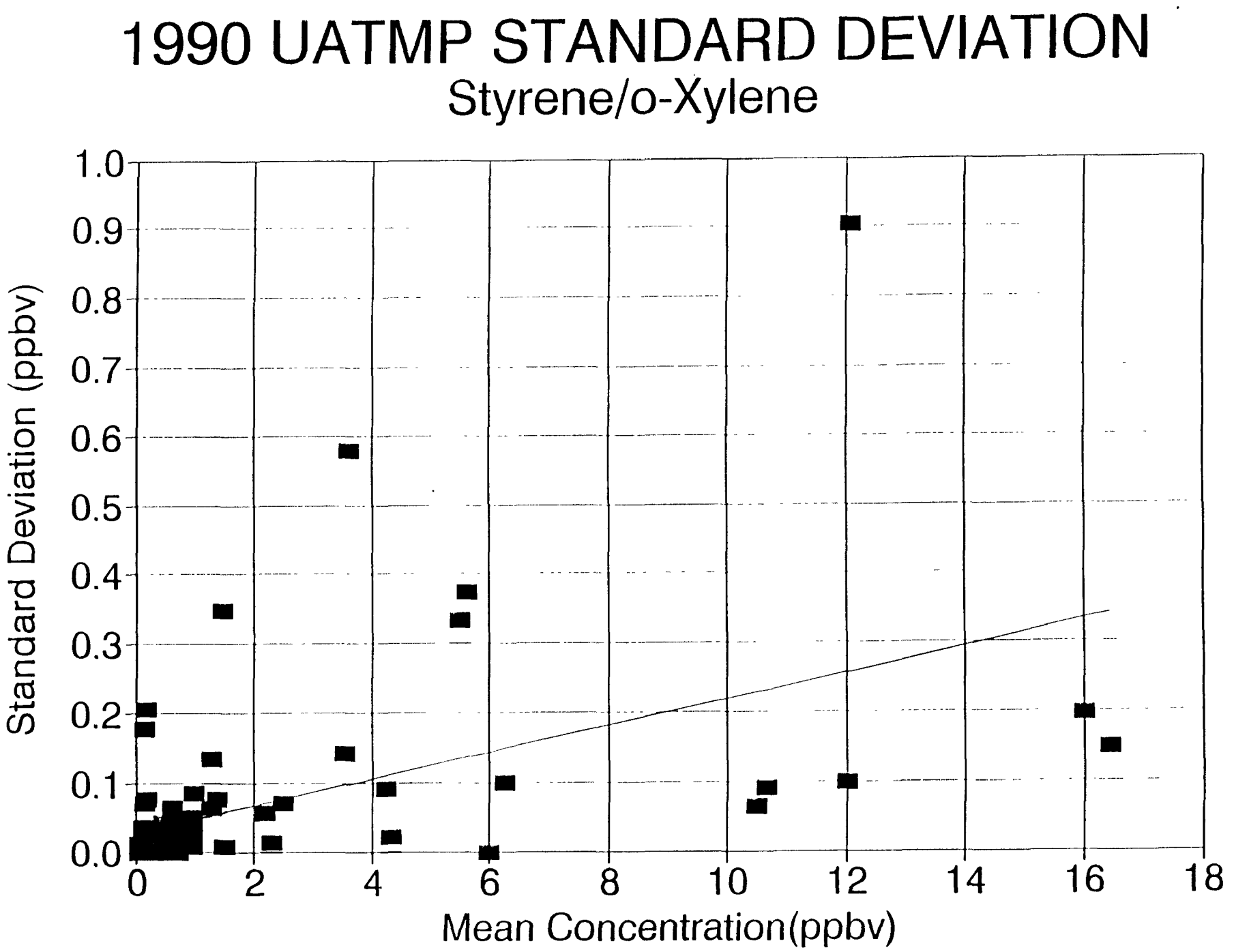

Figure 4-8 Standard Deviation of Styrene/o-xylene Replicate Analyses as a Function of Concentration

considering there were 38 compounds and 12 sites. The % CV and absolute percent difference results should be viewed as a measure of analytical precision, not the total method precision. Table 4-17 details the replicate statistics by target compound. The overall average % CV of 8.41 indicated good overall agreement of the repeated analyses, hence precision. For the 1989 UATMP, the overall precision in terms of percent coefficient of variation was 8.04%, which indicates that the sampling and measurement systems were quite consistent between the years. Table 4-18 gives the replicate statistics for all compounds by quarters of 1990, and cumulatively for the entire year. The results from this table show consistency throughout the year.

Sampling and analysis precision is summarized in Table 4-19 and was calculated from analyses of duplicate samples. The data in the table include the analytical results from all the sites and all the target compounds. The average % CV and absolute percent difference are 12.3 and 12.7, respectively. These values are slightly larger than the corresponding results for replicate analyses because the duplicate values include the sum of the sampling and analytical error. The % CV and absolute percent difference for the duplicate sample analyses results reflect careful sampling and analysis procedures and maintenance of quality control. Table 4-20 details the duplicate statistics by compound. The largest average % CV was for trichloroethylene and equaled 28.0. The overall weighted average % CV for all compounds is 11.67. Table 4-21 presents the duplicate sample statistics by quarters for 1990 and cumulatively for the entire year. Overall mean concentrations appear to decrease from the first quarter of the 1990 program through the fourth quarter of the 1990 program, but the % CV does not track the same trend. The unusually high value of the propylene concentration measured in the first time period, 515.49 ppbv, of course biases the mean and standard deviation for that time period. In the second time period the percent coefficient of variation appears to be higher than expected, however, the number of duplicates for that time period was low, which frequently accounts for extreme values of precision. The overall annual mean % CV of 12.27 is a reasonable value for precision. Precision for the 1989 UATMP averaged 11.36, which shows consistency between the two years.

Table 4-18

1990 UATMP Replicate Statistics

Statistics	Mean Conc., ppbv			Standard Deviation, ppbv[a]			% Coefficient of Variation		
	Minimum	Maximum	Overall Mean	Minimum	Maximum	Overall Mean	Minimum	Maximum	Overall Mean
First Quarter, 1990	0.008	518.485	5.236	0.000	48.854	0.312	0.000	101.995	7.975
Second Quarter, 1990	0.115	15.880	3.006	0.000	2.022	0.292	0.000	75.460	9.890
Third Quarter, 1990	0.020	50.675	2.901	0.000	1.930	0.114	0.000	90.832	7.759
Fourth Quarter, 1990	0.040	35.190	1.863	0.000	4.469	0.161	0.000	124.279	9.951
Cumulative, 1990	0.008	518.485	3.141	0.000	48.854	0.213	0.000	124.279	8.406

[a] $\text{Standard Deviation} = \frac{|x_2 - x_1|}{\sqrt{2}}$

Table 4-19

1990 UATMP Overall Precision for Duplicate Pairs

Replicate Pair Statistics[a]	Minimum	Maximum	Average
Mean, ppbv	0.02	515.49	3.14
Standard Deviation, ppbv	0.00	29.62	0.27
% Coefficient of Variation (% CV)	0.00	97.00	12.27
Absolute Percent Difference	0.00	167.99	12.72

[a] 1548 Compound identifications in 387 duplicate pair analyses.

Table 4-20

1990 UATMP Duplicate Statistics by Compound

Compound	Duplicate Pairs	Overall Mean ppbv	Average Standard Deviation ppbv	Average % CV	Pooled Standard Deviation ppbv	Pooled % CV
Acetylene	1	4.450	0.828	16.74	0.828	16.74
Propylene	5	107.693	0.416	14.93	13.250	12.37
1,3-Butadiene	7	6.109	0.199	13.56	0.392	6.42
Vinyl chloride	1	43.381	0.794	1.83	0.794	1.83
Bromomethane	1	0.565	0.108	19.04	0.108	19.04
Methylene chloride	2	4.724	0.485	17.71	0.547	11.57
Chloroform	1	0.288	0.010	3.33	0.010	3.33
1,1,1-Trichloroethane	44	1.623	0.338	14.83	0.868	53.48
Carbon tetrachloride	44	0.427	0.042	10.24	0.090	21.06
Benzene	45	1.560	0.091	6.54	0.136	8.74
Trichloroethylene	5	3.842	1.795	28.00	3.82	99.31
1,2-Dichloropropane	1	1.453	0.142	9.79	0.142	9.79
Bromodichloromethane	1	0.054	0.012	22.70	0.012	22.70
Toluene	45	4.131	0.383	9.17	1.228	29.72
Tetrachloroethylene	11	1.102	0.238	19.26	0.616	55.91
Dibromochloromethane	1	0.075	0.019	25.53	0.019	25.53
Chlorobenzene	2	0.425	0.013	21.51	0.014	3.23
Ethylbenzene	44	0.381	0.046	13.48	0.082	21.48
m/p-Xylene	44	1.489	0.131	8.93	0.287	19.29
Styrene/o-xylene	44	1.786	0.117	11.59	0.278	15.59
p-Dichlorobenzene	5	0.207	0.061	23.91	0.087	42.10
o-Dichlorobenzene	1	0.095	0.061	23.91	0.087	42.11
		Overall Weighted Average		11.67		

Table 4-21

1990 UATMP Duplicate Statistics

Sampling Period	Mean Conc., ppbv			Standard Deviation, ppbv[a]			% Coefficient of Variation		
	Minimum	Maximum	Overall Mean	Minimum	Maximum	Overall Mean	Minimum	Maximum	Overall Mean
First Quarter, 1990	0.020	515.488	5.236	0.002	29.617	0.310	0.876	83.799	10.574
Second Quarter, 1990	0.118	10.908	3.006	0.006	7.604	1.286	4.619	96.995	35.505
Third Quarter, 1990	0.020	50.470	2.901	0.000	1.980	0.137	0.000	87.982	11.794
Fourth Quarter, 1990	0.043	34.890	1.863	0.000	8.528	0.227	0.000	73.966	11.303
Cumulative, 1990	0.020	515.488	3.141	0.000	29.617	0.273	0.000	96.995	12.272

[a]

$$\text{Standard Deviation} = \left| \frac{(x_{11}-\bar{x})^2 + (x_{12}-\bar{x})^2 + (x_{21}-\bar{x})^2 + (x_{22}-\bar{x})^2}{(4-1)} \right|^{1/2},$$

x_{11}, x_{12}, x_{21}, and x_{22} are the replicate analyses of the duplicate samples, and $\bar{x}$ is the mean of x_{ij}.

4.3 SAMPLING AND ANALYTICAL PRECISION

In Section 4.2, precision was described in terms of repeated analyses of duplicate samples. On the day that duplicate samples were taken, two canisters were connected to a single intake manifold by means of a tee connection. Each duplicate canister was analyzed twice on successive days. Analytical precision for each target compound was determined from the repeated analyses of a single canister. Sampling and analysis (duplicate) precision was determined from the standard deviation of all four analytical measurements.

Coefficients of variation for the replicate analysis were determined from the standard deviations and means of each replicate analysis. For duplicate analyses, duplicate precisions and the means for each duplicate were used to estimate the coefficients of variation for each duplicate sample pair.

Duplicate statistics by compound are given in Table 4-20. Using the same notation given earlier for the replicate analyses of duplicate samples, the ambient sample mean concentration was calculated as follows:

$$\bar{x} = \frac{(\bar{x}_1+\bar{x}_2)}{2}, \text{or} \qquad (4\text{-}8)$$

$$\bar{x} = \frac{(x_{11}+x_{12}+x_{21}+x_{22})}{4}. \qquad (4\text{-}9)$$

The overall means average the means for each duplicate sample and are shown in Column 3 of Table 4-21. Duplicate standard deviations were calculated as follows:

$$s_{d1} = \left[\frac{\sum((x_{11}-\bar{x})^2+(x_{12}-\bar{x})^2+(x_{21}-\bar{x})^2+(x_{22}-\bar{x})^2)}{3}\right]^{1/2}. \qquad (4\text{-}10)$$

Duplicate % CVs were calculated by:

$$\%CV_{d1} = \frac{s_{d1}}{\bar{x}} * 100. \qquad (4\text{-}11)$$

Average standard deviations for each compound were calculated by taking the standard deviations from calculated using Equation 4-10 and averaging over all the duplicate samples.

Average % CVs (Column 5) for each compound were estimated by taking the arithmetic averages of the % CVs for each duplicate canister. Pooled standard deviations (Column 6, Table 4-21) were calculated by an equation similar to Equation 4-7 using the standard deviations for each duplicate. The pooled % CV (Column 7) was calculated by dividing the pooled standard deviation by the overall mean (Column 3).

The remarks offered earlier regarding the replicate standard deviations being functions of concentration apply to the duplicate standard deviations. As seen in Table 4-21, the duplicate pooled standard deviations (and % CVs) are larger than the average standard deviations, and are functions of concentration. It is appropriate, therefore, to use an average standard deviation to describe the overall precision of the duplicate measurement. The duplicate precision is assumed to be the combined sampling and analytical precision. In a subsequent section, the sampling and analytical precisions are separated and then recombined to give an overall precision of the sampling and analysis process.

Table 4-21 shows the summary duplicate statistics by quarters and for the entire year. The second quarter appears to have an excessively high percent coefficient of variation, but it represents only two duplicates, whereas a typical 3-month period would have about 12 duplicates.

In this section, the sampling and analysis variability is separated by means of an analysis of variance. The replicate-duplicate data described above was assembled for those target compounds in which the concentration measurement was greater than the detection limit in each of the four analyses for each ambient sample taken. The ANOVA model chosen for each target compound, was:

$$Y_{ijk} = \mu + S_i + D_{j(i)} + \epsilon_{k(ij)}, \qquad (4\text{-}12)$$

where:

Y_{ijk}	=	measured concentration for sample i, duplicate canister j, and replicate k;
μ	=	overall mean concentration;
S_i	=	ambient air sample i;
$D_{j(i)}$	=	pooled duplicate j, nested in sample i; and
$\epsilon_{k(ij)}$	=	residual error, assumed to contain the analytical error.

In these effects, the duplicate effects are nested within the sample effects and the duplicate effects are pooled within each sample and between samples. Table 4-22 summarized the results of the ANOVA for 22 target compounds. The table shows the compound, the number of samples, the variances (or the mean squares), percent sampling and analysis contributions, sampling and analysis standard deviations, a total sampling and analysis standard deviation, the overall mean concentration, and finally an overall percent coefficient of variation, or precision for each compound. The results are shown in Table 4-22 will be illustrated for acetylene.

The number of samples for which there was measured concentration for acetylene was 1, resulting in two duplicate canister and two replicate analyses from each canister for a total of four analyses. As expected, the mean square for samples (S_i) was highly significant. The pooled mean square for duplicates from the nested ANOVA includes both sampling and analytical error and equals 1.464100.

$$1.464100 = \sigma_a^2 + 2\sigma_s^2, \qquad (4\text{-}13)$$

where:

1.464100	=	pooled mean square for duplicates;
σ_a^2	=	residual error mean square, analytical variance from Table 4-22; and
σ_s^2	=	sampling (or duplicate) variance.

Table 4-22

Separation of Sampling and Analytical Error

Compound	Number Samples	Variance		% Variability		Standard Deviation			Overall Mean	% CV
		Sample	Anal	Sample	Anal	Sample	Anal	Total		
Acetylene	1	0.58405	0.29600	66.37	33 63	0.76423	0 54406	0.93811	4.945	18 97
1,3-Butadiene	7	0.00000	0.05745	0.00	100.00	0.00000	0.23969	0.23969	6.109	3 92
Vinyl chloride	1	0.00000	0.93970	0.00	100.00	0 00000	0.96799	0.96799	43 380	2 23
Bromomethane	1	0.00000	0.00890	0.00	100 00	0 00000	0.00890	0.00890	0.565	1 57
Methylene chloride	2	0.00000	0.42844	0.00	100.00	0.00000	0 65455	0.65455	4.724	13 86
Chloroform	1	0.00000	0 00013	0 00	100 00	0 00000	0.01118	0 01118	0 288	3 88
1,1,1-Trichloroethane	44	0.68220	0.29896	66.53	30 47	0 82596	0.54677	0 99054	3 340	29 66
Carbon tetrachloride	44	0 00000	0.00859	0.00	100 00	0.00000	0 09270	0.09270	1 078	8 60
Benzene	45	0.00346	0.01625	17.55	82 45	0 05580	0 12747	0.14038	1 560	9 00
Trichloroethylene	52	21.13634	0.46838	97.83	2 17	4 59743	0 21642	4.64809	3.842	120 98
1,2-Dichloropropane	1	0 02650	0.00273	90.60	9.40	0 16202	0.05220	0.17022	1.453	11 72
Bromodichloromethane	1	0 00000	0.00017	0.00	100.00	0 00000	0 01315	0 01315	0.0543	24 22
Toluene	45	1.95660	0.17696	91.86	8.14	1 41301	0.42066	1.47430	4.131	35 69
Tetrachloroethylene	43	0.00000	0.36866	0.00	100 00	0.00000	0.60717	0.60717	1 102	55 10
Dibromochloromethane	1	0.00000	0.00050	0.00	100.00	0 00000	0.02236	0.02236	0 075	29 81
Chlorobenzene	2	0.00000	0.00030	0.00	100.00	0.00000	0.01732	0.01732	0.425	4 08
Ethylbenzene	44	0.00115	0.00591	16.31	83 69	0 03394	0.07688	0.08404	0.594	14 15
m/p-Xylene	44	0.07090	0.03522	66.81	33.19	0.26627	0 18768	0 32577	1.209	26 95
Styrene/o-xylene	44	0.08547	0.02053	80 63	19 37	0 29235	0 14330	0.32558	1.616	20 15
p-Dichlorobenzene	5	0.01054	0.00057	94.87	5 13	0 10266	0 02387	0.10540	0 207	50 92
o-Dichlorobenzene	1	0.00000	0 00065	0.00	100 00	0 00000	0 02550	0 02550	0 095	26 84
Propylene	4*	0 00000	0.21954	0.00	100.00	0.00000	0 46855	0 46855	5 745	8 16

*The duplicate pair which averaged 515 4875 ppbv was excluded from this computation

From Table 4-22, the analytical variance:

$$\sigma_a^2 = 0.29600, \tag{4-14}$$

$$\sigma_s^2 = \frac{(1.464100-0.29600)}{2} \tag{4-15}$$

$$\sigma_s^2 = 0.584050. \tag{4-16}$$

Therefore, the percent of the variability due to sampling:

$$\frac{(0.584050)}{(0.296000+0.584050)}*100 = 66.37. \tag{4-17}$$

The percent of the total variability due to analysis is the complement, equal to 33.63 (Column 6, Table 4-22). Expressing the precision in terms of standard deviations gives:

$$\text{For sampling } s_s = \sqrt{0.584050} = 0.76423, \text{ and} \tag{4-18}$$

$$\text{For analysis } s_a = \sqrt{0.296000} = 0.54406. \tag{4-19}$$

A total precision (standard deviation) for sampling and analysis, i.e., one sample and one analysis, may be estimated as:

$$s_t = \sqrt{0.584050+0.296000}, \text{ and} \tag{4-20}$$

$$s_t = 0.93811. \tag{4-21}$$

The overall mean concentration for acetylene in the (one) sample was 4.945 ppbv. The overall percent coefficient of variation for sampling and analysis (one sample and one analysis) is:

$$\%CV = \frac{s_t}{\bar{x}}*100 = \frac{0.93811}{4.945}*100 \tag{4-22}$$

$$\%CV = 18.97. \tag{4-23}$$

Note that for 12 of the compounds the sampling and analytical (or duplicate) error was not significantly different from the analytical error. For those cases the sampling variance component is shown as 0.0000 and the % variability due to sampling is 0.00.

For those compounds in which the ANOVAs showed it was possible to separate the sampling and the analytical error, there does not appear to be any pattern to explain why the results are the way they are. For example, one would normally expect benzene and toluene to behave similarly. The data below summarized the results for benzene and toluene:

Compound	% Variability due to Sampling	Analysis
Benzene	17.55	82.45
Toluene	91.86	8.14

At this time the reason for this behavior is not explained. In the case of propylene, the analysis was performed on only four of the five ambient (duplicate) samples. The reason the fifth sample was not included was the concentration of the fifth sample averaged 515.49 ppbv, approximately 100 times larger than the average of the other four samples. The extremely large value for the fifth sample would have biased the mean and standard deviations and was; therefore, not included in the analysis.

4.4 ACCURACY

Accuracy for the GC/MD analysis was measured in terms of external audits received from QAD, of the EPA. Four analytical audits were conducted in 1990. Both the GC/MD and GC/MS analytical systems were subject to the audits, although GC/MS was used primarily for the purpose of compound identification confirmation, not quantitation.

Table 4-23 gives the results of four EPA audits performed on the GC/MD system. Seven results out of 64 cases showed percent biases greater (or less than) than ± 30% bias contained in the data quality objectives for the 1990

Table 4-23

1990 UATMP GC/MD Audits

Compound	EPA Audit #1164			EPA Audit #1252			EPA Audit #1366			EPA Audit #1496		
	Ref. (ppbv)	Rep. (ppbv)	% Bias	Ref. (ppbv)	Rep. (ppbv)	% Bias	Ref. (ppbv)	Rep. (ppbv)	% Bias	Ref. (ppbv)	Rep. (ppbv)	% Bias
Vinyl chloride	3.6	3.4	-5.6	4.9	5.1	4.08	3.6	4.6	27.78	2.4	2.6	8.33
Bromomethane	3.6	3.6	0.0	4.8	5.2	8.33	3.5	3.6	2.86	2.4	2.6	8.33
Methylene chloride	7.2	7.9	9.7	9.8	11.1	13.27	7.2	8.2	13.89	4.9	6.0	22.45
trans-1,2-Dichloroethylene	6.9	6.3	-8.7	9.3	9.0	-3.23	6.8	7.6	11.76	4.7	4.7	0.00
1,1-Dichloroethane	3.8	3.5	-7.9	5.1	5.5	7.84	3.7	4.0	8.11	2.6	2.6	0.00
Chloroform	3.5	4.9	[b]40.0	4.8	5.5	14.58	3.5	4.6	[b]31.43	2.4	3.2	[b]33.33
1,1,1-Trichloroethane	3.6	3.3	0.0	4.5	4.8	6.67	3.3	4.2	16.27	2.3	2.4	4.35
Carbon tetrachloride	3.3	3.3	0.0	4.5	4.8	6.67	3.3	4.2	27.27	2.3	2.4	4.35
Benzene	7.3	7.0	-4.1	9.9	10.7	8.08	7.3	9.4	28.77	4.9	4.3	-12.24
Trichloroethylene	3.6	3.2	-11.0	4.9	5.1	4.08	3.6	5.8	15.59	2.4	2.2	-8.33
1,2-Dichloropropane	7.4	7.6	2.7	10.0	11.4	14.00	7.3	10.7	11.88	5.0	4.0	20.00
Toluene	3.8	3.5	-7.9	5.1	5.3	3.92	3.8	4.8	26.32	2.6	2.2	-15.38
Tetrachloroethylene	3.8	4.1	7.9	5.2	8.2	[b]57.69	3.8	4.8	26.32	2.6	2.3	11.54
Chlorobenzene	7.6	11.3	[b]49.0	10.3	9.1	-11.65	7.5	6.4	-14.67	5.1	3.9	-23.53
Styrene	3.7	a	-	5.0	a	-	3.8	a	-	2.5	a	-
o-Xylene	8.8	14.0	12.0	12.0	24.0	[b]41.18	8.8	15.2	21.60	6.0	9.0	5.88
Ethylbenzene	7.8	6.7	-14.0	10.5	10.2	-2.86	7.7	7.3	-5.19	5.3	4.7	-11.32
Average			4.40			11.42			15.65			0.33

[a]In the chromatographic column used, styrene and o-xylene co-euluted and are, therefore, reported together as o-xylene.

[b]Greater than the ± 30% data quality objectives. For this audit sample, there was a contaminant which appeared at the retention times for tetrachloroethylene and o-xylene, which accounts for the large biases.

UATMP. The overall average bias was 7.95 percent. Chloroform was the only compound which showed a bias greater than 30% for more than one audit.

Table 4-24 gives the results for four EPA audits performed on the GC/MS system. Five out of 68 cases showed percent biases outside the ± 30% range contained in the data quality objectives. Styrene was the only compound which showed a bias less than 30% for more than two audits. In EPA Audit No. 1336, styrene showed a bias of -86.49%, which was the smallest bias reported for any compound.

Appendix D presents a fuller discussion of the four audits conducted by EPA's Research and Monitoring Evaluation Branch (RMEB) of the Quality Assurance Division (QAD) of AREAL. The discussion is in the form of memoranda from Radian Corporation to RMEB addressing the results for each audit. For the most part the discussion centers on probable causes for the biases which are greater than +30% or less than -30%.

4.5 GC/MS COMPOUND IDENTIFICATION CONFIRMATION RESULTS

Compounds were identified by the GC/MD analytical system using a combination of retention time, PID/FID response ratio, ECD/FID response ratio, and detector specificity. Compound identification confirmation was accomplished by analyzing about 15% of the samples by GC/MS in the MID mode. Table 4-25 summarizes the results of the 1990 UATMP compound identification confirmation. The GC/MS analyses confirmed 89.40% of all the compound identifications resulting from the GC/MD analyses.

In determining the confirmation rate. there were four possible cases:

(1) positive GC/MD identification - positive GC/MS identification,
(2) positive GC/MD identification - negative GC/MS identification,
(3) negative GC/MD identification - positive GC/MS identification, and
(4) negative GC/MD identification - negative GC/MS identification.

A compound identification was confirmed if both GC/MD and GC/MS identified the compound, or both did not identify the compound. If the compound identified on one analytical system was below the estimated reporting limit of the other system, this was also considered a confirmation.

Table 4-24

1990 UATMP GC/MS Audits

Compound	EPA Audit #1164			EPA Audit #1252			EPA Audit #1366			EPA Audit #1496		
	Ref. (ppbv)	Rep. (ppbv)	% Bias	Ref. (ppbv)	Rep. (ppbv)	% Bias	Ref. (ppbv)	Rep. (ppbv)	% Bias	Ref. (ppbv)	Rep. (ppbv)	% Bias
Vinyl chloride	3.6	2.8	-22.0	4.9	4.5	-8.16	3.6	3.2	-11.11	2.4	2.1	-12.20
Bromomethane	3.6	3.5	-2.8	4.8	4.2	-12.50	3.5	3.1	-11.43	2.4	1.1	[a]-54.17
Methylene chloride	7.2	7.9	4.2	9.8	9.1	-7.14	7.2	6.7	-6.94	4.9	5.6	14.29
trans-1,2-Dichloroethylene	6.9	7.0	1.4	9.3	7.6	-18.28	7.6	5.4	-20.59	4.9	5.1	8.51
1,1-Dichloroethane	3.8	3.3	-13.0	5.1	3.9	-23.53	3.9	2.9	-27.03	2.6	2.6	0.00
Chloroform	3.5	3.8	8.6	4.8	5.4	12.50	3.5	4.3	22.86	2.4	2.9	20.83
1,1,1-Trichloroethane	3.6	4.1	14.0	4.8	4.9	2.08	3.6	4.0	11.11	2.4	2.7	12.50
Carbon tetrachloride	3.3	3.4	3.0	4.5	3.6	-20.00	3.3	3.7	12.12	2.3	2.6	13.04
Benzene	7.3	7.0	-4.1	9.9	10.5	6.06	7.3	8.2	12.33	4.9	4.5	-8.16
Trichloroethylene	3.6	3.6	0.0	10.0	10.1	1.00	3.6	6.0	66.67	2.4	2.1	-12.50
1,2-Dichloropropane	7.4	7.2	-2.7	4.9	5.9	20.41	7.3	8.8	20.55	5.0	4.1	-18.00
Toluene	3.8	4.1	7.9	5.1	4.6	-9.80	3.8	3.6	-5.26	2.6	2.5	-3.85
Tetrachloroethylene	3.8	5.3	[a]39.0	5.2	5.6	7.69	3.8	4.6	21.05	2.6	2.8	7.69
Chlorobenzene	7.6	9.5	25.0	10.3	6.6	[a]-35.92	7.5	5.5	-26.67	5.1	4.4	-13.72
Styrene	3.7	2.0	[a]-46.0	5.0	4.6	-8.00	3.7	0.5	[a]-86.49	2.5	2.4	-4.00
o-Xylene	8.8	8.0	-9.1	12.0	8.9	-25.83	8.8	6.9	-21.59	6.0	6.1	1.67
Ethylbenzene	7.8	6.8	-13.0	10.5	7.2	-31.43	7.7	5.7	-25.97	5.3	5.1	-3.77
Average			-0.56			-7.81			-3.42			-3.05

[a]Greater than the ± 30% data quality objectives.

Table 4-25

1990 UATMP Compound Identification Confirmation[a]

GC/MD vs. GC/MS Comparison	Cases	Percentage
Positive GC/MD - Positive GC/MS	450	26.95
Positive GC/MD - Negative GC/MS	36	2.16
Negative GC/MD - Positive GC/MS	141	8.44
Negative GC/MD - Negative GC/MS	1043	62.45
Total	1670	100.00

[a] Total positive compound identification confirmation = 26.95% + 62.45% = 89.40%.

4.6 SAMPLE COMPLETENESS

Percent completeness, defined as the number of scheduled samples that resulted in a valid sample, gauges several quality assurance measures. Site operator performance, training procedures and instructions for site operators, communication between the site operators and the Radian site coordinator, and equipment reliability all affect the number of valid samples obtained. Table 4-26 summarizes the completeness results at each site in the 1990 UATMP. Completeness ranged from 82.4% at W2DC, to 100% at several sites. The overall average percent completeness was 94.5.

Table 4-27 lists the invalidated samples by site code and ID number, along with the reason the sample was invalid. Examination of the reasons for the invalidated samples indicates that site operator error was usually involved. In several cases, samples were invalidated because the canister vacuum was too high upon receipt. High canister vacuum was usually the result of improper setting of the flow rate by the site operator or failure of the site operator to open the canister valve to collect the sample. In three cases, the sampler was not operating properly at the scheduled time of collection. Additional samplers were provided as needed to enable the sites to continue sampling.

4.7 CALIBRATION RESULTS

Summary results for daily calibration of the three detectors in the GC/MD system are given in Tables 4-28, 4-29, and 4-30. The daily calibration factors for the FID, PID, and ECD are given in the three tables in units of ppbv per area count (a.c.). Minima, maxima, means, standard deviations, and % CV are given by compound. Overall average % CV are shown for each detector also. Daily calibration factors are used to ensure that the analytical calibration remains stable throughout the year. Calibration checks at 5 ppbv were analyzed daily for each target compound. The calibration checks produced response factors for each compound and cumulative means, standard deviations, and % CV's. Any compound whose cumulative mean, standard deviation, and/or % CV changed more than about 2.0% in a single day could be identified by comparison to the previous cumulative values. Such an occurrence would signal an error in the calibration or malfunction of a detector or other part of the GC/MD system. No such occurrence was noted in the 1990 UATMP.

Table 4-26

1990 UATMP Completeness

Site Code	No. of Sampling Events	Duplicate Pairs	Total Scheduled Canister Samples	Total Valid Canister Samples	Percent Completeness
BRLA	30	5	35	34	97.1
C4IL	30	4	34	33	97.0
CANJ	30	4	34	34	100.0
H1TX	30	4	34	32	94.1
ORFL	30	4	34	32	94.1
PEFL	42	5	47	47	100.0
PNTX	31	5	36	32	88.9
SAIL	30	5	35	31	88.6
TLOH	22	3	25	23	92.0
W1DC	30	4	34	34	100.0
W2DC	30	4	34	28	82.4
W1KS	30	4	34	34	100.0
				Average	94.5

Table 4-27

1990 UATMP Invalidated Samples

Site Code	UATMP ID #	Reason for Invalidated Sample
BRLA	1556	Flow dropped off during sampling
CANJ	1571	It was half of a duplicate pair, received at 0.3 psig.
C4IL	1547	Sample ran for 108 hours
H1TX	1239	Received at 29.0 in. Hg vacuum
H1TX	1286	Received at 29.0 in. Hg vacuum
ORFL	1348	Canister valve closed while sampling
ORFL	1522	Voided at request of site operator
PNTX	1182D/1183D	Received at 14.6 in. Hg vacuum
PNTX	1224	Received at 25.5 in. Hg vacuum
PNTX	1400	Received at 28.8 in. Hg vacuum
SAIL	1221D/1222D	Received at 28.0 in. Hg vacuum
SAIL	1471	Sample ran for 11 hours
SAIL	1565	Canister leaked
TLOH	1478D/1479D	Canister leaked
W2DC	1489D/1490D	Received at 19.6 in. Hg vacuum
W2DC	1529D/1530D	Received at 15.3 in. Hg vacuum
W2DC	1599D/1560D	Received at 20.2 in. Hg vacuum
W2DC	1568	It was half of a duplicate pair received at 13.5 in. Hg vacuum

Table 4-28

1990 Calibration Data for Flame Ionization Detector

Compound	Standard Deviation ppbv/a.c.	% CV	Calibration Factor, ppbv/a.c.		
			Mean	Minimum	Maximum
1,1,1-Trichloroethane[a]	9.37E-06	17.79	5.27E-05	3.42E-05	8.48E-05
1,1,2,2-Trichloroethane	9.22E-06	13.52	6.82E-05	4.72E-05	1.04E-04
1,1,2-Trichloroethane	7.17E-06	16.29	4.40E-05	2.97E-05	6.76E-05
1,1-Dichloroethane	9.37E-06	16.66	5.62E-05	4.03E-05	8.75E-05
1,2-Dichloroethane	1.20E-05	19.76	6.06E-05	4.05E-05	9.86E-05
1,2-Dichloropropane	1.02E-05	24.14	4.23E-05	7.82E-06	6.58E-05
1,3-Butadiene	1.09E-05	28.27	3.85E-05	1.92E-05	6.46E-05
Acetylene	4.07E-05	36.68	1.11E-04	5.70E-05	2.65E-04
Bromochloromethane[a]	2.09E-05	18.68	1.12E-04	7.60E-05	1.89E-04
Bromodichloromethane	2.60E-05	18.94	1.37E-04	5.68E-05	2.03E-04
Benzene	3.75E-06	20.26	1.85E-05	1.28E-05	3.20E-05
Bromoform	2.01E-05	18.22	1.10E-04	4.50E-05	1.52E-04
Bromomethane	1.66E-05	16.03	1.03E-04	7.50E-05	1.53E-04
cis-1,3-Dichloropropylene	1.18E-05	21.13	5.58E-05	3.23E-05	9.76E-05
Carbon tetrachloride[a]	3.50E-05	23.15	1.51E-04	9.03E-05	2.44E-04
Chlorobenzene	4.26E-06	26.12	1.63E-05	1.04E-05	2.87E-05
Chloroethane	9.41E-06	15.66	6.01E-05	4.34E-05	8.92E-05
Chloroform[a]	3.13E-05	19.89	1.57E-04	1.06E-04	2.42E-04
Chloromethane	1.88E-05	14.69	1.28E-04	9.82E-05	2.34E-04
Chloroprene	1.59E-05	26.40	6.03E-05	2.70E-05	8.96E-05
Dibromochloromethane	3.08E-05	28.33	1.09E-04	4.02E-05	1.78E-04
Ethylbenzene	2.55E-06	18.92	1.35E-05	9.67E-06	2.58E-05
m,p-Xylene	3.05E-06	16.73	1.82E-05	1.20E-05	2.91E-05
m-Dichlorobenzene	6.87E-06	22.95	2.99E-05	1.43E-05	5.05E-05
Methylene chloride	2.28E-05	16.96	1.34E-04	9.47E-05	1.88E-04
n-Octane/trans-1,3-dichloroproylene	3.94E-06	15.88	2.48E-05	2.02E-05	3.59E-05
n-Octane	4.42E-06	17.45	2.54E-05	1.74E-05	3.97E-05
o-Dichlorobenzene	7.40E-06	22.06	3.36E-05	1.76E-05	5.23E-05
p-Dichlorobenzene	1.05E-05	28.90	3.63E-05	2.33E-05	7.41E-05
Propylene	4.85E-06	11.19	4.34E-05	3.31E-05	5.69E-05
Styrene/o-xylene	4.81E-06	20.80	2.31E-05	1.52E-05	4.13E-05
trans-1,2-Dichloroethylene	9.03E-06	16.74	5.40E-05	3.80E-05	7.79E-05
trans-1,3-Dichloropropylene	9.07E-06	20.31	4.46E-05	2.34E-05	7.68E-05
Tetrachloroethylene[a]	8.95E-06	16.61	5.38E-05	3.08E-05	7.05E-05
Toluene	3.77E-06	21.36	1.76E-05	1.07E-05	3.07E-05
Trichloroethylene[a]	1.68E-05	24.66	6.82E-05	3.53E-05	1.03E-04
Vinyl chloride	1.41E-05	21.32	6.62E-05	3.76E-05	1.03E-04
	Average	20.36			

[a]Compounds quantitated on electron capture detector. All other compounds quantitated on flame ionization detector.

Table 4-29

1990 Calibration Data for Photoionization Detector

Compound	Standard Deviation ppbv/a.c.	% CV	Calibration Factor, ppbv/a.c.		
			Mean	Minimum	Maximum
1,3-Butadiene	8.80E-06	23.98	3.67E-05	1.66E-05	6.53E-05
Benzene	6.75E-06	19.89	3.40E-05	1.71E-05	5.57E-05
cis-1,3-Dichloropropylene	8.25E-05	42.56	1.94E-05	4.82E-05	3.73E-04
Chlorobenzene	7.51E-06	43.84	1.71E-05	9.05E-06	4.78E-05
Chloroprene	7.95E-06	18.51	4.29E-05	2.90E-05	7.09E-05
Ethylbenzene	5.20E-06	24.51	2.12E-05	1.26E-05	3.60E-05
m,p-Xylene	9.68E-06	36.39	2.66E-05	1.35E-05	5.26E-05
m-Dichlorobenzene	8.51E-06	38.10	2.23E-05	1.31E-05	6.99E-05
n-Octane/trans-1,3-dichloropropylene	3.01E-05	25.59	1.18E-04	5.78E-05	1.88E-04
n-Octane	5.55E-05	57.92	9.58E-05	4.09E-05	3.03E-04
o-Dichlorobenzene	1.11E-05	38.31	2.90E-05	1.77E-05	8.27E-05
p-Dichlorobenzene	7.38E-06	26.15	2.82E-05	1.54E-05	5.33E-05
Propylene	2.42E-05	38.67	6.27E-05	3.17E-05	1.45E-04
Styrene/o-xylene	1.02E-05	32.63	3.12E-05	1.66E-05	8.84E-05
trans-1,2-Dichloroethylene	5.96E-06	26.95	2.21E-05	1.23E-05	4.26E-05
trans-1,3-Dichloropropylene	1.58E-05	26.72	5.92E-05	3.00E-05	1.12E-04
Tetrachloroethylene	9.57E-06	30.66	3.12E-05	1.58E-05	5.86E-05
Toluene	5.66E-06	22.47	2.52E-05	1.38E-05	4.11E-05
Trichloroethylene	9.65E-06	18.36	5.26E-05	2.84E-05	8.38E-05
Vinyl chloride	4.62E-05	29.88	1.55E-05	3.23E-05	3.30E-04
	Average	31.10			

Table 4-30

1990 Calibration Data for Electron Capture Detector

Compound	Standard Deviation ppbv/a.c.	% CV	Calibration Factor, ppbv/a.c.		
			Mean	Minimum	Maximum
1,1,1-Trichloroethane[a]	7.15E-07	18.45	3.88E-06	2.02E-06	5.99E-06
1,1,2,2-Tetrachloroethane	2.56E-06	76.19	3.36E-06	1.43E-06	1.05E-05
1,1,2-Trichloroethane	9.89E-06	18.47	5.36E-05	2.73E-05	8.38E-05
1,2-Dichloropropane	1.04E-04	65.42	1.59E-04	1.96E-05	6.41E-04
Bromochloromethane[a]	1.22E-06	11.94	1.02E-05	6.99E-06	1.42E-05
Bromodichloromethane	3.36E-07	14.88	2.26E-06	1.49E-06	2.83E-06
Bromoform	1.04E-06	46.58	2.22E-06	8.36E-07	4.32E-06
Bromomethane	1.01E-05	14.28	7.10E-05	3.38E-05	1.03E-04
cis-1,3-Dichloropropylene	7.47E-06	23.05	3.24E-05	1.53E-05	5.40E-05
Carbon tetrachloride[a]	1.57E-07	13.92	1.12E-06	8.32E-07	1.44E-06
Chloroform[a]	2.22E-06	15.47	1.44E-05	9.99E-06	1.90E-05
Dibromochloromethane	2.02E-07	12.75	1.59E-06	9.67E-07	2.11E-06
m-Dichlorobenzene	4.72E-05	54.95	8.60E-05	4.08E-05	3.08E-04
Methylene chloride	3.51E-05	23.99	1.46E-04	5.54E-05	2.13E-04
o-Dichlorobenzene	4.40E-05	45.82	9.61E-05	4.88E-05	3.07E-04
p-Dichlorobenzene	1.53E-04	52.08	2.93E-04	8.63E-05	7.89E-04
trans-1,3-Dichloropropylene	5.79E-06	17.83	3.25E-05	2.06E-05	4.43E-05
Tetrachloroethylene[a]	2.83E-07	15.31	1.85E-06	1.20E-06	2.56E-06
Trichloroethylene[a]	2.85E-06	23.73	1.20E-05	5.55E-06	1.65E-05
	Average	29.74			

[a]Compounds quantitated on electron capture detector.

The average % CV for all compounds for the FID was 20.36. The average % CV for the PID and the ECD were 31.10 and 29.74, respectively. Compounds quantitated on the ECD were 1,1,1-trichloroethane, bromochloromethane, carbon tetrachloride, chloroform, tetrachloroethylene, and trichloroethylene. All other compounds were quantitated on the FID.

4.8 CANISTER PRESSURE

Monitoring canister pressures is an important aspect of quality assurance in any program involving ambient air sampling. The driving force for collecting a sample is the initial vacuum in the canister. The canister is cleaned and evacuated before being shipped under vacuum to a site. Once the canister is connected to the sampling system, the canister valve is opened. The UATMP sampler controls when the sample is allowed to enter the canister, the length of time the sample is taken, and the flow rate of air into the canister. The final sampling pressure is important. Ideally, the flow rate is maintained at a constant value throughout the sampling interval of 24 hours so that an integrated sample is taken. An integrated sample represents the integrated average concentration for the sampling period. To permit the flow controller in the sampler to maintain a constant flow rate throughout the sampling period, a pressure drop of at least 0.5 in. Hg must be maintained. Therefore, the final pressure in the canister must be negative, relative to atmospheric pressure, i.e., it must still be under a slight vacuum.

On the other hand, if the final vacuum in the canister is too high, it is difficult to take a sufficient amount of the sample from the canister for analysis. The UATMP sampler was designed to have about 3 to 6 in. Hg vacuum after the 24-hour sampling period. About 60% of the invalidated samples in the 1990 UATMP resulted from vacuum that were too high. The voided samples are listed in Table 4-27, along with the reasons they were invalidated.

Table 4-31 summarizes the canister pressures measured after receipt in the RTP laboratory. The overall average pressure measured for all the canisters from all the sites was 5.26 in. Hg vacuum. The pressure ranges and distribution are shown in Table 4-31. The third column of the table gives the cumulative number of cases and the fourth column normalizes the number of

Table 4-31

1990 UATMP Canister Pressures Upon Receipt

Analysis Pressure in. Hg Vacuum	Cases	Cumulative Cases	Cumulative Percent
<20.0	9	9	2.15
19.0 - 19.99	2	11	2.63
18.0 - 18.99	0	11	2.63
17.0 - 17.99	0	11	2.63
16.0 - 16.99	0	11	2.63
15.0 - 15.99	2	13	3.11
14.0 - 14.99	3	16	3.83
13.0 - 13.99	4	20	4.78
12.0 - 12.99	1	21	5.02
11.0 - 11.99	4	25	5.98
10.0 - 10.99	4	29	6.94
9.0 - 9.99	8	37	8.83
8.0 - 8.99	25	62	14.83
7.0 - 7.99	58	120	28.71
6.0 - 6.99	64	184	44.02
5.0 - 5.99	38	222	53.11
4.0 - 4.99	27	249	59.57
3.0 - 3.99	18	267	63.88
2.0 - 2.99	27	294	70.33
1.0 - 1.99	58	352	84.21
0.0 - 0.99	66	418	100.00
Total	418		

cases into cumulative percentages. For example, the results show that 8.83% of the canisters had pressures less than 10-in. Hg vacuum at the time of analysis. Upon receipt in the laboratory after sampling, the canisters typically had at least 18 hours of equilibration time to completely come to laboratory temperature before measuring the gauge pressure (inches Hg vacuum) prior to analysis.

No site had more than three samples invalidated because of vacuum that was too high upon receipt at the laboratory. The analyst notified the Radian site coordinator when a canister was received with an initial vacuum greater than 10 in. Hg so that appropriate corrective action could be taken.

5.0 DISCUSSION

Three aspects of data characterization are discussed in this section: data frequency, concentration correlations, and concentration ratios for the most frequently identified compounds.

Data frequency distributions are given for the concentrations of the eleven most commonly identified compounds in the 1990 UATMP. These compounds were 1,3-butadiene, 1,1,1-trichloroethane, carbon tetrachloride, benzene, trichloroethylene, toluene, tetrachloroethylene, ethylbenzene, m,p-xylene, styrene/o-xylene, and p-dichlorobenzene. In all cases the frequency distributions approximate the lognormal distribution.

The second aspect of the results of the 1990 UATMP is the correlation between the concentrations of seven frequently identified compounds: 1,1,1-trichloroethane, carbon tetrachloride, toluene, styrene/o-xylene, m/p-xylene, ethylbenzene, and benzene. The same compound list was used in the 1989 UATMP Final Report. Several of the 1990 UATMP sites, BRLA, C4IL, CANJ, H1TX, SAIL, W1DC, W2DC, and W1KS, were also included in the 1989 UATMP, which permit comparing correlations among the compounds between years. Strong correlations were almost universally observed between: (1) m,p-xylene and styrene/o-xylene, (2) ethylbenzene and styrene/o-xylene, and (3) ethylbenzene and m,p-xylene. Correlations involving the above components with benzene or toluene were not consistent and were site specific. Site locations in airsheds having several petrochemical facilities, such as H1TX, BRLA, and SAIL, showed little correlation of benzene concentrations with any of the other six compounds listed. This may be due to independent benzene emission sources in the area not involving steady-state and/or photochemical sources of benzene and toluene. There were few correlations between carbon tetrachloride and 1,1,1-trichloroethane, and carbon tetrachloride appeared to be independent of all the other compounds mentioned above.

Thirdly, the ratios of benzene, toluene, m,p-xylene, and styrene/o-xylene to ethylbenzene were calculated. This provides a reference for comparison to other databases that also include this ratio.

5.1 CONCENTRATION DISTRIBUTIONS

Figures 5-1 through 5-11 are stem-and-leaf plots of the concentrations of the eleven most frequently identified compounds listed above. In addition

```
  0 H 00000 00000 00000 00011 11111 11111 11111 111
  0 M 22222 22222 22223 33333 33333 3
  0   44455 5
  0   66667 77
  0 H 8999
  1   011
  1   3
  1   55
  1   7
  1
  2   1
  2   468
  3   16
  4   6
  5   5
  7   57
  8   9
 11   29
 15   9
 18   4
 25   4
 34   6
142   6
```

1,3-Butadiene, ppbv

Cases	106
Mean	3.241
Standard Deviation	14.564
Minimum	0.030
Lower Hinge (H) 25th percentile	0.130
Median (M) 50th percentile	0.310
Upper Hinge (H) 75th percentile	0.960
Maximum	142.660

Figure 5-1. Stem-and-leaf Plot of 1,3-Butadiene Concentration

```
 0   57
 1   22334 45556 66667 77777 78888 88888 88889 9999
 2 H 00000 00000 11111 11111 11222 22333 33334 44444 44445 55555 55555 55666 67777 77888 88888 89999 99
 3 M 00000 00111 11122 22223 33333 33333 44444 55555 56666 67778 88888 999
 4   00000 00011 11233 33344 44466 66777 88888 88899 99
 5   00001 12233 44556 67788 899
 6 H 00011 12334 4469
 7   01122 23467 999
 8   12227 9999
 9   24689
10   03478 9
11   3449
12   369
13   3
13   77
14   1259
15   456
17   1
18   357
19   5
22   0
26   1
27   4
31   8
34   7
35   01
36   7
38   6
41   7
45   7
54   0
55   8
57   6
65   9
66   6
69   4
74   2
77   3
79   4
82   0
95   2
115  3
116  5
119  5
137  9
140  7
200  2
205  7
323  9
884  8
```

1,1,1-Trichloroethane, ppbv

Cases	346
Mean	1.406
Standard Deviation	5.549
Minimum	0.050
Lower Hinge (H) 25th percentile	0.250
Median (M) 50th percentile	0.380
Upper Hinge (H) 75th percentile	0.690
Maximum	88.480

Figure 5-2. Stem-and-leaf Plot of 1,1,1-Trichloroethane Concentration

```
 1     0
 5     0
 6     0
 7
 8
 9
10     00000 00
11     00000 00000 00000 00000 00000 22
12     00000 00000 00000 00000 00000 00557 78899
13 H   00000 00000 00000 00000 24467 78888 9
14     00000 00000 00000 00000 00000 00000 00000 00002 44477 89
15 M   00000 00000 00000 00000 00000 00000 00000 00000 11222 23334 56677 9
16     00000 00000 00000 00000 00000 0022
17     00000 00000 0000
18     00000 00007
19 H   00000 000
20     0007
21     00009
22     00000 00
23     0000
24     000
25     00
26     09
27     000
28     000
29     0000
30     06
31     0
32     00
33     00
34     0
36     00
37     00
38     014
40     00
41     0
46     0
50     00
54     00
56     0
58     00
61     0
62     0
65     0
66     0
73     0
74     0
104    0
111    0
201    0
243    0
266    0
271    0
314    0
348    0
434    0
```

Carbon tetrachloride, ppbv

Cases	346
Mean	0.252
Standard Deviation	0.451
Minimum	0.010
Lower Hinge (H) 25th percentile	0.130
Median (M) 50th percentile	0.150
Upper Hinge (H) 75th percentile	0.190
Maximum	4.340

Figure 5-3. Stem-and-leaf Plot of Carbon Tetrachloride Concentration

```
 0   00001 1
 0   22222 23333 33333
 0   44444 44444 44444 44444 44455 55555 55555 55555 55555 555
 0 H 66666 66666 66666 66677 77777 77777 77777 77777
 0   88888 88888 88888 88888 88888 88899 99999 99999 99999 99999 99999 99999
 1 M 00000 00000 00000 00000 11111 11111 11111
 1   22222 22222 22223 33333 333
 1   44444 44555 55555 555
 1   66666 66666 66777
 1 H 88888 88888 99999 9
 2   00000 00000 00011 11111 1111
 2   22233
 2   44444 44555 5
 2   7777
 2   899
 3   0111
 3   44
 3   5579
 4   0457
 5   058
 8   0
 9   7
10   0
14   0
20   7
```

Benzene, ppbv

Cases	349
Mean	1.469
Standard Deviation	1.710
Minimum	0.040
Lower Hinge (H) 25th percentile	0.700
Median (M) 50th percentile	1.020
Upper Hinge (H) 75th percentile	1.820
Maximum	20.720

Figure 5-4. Stem-and-leaf Plot of Benzene Concentration

```
  0    12244 45555 55666 66778 88999 9
  1 H 00011 11112 22334 55556 77777 78999 99
  2 M 01334 56666 68
  3    11244 6789
  4    00124
  5    01556 6
  6 H 238
  7    44689
  8    39
  9    3
 10    00568
 11    2
 12    0
 13
 14    2
 15    1
 16    4
 17    3
 22    7
 24    3
 28    0
 37    8
 41    8
 45    6
130    7
174    4
229    3
232    6
296    4
```

Trichloroethylene, ppbv

Cases	123
Mean	1.351
Standard Deviation	4.339
Minimum	0.010
Lower Hinge (H) 25th percentile	0.110
Median (M) 50th percentile	0.230
Upper Hinge (H) 75th percentile	0.655
Maximum	29.640

Figure 5-5. Stem-and-leaf Plot of Trichloroethylene Concentration

```
  0    00022 23333 44444 44
  0    55555 66666 66666 66666 77777 77777 77777 88888 89999 99999 99999 99
  1 H  00000 00000 11111 11122 22222 33333 33334 44444 444
  1 M  55555 55555 55555 56666 66666 66777 77777 77777 78888 88888 88889 99999
  2    00000 00000 01111 11111 22222 22222 33333 33444 4
  2    55555 55566 77777 78888 88999 99
  3    00000 01222 23334 4
  3 H  55556 66677 78889 9
  4    00113 34
  4    699
  5    01223 33
  5    67778 9
  6    00123
  6    68
  7    4568
  8    22345 5
  9    3
 10    79
 11    7
 12    6
 13    468
 14    258
 15    7
 16    06
 17    3
 19    4
 20    2
 29    02
 32    69
 34    8
 35    4
 37    1
 41    1
 48    16
 52    2
 68    4
 74    7
 87    7
195    8
```

Toluene, ppbv

Cases	349
Mean	5.202
Standard Deviation	14.180
Minimum	0.060
Lower Hinge (H) 25th percentile	1.160
Median (M) 50th percentile	1.930
Upper Hinge (H) 75th percentile	3.520
Maximum	195.830

Figure 5-6. Stem-and-leaf Plot of Toluene Concentration

```
  0    11222 22222 23344 44555 55555 56666 66667 77888 88889 99999 999
  1 H  00000 01111 11112 22222 22222 22333 33333 44555 55566 66666 77777 77778 88899 99999
  2    00011 12222 22233 33344 44456 66666 67778 999
  3 M  00001 12233 34445 56677 88999 9
  4    00112 34456 66677 78888 9999
  5    00111 56678
  6    01111 44556 78
  7    00011 289
  8 H  01223 33578 9
  9    02366
 10    9
 11    224
 12    28
 13    0267
 14    11348 8
 15    56
 16    022
 17    029
 18    355
 19    156
 19    9
 20    36
 21    344
 22    04
 23    126
 25    0
 26    99
 27    2679
 28    4
 32    26
 34    8
 36    22
 37    3678
 38    7
 39    7
 41    69
 47    6
 50    67
 51    7
 54    6
 57    28
 58    8
 59    1
 66    4
 85    0
 89    2
 91    9
150    8
```

Tetrachloroethylene, ppbv

Cases	333
Mean	0.936
Standard Deviation	1.630
Minimum	0.010
Lower Hinge (H) 25th percentile	0.130
Median (M) 50th percentile	0.310
Upper Hinge (H) 75th percentile	0.870
Maximum	15.080

Figure 5-7. Stem-and-leaf Plot of Tetrachloroethylene Concentration

```
 0    23444 444
 0    55556 66666 66777 77778 88889 99999 99999 999
 1 H  00000 00000 11111 22222 22222 22222 23333 33334 4444
 1    55555 66666 66666 66667 77777 77777 78888 88899 99999
 2 M  00000 01111 11111 22222 22233 33334 44444 44444 4
 2    55556 66666 66666 77788 88899 99999
 3    00000 01111 22222 22223 44444 4
 3    55666 66788 8889
 4 H  00000 11223 44444 4
 4    56666 66888
 5    00001 22333 3
 5    77889
 6    00112 2244
 6    56667 79
 7    00112 33
 7    5699
 8    1123
 8    5
 8    99
 9    016
10    14
12    45678
13    9
14    16
16    8
18    0
20    1
21    8
25    5
29    7
33    1
35    9
38    0
41    9
```

Ethylbenzene, ppbv

Cases	345
Mean	0.389
Standard Deviation	0.513
Minimum	0.020
Lower Hinge (H) 25th percentile	0.140
Median (M) 50th percentile	0.240
Upper Hinge (H) 75th percentile	0.440
Maximum	4.190

Figure 5-8. Stem-and-leaf Plot of Ethylbenzene Concentration

```
0    00111 111
0    22222 22222 22222 22222 22333 33333 33333 33333
0 H  44444 44444 44444 44444 45555 55555 55555 55555 55555 55555 555
0    66666 66666 66666 67777 77777 77777 77777 77
0 M  88888 88888 88899 99999 99999 99999 99999 99
1    00000 00000 00001 11111 11111 11
1    22222 22222 23333 33333 33333
1    44444 44444 45555 555
1    66666 66666 7777
1 H  88899 99999
2    00011 1111
2    2233
2    4455
2    66667 7777
2    88888 88999
3    01
3    233
3    455
3    6777
3    789
4    01233 55677 8
5    555
6    4
7    01
8    567
11   339
17   6
18   1
20   7
```

m,p-Xylene, ppbv

Cases	346
Mean	1.668
Standard Deviation	2.325
Minimum	0.020
Lower Hinge (H) 25th percentile	0.550
Median (M) 50th percentile	0.990
Upper Hinge (H) 75th percentile	1.830
Maximum	20.780

Figure 5-9. Stem-and-leaf Plot of m,p-Xylene Concentration

```
 0   12455 56778 899
 1   00022 22223 33455 66777 88889 999
 2   00011 11222 23333 44556 66667 77888 88889 99
 3 H 00001 12223 33344 45555 66666 78888 88899
 4   00001 11112 23333 33344 44566 66667 88888 899
 5 M 00001 11111 12223 44444 55568 899
 6   00111 11222 33334 45566 77788 8899
 7   00001 11222 33335 55666 78899 9
 8   00122 55579
 9   00457 788
10   03
11 H 01259 9
12   00156 66778
13   00334 5
14   23799
15   13557
16   289
17   18
18   1
19   028
20   1489
21   1
22   04557 9
25   234
26   27
28   56
30   04
32   9
39   3
42   8
43   4
44   02
45   7
46   1
47   01
48   2
50   6
55   6
56   6
61   2
64   0
74   1
96   1
105  8
118  6
120  4
125  3
137  5
141  2
162  29
180  3
188  5
260  8
264  2
384  7
```

Styrene/o-Xylene, ppbv

Cases	346
Mean	1.580
Standard Deviation	3.781
Minimum	0.010
Lower Hinge (H) 25th percentile	0.320
Median (M) 50th percentile	0.550
Upper Hinge (H) 75th percentile	1.190
Maximum	38.470

Figure 5-10. Stem-and-leaf Plot of Styrene/o-xylene Concentration

```
 0   4
 0   56666 66677 77888 88888 999
 1 H 00000 22222 234
 1   55555 56666 77777 77888 88
 2 M 00001 11222 22344
 2   66668 99
 3   00000 122
 3   577
 4 H 01122 233
 4   566
 5   014
 5   57
 6   012
 6   58
 7   033
 7   8
 8   2
 8   55
 9   48
11   19
13   3
14   48
16   5
24   3
38   5
```

p-Dichlorobenzene, ppbv

Cases	130
Mean	0.368
Standard Deviation	0.477
Minimum	0.040
Lower Hinge (H) 25th percentile	0.120
Median (M) 50th percentile	0.210
Upper Hinge (H) 75th percentile	0.420
Maximum	3.850

Figure 5-11. Stem-and-leaf Plot of p-Dichlorobenzene Concentration

to the stem-and-leaf plot, each of the other statistics are tabulated in each compound, including: the number of cases of identifications, minimum, maximum, mean, standard deviation, lower hinge (25th percentile), median (50th percentile), and upper hinge (75th percentile).

The stem-and-leaf plots show the actual concentrations truncated to two or three decimal points. The digits to the left of the vertical column of open space are called stems and the digits to the right of the column of open space are called leaves. The data are sorted from the smallest at the top of the graph, to the largest at the bottom of the graph. Figure 5-1, for example, shows the stem-and-leaf plot for 1,3-butadiene, pooled over all sites. The minimum is shown to be 0.030, which accounts for the first zero on the right of the "H" on the top stem-and-leaf (row). The maximum of 142.6 ppbv is shown on the bottom stem-and-leaf as "142 6". The plot shows 106 cases (or leaves) one for each concentration of 1,3-butadiene reported for the 1990 UATMP. The "H's" in the open vertical space locate the stem-and-leaf for the lower and upper hinges or quartiles, and the "M" locates the stem-and-leaf for the median. The median separates the sorted concentrations into two equal halves; the hinges (or quartiles) separate each half into quarters. The range between the two hinges is called the interquartile range.

The stem-and-leaf plots shown for the most frequently occurring target compounds of the 1990 UATMP show skewed distributions and suggest lognormal distributions. In most cases, however, the tails in the fourth quartiles extend longer than would be expected if the data followed the lognormal distribution exactly. A consequence of these observations is that the arithmetic means and standard deviations are biased high. 1,3-Butadiene is a good example of this fact with the unusually high concentration of 142.6 ppbv, whereas, the next highest concentration is 34.6 ppbv. For such cases, the median (0.310 ppbv), and the interquartile range (0.960-0.130) are better measures of central tendency than the arithmetic mean 3.24 ppbv. Fifty percent of the measured concentration values lie in the interquartile range. For the case of the 1990 UATMP 1,3-butadiene data, the arithmetic mean does not fall in the interquartile range.

If the lognormal distribution is the appropriate one to describe equilibrium or steady-state concentrations, the long tails in the fourth

quartiles suggest a number of "outliers," that is, concentrations that do not fit the expected distribution. Such occurrences probably result from site-specific nonrandom emissions from special sources.

5.2 CORRELATION OF COMPOUND CONCENTRATIONS

The correlations between compound concentrations are presented in Pearson correlation matrices for each site in Figures 5-12 through 5-23. Correlations were calculated for 1,1,1-trichloroethane, carbon tetrachloride, toluene, styrene/o-xylene, m,p-xylene, ethylbenzene, and benzene.

The concentration data were grouped for each site. For BRLA, as seen in Figure 5-12, there were 29 days in which the concentrations of the seven compounds were recorded. The Pearson correlation matrix tabulates the correlation coefficient for each possible pair of compounds. At BRLA, very little correlation is shown between any pair of compounds tested. In the 1989 UATMP, the only pair of compounds that showed a significant correlation was m/p-xylene and styrene/o-xylene with a correlation coefficient of 0.928. For the 1990 UATMP, the correlation between these compound was only 0.371, as shown in Figure 5-12.

The 1990 UATMP site at CANJ (Figure 5-13), on the other hand, shows strong correlations (coefficients of correlation >0.9) for toluene, styrene/o-xylene, m/p-xylene, and ethylbenzene. Benzene, on the other hand, shows little correlation with any other compound, although it showed strong correlations with the other olefins in 1989. For CANJ (Figure 5-13) significant correlations are seen between toluene and 1,1,1-trichloroethane, and between ethylbenzene and 1,1,1-trichloroethane..

For C4IL (Figure 5-14), strong correlations are seen among styrene/o-xylene, m/p-xylene, and ethylbenzene only. For W1KS (Figure 5-23), W1DC (Figure 5-21), and W2DC (Figure 5-22) the correlations for all compound pairs were similar between the 1989 UATMP and the 1990 UATMP. For all the other sites no clear pattern emerges between sites and years. The chlorinated compounds, 1,1,1-trichloroethane and carbon tetrachloride, however, showed little correlation with any of the other compounds tested.

The graphs in Appendix C depict correlation, and lack of correlation, between 1,1,1-trichloroethane and carbon tetrachloride concentrations for all

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.450	1.000					
ppbv22	0.033	-0.051	1.000				
ppbv33	0.218	0.588	0.496	1.000			
ppbv31	-0.033	-0.019	0.495	0.371	1.000		
ppbv30	-0.005	0.016	0.746	0.542	0.656	1.000	
ppbv17	-0.038	0.182	0.547	0.575	0.376	0.466	1.000

Number of observations: 29

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-12. Pearson correlation matrix for BRLA

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.462	1.000					
ppbv22	0.938	0.148	1.000				
ppbv33	0.885	0.098	0.962	1.000			
ppbv31	0.872	0.078	0.963	0.982	1.000		
ppbv30	0.911	0.117	0.988	0.984	0.985	1.000	
ppbv17	0.338	-0.078	0.454	0.626	0.617	0.542	1.000

Number of observations: 30

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-13. Pearson correlation matrix for CANJ

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.930	1.000					
ppbv22	-0.020	-0.276	1.000				
ppbv33	0.054	-0.141	0.724	1.000			
ppbv31	-0.076	-0.232	0.604	0.945	1.000		
ppbv30	-0.076	-0.226	0.616	0.932	0.971	1.000	
ppbv17	0.000	-0.100	0.234	0.670	0.768	0.769	1.000

Number of observations: 29

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-14. Pearson correlation matrix for C4IL

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.286	1.000					
ppbv22	0.252	0.020	1.000				
ppbv33	0.225	0.122	0.326	1.000			
ppbv31	0.162	-0.131	0.477	0.718	1.000		
ppbv30	0.296	0.125	0.272	0.861	0.590	1.000	
ppbv17	0.087	0.019	0.890	0.419	0.421	0.354	1.000

Number of observations: 28

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-15. Pearson correlation matrix for H1TX

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.938	1.000					
ppbv22	0.938	0.868	1.000				
ppbv33	0.396	0.187	0.529	1.000			
ppbv31	0.270	0.123	0.485	0.910	1.000		
ppbv30	0.400	0.212	0.601	0.949	0.974	1.000	
ppbv17	0.140	0.104	0.226	0.380	0.361	0.387	1.000

Number of observations: 28

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-16. Pearson correlation matrix for ORFL

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	-0.013	1.000					
ppbv22	0.693	0.123	1.000				
ppbv33	0.824	-0.084	0.727	1.000			
ppbv31	0.799	-0.014	0.739	0.978	1.000		
ppbv30	0.465	0.172	0.417	0.101	0.086	1.000	
ppbv17	0.739	-0.025	0.641	0.956	0.973	-0.087	1.000

Number of observations: 42

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-17. Pearson correlation matrix for PEFL

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.015	1.000					
ppbv22	0.975	0.003	1.000				
ppbv33	-0.011	-0.131	-0.004	1.000			
ppbv31	0.877	-0.011	0.894	0.115	1.000		
ppbv30	0.804	0.026	0.801	0.216	0.942	1.000	
ppbv17	0.400	0.844	0.469	0.399	0.660	0.625	1.000

Number of observations: 28

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-18. Pearson correlation matrix for PNTX

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.808	1.000					
ppbv22	0.349	-0.000	1.000				
ppbv33	-0.076	-0.120	0.026	1.000			
ppbv31	0.203	-0.086	0.449	0.505	1.000		
ppbv30	0.238	-0.067	0.637	0.480	0.945	1.000	
ppbv17	0.008	-0.030	0.031	0.518	0.346	0.292	1.000

Number of observations: 27

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-19. Pearson correlation matrix for SAIL

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	-0.007	1.000					
ppbv22	0.753	0.180	1.000				
ppbv33	0.885	-0.064	0.894	1.000			
ppbv31	0.840	-0.125	0.792	0.953	1.000		
ppbv30	0.748	-0.056	0.893	0.959	0.948	1.000	
ppbv17	0.507	-0.145	0.322	0.543	0.709	0.573	1.000

Number of observations: 21

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-20. Pearson correlation matrix for TLOH

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.216	1.000					
ppbv22	0.929	-0.079	1.000				
ppbv33	0.825	-0.118	0.961	1.000			
ppbv31	0.713	-0.170	0.893	0.948	1.000		
ppbv30	0.811	-0.142	0.954	0.980	0.972	1.000	
ppbv17	0.301	-0.178	0.517	0.628	0.679	0.645	1.000

Number of observations: 30

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-21. Pearson correlation matrix for W1DC

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.986	1.000					
ppbv22	0.023	-0.066	1.000				
ppbv33	0.025	-0.062	0.949	1.000			
ppbv31	0.011	-0.090	0.939	0.949	1.000		
ppbv30	0.053	-0.040	0.955	0.991	0.968	1.000	
ppbv17	0.063	-0.042	0.919	0.903	0.947	0.924	1.000

Number of observations: 30

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22:	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-22. Pearson correlation matrix for W2DC

	ppbv13	ppbv14	ppbv22	ppbv33	ppbv31	ppbv30	ppbv17
ppbv13	1.000						
ppbv14	0.938	1.000					
ppbv22	0.423	0.286	1.000				
ppbv33	0.379	0.258	0.962	1.000			
ppbv31	0.393	0.262	0.951	0.970	1.000		
ppbv30	0.456	0.338	0.974	0.967	0.978	1.000	
ppbv17	0.457	0.342	0.962	0.951	0.920	0.957	1.000

Number of observations: 30

ppbv13	1,1,1-Trichloroethane
ppbv14	Carbon tetrachloride
ppbv22	Toluene
ppbv33	Styrene/o-xylene
ppbv31	m/p-Xylene
ppbv30	Ethylbenzene
ppbv17	Benzene

Figure 5-23. Pearson correlation matrix for W1KS

sites (Figures C-1 through C-14). Figures C-15 through C-28 show the correlation of concentrations for benzene, toluene, ethylbenzene, m,p-xylene, and styrene/o-xylene for all sites.

5.3 RATIOS OF COMPOUND CONCENTRATIONS

The ratios for benzene, toluene, and the total xylenes to ethylbenzene are shown by site and overall in Table 5-1. The ratios of concentrations among benzene, toluene, and the total xylenes were chosen with respect to ethylbenzene because these compounds are almost universally found in urban ambient air samples, and because the concentration of ethylbenzene is generally lower than the other compounds. Moreover, other studies have examined the same ratios found in other data sets, e.g., the TAMS and the National Ambient Volatile Organic Compound Data Base.[5]

Each compound ratio in Table 5-1 was calculated for each identification case in each sample, then the average of these ratios was determined. Ratios are given for the 1989 UATMP and 1990 UATMP. Overall average benzene:ethylbenzene ratios are generally less than ratios of toluene:ethylbenzene or xylenes:ethylbenzene. Benzene:ethylbenzene ratios range from 2.74 for MIFL to 10.12 for SAIL with an overall average of 4.52 for the 1989 UATMP and 5.48 for the 1990 UATMP. Toluene:ethylbenzene ratios are generally higher than benzene:ethylbenzene ratios and range from 5.82 to 29.04. Xylenes:ethylbenzene ratios averaged 7.57 in 1989 and 8.80 in 1990 and ranged from 6.05 to 20.82.

Table 5-1

Ratios of Concentrations of Benzene, Toluene, and Xylene to Ethylbenzene

	Benzene:Ethylbenzene		Toluene:Ethylbenzene		Xylene:Ethylbenzene[a]	
Site	1989	1990	1989	1990	1989	1990
BRLA	5.11	5.21	5.82	9.82	6.59	7.60
C4IL	3.51	5.20	7.40	8.83	7.89	7.13
CANJ	4.76	5.99	10.10	10.43	7.68	7.25
DLTX	5.42	--	9.07	--	7.59	--
FLFL	3.08	--	8.36	--	8.93	--
H1TX	6.34	6.18	7.76	7.23	7.66	6.05
MIFL	2.74	--	8.95	--	8.37	--
PNTX	--	4.52	--	6.89	--	20.82[b]
PEFL	5.32	4.86	8.75	29.04[c]	7.50	6.85
ORFL	--	2.41	--	20.17[d]	--	6.22
S2MO	5.13	--	6.91	--	7.75	--
SAIL	4.30	10.12	7.86	8.89	6.85	15.75
TLOH	--	5.89	--	11.15	--	7.81
W1DC	4.59	4.88	8.53	9.09	7.23	6.84
W2DC	3.30	5.23	7.63	9.44	7.17	7.22
W1KS	5.01	5.57	7.02	8.35	7.45	6.93
W2KS	5.11	--	7.29	--	7.30	--
Overall	4.52	5.48	7.91	12.09	7.57	8.80

[a]Xylene concentrations include concentrations of m-, o-, and p-xylene and styrene in ratio. Styrene and o-xylene coelute so that when styrene is present, it is also included in the xylene concentration.

[b]Biased high because of high value of 38.47 ppbv of styrene/o-xylene.

[c]Biased high because of high value of 74.78 ppbv for toluene.

[d]Biased high because of high value of 195.83 ppbv for toluene.

6.0 RECOMMENDATION

Based in the 1990 UATMP, the following recommendations are made regarding canister cleanup studies, instrument detection limit studies, measurement of additional compound concentrations, reporting of precision, and external audits.

6.1 CANISTER CLEANUP STUDY

A number of preliminary studies have been performed to determine carryover from one UATMP canister sample to the next. It is recommended that the available data be processed and interpreted. It is felt that by such an analysis, either additional data needs may be indicated, or no further study will be needed. One of the things the cleanup data interpretation is expected to do is to determine if molecular size and molecular weight is a determinant factor in carryover of the compound from sample to sample after cleaning.

6.2 INSTRUMENT DETECTION LIMIT STUDY

A study is needed to determine the instrument detection limits (IDLs) for all target compounds using the GC/MD system. Although the IDLs would not be used to exclude data, it would be beneficial to the UATMP, and to the models for which the data are used, to realize the analytical risks involved in compound identification and quantitation.

6.3 ADDITIONAL TARGET COMPOUNDS

The target compounds listed in the USEPA Compendium Method TO-14[4] include several compounds not currently targeted for the UATMP. It is recommended that additional compounds be included in the UATMP target compound list.

6.4 PRECISION MEASURES

In the 1989 UATMP final report, precision was estimated using an average percent coefficient of variation for each target compound, in which %CV was calculated from repeated analyses from the same canister. In the 1990 UATMP final report, precision was estimated using the average %CV for each compound, and also using a pooled standard deviation (and pooled %CV). In addition, in the 1990 UATMP final report (this volume) an investigation was initiated into the relationship between standard deviation of replicate analyses and average concentration of the sample. It is recommended that these procedures become routine analyses of future UATMP data.

6.5 EXTERNAL AUDITS

It is recommended that a procedure be developed for supplying six external audits in the 1991 UATMP. It may be possible for the Quality Assurance Division to continue to provide audits for the UATMP target compounds, or to develop another contractor to provide such audits, or there may be a procedure which uses National Institute of Science and Technology (NIST), or Scott Standards for external audits.

It is also recommended that continued effort be expended to continue development and testing of field audit procedures.

7.0 REFERENCES

1. McAllister, Robert A., Phyllis L. O'Hara, Dave-Paul Dayton, John E. Robbins, Joann Rice, Robert F. Jongleux, Raymond G. Merrill, Jr., and Emily G. Bowles, "1990 Nonmethane Organic Compound and Three-Hour Air Toxics Monitoring Program." Radian Corporation DCN No. 91-262-045-04, Prepared for Neil J. Berg, Jr., Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, EPA Contract No. 68D80014, Research Triangle Park, NC, February 1991.

2. "1990 Nonmethane Organic Compound Monitoring and Three-Hour Urban Air Toxics Monitoring Program. Work Plan and Quality Assurance Project Plan." Radian Corporation, Research Triangle Park, NC, DCN No. 90-262-045-23, May 1990.

3. "1990 Urban Air Toxics Monitoring Program. Work Plan and Quality Assurance Project Plan," Radian Corporation, Research Triangle Park, NC DCN 90-262-045-13, April 1990.

4. "Compendium Method TO-14. The Determination of Volatile Organic Compounds (VOCs) in Ambient Air Using SUMMA® Passivated Canister Sampling and Gas Chromatographic Analysis, Quality Assurance Division, Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711.

5. Edgerton, S.A., M.W. Holdren, D.L. Smith, and J.J. Shah, "Inter-Urban Comparison of Ambient Volatile Organic Compound Concentrations in U.S. Cities," JAPCA, 39, No(5), 729 (May 1989).

APPENDIX A

MULTIPLE DETECTOR SPECIATED

UATMP DATA SUMMARY

APPENDIX A

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TABLE A1. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR BRLA

Sample Date	7/10/90		7/16/90		7/22/90		7/28/90		8/03/90	
Sample ID	1297		1303		1304		1317		1321	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		0.66	(H)	<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		0.39	(L)	<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		0.82	(M)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		0.26	(H)	1.19	(L)	0.07	(L)	<0.006	
1,1,1-Trichloroethane	0.33	(L)	1.37	(H)	0.14	(L)	0.25	(L)	0.33	(L)
Carbon tetrachloride	0.36	(L)	0.37	(L)	0.14	(L)	0.16	(L)	0.23	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.00	(H)	0.72	(H)	0.61	(H)	1.05	(L)	1.59	(H)
Trichloroethylene	<0.004		4.18	(H)	<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		0.24	(M)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.73	(M)	1.58	(L)	0.76	(M)	1.61	(M)	3.07	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		0.04	(H)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		0.19	(M)	<0.04		<0.04	
1,1,2-Trichloroethane	0.19	(H)	0.23	(H)	<0.02		<0.02		<0.02	
Tetrachloroethylene	0.22	(H)	0.12	(L)	0.05	(H)	0.10	(L)	0.82	(H)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.33	(H)	0.24	(H)	0.71	(H)	0.19	(H)	0.37	(H)
m/p-Xylene	1.42	(H)	1.32	(H)	0.50	(H)	1.07	(H)	2.16	(H)
Styrene/o-xylene	0.75	(H)	0.85	(H)	0.43	(L)	0.62	(H)	0.43	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	0.12	(H)	<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		0.17	(L)	0.02	(L)
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		0.16	(H)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A1. BRLA (Continued)

Sample Date	8/09/90		8/15/90		8/21/90		8/27/90		9/02/90	
Sample ID	1331		1338		1347		1358		1365	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.79	(M)	0.18	(H)	5.58	(L)	0.64	(M)	<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		7.87	(L)	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.32	(L)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	0.30	(L)	<0.006		10.76	(L)	<0.006		<0.006	
1,1,1-Trichloroethane	0.17	(L)	0.32	(L)	0.36	(L)	1.56	(L)	0.18	(L)
Carbon tetrachloride	0.23	(L)	0.14	(L)	0.18	(L)	0.12	(L)	0.15	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.84	(H)	0.87	(L)	1.56	(M)	3.90	(L)	0.67	(H)
Trichloroethylene	<0.004		<0.004		0.19	(L)	<0.004		<0.004	
1,2-Dichloropropane	0.42	(M)	0.55	(L)	<0.04		<0.04		0.18	(M)
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.31	(M)	1.10	(L)	4.08	(H)	8.57	(M)	1.09	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		0.06	(L)	<0.04		0.59	(L)	<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	<0.07		<0.07		0.37	(L)	0.22	(L)	0.06	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.14	(H)	0.17	(L)	0.21	(H)	0.42	(L)	0.12	(M)
m/p-Xylene	0.69	(M)	0.70	(L)	1.34	(H)	2.62	(L)	0.45	(M)
Styrene/o-xylene	0.87	(L)	0.29	(L)	0.89	(M)	1.20	(L)	0.29	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		0.06	(H)	0.10	(H)	<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A1. BRLA (Continued)

Sample Date	9/08/90		9/14/90		9/20/90		9/26/90		10/02/90	
Sample ID	1380		1382		1394		1396		1409	
Compound	Concentration, ppbv									
Acetylene	6.44	(L)	<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.70	(M)	<0.06		0.11	(M)	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	3.86	(L)	1.29	(L)	0.33	(L)	<0.001		0.30	(L)
Carbon tetrachloride	0.16	(L)	0.19	(L)	0.20	(L)	<0.001		0.15	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.99	(L)	1.32	(M)	1.63	(H)	0.06	(L)	0.92	(L)
Trichloroethylene	<0.004		2.27	(L)	<0.004		<0.004		<0.004	
1,2-Dichloropropane	1.04	(H)	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	15.75	(H)	2.14	(L)	2.80	(M)	0.09	(L)	1.48	(L)
n-Octane	0.99	(H)	<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.12	(H)	0.47	(L)	0.23	(M)	0.02	(L)	0.23	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.24	(M)	<0.02		<0.02		<0.02		0.07	(H)
Ethylbenzene	0.89	(M)	0.26	(L)	0.29	(H)	0.02	(L)	0.18	(M)
m/p-Xylene	4.04	(H)	1.07	(L)	1.25	(H)	0.02	(M)	0.70	(M)
Styrene/o-xylene	2.11	(H)	0.78	(M)	0.77	(H)	0.01	(M)	0.44	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A1. BRLA (Continued)

Sample Date	10/08/90		10/14/90		10/20/90		10/20/90		10/20/90	
Sample ID	1417		1427		1433D		1433R		1434D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		2.59	(L)	<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		0.42	(M)	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		0.91	(H)	<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.07	(M)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.24	(L)	1.14	(L)	0.35	(L)	0.37	(L)	0.40	(L)
Carbon tetrachloride	0.18	(L)	0.21	(L)	0.15	(L)	0.19	(L)	0.17	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.87	(H)	2.41	(H)	2.45	(H)	2.50	(H)	2.47	(H)
Trichloroethylene	<0.004		2.43	(L)	<0.004		<0.004		<0.004	
1,2-Dichloropropane	0.12	(M)	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.06	(L)	14.88	(H)	5.95	(H)	5.65	(H)	5.61	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.09	(L)	0.27	(M)	1.90	(L)	2.02	(L)	1.91	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.12	(L)	0.69	(M)	0.64	(L)	0.58	(M)	0.59	(M)
m/p-Xylene	0.52	(L)	2.34	(M)	2.99	(L)	2.91	(M)	2.97	(M)
Styrene/o-xylene	0.33	(L)	2.62	(H)	4.30	(L)	4.17	(H)	4.35	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		0.48	(L)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A1. BRLA (Continued)

Sample Date	10/20/90		10/26/90		11/01/90		11/07/90		11/19/90	
Sample ID	1434R		1445		1447		1453		1476D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		0.10	(L)	<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.08	(M)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.36	(L)	1.03	(L)	0.58	(L)	0.64	(L)	0.49	(M)
Carbon tetrachloride	0.18	(L)	0.41	(L)	0.18	(L)	0.19	(L)	0.23	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.70	(H)	0.92	(H)	2.57	(H)	1.70	(H)	1.81	(M)
Trichloroethylene	<0.004		2.80	(H)	0.55	(L)	0.93	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		0.07	(L)	<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	5.74	(H)	1.24	(H)	6.00	(H)	3.21	(H)	3.85	(H)
n-Octane	<0.03		<0.03		0.34	(H)	0.92	(M)	0.18	(L)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	2.03	(L)	0.96	(L)	1.41	(L)	0.21	(L)	1.36	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.58	(M)	0.16	(M)	0.59	(M)	0.29	(M)	0.43	(M)
m/p-Xylene	2.90	(M)	0.62	(M)	2.76	(M)	1.18	(M)	2.27	(H)
Styrene/o-xylene	4.32	(H)	0.61	(H)	1.62	(H)	0.80	(H)	1.04	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		0.13	(M)	<0.002		<0.002		0.08	(L)
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.12	(M)	<0.09		0.55	(M)	0.32	(H)	0.51	(H)
o-Dichlorobenzene	0.16	(L)	<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A1. BRLA (Continued)

Sample Date	11/19/90		11/19/90		11/19/90		12/01/90		12/13/90	
Sample ID	1476R		1477D		1477R		1493		1497D	
Compound	Concentration, ppbv									
Acetylene	<1.00		10.08	(L)	<1.00		5.63	(L)	<1.00	
1,3-Butadiene	0.22	(H)	<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.05	(M)	0.13	(H)	<0.06		0.02	(H)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.49	(L)	0.51	(L)	0.52	(L)	1.07	(L)	0.19	(L)
Carbon tetrachloride	0.22	(L)	0.23	(L)	0.23	(L)	0.17	(L)	0.17	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.66	(H)	1.93	(H)	1.86	(H)	1.00	(H)	0.93	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	3.88	(H)	4.72	(H)	3.87	(M)	1.74	(H)	1.29	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.04	(H)	0.04	(L)	<0.02		<0.02		<0.02	
Tetrachloroethylene	1.58	(L)	1.56	(L)	1.96	(L)	0.48	(L)	0.36	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.82	(H)	0.37	(L)	0.37	(L)	0.50	(L)	0.13	(M)
m/p-Xylene	1.50	(L)	1.56	(L)	1.49	(L)	7.03	(L)	0.48	(M)
Styrene/o-xylene	0.92	(M)	0.96	(M)	0.95	(M)	0.68	(H)	0.33	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		0.09	(H)
m-Dichlorobenzene	0.04	(M)	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.52	(L)	<0.09		0.34	(H)	0.28	(L)	0.29	(H)
o-Dichlorobenzene	<0.02		0.15	(M)	<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A1. BRLA (Continued)

Sample Date	12/13/90		12/13/90		12/13/90		12/25/90		1/06/91	
Sample ID	1497R		1498D		1498R		1512		1534	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		0.08	(L)
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		0.04	(M)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.19	(L)	0.22	(L)	0.12	(L)	11.53	(L)	11.65	(H)
Carbon tetrachloride	0.17	(L)	0.17	(L)	0.17	(L)	0.46	(L)	0.18	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.03	(L)	1.05	(H)	1.11	(H)	0.61	(H)	0.92	(H)
Trichloroethylene	<0.004		<0.004		<0.004		22.93	(M)	23.26	(H)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.22	(L)	1.36	(H)	1.29	(L)	0.94	(H)	1.27	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.31	(L)	0.61	(L)	0.62	(L)	8.92	(L)	8.50	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.11	(L)	0.11	(L)	0.16	(L)	0.13	(L)	0.20	(H)
m/p-Xylene	0.47	(L)	0.47	(L)	0.48	(L)	0.41	(L)	0.58	(M)
Styrene/o-xylene	0.29	(L)	0.27	(L)	0.29	(L)	0.40	(M)	0.43	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		0.18	(L)	0.26	(M)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A1. BRLA (Continued)

Sample Date	1/30/91		1/30/91		1/30/91		1/30/91		2/12/91	
Sample ID	1562D		1562R		1563D		1563R		1584D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		0.02	(M)
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	10.72	(H)	9.45	(H)	4.40	(H)	5.10	(L)	1.01	(H)
Carbon tetrachloride	1.27	(L)	1.07	(L)	0.99	(L)	1.11	(L)	0.34	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.93	(H)	2.17	(H)	2.46	(H)	2.36	(M)	1.73	(H)
Trichloroethylene	26.03	(M)	23.46	(M)	9.33	(L)	10.93	(M)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		0.05	(H)
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	4.29	(H)	3.05	(H)	4.30	(H)	3.99	(H)	3.04	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	2.62	(L)	7.52	(L)	4.90	(L)	5.18	(L)	7.30	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.53	(H)	0.38	(H)	0.44	(H)	0.44	(H)	0.34	(H)
m/p-Xylene	2.37	(H)	1.59	(H)	1.98	(H)	1.94	(H)	1.39	(H)
Styrene/o-xylene	1.71	(H)	1.22	(H)	1.42	(H)	1.31	(H)	0.71	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		0.24	(L)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A1. BRLA (Continued)

Sample Date	2/12/91		2/12/91		2/12/91		2/23/91	
Sample ID	1584R		1585D		1585R		1594	
Compound	Concentration, ppbv							
Acetylene	6.38	(L)	<1.00		10.87	(L)	<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		0.96	(L)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	1.17	(H)	0.74	(M)	0.65	(L)	0.47	(M)
Carbon tetrachloride	0.33	(L)	0.34	(L)	0.32	(L)	0.38	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04	
Benzene	2.10	(L)	2.08	(M)	2.06	(M)	1.13	(M)
Trichloroethylene	<0.004		0.28	(L)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04	
Toluene	3.25	(L)	2.91	(H)	3.00	(L)	1.46	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	1.84	(L)	7.27	(L)	7.24	(L)	0.50	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.39	(L)	0.34	(H)	0.37	(H)	0.07	(M)
m/p-Xylene	1.48	(L)	1.36	(H)	1.37	(H)	0.26	(H)
Styrene/o-xylene	0.78	(L)	0.72	(H)	0.72	(H)	0.21	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.02	(L)	<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		0.41	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level
R Replicate analysis D Duplicate sample

TABLE A2. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR C4IL

Sample Date	3/12/90		3/12/90		3/12/90		3/12/90		3/24/90	
Sample ID	1167D		1167R		1168D		1168R		1175	
Compound	Concentration, ppbv									
Acetylene	0.76	(L)	1.10	(L)	<1.00		0.97	(L)	<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	2.45	(L)	<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	0.90	(H)	0.59	(L)	1.16	(L)	0.84	(L)	25.05	(L)
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.36	(H)	0.39	(H)	0.37	(H)	0.36	(H)	1.96	(H)
Carbon tetrachloride	0.13	(L)	0.13	(L)	0.13	(L)	0.12	(L)	0.14	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.45	(H)	0.30	(H)	0.36	(H)	0.28	(H)	2.11	(M)
Trichloroethylene	<0.004		0.18	(M)	0.20	(L)	0.17	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		0.08	(M)	<0.04		1.09	(H)
Bromodichloromethane	0.04	(M)	<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.61	(M)	0.69	(H)	0.60	(M)	0.66	(M)	6.02	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.18	(L)	0.16	(L)	0.19	(L)	0.16	(L)	5.78	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.05	(M)	0.04	(H)	0.05	(H)	0.07	(H)	0.67	(H)
m/p-Xylene	0.25	(M)	0.20	(M)	0.22	(M)	0.21	(M)	4.69	(H)
Styrene/o-xylene	0.07	(M)	0.08	(H)	0.07	(M)	0.07	(H)	1.43	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	0.08	(M)	0.03	(H)	0.03	(L)	<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		0.02	(M)	<0.02		0.02	(H)
p-Dichlorobenzene	0.12	(M)	0.24	(M)	<0.09		0.28	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		0.88	(L)
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A2. C4IL (Continued)

Sample Date	4/05/90		4/17/90		4/29/90		5/11/90		5/11/90	
Sample ID	1196		1207		1219		1228D		1228R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.13	(M)	<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	8.69	(L)	5.15	(H)	<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		0.25	(H)	0.16	(H)	<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.06	(M)	<0.06		0.05	(H)	0.07	(H)	0.10	(H)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	1.20	(L)	0.71	(H)	0.89	(L)	0.67	(L)	0.60	(L)
Carbon tetrachloride	0.15	(L)	0.17	(L)	0.11	(L)	0.14	(L)	0.15	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.03	(M)	1.03	(L)	1.97	(H)	2.45	(H)	2.46	(H)
Trichloroethylene	<0.004		0.41	(L)	<0.004		0.32	(H)	0.41	(L)
1,2-Dichloropropane	0.73	(H)	<0.04		1.03	(H)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	3.66	(M)	2.64	(H)	3.52	(M)	1.95	(M)	1.84	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		0.16	(L)	<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		0.02	(L)	<0.02		<0.02	
Tetrachloroethylene	2.50	(L)	0.73	(L)	0.62	(L)	0.92	(L)	0.94	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		0.03	(H)	0.01	(M)
Ethylbenzene	0.44	(M)	0.19	(M)	0.51	(M)	0.22	(M)	0.21	(M)
m/p-Xylene	3.12	(M)	1.26	(M)	3.57	(H)	1.19	(M)	1.20	(M)
Styrene/o-xylene	1.00	(M)	0.41	(M)	1.33	(H)	0.41	(M)	0.39	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.03	(M)	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.17	(L)	0.08	(M)	<0.09		0.10	(M)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		0.07	(M)	0.08	(H)
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A2. C4IL (Continued)

Sample Date	5/11/90		5/11/90		5/23/90		6/04/90		6/16/90	
Sample ID	1229D		1229R		1244		1261		1268	
Compound	Concentration, ppbv									
Acetylene	<1.00		2.08	(L)	<1.00		<1.00		2.00	(L)
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		0.18	(H)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		7.29	(L)	7.18	(L)	7.40	(H)
trans-1,2-Dichloroethylene	0.14	(H)	0.13	(M)	<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		0.27	(M)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.64	(M)	0.60	(L)	1.55	(M)	1.41	(L)	0.99	(L)
Carbon tetrachloride	0.17	(L)	0.16	(L)	0.11	(L)	0.22	(L)	0.24	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.29	(H)	2.31	(H)	3.58	(H)	1.18	(H)	2.13	(H)
Trichloroethylene	0.30	(M)	0.28	(H)	0.42	(L)	<0.004		0.83	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.87	(M)	1.91	(M)	8.38	(H)	2.96	(H)	3.92	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		0.76	(M)	<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		0.04	(L)
Tetrachloroethylene	0.89	(L)	0.96	(L)	2.80	(L)	1.32	(L)	1.14	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.02	(H)	0.02	(L)	0.04	(L)	<0.02		0.03	(L)
Ethylbenzene	0.21	(M)	0.22	(M)	1.26	(H)	0.40	(H)	0.48	(H)
m/p-Xylene	1.22	(M)	1.23	(M)	8.68	(H)	2.75	(H)	2.71	(H)
Styrene/o-xylene	0.38	(M)	0.43	(M)	2.86	(H)	1.15	(H)	1.51	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		0.01	(L)	<0.02	
p-Dichlorobenzene	0.10	(M)	0.09	(H)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	0.09	(M)	0.14	(M)	<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A2. C4IL (Continued)

Sample Date	6/28/90		7/10/90		7/22/90		8/03/90		8/16/90	
Sample ID	1285		1291		1314		1324		1343	
Compound	Concentration, ppbv									
Acetylene	<1.00		11.70	(L)	<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		0.12	(H)	0.10	(H)	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	19.98	(H)	3.83	(M)	3.15	(L)	<0.11		<0.11	
trans-1,2-Dichloroethylene	0.94	(L)	<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	1.05	(H)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.94	(L)	1.08	(L)	1.09	(L)	0.55	(L)	0.63	(L)
Carbon tetrachloride	0.12	(L)	0.15	(L)	0.40	(L)	0.13	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.43	(L)	1.73	(L)	5.51	(H)	0.41	(H)	1.00	(H)
Trichloroethylene	<0.004		0.02	(L)	0.26	(L)	<0.004		0.26	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		0.70	(L)
Toluene	2.99	(L)	1.99	(M)	1.88	(L)	1.18	(L)	2.08	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		0.32	(L)	<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.71	(L)	0.51	(L)	1.44	(L)	0.18	(L)	0.67	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.53	(L)	0.24	(L)	1.46	(M)	0.27	(M)	0.26	(H)
m/p-Xylene	3.27	(L)	1.32	(L)	8.74	(H)	1.43	(M)	1.64	(H)
Styrene/o-xylene	1.25	(L)	0.54	(L)	2.29	(H)	0.50	(H)	0.43	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		1.04	(H)	<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		0.10	(L)	<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		0.10	(L)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		5.62	(L)	<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A2. C4IL (Continued)

Sample Date	8/27/90		9/08/90		9/08/90		9/08/90		9/08/90	
Sample ID	1352		1375D		1375R		1376D		1376R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	8.50	(H)	<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	10.66	(M)	<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.82	(L)	0.32	(L)	0.41	(L)	0.35	(L)	0.37	(L)
Carbon tetrachloride	0.13	(L)	0.14	(L)	0.14	(L)	0.14	(L)	0.14	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.13	(M)	2.03	(L)	2.04	(H)	1.97	(H)	1.98	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		0.16	(M)	<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.04	(M)	2.11	(H)	2.36	(L)	2.36	(H)	2.22	(H)
n-Octane	1.36	(M)	<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.19	(L)	0.42	(L)	0.54	(L)	0.70	(L)	0.62	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		0.10	(H)	<0.02	
Ethylbenzene	0.20	(H)	0.42	(L)	0.36	(M)	0.36	(M)	0.40	(M)
m/p-Xylene	1.11	(H)	1.51	(L)	1.52	(M)	1.52	(M)	1.50	(M)
Styrene/o-xylene	0.41	(H)	0.69	(L)	0.69	(H)	0.70	(H)	0.70	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	0.05	(L)	<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.27	(L)	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		0.43	(L)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		5.46	(L)	5.32	(L)	5.43	(L)	4.58	(M)

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A2. C4IL (Continued)

Sample Date	9/20/90		10/02/90		10/15/90		10/26/90		11/09/90	
Sample ID	1391		1407		1421		1436		1452	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		4.67	(H)	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		0.26	(M)	<0.04	
1,1-Dichloroethane	<0.04		0.49	(L)	<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.16	(H)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	1.85	(H)	1.00	(M)	0.53	(L)	1.83	(L)	1.26	(L)
Carbon tetrachloride	0.15	(L)	0.16	(L)	0.16	(L)	0.16	(L)	0.11	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.68	(H)	0.09	(M)	0.75	(H)	2.43	(H)	1.20	(L)
Trichloroethylene	0.79	(H)	<0.004		0.10	(L)	0.11	(H)	0.74	(M)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	1.45	(L)	<0.04		<0.04		<0.04		<0.04	
Toluene	7.46	(M)	8.53	(H)	1.87	(M)	5.69	(H)	4.11	(H)
n-Octane	<0.03		1.83	(H)	<0.03		0.46	(H)	<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	3.76	(L)	2.76	(L)	0.64	(L)	2.69	(L)	0.80	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.62	(M)	0.70	(M)	0.17	(L)	0.53	(M)	0.30	(M)
m/p-Xylene	2.84	(M)	3.93	(H)	0.70	(L)	2.43	(H)	1.25	(M)
Styrene/o-xylene	1.21	(H)	1.71	(H)	0.38	(H)	1.12	(H)	0.67	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		1.48	(L)	<0.09		0.30	(L)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		14.97	(M)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A2. C41L (Continued)

Sample Date	11/19/90		12/01/90		12/14/90		12/28/90		1/06/91	
Sample ID	1475		1483		1504		1525		1537D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.70	(M)	0.46	(L)	0.73	(L)	0.28	(L)	0.49	(L)
Carbon tetrachloride	0.16	(L)	0.16	(L)	0.61	(L)	0.15	(L)	0.85	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.71	(M)	0.75	(H)	0.84	(M)	0.79	(H)	1.22	(M)
Trichloroethylene	<0.004		0.17	(L)	<0.004		0.10	(L)	0.27	(M)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.48	(M)	1.27	(M)	0.87	(L)	0.97	(M)	1.88	(H)
n-Octane	0.24	(L)	<0.03		0.04	(H)	0.13	(H)	<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		0.03	(L)	<0.02		<0.02	
Tetrachloroethylene	1.62	(L)	0.85	(L)	2.03	(L)	0.44	(L)	0.44	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.46	(L)	0.13	(L)	0.10	(L)	0.12	(L)	0.27	(M)
m/p-Xylene	1.09	(L)	0.46	(L)	0.36	(L)	0.40	(L)	0.52	(M)
Styrene/o-xylene	0.51	(M)	0.26	(M)	0.16	(L)	0.23	(M)	0.28	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.24	(H)	0.12	(L)	0.23	(L)	0.17	(M)
o-Dichlorobenzene	<0.02		<0.02		0.05	(L)	<0.02		<0.02	
Propylene	<0.10		<0.10		3.05	(H)	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

D Duplicate sample

TABLE A2. C4IL (Continued)

Sample Date	1/06/91		1/06/91		1/06/91		1/30/91		2/11/91	
Sample ID	1537R		1538D		1538R		1557		1577	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.47	(L)	0.36	(L)	0.40	(M)	3.50	(L)	7.94	(L)
Carbon tetrachloride	0.20	(L)	0.19	(L)	0.92	(L)	1.04	(L)	3.48	(H)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.15	(L)	1.31	(M)	1.01	(L)	1.44	(L)	1.27	(H)
Trichloroethylene	0.23	(L)	0.28	(H)	<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.71	(M)	1.90	(L)	1.80	(M)	2.86	(H)	1.60	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.04	(L)	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.48	(L)	0.46	(L)	0.54	(L)	2.69	(L)	3.78	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.24	(M)	0.26	(M)	0.20	(L)	0.21	(H)	0.22	(H)
m/p-Xylene	0.50	(M)	0.56	(M)	0.43	(L)	0.87	(H)	0.78	(H)
Styrene/o-xylene	0.26	(M)	0.28	(H)	0.03	(L)	0.43	(H)	0.98	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.06	(M)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		0.29	(L)	<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A2. C4IL (Continued)

Sample Date	2/23/91	
Sample ID	1593	
Compound	Concentration, ppbv	
Acetylene	<1.00	
1,3-Butadiene	<0.10	
Vinyl chloride	<0.20	
Chloromethane	<0.20	
Chloroethane	<0.10	
Bromomethane	<0.20	
Methylene chloride	<0.11	
trans-1,2-Dichloroethylene	<0.04	
1,1-Dichloroethane	<0.04	
Chloroprene	<0.06	
Bromochloromethane	<0.003	
Chloroform	<0.006	
1,1,1-Trichloroethane	5.58	(L)
Carbon tetrachloride	3.13	(L)
1,2-Dichloroethane	<0.04	
Benzene	0.91	(H)
Trichloroethylene	0.74	(L)
1,2-Dichloropropane	<0.04	
Bromodichloromethane	<0.001	
trans-1,3-Dichloropropylene	<0.04	
Toluene	0.64	(H)
n-Octane	<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04	
cis-1,3-Dichloropropylene	<0.04	
1,1,2-Trichloroethane	<0.02	
Tetrachloroethylene	1.48	(L)
Dibromochloromethane	<0.001	
Chlorobenzene	<0.02	
Ethylbenzene	0.06	(M)
m/p-Xylene	0.24	(H)
Styrene/o-xylene	0.13	(H)
Bromoform	<0.001	
1,1,2,2-Tetrachloroethane	<0.002	
m-Dichlorobenzene	<0.02	
p-Dichlorobenzene	<0.09	
o-Dichlorobenzene	<0.02	
Propylene	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level

TABLE A3. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR CANJ

Sample Date	3/12/90		3/24/90		4/05/90		4/05/90		4/05/90	
Sample ID	1166		1178		1189D		1189R		1190D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.95	(M)	<0.10		0.16	(M)	<0.10		0.16	(M)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		0.09	(M)	<0.20		<0.20	
Methylene chloride	<0.11		2.35	(H)	<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.04	(H)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.57	(L)	0.36	(M)	0.35	(L)	0.37	(L)	0.34	(L)
Carbon tetrachloride	0.16	(L)	0.15	(L)	0.13	(L)	0.15	(L)	0.13	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	3.20	(H)	0.79	(H)	1.30	(H)	1.26	(H)	1.28	(H)
Trichloroethylene	0.13	(L)	0.17	(L)	0.08	(L)	0.11	(L)	0.09	(L)
1,2-Dichloropropane	0.99	(H)	<0.04		<0.04		0.49	(L)	<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	5.37	(M)	1.08	(H)	1.73	(L)	1.72	(M)	1.70	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.70	(L)	0.83	(L)	0.44	(L)	0.45	(L)	0.45	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.58	(H)	0.14	(M)	0.17	(M)	0.17	(M)	0.17	(M)
m/p-Xylene	3.71	(H)	0.76	(H)	1.10	(M)	1.11	(M)	1.12	(M)
Styrene/o-xylene	1.34	(H)	0.30	(M)	0.37	(M)	0.37	(M)	0.41	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	0.88	(M)	0.22	(H)	<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.17	(L)	0.15	(M)	0.15	(M)	0.23	(H)
o-Dichlorobenzene	<0.02		0.36	(L)	<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A3. CANJ (Continued)

Sample Date	4/05/90		4/17/90		4/29/90		5/11/90		5/23/90	
Sample ID	1190R		1200		1215		1232		1242	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		1.14	(L)	1.31	(L)	<1.00	
1,3-Butadiene	<0.10		0.15	(L)	<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		0.04	(H)	0.10	(L)
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.33	(H)	<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.33	(L)	0.58	(L)	0.24	(M)	0.30	(L)	0.60	(H)
Carbon tetrachloride	0.14	(L)	0.15	(L)	0.14	(L)	0.15	(L)	0.15	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.29	(H)	0.98	(H)	0.41	(H)	0.64	(H)	1.02	(H)
Trichloroethylene	<0.004		0.16	(M)	<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		0.34	(H)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.70	(M)	1.43	(M)	0.79	(M)	0.99	(L)	2.06	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		0.08	(H)	<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.02	(L)	<0.02		<0.02		<0.02	
Tetrachloroethylene	0.47	(L)	0.36	(L)	0.16	(L)	0.34	(L)	1.30	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.18	(M)	0.13	(L)	0.06	(H)	0.10	(M)	0.19	(M)
m/p-Xylene	1.12	(M)	0.76	(L)	0.30	(M)	0.56	(L)	1.12	(H)
Styrene/o-xylene	0.38	(M)	0.26	(M)	0.12	(M)	0.17	(M)	0.44	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		0.24	(M)	0.21	(H)	<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.28	(L)	0.15	(H)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		0.24	(H)	<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis

TABLE A3. CANJ (Continued)

Sample Date	6/04/90		6/16/90		6/28/90		7/10/90		7/22/90	
Sample ID	1260		1270		1282		1288		1310	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		5.27	(L)	<1.00	
1,3-Butadiene	<0.10		0.03	(L)	<0.10		0.18	(H)	<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		0.49	(L)	<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		0.74	(H)	0.42	(M)	<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.80	(H)	0.84	(L)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.44	(L)	0.40	(L)	0.60	(L)	0.37	(L)	0.37	(L)
Carbon tetrachloride	0.23	(L)	0.17	(L)	0.10	(L)	0.12	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.10	(M)	0.90	(H)	1.26	(L)	2.00	(M)	0.81	(L)
Trichloroethylene	0.23	(L)	<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		0.95	(H)	0.63	(M)	<0.04	
Bromodichloromethane	0.07	(H)	0.04	(M)	<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.29	(H)	1.66	(L)	1.79	(L)	2.71	(L)	1.47	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		3.36	(H)	<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.50	(L)	0.49	(L)	0.43	(L)	0.26	(L)	0.09	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.01	(L)	<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.12	(H)	0.16	(L)	0.19	(L)	0.30	(L)	0.14	(L)
m/p-Xylene	0.73	(H)	0.87	(L)	1.03	(L)	1.62	(L)	1.12	(L)
Styrene/o-xylene	0.28	(H)	0.41	(L)	0.38	(L)	0.73	(L)	0.47	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.06	(L)	<0.02		0.55	(L)	1.20	(M)	<0.02	
p-Dichlorobenzene	<0.09		0.30	(L)	0.07	(L)	0.17	(H)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		6.08	(H)	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A3. CANJ (Continued)

Sample Date	8/03/90		8/15/90		8/27/90		9/08/90		9/20/90	
Sample ID	1319		1337		1361		1369		1384	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		0.28	(L)	<0.10		<0.10		0.04	(H)
Vinyl chloride	<0.20		<0.20		17.56	(H)	<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		15.32	(M)	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.21	(M)	<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.53	(L)	1.14	(L)	1.54	(L)	0.23	(L)	0.40	(L)
Carbon tetrachloride	0.10	(L)	0.13	(L)	0.12	(L)	0.13	(L)	0.14	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.13	(H)	2.01	(H)	3.35	(L)	0.31	(H)	0.80	(H)
Trichloroethylene	<0.004		<0.004		0.63	(L)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	3.00	(L)	4.32	(H)	3.70	(M)	0.76	(M)	2.27	(H)
n-Octane	<0.03		<0.03		1.23	(M)	<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.06	(H)	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.21	(M)	0.90	(L)	0.46	(L)	0.16	(L)	0.93	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		0.03	(L)
Ethylbenzene	0.44	(H)	0.40	(M)	0.48	(L)	0.07	(L)	0.22	(M)
m/p-Xylene	1.67	(H)	2.56	(H)	2.45	(L)	0.31	(L)	0.86	(M)
Styrene/o-xylene	0.85	(H)	1.10	(L)	2.09	(L)	0.20	(L)	0.48	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		0.02	(H)	<0.002		<0.002	
m-Dichlorobenzene	<0.02		1.67	(L)	<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.68	(L)	<0.09		<0.09		<0.09		0.08	(H)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		1.18	(L)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A3. CANJ (Continued)

Sample Date	10/02/90		10/14/90		10/26/90		11/07/90		11/07/90	
Sample ID	1403		1422		1438		1463D		1463R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.04	(L)	<0.06		0.01	(H)	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.44	(L)	0.48	(L)	0.48	(L)	0.52	(L)	0.52	(L)
Carbon tetrachloride	0.15	(L)	0.14	(L)	0.15	(L)	0.16	(L)	0.16	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.50	(L)	1.33	(H)	0.63	(L)	0.99	(H)	0.96	(H)
Trichloroethylene	<0.004		<0.004		<0.004		0.62	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	3.54	(H)	3.07	(H)	0.94	(H)	2.26	(M)	2.19	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.82	(L)	0.35	(L)	0.28	(L)	1.28	(L)	1.16	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.20	(L)	0.30	(M)	0.09	(L)	0.20	(L)	0.66	(M)
m/p-Xylene	0.91	(L)	1.49	(M)	0.43	(L)	0.92	(L)	1.29	(M)
Styrene/o-xylene	0.48	(L)	0.75	(H)	0.18	(L)	0.49	(M)	0.48	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.26	(L)	<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		6.58	(H)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A3. CANJ (Continued)

Sample Date	11/07/90		11/07/90		11/19/90		12/01/90		12/13/90	
Sample ID	1464D		1464R		1472		1494		1505	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.09	(H)	<0.10		0.07	(H)	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		0.19	(M)	<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.07	(L)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.50	(M)	0.52	(M)	0.46	(L)	0.38	(L)	0.61	(L)
Carbon tetrachloride	0.14	(L)	0.13	(L)	0.50	(L)	0.15	(L)	0.19	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.94	(H)	0.91	(H)	0.66	(L)	2.28	(L)	1.52	(H)
Trichloroethylene	0.38	(H)	0.24	(M)	0.19	(M)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.34	(M)	2.25	(M)	1.50	(M)	3.56	(H)	2.18	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		0.30	(H)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		0.11	(M)	0.03	(H)
Tetrachloroethylene	1.25	(L)	1.21	(L)	1.12	(L)	0.65	(L)	1.28	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		0.05	(L)	<0.02	
Ethylbenzene	0.19	(L)	0.19	(L)	0.17	(L)	0.30	(L)	0.23	(L)
m/p-Xylene	0.89	(L)	0.87	(L)	0.70	(L)	1.40	(L)	0.92	(L)
Styrene/o-xylene	0.48	(M)	0.48	(M)	0.40	(M)	0.67	(L)	0.46	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.15	(H)	<0.09		<0.09		<0.09		0.15	(M)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	6.99	(M)	<0.10		3.54	(M)	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A3. CANJ (Continued)

Sample Date	12/25/90		12/25/90		12/25/90		12/25/90		1/06/91	
Sample ID	1513D		1513R		1514D		1514R		1531	
Compound	Concentration, ppbv									
Acetylene	1.76	(L)	<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		0.44	(L)
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		0.04	(L)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.51	(M)	0.50	(H)	0.50	(H)	0.51	(H)	0.43	(L)
Carbon tetrachloride	0.51	(L)	0.49	(L)	0.63	(L)	0.62	(L)	0.17	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.86	(L)	0.88	(L)	0.89	(L)	0.90	(M)	2.50	(H)
Trichloroethylene	<0.004		0.08	(L)	0.10	(L)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.90	(M)	0.96	(M)	0.97	(M)	0.97	(M)	2.50	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.12	(L)	0.12	(L)	0.14	(L)	0.14	(M)	0.37	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.09	(M)	0.09	(M)	0.09	(L)	0.09	(L)	0.23	(L)
m/p-Xylene	0.26	(L)	0.25	(L)	0.32	(L)	0.33	(L)	0.92	(M)
Styrene/o-xylene	0.13	(L)	0.15	(M)	0.18	(M)	0.18	(M)	0.67	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.06	(M)	0.09	(L)	<0.09		0.22	(M)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A3. CANJ (Continued)

Sample Date	1/18/91		1/30/91		2/11/91		2/11/91		2/11/91	
Sample ID	1548		1570		1586D		1586R		1587D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		0.06	(L)	<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.58	(L)	0.69	(L)	5.46	(L)	8.15	(L)	6.36	(L)
Carbon tetrachloride	0.18	(L)	0.27	(L)	2.57	(H)	2.57	(H)	2.77	(M)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.14	(H)	1.81	(H)	0.80	(H)	0.96	(H)	0.81	(H)
Trichloroethylene	<0.004		<0.004		0.54	(L)	0.56	(L)	0.63	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	5.08	(H)	3.20	(H)	1.27	(H)	1.31	(H)	1.25	(H)
n-Octane	0.71	(H)	<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	1.85	(L)	1.99	(L)	1.84	(L)	1.65	(L)	1.84	(L)
Dibromochloromethane	<0.001		<0.001		0.08	(H)	<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.57	(H)	0.32	(H)	0.11	(H)	0.13	(H)	0.12	(H)
m/p-Xylene	2.33	(M)	1.19	(H)	0.45	(H)	0.44	(H)	0.49	(H)
Styrene/o-xylene	1.30	(H)	0.68	(H)	0.24	(H)	0.25	(H)	0.26	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.35	(M)	<0.09		<0.09		<0.09		0.22	(L)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		3.76	(H)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A3. CANJ (Continued)

Sample Date	2/11/91		2/23/91	
Sample ID	1587R		1597	
Compound	Concentration, ppbv			
Acetylene	<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20	
Chloromethane	<0.20		<0.20	
Chloroethane	<0.10		<0.10	
Bromomethane	<0.20		<0.20	
Methylene chloride	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04	
Chloroprene	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003	
Chloroform	<0.006		<0.006	
1,1,1-Trichloroethane	7.77	(L)	20.57	(L)
Carbon tetrachloride	2.94	(M)	0.73	(L)
1,2-Dichloroethane	<0.04		<0.04	
Benzene	0.91	(H)	2.92	(L)
Trichloroethylene	0.99	(L)	13.07	(L)
1,2-Dichloropropane	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		1.24	(L)
Toluene	1.23	(H)	52.26	(M)
n-Octane	<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02	
Tetrachloroethylene	2.06	(L)	5.46	(L)
Dibromochloromethane	<0.001		<0.001	
Chlorobenzene	<0.02		<0.02	
Ethylbenzene	0.13	(H)	2.97	(H)
m/p-Xylene	0.47	(H)	11.32	(H)
Styrene/o-xylene	0.29	(H)	6.40	(M)
Bromoform	<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02	
p-Dichlorobenzene	0.22	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02	
Propylene	4.28	(M)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level
R Replicate analysis

TABLE A4. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR H1TX

Sample Date	3/12/90		3/12/90		3/12/90		3/12/90		3/24/90	
Sample ID	1169D		1169R		1170D		1170R		1184	
Compound	Concentration, ppbv									
Acetylene	4.50	(L)	4.18	(L)	5.03	(L)	6.07	(L)	<1.00	
1,3-Butadiene	2.83	(H)	2.98	(M)	3.47	(M)	3.29	(M)	<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.35	(L)	0.33	(L)	0.33	(L)	0.33	(L)	0.29	(L)
Carbon tetrachloride	0.14	(L)	0.14	(L)	0.13	(L)	0.14	(L)	0.22	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.06	(L)	2.22	(H)	2.02	(H)	2.02	(H)	1.96	(L)
Trichloroethylene	<0.004		<0.004		0.06	(L)	0.06	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		0.55	(M)
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	3.35	(L)	3.60	(H)	3.42	(H)	3.47	(M)	2.11	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.13	(M)	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	<0.07		<0.07		<0.07		0.08	(L)	0.25	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		0.07	(L)	<0.02		0.07	(L)	0.02	(H)
Ethylbenzene	0.69	(L)	0.72	(H)	0.69	(H)	0.69	(H)	0.24	(H)
m/p-Xylene	1.52	(L)	1.60	(M)	1.06	(M)	1.56	(H)	1.11	(H)
Styrene/o-xylene	0.35	(L)	0.37	(L)	0.32	(L)	0.35	(L)	0.76	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		0.02	(M)
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		0.43	(L)	<0.09		<0.09	
o-Dichlorobenzene	0.09	(M)	<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A4. H1TX (Continued)

Sample Date	4/05/90		4/17/90		5/11/90		5/11/90		5/11/90	
Sample ID	1187		1210		1230D		1230R		1231D	
Compound	Concentration, ppbv									
Acetylene	8.54	(L)	6.11	(L)	<1.00		<1.00		4.00	(L)
1,3-Butadiene	1.17	(M)	1.02	(H)	0.37	(M)	<0.10		0.34	(M)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		0.87	(L)	<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.65	(M)	0.15	(L)	0.43	(H)	0.05	(H)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.31	(L)	0.30	(L)	0.26	(L)	0.24	(L)	0.28	(L)
Carbon tetrachloride	0.12	(L)	0.19	(L)	0.14	(L)	0.15	(L)	0.61	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.89	(L)	2.07	(H)	2.19	(L)	2.13	(H)	2.22	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	0.60	(H)	0.91	(M)	0.69	(M)	0.47	(M)	0.47	(M)
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.79	(L)	2.95	(M)	1.70	(L)	1.69	(M)	2.31	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		0.22	(M)	<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		0.16	(H)
Tetrachloroethylene	0.14	(L)	0.30	(L)	0.14	(L)	0.02	(L)	0.04	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.32	(L)	0.73	(H)	0.21	(H)	0.24	(M)	0.16	(M)
m/p-Xylene	3.65	(L)	2.94	(M)	0.88	(M)	0.85	(M)	0.83	(M)
Styrene/o-xylene	0.63	(L)	0.98	(H)	0.35	(M)	0.34	(M)	0.32	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	0.09	(L)	<0.02		<0.02		0.07	(L)	<0.02	
Propylene	17.79	(L)	29.28	(L)	<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A4. H1TX (Continued)

Sample Date	5/11/90		5/23/90		6/04/90		6/16/90		7/10/90	
Sample ID	1231R		1245		1255		1267		1299	
Compound	Concentration, ppbv									
Acetylene	<1.00		4.29	(L)	<1.00		<1.00		<1.00	
1,3-Butadiene	0.25	(L)	0.41	(M)	0.38	(L)	0.35	(H)	<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	0.80	(L)	<0.04		0.59	(M)	<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		0.03	(L)	<0.04	
Chloroprene	0.04	(H)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		0.18	(L)	0.27	(L)	0.33	(L)
1,1,1-Trichloroethane	0.32	(L)	0.31	(L)	0.31	(L)	0.24	(L)	0.20	(L)
Carbon tetrachloride	0.18	(L)	0.31	(L)	0.29	(L)	0.11	(L)	0.65	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.15	(H)	2.00	(H)	2.02	(M)	0.60	(L)	1.83	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		0.49	(L)	<0.04		0.15	(H)
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.68	(M)	1.67	(M)	2.37	(H)	1.82	(H)	2.54	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		0.02	(L)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.06	(L)	0.41	(L)	0.11	(L)	0.04	(L)	<0.07	
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		0.03	(L)	<0.02		<0.02		<0.02	
Ethylbenzene	0.16	(M)	0.46	(H)	0.42	(L)	0.24	(H)	0.36	(L)
m/p-Xylene	0.81	(M)	1.00	(H)	1.61	(H)	1.46	(H)	1.74	(L)
Styrene/o-xylene	0.31	(L)	0.41	(H)	0.71	(H)	0.59	(H)	0.76	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		0.02	(H)	<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		0.20	(L)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		0.22	(L)
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis

TABLE A4. H1TX (Continued)

Sample Date	7/22/90		8/03/90		8/15/90		8/27/90		9/08/90	
Sample ID	1308		1323		1334		1357		1373D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.32	(M)	0.23	(M)	<0.10		<0.10		0.25	(M)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	1.80	(L)	<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	0.72	(L)	0.63	(L)	0.27	(H)	<0.006		0.28	(H)
1,1,1-Trichloroethane	0.20	(L)	0.59	(L)	0.12	(L)	0.25	(L)	0.33	(L)
Carbon tetrachloride	0.14	(L)	0.13	(L)	0.06	(L)	0.13	(L)	0.13	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.18	(L)	1.27	(H)	0.82	(H)	3.00	(L)	0.91	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	0.33	(M)	0.49	(M)	0.51	(L)	0.04	(H)	<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.68	(L)	2.21	(L)	1.61	(H)	2.09	(H)	1.71	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.17	(H)	0.07	(H)	<0.02		<0.02	
Tetrachloroethylene	0.10	(L)	0.05	(L)	0.05	(L)	<0.07		0.03	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.24	(L)	0.36	(H)	0.26	(L)	0.32	(M)	0.32	(H)
m/p-Xylene	1.31	(L)	2.21	(H)	1.99	(L)	1.92	(L)	1.02	(H)
Styrene/o-xylene	0.55	(L)	0.71	(H)	0.63	(L)	0.70	(L)	0.49	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		0.06	(L)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

D Duplicate sample

TABLE A4. HITX (Continued)

Sample Date	9/08/90		9/08/90		9/08/90		9/20/90		10/02/90	
Sample ID	1373R		1374D		1374R		1390		1413	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.24	(M)	0.22	(H)	<0.10		<0.10		0.56	(L)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.55	(L)	0.09	(M)	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	0.29	(M)	0.30	(L)	0.28	(L)	<0.006		<0.006	
1,1,1-Trichloroethane	0.34	(L)	0.34	(L)	0.35	(L)	0.40	(L)	0.55	(L)
Carbon tetrachloride	0.14	(L)	0.13	(L)	0.14	(L)	0.14	(L)	0.29	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.87	(H)	0.81	(H)	0.84	(H)	2.09	(H)	4.54	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		0.19	(M)	<0.04		0.64	(M)	1.26	(H)
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.69	(H)	1.93	(L)	1.82	(H)	3.79	(H)	1.97	(L)
n-Octane	<0.03		0.79	(M)	<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.04	(L)	0.06	(M)	0.03	(L)	0.03	(L)	1.36	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.02	(H)	<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.29	(M)	0.36	(H)	0.30	(H)	0.79	(H)	1.80	(L)
m/p-Xylene	0.90	(H)	1.16	(H)	0.90	(H)	2.19	(H)	3.55	(L)
Styrene/o-xylene	0.50	(H)	0.56	(H)	0.56	(H)	0.80	(H)	2.67	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		1.40	(H)	<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		0.09	(L)	<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A4. H1TX (Continued)

Sample Date	10/14/90		10/26/90		11/07/90		11/19/90		12/01/90	
Sample ID	1426		1435		1451		1474		1488	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		0.78	(M)	<0.10		0.73	(H)	1.57	(H)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		0.04	(H)	0.21	(H)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.40	(L)	0.38	(L)	0.26	(L)	0.27	(L)	0.28	(L)
Carbon tetrachloride	0.17	(L)	0.25	(L)	0.22	(L)	0.27	(L)	0.34	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	14.04	(H)	3.10	(H)	1.98	(H)	3.28	(L)	2.12	(L)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	1.00	(M)	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	14.22	(L)	5.26	(H)	2.70	(H)	3.09	(L)	3.36	(H)
n-Octane	<0.03		0.52	(M)	<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.04	(H)	<0.02		<0.02		<0.02	
Tetrachloroethylene	0.07	(L)	0.71	(L)	0.32	(L)	0.16	(L)	0.25	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.72	(H)	0.60	(H)	0.29	(H)	0.44	(L)	0.44	(L)
m/p-Xylene	3.34	(H)	2.55	(M)	1.03	(M)	1.33	(L)	0.98	(L)
Styrene/o-xylene	1.26	(H)	1.26	(H)	0.73	(H)	0.79	(M)	0.61	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.40	(M)	0.16	(L)	0.85	(M)	<0.09	
o-Dichlorobenzene	0.29	(L)	<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A4. H1TX (Continued)

Sample Date	12/13/90		12/25/90		1/06/91		1/06/91		1/06/91	
Sample ID	1502		1519		1539D		1539R		1540D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.62	(H)	0.31	(M)	0.51	(M)	0.37	(H)	0.37	(H)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	0.31	(H)	<0.006		0.06	(H)	0.07	(M)	<0.006	
1,1,1-Trichloroethane	0.46	(L)	0.25	(L)	0.27	(L)	0.29	(L)	0.24	(L)
Carbon tetrachloride	0.20	(L)	0.18	(L)	0.21	(L)	0.22	(L)	0.20	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	3.47	(H)	2.73	(L)	6.18	(H)	5.76	(H)	5.88	(H)
Trichloroethylene	<0.004		0.07	(L)	<0.004		0.02	(L)	0.02	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	5.11	(M)	2.25	(H)	3.50	(M)	3.24	(L)	3.38	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.27	(L)	0.13	(M)	0.18	(L)	0.31	(L)	0.54	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.66	(M)	0.29	(M)	0.34	(M)	0.36	(H)	0.33	(M)
m/p-Xylene	4.20	(L)	0.66	(L)	1.67	(M)	1.62	(M)	1.62	(M)
Styrene/o-xylene	1.55	(H)	0.60	(M)	0.72	(H)	0.68	(H)	0.73	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.12	(L)	0.18	(L)	0.13	(M)	0.17	(L)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A4. H1TX (Continued)

Sample Date	1/06/91		1/18/91		1/30/91		2/11/91		2/23/91	
Sample ID	1540R		1544		1558		1574		1598	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.12	(L)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	0.09	(M)	<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.26	(L)	0.27	(L)	0.42	(L)	0.77	(L)	1.87	(H)
Carbon tetrachloride	0.22	(L)	0.16	(L)	0.30	(L)	0.50	(L)	0.36	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	5.73	(H)	1.36	(H)	1.22	(H)	3.10	(M)	2.73	(M)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		0.39	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	3.30	(L)	1.38	(H)	1.51	(H)	3.80	(H)	5.31	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.03	(H)	<0.02		<0.02		<0.02	
Tetrachloroethylene	0.23	(L)	0.39	(L)	1.60	(L)	1.48	(L)	1.56	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.34	(M)	0.28	(M)	0.21	(H)	0.57	(H)	0.64	(H)
m/p-Xylene	1.51	(M)	0.57	(M)	0.61	(H)	1.54	(H)	1.95	(H)
Styrene/o-xylene	0.66	(M)	0.39	(H)	0.36	(H)	0.82	(H)	0.97	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.01	(L)	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.17	(M)	0.17	(L)	0.18	(L)	0.60	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		0.08	(M)	<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level
R Replicate analysis

TABLE A5. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR ORFL

Sample Date	7/10/90		7/16/90		7/22/90		7/28/90		8/03/90	
Sample ID	1290		1302		1307		1316		1320	
Compound	Concentration, ppbv									
Acetylene	9.64	(L)	<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		0.04	(H)	<0.10		0.06	(L)	0.11	(H)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	1.88	(L)	<0.11		<0.11		31.52	(L)	<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		0.12	(M)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.16	(L)	0.44	(M)	0.20	(L)	8.20	(L)	0.32	(H)
Carbon tetrachloride	0.10	(L)	0.11	(L)	0.11	(L)	0.21	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.97	(M)	0.46	(H)	0.41	(H)	0.85	(L)	0.72	(H)
Trichloroethylene	<0.004		1.64	(H)	<0.004		0.26	(L)	<0.004	
1,2-Dichloropropane	<0.04		0.28	(L)	<0.04		<0.04		0.14	(H)
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.92	(L)	48.62	(H)	1.13	(L)	32.96	(L)	1.78	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		0.09	(L)	<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		0.04	(M)	<0.02		0.06	(L)
Tetrachloroethylene	0.10	(L)	3.77	(L)	0.05	(L)	3.97	(L)	0.12	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.02	(H)	<0.02		<0.02		0.88	(L)	<0.02	
Ethylbenzene	0.12	(L)	3.31	(H)	0.26	(L)	3.80	(L)	0.40	(M)
m/p-Xylene	0.74	(L)	17.61	(H)	0.74	(L)	18.17	(L)	1.26	(H)
Styrene/o-xylene	0.35	(M)	4.82	(H)	0.44	(L)	12.53	(L)	0.61	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.05	(L)	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.42	(M)	<0.09		0.21	(L)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	4.10	(M)	<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A5. ORFL (Continued)

Sample Date	8/09/90		8/15/90		8/27/90		9/02/90		9/08/90	
Sample ID	1332		1350		1359		1363		1377	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.13	(H)	0.10	(H)	0.10	(H)	0.03	(L)	<0.10	
Vinyl chloride	<0.20		8.67	(H)	<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	6.73	(H)	1.76	(L)	<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		0.91	(L)	<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.13	(M)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		0.07	(H)	0.18	(L)	<0.006	
1,1,1-Trichloroethane	0.48	(L)	0.22	(L)	0.41	(L)	0.24	(L)	0.21	(L)
Carbon tetrachloride	0.14	(L)	0.11	(L)	0.11	(L)	0.13	(L)	0.13	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.67	(L)	1.20	(H)	1.20	(M)	0.49	(H)	0.45	(H)
Trichloroethylene	0.17	(L)	0.02	(L)	<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		0.12	(H)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		0.02	(L)	<0.04	
Toluene	1.89	(L)	1.54	(M)	1.50	(H)	2.35	(L)	1.13	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.04	(H)	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.20	(L)	0.36	(L)	0.17	(L)	0.02	(L)	0.33	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		0.03	(H)	<0.02	
Ethylbenzene	0.24	(L)	0.17	(H)	0.21	(L)	0.11	(M)	0.15	(H)
m/p-Xylene	1.26	(L)	1.23	(H)	1.06	(H)	0.51	(M)	0.63	(H)
Styrene/o-xylene	0.72	(M)	0.55	(L)	0.43	(H)	0.32	(H)	0.35	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		0.25	(M)	0.07	(H)	<0.002		<0.002	
m-Dichlorobenzene	0.17	(M)	<0.02		0.15	(L)	<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		0.16	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A5. ORFL (Continued)

Sample Date	9/14/90		9/20/90		9/26/90		9/26/90		9/26/90	
Sample ID	1383		1386		1397D		1397R		1398D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.24	(L)	0.28	(L)	<0.001		<0.001		<0.001	
Carbon tetrachloride	0.13	(L)	0.14	(L)	<0.001		<0.001		<0.001	
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.45	(H)	0.46	(H)	0.05	(H)	0.08	(H)	0.06	(H)
Trichloroethylene	<0.004		1.05	(H)	<0.004		<0.004		<0.004	
1,2-Dichloropropane	0.07	(H)	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.31	(L)	48.13	(H)	0.07	(H)	0.08	(M)	0.04	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.12	(H)	0.49	(L)	<0.07		<0.07		<0.07	
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.01	(M)	<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.28	(H)	1.39	(H)	<0.02		<0.02		<0.02	
m/p-Xylene	0.95	(H)	5.50	(H)	<0.04		<0.04		<0.04	
Styrene/o-xylene	0.33	(H)	2.25	(H)	<0.02		<0.02		<0.02	
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	0.07	(L)	<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.94	(L)	<0.09		<0.09		0.16	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		2.56	(M)	<0.10		<0.10		0.08	(H)

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A5. ORFL (Continued)

Sample Date	9/26/90		10/02/90		10/08/90		10/14/90		10/20/90	
Sample ID	1398R		1405		1418		1424		1432	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.30	(M)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	<0.001		0.33	(L)	0.25	(L)	0.30	(L)	0.24	(H)
Carbon tetrachloride	<0.001		0.14	(L)	0.14	(L)	0.14	(L)	0.14	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.06	(H)	0.86	(L)	0.39	(M)	0.59	(H)	0.55	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		0.07	(H)	0.08	(M)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		0.01	(H)	<0.04		<0.04	
Toluene	0.09	(L)	3.41	(H)	7.66	(H)	17.38	(H)	3.66	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	<0.07		0.22	(L)	0.05	(L)	0.22	(M)	0.12	(M)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		0.09	(H)
Ethylbenzene	<0.02		0.36	(H)	0.34	(M)	0.73	(H)	0.19	(H)
m/p-Xylene	<0.04		1.11	(H)	1.30	(M)	2.81	(H)	0.70	(H)
Styrene/o-xylene	<0.02		0.75	(H)	0.54	(H)	1.42	(H)	0.46	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.14	(L)	0.73	(L)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level

R Replicate analysis

(Continued)

TABLE A5. ORFL (Continued)

Sample Date	10/26/90		11/01/90		11/01/90		11/01/90		11/01/90	
Sample ID	1446		1449D		1449R		1450D		1450R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		0.03	(L)
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.21	(L)	0.24	(M)	0.29	(M)	0.25	(M)	0.25	(M)
Carbon tetrachloride	0.16	(L)	0.14	(L)	0.14	(L)	0.14	(L)	0.14	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.50	(H)	0.47	(H)	0.52	(H)	0.51	(H)	0.48	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		0.10	(H)	<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	4.10	(H)	0.99	(H)	0.99	(H)	0.99	(H)	0.93	(H)
n-Octane	<0.03		0.03	(H)	<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.24	(L)	0.20	(L)	0.14	(L)	0.14	(L)	0.15	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.17	(L)	0.09	(M)	0.09	(M)	0.10	(H)	0.09	(M)
m/p-Xylene	0.58	(L)	0.35	(M)	0.35	(M)	0.38	(M)	0.36	(M)
Styrene/o-xylene	0.32	(L)	0.20	(H)	0.19	(H)	0.23	(H)	0.21	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.44	(L)	0.41	(M)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A5. ORFL (Continued)

Sample Date	11/07/90		11/13/90		12/01/90		12/13/90		12/13/90	
Sample ID	1465		1466		1484		1508D		1508R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		0.81	(L)	<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		1.00	(H)	1.19	(M)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		0.42	(M)	0.58	(H)
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.34	(L)	0.25	(L)	0.24	(H)	1.24	(M)	1.28	(M)
Carbon tetrachloride	0.15	(L)	0.15	(L)	0.16	(L)	0.16	(L)	0.17	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.56	(L)	0.73	(H)	0.44	(H)	7.67	(H)	7.79	(H)
Trichloroethylene	<0.004		<0.004		<0.004		0.23	(L)	0.16	(L)
1,2-Dichloropropane	1.49	(H)	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	29.22	(H)	20.21	(H)	16.65	(H)	35.53	(H)	33.87	(H)
n-Octane	0.90	(H)	<0.03		<0.03		1.65	(L)	1.15	(H)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.30	(L)	0.68	(L)	0.13	(L)	8.83	(L)	8.90	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	1.24	(H)	1.01	(L)	0.62	(M)	2.54	(M)	2.60	(H)
m/p-Xylene	4.75	(H)	3.42	(L)	1.99	(H)	11.16	(H)	11.23	(H)
Styrene/o-xylene	2.20	(H)	1.81	(L)	1.11	(H)	5.99	(H)	5.99	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		2.78	(H)	1.90	(M)	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A5. ORFL (Continued)

Sample Date	12/13/90		12/13/90		1/06/91		1/18/91		1/18/91	
Sample ID	1509D		1509R		1533		1554D		1554R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		1.80	(L)
1,3-Butadiene	1.42	(H)	1.12	(H)	<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	0.68	(M)	0.58	(L)	<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	1.39	(L)	<0.06		0.12	(M)	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	1.46	(L)	1.35	(M)	32.39	(L)	0.26	(L)	0.33	(M)
Carbon tetrachloride	0.16	(L)	0.16	(L)	0.18	(L)	0.16	(L)	0.18	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	8.18	(H)	8.66	(H)	1.86	(H)	0.69	(H)	0.69	(H)
Trichloroethylene	0.23	(L)	0.21	(L)	1.06	(M)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		0.11	(H)	<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	34.85	(H)	35.31	(H)	87.79	(H)	16.02	(H)	16.15	(H)
n-Octane	1.58	(L)	<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	9.27	(L)	9.77	(L)	1.43	(L)	0.52	(L)	0.58	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	2.68	(H)	2.37	(L)	3.59	(H)	0.59	(H)	0.65	(M)
m/p-Xylene	11.56	(H)	11.32	(L)	11.90	(H)	2.14	(H)	2.10	(H)
Styrene/o-xylene	6.19	(H)	6.33	(L)	9.61	(H)	1.23	(H)	1.32	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A5. ORFL (Continued)

Sample Date	1/18/91		1/18/91		1/30/91		2/11/91		2/23/91	
Sample ID	1555O		1555R		1567		1580		1596	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		6.92	(L)	<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.31	(M)	0.34	(M)	0.54	(M)	0.64	(H)	88.48	(L)
Carbon tetrachloride	0.16	(L)	0.18	(L)	0.25	(L)	0.29	(L)	4.34	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.85	(H)	0.88	(M)	1.10	(H)	0.87	(M)	1.69	(L)
Trichloroethylene	<0.004		<0.004		0.17	(L)	0.23	(L)	29.64	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	16.00	(H)	16.00	(H)	8.28	(H)	19.47	(H)	195.83	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.47	(L)	0.68	(L)	0.89	(L)	0.64	(L)	15.08	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		0.68	(M)
Ethylbenzene	0.60	(L)	0.61	(H)	0.44	(H)	0.38	(H)	2.01	(H)
m/p-Xylene	2.18	(L)	2.13	(H)	1.68	(H)	1.18	(H)	6.45	(H)
Styrene/o-xylene	1.36	(L)	1.17	(H)	0.90	(H)	0.76	(H)	4.57	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		4.37	(H)	<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level
R Replicate analysis O Duplicate sample

TABLE A6. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR PEFL

Sample Date	2/10/90		2/22/90		3/12/90		3/24/90		3/24/90	
Sample ID	1158		1159		1174		1185D		1185R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		0.13	(M)	<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		7.86	(L)	9.17	(L)
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		0.38	(H)	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		23.13	(H)	<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.14	(L)	5.76	(H)	0.79	(M)	0.82	(H)	0.78	(M)
Carbon tetrachloride	0.13	(L)	0.16	(L)	0.14	(L)	0.13	(L)	0.13	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.26	(H)	0.97	(L)	0.43	(H)	1.26	(M)	1.36	(L)
Trichloroethylene	<0.004		<0.004		0.09	(L)	<0.004		<0.004	
1,2-Dichloropropane	0.12	(H)	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		0.09	(M)	0.06	(H)
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.24	(H)	3.32	(M)	3.81	(M)	2.43	(H)	2.57	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		0.02	(H)	<0.02	
Tetrachloroethylene	0.06	(L)	<0.07		0.13	(L)	0.15	(L)	0.13	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.06	(M)	0.38	(H)	0.06	(L)	0.23	(H)	0.26	(H)
m/p-Xylene	0.32	(H)	1.71	(L)	0.33	(L)	1.70	(H)	1.90	(H)
Styrene/o-xylene	0.08	(L)	0.60	(L)	0.15	(L)	0.58	(H)	0.67	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.24	(L)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		0.37	(L)	<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		483.94	(L)	553.03	(L)

(H) High confidence level (M) Medium confidence level (L) Low confidence level

R Replicate analysis D Duplicate sample

(Continued)

TABLE A6. PEFL (Continued)

Sample Date	3/24/90		3/24/90		4/05/90		4/17/90		4/29/90	
Sample ID	1186D		1186R		1194		1206		1213	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	0.04	(L)	<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		0.02	(M)	<0.20	
Methylene chloride	8.02	(L)	9.25	(L)	1.87	(L)	<0.11		3.38	(H)
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	1.20	(M)	1.15	(M)	0.19	(H)	2.74	(H)	0.32	(H)
Carbon tetrachloride	0.13	(L)	0.12	(L)	0.13	(L)	0.16	(L)	0.14	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.30	(L)	1.41	(M)	0.46	(M)	0.92	(H)	0.76	(H)
Trichloroethylene	<0.004		<0.004		<0.004		1.74	(H)	0.07	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	3.30	(M)	2.76	(H)	0.75	(H)	4.61	(M)	1.67	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		0.08	(L)	<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.01	(L)	0.01	(L)	<0.02		0.04	(H)	<0.02	
Tetrachloroethylene	0.14	(L)	0.14	(L)	0.13	(L)	0.38	(L)	0.06	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		0.17	(M)	<0.02	
Ethylbenzene	0.25	(H)	0.28	(H)	0.04	(L)	0.38	(H)	0.17	(M)
m/p-Xylene	1.81	(H)	1.95	(H)	0.24	(L)	2.09	(H)	1.05	(M)
Styrene/o-xylene	0.63	(H)	0.67	(H)	0.10	(L)	0.66	(L)	0.31	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		0.22	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	522.71	(L)	502.27	(L)	<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A6. PEFL (Continued)

Sample Date	5/11/90		5/23/90		5/23/90		5/23/90		5/23/90	
Sample ID	1225		1250D		1250R		1251D		1251R	
Compound	Concentration, ppbv									
Acetylene	<1.00		0.96	(L)	<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.12	(M)	<0.06		<0.06		0.16	(M)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.29	(H)	0.26	(L)	0.28	(M)	0.24	(H)	0.26	(H)
Carbon tetrachloride	0.15	(L)	0.15	(L)	0.15	(L)	0.15	(L)	0.15	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.41	(H)	0.43	(L)	0.44	(H)	0.46	(H)	0.50	(H)
Trichloroethylene	0.06	(L)	0.16	(L)	<0.004		0.02	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		0.02	(H)	<0.04	
Bromodichloromethane	<0.001		0.05	(L)	0.07	(L)	0.03	(L)	0.06	(L)
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.60	(L)	0.58	(H)	0.48	(M)	0.50	(M)	0.51	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.15	(L)	0.22	(L)	0.17	(L)	0.20	(L)	0.16	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.01	(H)	0.01	(H)	<0.02		<0.02		<0.02	
Ethylbenzene	0.06	(H)	0.08	(H)	0.06	(H)	0.06	(M)	0.11	(H)
m/p-Xylene	0.32	(L)	0.29	(H)	0.27	(M)	0.29	(M)	0.32	(H)
Styrene/o-xylene	0.12	(M)	0.12	(L)	0.13	(M)	0.12	(M)	0.12	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		0.01	(M)	<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.05	(L)	<0.02		0.02	(M)	<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A6. PEFL (Continued)

Sample Date	6/04/90		6/16/90		6/28/90		7/10/90		7/16/90	
Sample ID	1257		1263		1279		1298		1301	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		1.33	(L)	<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		0.17	(M)	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	3.18	(H)	1.23	(L)	0.96	(L)	0.38	(L)	0.49	(
Carbon tetrachloride	0.22	(L)	0.19	(L)	0.11	(L)	0.12	(L)	0.11	(
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.20	(L)	0.70	(L)	0.59	(L)	0.36	(H)	0.48	(
Trichloroethylene	1.08	(L)	0.34	(L)	<0.004		0.05	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	0.17	(L)	<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	68.42	(L)	13.40	(M)	1.17	(L)	2.12	(L)	1.39	(
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		0.01	(
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		0.02	(H)	<0.02		<0.02	
Tetrachloroethylene	0.22	(L)	0.26	(M)	<0.07		0.23	(L)	0.05	(
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.03	(H)	<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.85	(L)	0.24	(L)	0.16	(L)	0.15	(L)	0.11	(
m/p-Xylene	2.82	(L)	0.96	(M)	0.60	(L)	0.75	(L)	0.80	(
Styrene/o-xylene	0.79	(M)	0.44	(H)	0.35	(L)	0.51	(L)	0.40	(
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		0.06	(L)	0.09	(L)	<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		2.62	(L)	<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A6. PEFL (Continued)

Sample Date	7/22/90		7/28/90		8/03/90		8/09/90		8/15/90
Sample ID	1313		1318		1327		1330		1339
Compound	Concentration, ppbv								
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00
1,3-Butadiene	0.13	(M)	0.27	(L)	<0.10		<0.10		<0.10
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20
Methylene chloride	<0.11		20.06	(L)	<0.11		<0.11		<0.11
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Chloroprene	<0.06		<0.06		<0.06		<0.06		0.10
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006
1,1,1-Trichloroethane	0.32	(L)	7.73	(L)	11.95	(M)	1.37	(M)	20.02
Carbon tetrachloride	0.11	(L)	0.14	(L)	0.14	(L)	0.13	(L)	0.12
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Benzene	0.47	(L)	0.86	(M)	0.32	(M)	0.35	(H)	20.72
Trichloroethylene	<0.004		0.20	(L)	<0.004		0.50	(L)	4.56
1,2-Dichloropropane	<0.04		0.42	(M)	<0.04		<0.04		<0.04
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
Toluene	1.30	(H)	37.11	(L)	1.00	(H)	1.73	(H)	74.78
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
cis-1,3-Dichloropropylene	0.04	(L)	<0.04		<0.04		<0.04		<0.04
1,1,2-Trichloroethane	0.03	(H)	<0.02		<0.02		<0.02		<0.02
Tetrachloroethylene	<0.07		5.07	(L)	<0.07		0.04	(L)	3.22
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Ethylbenzene	0.20	(H)	1.28	(L)	<0.02		<0.02		4.19
m/p-Xylene	0.96	(L)	4.50	(L)	0.23	(L)	<0.04		20.78
Styrene/o-xylene	0.49	(L)	4.40	(L)	<0.02		0.28	(H)	18.03
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001
1,1,2,2-Tetrachloroethane	0.03	(M)	<0.002		<0.002		<0.002		<0.002
m-Dichlorobenzene	<0.02		5.11	(L)	<0.02		<0.02		<0.02
p-Dichlorobenzene	<0.09		1.65	(L)	<0.09		<0.09		<0.09
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		0.21
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A6. PEFL (Continued)

Sample Date	8/21/90		8/27/90		9/02/90		9/08/90		9/14/90	
Sample ID	1349		1353		1364		1368		1381	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		1.59	(L)	<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		0.04	(L)	<0.10		<0.10	
Vinyl chloride	<0.20		8.04	(H)	<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		4.38	(M)	<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.23	(H)	0.12	(H
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.35	(L)	0.35	(L)	9.52	(M)	0.07	(L)	0.49	(L
Carbon tetrachloride	0.13	(L)	0.12	(L)	0.12	(L)	0.01	(L)	0.13	(L
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.23	(H)	1.42	(H)	0.91	(H)	0.48	(M)	0.46	(H
Trichloroethylene	<0.004		<0.004		0.78	(H)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		0.94	(H)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.73	(M)	0.92	(L)	35.48	(H)	1.04	(H)	1.18	(H
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		2.76	(H)	<0.02		2.86	(H
Tetrachloroethylene	0.06	(L)	<0.07		2.14	(H)	0.02	(L)	0.02	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		0.45	(H)	<0.02		<0.02	
Ethylbenzene	0.25	(H)	0.15	(L)	1.27	(H)	0.11	(M)	0.09	(H
m/p-Xylene	1.56	(H)	0.84	(H)	2.25	(M)	0.44	(M)	0.62	(H
Styrene/o-xylene	0.63	(H)	0.28	(L)	3.93	(H)	0.27	(L)	0.39	(H
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		0.07	(H)	<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.17	(L)	1.26	(L)	<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		0.04	(L
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		1.15	(H)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A6. PEFL (Continued)

Sample Date	9/20/90		9/26/90		10/02/90		10/08/90		10/08/90	
Sample ID	1388		1402		1406		1415D		1415R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.12	(M)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	1.45	(L)	<0.001		0.79	(L)	0.24	(L)	0.32	(L
Carbon tetrachloride	0.15	(L)	<0.001		0.14	(L)	0.14	(L)	0.15	(L
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.60	(H)	0.04	(H)	0.55	(H)	0.84	(H)	0.98	(H
Trichloroethylene	0.06	(H)	<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	4.42	(H)	0.06	(L)	1.19	(L)	1.86	(H)	2.26	(H
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.06	(L)	<0.07		0.02	(L)	0.02	(L)	0.02	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.50	(L)	<0.02		0.12	(H)	0.15	(H)	0.36	(H
m/p-Xylene	2.62	(L)	<0.04		0.55	(M)	0.74	(H)	0.84	(L
Styrene/o-xylene	1.35	(L)	0.02	(L)	0.51	(H)	0.46	(H)	0.52	(M
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.73	(L)	<0.09		0.62	(L)	0.54	(M)	0.49	(M
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	1.60	(M)	<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A6. PEFL (Continued)

Sample Date	10/08/90		10/08/90		10/14/90		10/20/90		10/26/90	
Sample ID	1416D		1416R		1423		1431		1444	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.05	(H)	<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		0.12	(
Chloroprene	<0.06		<0.06		0.11	(M)	0.10	(L)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.29	(L)	0.27	(L)	0.41	(L)	0.17	(L)	0.81	(
Carbon tetrachloride	0.13	(L)	0.13	(L)	0.15	(L)	0.14	(L)	0.14	(
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.90	(H)	1.04	(H)	0.96	(H)	0.39	(H)	0.27	(
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		0.10	(
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.81	(L)	2.43	(M)	1.82	(H)	0.73	(H)	29.07	(
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.02	(L)	0.02	(L)	0.09	(L)	0.07	(L)	0.08	(
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.14	(L)	0.27	(H)	0.17	(M)	0.06	(H)	0.06	(
m/p-Xylene	0.68	(L)	0.79	(L)	0.74	(M)	0.18	(M)	0.21	(
Styrene/o-xylene	0.44	(M)	0.48	(M)	0.49	(H)	0.12	(H)	0.18	(
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.50	(L)	<0.09		0.61	(L)	0.30	(
o-Dichlorobenzene	0.10	(M)	<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A6. PEFL (Continued)

Sample Date	11/01/90		11/07/90		11/14/90		12/01/90		12/13/90
Sample ID	1448		1458		1467		1495		1500
Compound	Concentration, ppbv								
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10
Bromomethane	0.04	(H)	<0.20		<0.20		<0.20		<0.20
Methylene chloride	<0.11		<0.11		4.91	(H)	<0.11		<0.11
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Chloroprene	<0.06		<0.06		<0.06		0.07	(M)	<0.06
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006
1,1,1-Trichloroethane	0.25	(L)	0.57	(L)	0.29	(L)	0.18	(L)	0.48
Carbon tetrachloride	0.16	(L)	0.14	(L)	0.15	(L)	0.15	(L)	0.15
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Benzene	1.54	(M)	1.11	(H)	1.08	(H)	0.33	(H)	1.51
Trichloroethylene	0.11	(H)	0.05	(L)	<0.004		<0.004		<0.004
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04
Bromodichloromethane	0.05	(H)	<0.001		<0.001		0.04	(H)	<0.001
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
Toluene	3.26	(H)	3.00	(H)	1.92	(M)	1.58	(L)	3.52
n-Octane	0.14	(M)	<0.03		<0.03		<0.03		<0.03
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		0.02	(M)	<0.02
Tetrachloroethylene	0.17	(M)	0.19	(L)	0.27	(L)	0.09	(L)	0.79
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Ethylbenzene	0.29	(M)	0.52	(H)	0.16	(L)	0.05	(H)	0.38
m/p-Xylene	1.37	(M)	0.53	(L)	0.79	(L)	0.12	(M)	1.83
Styrene/o-xylene	0.79	(H)	0.63	(L)	0.48	(M)	0.05	(L)	0.85
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002
m-Dichlorobenzene	0.56	(L)	0.10	(L)	<0.02		0.01	(L)	<0.02
p-Dichlorobenzene	0.14	(L)	0.70	(L)	<0.09		<0.09		<0.09
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A6. PEFL (Continued)

Sample Date	12/25/90		1/06/91		1/18/91		1/18/91		1/18/91	
Sample ID	1517		1527		1545D		1545R		1546D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		0.03	(H
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		0.04	(L
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.72	(L)	1.13	(M)	0.33	(L)	0.30	(L)	0.38	(L
Carbon tetrachloride	0.16	(L)	0.15	(L)	0.15	(L)	0.14	(L)	0.16	(L
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.56	(H)	0.85	(H)	0.62	(H)	0.60	(H)	0.66	(H
Trichloroethylene	<0.004		0.12	(L)	<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.53	(M)	3.77	(H)	1.54	(L)	1.73	(M)	1.99	(H
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		0.07	(M)	<0.02	
Tetrachloroethylene	0.13	(L)	0.29	(L)	0.19	(L)	0.20	(L)	0.19	(L
Dibromochloromethane	<0.001		<0.001		0.05	(H)	0.09	(L)	0.07	(H
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.16	(H)	0.26	(M)	0.08	(L)	0.08	(M)	0.09	(M
m/p-Xylene	0.34	(L)	0.90	(M)	0.25	(L)	0.28	(L)	0.31	(M
Styrene/o-xylene	0.50	(H)	0.50	(H)	0.02	(L)	0.31	(H)	0.24	(M
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.57	(M)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A6. PEFL (Continued)

Sample Date	1/18/91		1/30/91		2/12/91		2/23/91		2/23/91
Sample ID	1546R		1564		1582		1601D		1601R
Compound	Concentration, ppbv								
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20
Methylene chloride	<0.11		<0.11		5.54	(H)	<0.11		<0.11
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006
1,1,1-Trichloroethane	0.32	(L)	2.61	(M)	0.48	(L)	0.40	(M)	0.51
Carbon tetrachloride	0.14	(L)	0.26	(L)	0.29	(L)	0.28	(L)	0.28
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Benzene	0.62	(H)	1.19	(H)	1.35	(M)	0.55	(M)	0.55
Trichloroethylene	<0.004		0.40	(M)	<0.004		<0.004		<0.004
1,2-Dichloropropane	<0.04		0.21	(M)	<0.04		<0.04		<0.04
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
Toluene	1.88	(H)	13.86	(H)	1.93	(H)	0.39	(H)	0.38
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1,2-Trichloroethane	0.04	(H)	<0.02		<0.02		<0.02		<0.02
Tetrachloroethylene	0.19	(L)	1.91	(L)	0.47	(L)	0.25	(L)	0.32
Dibromochloromethane	0.09	(M)	<0.001		<0.001		0.12	(M)	0.25
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Ethylbenzene	0.10	(H)	0.65	(H)	0.21	(H)	0.04	(M)	0.05
m/p-Xylene	0.30	(M)	2.16	(H)	0.90	(H)	0.12	(H)	0.13
Styrene/o-xylene	0.29	(H)	<0.02		0.41	(H)	0.08	(H)	0.09
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
p-Dichlorobenzene	<0.09		<0.09		0.15	(L)	0.32	(L)	0.27
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A6. PEFL (Continued)

Sample Date	2/23/91		2/23/91	
Sample ID	1602D		1602R	
Compound	Concentration, ppbv			
Acetylene	<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20	
Chloromethane	<0.20		<0.20	
Chloroethane	<0.10		<0.10	
Bromomethane	<0.20		<0.20	
Methylene chloride	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04	
1,1-Dichloroethane	0.04	(L)	<0.04	
Chloroprene	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003	
Chloroform	<0.006		<0.006	
1,1,1-Trichloroethane	0.89	(H)	0.44	(M)
Carbon tetrachloride	0.29	(L)	0.28	(L)
1,2-Dichloroethane	<0.04		<0.04	
Benzene	0.56	(H)	0.55	(H)
Trichloroethylene	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04	
Toluene	0.46	(H)	0.38	(H)
n-Octane	<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02	
Tetrachloroethylene	0.44	(L)	0.24	(L)
Dibromochloromethane	<0.001		<0.001	
Chlorobenzene	<0.02		<0.02	
Ethylbenzene	0.04	(L)	0.04	(H)
m/p-Xylene	0.12	(H)	0.11	(H)
Styrene/o-xylene	0.08	(M)	0.07	(H)
Bromoform	<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02	
p-Dichlorobenzene	0.62	(L)	0.59	(L)
o-Dichlorobenzene	<0.02		<0.02	
Propylene	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level
R Replicate analysis D Duplicate sample

TABLE A7. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR PNTX

Sample Date	3/12/90		4/05/90		4/17/90		4/29/90		4/29/90
Sample ID	1180		1192		1201		1211D		1211R
Compound	Concentration, ppbv								
Acetylene	14.14	(L)	<1.00		<1.00		<1.00		2.05
1,3-Butadiene	34.63	(L)	0.83	(M)	1.73	(M)	0.14	(H)	0.14
Vinyl chloride	77.78	(L)	<0.20		<0.20		<0.20		<0.20
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20
Methylene chloride	4.31	(L)	<0.11		<0.11		<0.11		2.60
trans-1,2-Dichloroethylene	<0.04		0.23	(M)	<0.04		<0.04		<0.04
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006
1,1,1-Trichloroethane	0.22	(H)	0.20	(L)	0.24	(L)	0.15	(L)	0.15
Carbon tetrachloride	0.13	(L)	0.13	(L)	0.15	(L)	0.14	(L)	0.14
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Benzene	1.17	(M)	0.85	(M)	1.09	(H)	1.34	(H)	1.32
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		0.13
1,2-Dichloropropane	<0.04		0.06	(H)	<0.04		<0.04		<0.04
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
Toluene	0.92	(L)	1.02	(L)	1.54	(L)	0.65	(H)	0.67
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03
n-Octane/t-1,3-dichloropropylene	<0.04		0.10	(L)	<0.04		<0.04		<0.04
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1,2-Trichloroethane	<0.02		<0.02		0.02	(H)	1.64	(H)	1.28
Tetrachloroethylene	0.03	(L)	0.13	(L)	0.08	(L)	0.04	(L)	0.03
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Ethylbenzene	0.61	(L)	0.24	(M)	0.34	(L)	0.09	(H)	0.08
m/p-Xylene	0.73	(L)	0.63	(M)	0.56	(M)	0.26	(H)	0.25
Styrene/o-xylene	1.57	(H)	0.46	(L)	4.34	(L)	0.15	(H)	0.10
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
p-Dichlorobenzene	<0.09		<0.09		0.18	(H)	0.05	(L)	0.07
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Propylene	<0.10		<0.10		<0.10		7.69	(M)	7.54

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A7. PNTX (Continued)

Sample Date	4/29/90		4/29/90		5/23/90		5/23/90		5/23/90
Sample ID	1212D		1212R		1240D		1240R		1241D
Compound	Concentration, ppbv								
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00
1,3-Butadiene	0.14	(H)	0.12	(H)	1.77	(H)	1.51	(H)	1.52
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20
Methylene chloride	<0.11		<0.11		<0.11		3.01	(H)	<0.11
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		0.16	(H)	0.22
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Chloroprene	<0.06		<0.06		0.19	(H)	0.17	(M)	<0.06
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006
1,1,1-Trichloroethane	0.18	(L)	0.14	(L)	0.17	(L)	0.24	(L)	0.24
Carbon tetrachloride	0.15	(L)	0.13	(L)	0.15	(L)	0.16	(L)	0.16
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Benzene	1.34	(M)	1.27	(L)	1.04	(H)	1.04	(H)	1.03
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004
1,2-Dichloropropane	<0.04		<0.04		0.10	(M)	0.10	(H)	<0.04
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
Toluene	1.14	(M)	0.63	(L)	0.72	(M)	0.66	(M)	0.66
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1,2-Trichloroethane	<0.02		0.71	(H)	<0.02		<0.02		<0.02
Tetrachloroethylene	0.01	(L)	0.004	(L)	0.11	(L)	0.13	(L)	0.11
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		0.01
Ethylbenzene	0.07	(H)	0.07	(H)	0.43	(H)	0.33	(H)	0.33
m/p-Xylene	0.26	(H)	0.26	(H)	0.47	(H)	0.46	(H)	0.42
Styrene/o-xylene	0.13	(H)	0.14	(L)	16.14	(M)	15.86	(M)	16.55
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
p-Dichlorobenzene	0.06	(L)	<0.09		<0.09		<0.09		0.07
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Propylene	7.71	(L)	7.92	(L)	<0.10		<0.10		<0.10

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A7. PNTX (Continued)

Sample Date	5/23/90		6/04/90		6/16/90		6/28/90		7/10/90
Sample ID	1241R		1256		1271		1281		1289
Compound	Concentration, ppbv								
Acetylene	<1.00		4.03	(L)	<1.00		<1.00		8.12
1,3-Butadiene	1.26	(H)	3.61	(M)	0.33	(H)	142.66	(L)	8.94
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		17.77
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		0.69	(H)	0.38
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Chloroprene	0.20	(M)	<0.06		<0.06		<0.06		<0.06
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006
1,1,1-Trichloroethane	0.22	(L)	0.18	(L)	0.17	(L)	0.18	(L)	0.12
Carbon tetrachloride	0.16	(L)	0.24	(L)	0.11	(L)	0.13	(L)	0.11
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Benzene	0.97	(H)	1.54	(M)	0.60	(L)	5.07	(L)	0.97
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004
1,2-Dichloropropane	<0.04		0.70	(L)	<0.04		<0.04		<0.04
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
Toluene	0.65	(M)	1.50	(H)	0.76	(L)	2.91	(L)	0.73
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
cis-1,3-Dichloropropylene	<0.04		0.42	(L)	<0.04		<0.04		<0.04
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02
Tetrachloroethylene	0.13	(L)	0.49	(L)	0.05	(L)	0.04	(L)	0.06
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		0.01
Ethylbenzene	0.33	(M)	0.29	(H)	0.09	(L)	0.75	(L)	0.35
m/p-Xylene	0.42	(H)	0.62	(H)	0.27	(L)	1.96	(L)	0.48
Styrene/o-xylene	16.34	(M)	3.00	(H)	0.25	(L)	26.08	(L)	2.53
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002
m-Dichlorobenzene	0.09	(L)	<0.02		<0.02		<0.02		0.06
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		0.08
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Propylene	<0.10		<0.10		<0.10		14.47	(M)	6.66

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis

TABLE A7. PNTX (Continued)

Sample Date	7/22/90		8/03/90		8/15/90		8/27/90		9/08/90	
Sample ID	1305		1328		1335		1351		1371	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.40	(H)	0.96	(H)	2.69	(H)	7.72	(M)	1.34	(
Vinyl chloride	<0.20		<0.20		24.44	(M)	<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		1.49	(L)	<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		0.04	(L)	<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.62	(L)	0.29	(
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.16	(L)	0.21	(L)	0.17	(L)	0.14	(L)	0.28	(
Carbon tetrachloride	0.11	(L)	0.11	(L)	0.12	(L)	0.58	(L)	0.32	(
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.19	(L)	0.70	(H)	1.33	(H)	1.47	(M)	0.97	(
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	0.19	(H)	<0.04		<0.04		0.90	(H)	0.35	(
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		0.08	(L)	<0.04	
Toluene	0.64	(M)	0.96	(L)	2.00	(M)	1.86	(L)	2.89	(
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	0.09	(M)	<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.10	(M)	<0.02		0.11	(L)	1.49	(M)	<0.02	
Tetrachloroethylene	<0.07		<0.07		0.09	(L)	0.11	(L)	0.02	(
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.22	(H)	0.31	(L)	0.48	(H)	0.46	(H)	0.40	(
m/p-Xylene	0.43	(H)	0.73	(L)	1.38	(H)	0.90	(H)	0.59	(
Styrene/o-xylene	0.72	(H)	0.71	(L)	4.61	(H)	2.54	(M)	1.19	(
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		0.17	(H)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A7. PNTX (Continued)

Sample Date	9/20/90		9/20/90		9/20/90		9/20/90		10/04/90
Sample ID	1392D		1392R		1393D		1393R		1414
Compound	Concentration, ppbv								
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00
1,3-Butadiene	11.55	(H)	11.05	(H)	11.60	(H)	10.88	(H)	7.58
Vinyl chloride	44.14	(M)	42.72	(M)	43.99	(M)	42.67	(M)	<0.20
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Chloroprene	<0.06		<0.06		0.19	(H)	0.07	(H)	0.20
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006
1,1,1-Trichloroethane	0.17	(L)	0.17	(L)	0.18	(L)	0.18	(L)	0.20
Carbon tetrachloride	0.11	(L)	0.13	(L)	0.11	(L)	0.13	(L)	0.15
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Benzene	1.48	(H)	1.65	(H)	1.54	(L)	1.70	(H)	0.83
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004
1,2-Dichloropropane	0.22	(H)	<0.04		0.22	(L)	<0.04		0.23
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
Toluene	1.67	(H)	1.73	(M)	1.70	(H)	1.60	(H)	1.59
n-Octane	<0.03		<0.03		<0.03		0.07	(H)	<0.03
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		0.10
Tetrachloroethylene	0.09	(H)	0.10	(H)	0.09	(M)	0.10	(L)	0.12
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
Chlorobenzene	<0.02		<0.02		0.03	(M)	<0.02		<0.02
Ethylbenzene	0.40	(H)	0.39	(L)	0.43	(H)	0.42	(H)	0.32
m/p-Xylene	0.71	(H)	0.64	(L)	0.61	(M)	0.63	(M)	0.85
Styrene/o-xylene	2.22	(H)	2.14	(L)	2.29	(H)	2.31	(H)	5.06
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
p-Dichlorobenzene	<0.09		<0.09		0.05	(H)	<0.09		<0.09
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A7. PNTX (Continued)

Sample Date	10/14/90		10/26/90		11/07/90		11/19/90		11/19/90	
Sample ID	1420		1437		1454		14690		1469R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	2.48	(H)	2.18	(H)	4.68	(H)	25.58	(H)	25.54	(
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.18	(L)	0.50	(L)	2.20	(L)	1.22	(L)	1.39	(
Carbon tetrachloride	0.14	(L)	0.15	(L)	0.19	(L)	0.22	(L)	0.23	(
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.66	(H)	1.65	(H)	2.15	(H)	0.78	(M)	1.05	(
Trichloroethylene	<0.004		0.05	(L)	0.15	(L)	0.06	(L)	0.07	(
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.26	(H)	2.32	(H)	12.60	(H)	2.05	(M)	2.16	(
n-Octane	0.47	(H)	0.36	(H)	1.28	(H)	<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.11	(M)	0.12	(L)	0.56	(L)	0.52	(L)	0.55	(
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.43	(M)	0.34	(M)	1.25	(M)	0.52	(L)	0.56	(
m/p-Xylene	0.98	(M)	1.01	(M)	3.07	(M)	0.55	(L)	0.68	(
Styrene/o-xylene	3.29	(M)	4.71	(H)	11.86	(H)	11.44	(L)	12.72	(
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		0.93	(M)	1.04	(
o-Dichlorobenzene	<0.02		<0.02		<0.02		0.22	(L)	<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A7. PNTX (Continued)

Sample Date	11/19/90		11/19/90		12/01/90		12/13/90		12/25/90
Sample ID	1470D		1470R		1482		1499		1521
Compound	Concentration, ppbv								
Acetylene	4.20	(L)	<1.00		<1.00		<1.00		<1.00
1,3-Butadiene	24.99	(M)	25.71	(H)	15.99	(M)	<0.10		11.94
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Chloroprene	<0.06		<0.06		<0.06		<0.06		0.01
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006
1,1,1-Trichloroethane	0.17	(L)	0.19	(L)	0.20	(L)	0.17	(L)	0.21
Carbon tetrachloride	0.15	(L)	0.15	(L)	0.15	(L)	0.15	(L)	0.16
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Benzene	0.70	(M)	0.83	(H)	2.04	(H)	0.90	(H)	0.66
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004
1,2-Dichloropropane	0.21	(H)	<0.04		<0.04		<0.04		<0.04
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
Toluene	0.86	(M)	0.83	(M)	2.15	(H)	2.04	(L)	0.64
n-Octane	<0.03		<0.03		0.96	(M)	<0.03		1.66
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02
Tetrachloroethylene	0.07	(L)	0.11	(L)	0.11	(M)	0.05	(L)	0.10
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
Chlorobenzene	0.03	(L)	<0.02		<0.02		<0.02		<0.02
Ethylbenzene	0.47	(M)	1.03	(M)	0.44	(M)	0.13	(L)	0.18
m/p-Xylene	0.44	(L)	2.02	(L)	0.62	(L)	0.44	(L)	0.35
Styrene/o-xylene	11.93	(M)	12.07	(M)	38.47	(L)	0.30	(L)	13.75
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
p-Dichlorobenzene	0.57	(L)	<0.09		<0.09		0.26	(L)	<0.09
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A7. PNTX (Continued)

Sample Date	1/06/91		1/18/91		1/30/91		2/11/91		2/23/91	
Sample ID	1532		1543		1559		1576		1592	
Compound	Concentration, ppbv									
Acetylene	<1.00		9.27	(L)	<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		18.40	(H)	<0.10		2.85	(M)	<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	4.17	(L)	0.21	(L)	0.26	(L)	0.61	(L)	0.87	(H
Carbon tetrachloride	0.15	(L)	0.16	(L)	0.19	(L)	0.40	(L)	0.28	(L
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	3.24	(H)	0.90	(H)	0.89	(H)	2.54	(M)	0.87	(M
Trichloroethylene	0.62	(L)	0.07	(L)	<0.004		0.15	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		0.06	(H)	<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	32.69	(H)	0.69	(H)	0.76	(H)	2.92	(H)	3.65	(H
n-Octane	<0.03		0.41	(H)	<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.03	(H)	<0.02		<0.02		<0.02	
Tetrachloroethylene	2.77	(L)	0.12	(L)	0.26	(L)	1.12	(L)	0.30	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		0.10	(L
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	1.41	(H)	0.21	(M)	0.07	(H)	0.41	(H)	0.13	(H
m/p-Xylene	4.17	(M)	0.31	(M)	0.23	(M)	0.94	(H)	0.36	(H
Styrene/o-xylene	4.42	(H)	26.42	(H)	0.23	(L)	2.52	(H)	0.28	(H
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		0.06	(L)	0.18	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	13.49	(H)	<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level

TABLE A8. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR SAIL

Sample Date	3/12/90		3/24/90		4/05/90		4/17/90		5/12/90	
Sample ID	1165		1177		1195		1208		1226	
Compound	Concentration, ppbv									
Acetylene	<1.00		1.20	(L)	<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		0.23	(M)	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.17	(H)	0.82	(L)	1.04	(H)	0.20	(L)	6.66	(H)
Carbon tetrachloride	0.13	(L)	0.38	(L)	0.15	(L)	0.14	(L)	0.15	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.22	(H)	2.46	(H)	10.08	(H)	1.09	(H)	0.83	(H)
Trichloroethylene	0.06	(L)	<0.004		0.15	(L)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		0.17	(L)
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.35	(H)	0.50	(H)	1.76	(M)	0.42	(M)	2.88	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		0.02	(L)	<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		0.01	(M)	<0.02		<0.02	
Tetrachloroethylene	0.05	(L)	0.22	(L)	0.51	(L)	0.15	(L)	0.48	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		1.95	(M)	0.21	(L)	<0.02	
Ethylbenzene	0.03	(M)	0.16	(H)	0.26	(M)	0.07	(M)	0.12	(L)
m/p-Xylene	0.08	(H)	0.85	(H)	1.53	(M)	0.35	(M)	0.50	(L)
Styrene/o-xylene	0.04	(H)	1.28	(M)	1.19	(M)	0.21	(M)	0.22	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		0.26	(H)	<0.02	
p-Dichlorobenzene	<0.09		0.18	(M)	3.85	(M)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		0.13	(H)
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A8. SAIL (Continued)

Sample Date	5/23/90		6/07/90		6/16/90		6/28/90		7/10/90	
Sample ID	1246		1262		1269		1280		1294	
Compound	Concentration, ppbv									
Acetylene	0.99	(L)	<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		0.03	(M)	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		1.14	(M)	<0.11		0.92	(L)	<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		0.69	(M)	<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.52	(H)	0.88	(L)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.34	(H)	3.51	(L)	0.28	(L)	0.18	(L)	0.50	(M)
Carbon tetrachloride	0.13	(L)	0.16	(L)	0.11	(L)	0.11	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.69	(H)	4.08	(M)	0.55	(H)	0.27	(L)	0.95	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.96	(H)	2.51	(H)	0.75	(M)	0.63	(L)	1.01	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		0.14	(L)	<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.04	(M)	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.24	(L)	1.09	(L)	0.01	(L)	0.13	(L)	0.10	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		1.24	(H)	0.20	(H)	<0.02		<0.02	
Ethylbenzene	0.11	(H)	0.83	(H)	0.13	(H)	0.09	(L)	0.18	(L)
m/p-Xylene	0.55	(H)	5.58	(H)	0.42	(H)	0.35	(L)	1.00	(L)
Styrene/o-xylene	0.19	(M)	14.12	(M)	0.25	(H)	0.24	(L)	1.98	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		0.17	(M)	<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	0.61	(L)	<0.02		<0.02		<0.02		0.11	(L)
Propylene	<0.10		<0.10		<0.10		<0.10		0.50	(H)

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A8. SAIL (Continued)

Sample Date	7/24/90		8/03/90		8/15/90		8/27/90		9/08/90	
Sample ID	1315		1329		1344		1354		1372	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	0.77	(L)	<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.02	(L)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.16	(L)	0.30	(L)	0.21	(L)	0.92	(L)	0.49	(L)
Carbon tetrachloride	0.11	(L)	0.14	(L)	0.12	(L)	0.22	(L)	0.13	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.23	(H)	0.26	(L)	0.48	(L)	0.91	(L)	0.74	(H)
Trichloroethylene	<0.004		0.16	(L)	<0.004		0.34	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		1.24	(H)	<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		0.17	(L)	<0.04		<0.04	
Toluene	0.35	(M)	0.56	(L)	0.95	(L)	5.92	(H)	1.42	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		1.05	(H)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.47	(L)	<0.02		<0.02		<0.02	
Tetrachloroethylene	<0.07		0.08	(L)	0.15	(M)	0.42	(L)	0.09	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		0.10	(H)	0.13	(L)
Ethylbenzene	0.12	(L)	0.09	(L)	0.10	(H)	0.32	(H)	0.17	(L)
m/p-Xylene	0.29	(L)	0.41	(L)	0.57	(H)	1.21	(L)	0.52	(L)
Styrene/o-xylene	0.29	(L)	0.32	(L)	0.38	(H)	0.95	(L)	0.46	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		0.53	(L)	<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		0.51	(H)

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A8. SAIL (Continued)

Sample Date	9/25/90		10/02/90		10/14/90		10/26/90		11/07/90	
Sample ID	1401		1404		1419		1441		1461D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.48	(M)	5.40	(H)	0.35	(M)	0.05	(L)	0.38	(L)
Carbon tetrachloride	0.15	(L)	0.15	(L)	0.16	(L)	0.15	(L)	0.15	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	9.76	(H)	1.82	(H)	1.09	(H)	2.86	(H)	2.01	(M)
Trichloroethylene	<0.004		1.00	(L)	<0.004		0.19	(L)	0.42	(M)
1,2-Dichloropropane	0.56	(M)	<0.04		0.41	(H)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.07	(H)	11.78	(H)	2.50	(H)	2.16	(H)	1.78	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.11	(L)	0.33	(M)	0.17	(M)	0.39	(L)	0.39	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		0.15	(H)	0.46	(M)	0.85	(M)
Ethylbenzene	0.18	(L)	0.66	(M)	0.16	(M)	0.28	(M)	0.26	(L)
m/p-Xylene	0.90	(L)	2.71	(H)	0.48	(L)	1.26	(M)	1.13	(L)
Styrene/o-xylene	16.29	(L)	1.69	(H)	1.49	(H)	18.85	(H)	10.45	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	2.43	(L)	<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

D Duplicate sample

TABLE A8. SAIL (Continued)

Sample Date	11/07/90		11/07/90		11/07/90		12/01/90		12/01/90	
Sample ID	1461R		1462D		1462R		1491D		1491R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.40	(M)	0.39	(L)	0.42	(M)	0.36	(M)	0.34	(L
Carbon tetrachloride	0.15	(L)	0.15	(L)	0.11	(L)	0.16	(L)	0.16	(L
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.13	(H)	2.16	(H)	2.05	(M)	1.79	(H)	1.77	(H
Trichloroethylene	<0.004		0.10	(L)	0.56	(L)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	0.01	(L)	<0.04		<0.04		<0.04		<0.04	
Toluene	1.77	(M)	1.78	(M)	1.72	(M)	1.58	(H)	1.47	(M
n-Octane	<0.03		<0.03		<0.03		<0.03		0.13	(L
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.38	(L)	0.40	(L)	0.39	(L)	0.18	(L)	0.19	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.81	(L)	0.84	(L)	0.82	(L)	0.06	(H)	0.05	(H)
Ethylbenzene	0.25	(L)	0.27	(L)	0.24	(L)	0.17	(M)	0.16	(L)
m/p-Xylene	1.12	(L)	1.15	(L)	1.09	(L)	0.53	(L)	0.52	(L)
Styrene/o-xylene	10.54	(H)	10.59	(H)	10.72	(H)	0.88	(H)	0.84	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.06	(L)	<0.02		<0.02		<0.02		0.03	(M)
p-Dichlorobenzene	<0.09		<0.09		1.33	(L)	0.22	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		0.17	(L)	<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		6.78	(H)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A8. SAIL (Continued)

Sample Date	12/01/90		12/01/90		12/13/90		12/27/90		1/06/91	
Sample ID	1492D		1492R		1501		1523		1535	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.33	(L)	0.40	(L)	0.23	(L)	0.25	(L)	0.21	(L)
Carbon tetrachloride	0.16	(L)	0.17	(L)	0.16	(L)	0.58	(L)	0.15	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.80	(H)	1.94	(H)	2.17	(H)	1.21	(L)	1.27	(L)
Trichloroethylene	0.26	(L)	<0.004		0.37	(M)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.55	(H)	1.63	(H)	0.46	(M)	1.71	(M)	0.71	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		0.01	(M)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		0.03	(M)	<0.02	
Tetrachloroethylene	0.17	(L)	0.19	(L)	0.12	(L)	0.55	(L)	0.16	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		0.02	(L)
Ethylbenzene	0.18	(M)	0.17	(M)	0.32	(M)	0.15	(M)	0.09	(M)
m/p-Xylene	0.59	(M)	0.56	(L)	0.81	(M)	0.46	(L)	0.20	(L)
Styrene/o-xylene	0.92	(H)	0.96	(H)	7.41	(H)	0.27	(M)	0.10	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.08	(L)	<0.02		0.03	(L)	<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		1.44	(H)	0.17	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		0.28	(L)	<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A8. SAIL (Continued)

Sample Date	1/18/91		1/18/91		1/18/91		1/18/91		2/12/91	
Sample ID	1552D		1552R		1553D		1553R		1581	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		0.05	(L)	<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	1.61	(L)	1.72	(L)	1.68	(L)	1.83	(L)	0.41	(L
Carbon tetrachloride	0.16	(L)	0.17	(L)	0.16	(L)	0.18	(L)	0.31	(L
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.01	(M)	2.10	(M)	2.13	(H)	2.02	(H)	0.82	(M
Trichloroethylene	<0.004		0.51	(L)	<0.004		<0.004		0.44	(M
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.82	(H)	1.85	(H)	1.91	(H)	1.87	(H)	0.98	(H
n-Octane	<0.03		0.03	(M)	<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.04	(M)	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.22	(L)	0.24	(L)	0.22	(L)	0.24	(L)	0.41	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.02	(H)	<0.02		0.02	(H)	0.02	(H)	<0.02	
Ethylbenzene	0.22	(H)	0.19	(H)	0.22	(H)	0.22	(H)	0.12	(H
m/p-Xylene	0.66	(H)	0.69	(H)	0.69	(H)	0.67	(H)	0.31	(H
Styrene/o-xylene	0.60	(H)	0.59	(H)	0.64	(H)	0.67	(H)	0.20	(H
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A8. SAIL (Continued)

Sample Date	2/26/91		2/26/91		2/26/91		2/26/91	
Sample ID	1604D		1604R		1605D		1605R	
Compound	Concentration, ppbv							
Acetylene	<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	15.52	(L)	9.38	(L)	15.37	(L)	14.88	(L)
Carbon tetrachloride	2.48	(L)	2.28	(L)	2.41	(L)	2.55	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04	
Benzene	1.58	(H)	1.56	(H)	1.56	(H)	1.58	(H)
Trichloroethylene	0.48	(L)	0.46	(L)	0.53	(L)	0.77	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04	
Toluene	1.79	(H)	1.82	(H)	1.77	(H)	1.79	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.87	(L)	0.92	(L)	0.82	(L)	0.86	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		0.03	(H)	0.05	(L)	0.02	(M)
Ethylbenzene	0.15	(H)	0.16	(H)	0.14	(H)	0.15	(H)
m/p-Xylene	0.49	(H)	0.48	(H)	0.47	(H)	0.48	(H)
Styrene/o-xylene	0.38	(H)	0.43	(H)	0.32	(H)	0.33	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.17	(L)	0.18	(L)	0.09	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level
R Replicate analysis D Duplicate sample

TABLE A9. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR TLOH

Sample Date	4/05/90		4/17/90		4/17/90		4/17/90		4/17/90	
Sample ID	1193		1204D		1204R		1205D		1205R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		0.03	(L)	<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		0.55	(H)	<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.07	(L)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.60	(L)	0.19	(L)	0.20	(H)	0.21	(M)	0.21	(l
Carbon tetrachloride	0.14	(L)	0.14	(L)	0.14	(L)	0.17	(L)	0.15	(l
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.55	(L)	0.34	(L)	0.32	(L)	0.36	(L)	0.32	(l
Trichloroethylene	0.08	(L)	0.07	(L)	<0.004		0.06	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.79	(L)	0.22	(L)	0.21	(L)	0.25	(L)	0.23	(M
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.02	(H)	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.31	(L)	0.08	(L)	0.08	(L)	0.10	(L)	0.09	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.08	(L)	0.03	(L)	0.04	(H)	0.03	(L)	0.04	(M
m/p-Xylene	0.52	(M)	0.16	(L)	0.18	(M)	0.20	(L)	0.18	(L
Styrene/o-xylene	0.19	(M)	0.08	(M)	0.06	(L)	0.06	(M)	0.07	(H
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A9. TLOH (Continued)

Sample Date	4/29/90		5/11/90		5/23/90		6/04/90		6/16/90	
Sample ID	1214		1223		1243		1253		1264	
Compound	Concentration, ppbv									
Acetylene	<1.00		0.63	(L)	<1.00		1.15	(L)	<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		2.22	(H)
trans-1,2-Dichloroethylene	<0.04		<0.04		0.27	(M)	<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.10	(H)	<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.47	(L)	0.23	(H)	0.48	(H)	0.25	(L)	0.35	(L)
Carbon tetrachloride	0.14	(L)	0.14	(L)	0.15	(L)	0.16	(L)	0.20	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.97	(H)	0.40	(H)	1.40	(H)	0.51	(H)	0.84	(H)
Trichloroethylene	0.13	(M)	<0.004		0.11	(M)	<0.004		0.05	(L)
1,2-Dichloropropane	0.29	(H)	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.27	(M)	0.32	(L)	2.54	(H)	0.41	(H)	1.07	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		0.01	(M)
Tetrachloroethylene	5.72	(L)	0.09	(L)	4.77	(L)	0.15	(L)	0.19	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		0.02	(M)	<0.02		<0.02	
Ethylbenzene	0.25	(M)	0.04	(M)	0.32	(H)	0.05	(H)	0.14	(L)
m/p-Xylene	1.57	(M)	0.28	(M)	2.00	(H)	0.28	(H)	0.73	(L)
Styrene/o-xylene	0.72	(M)	0.09	(M)	0.65	(H)	0.12	(H)	0.36	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		0.03	(L)	<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.20	(L)	<0.09		<0.09		<0.09		0.09	(L)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		0.09	(M)
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A9. TLOH (Continued)

Sample Date	6/28/90		7/10/90		7/22/90		8/03/90		8/15/90	
Sample ID	1278		1293		1306		1326		1345D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		0.06	(H)	<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		1.32	(L)	<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		0.05	(L)	<0.04	
Chloroprene	0.25	(M)	<0.06		0.24	(L)	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.39	(L)	0.16	(L)	0.15	(L)	0.28	(L)	0.60	(L)
Carbon tetrachloride	0.11	(L)	0.10	(L)	0.11	(L)	0.12	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.50	(L)	1.04	(L)	0.19	(M)	1.63	(H)	1.42	(H)
Trichloroethylene	<0.004		<0.004		<0.004		0.04	(L)	0.08	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		0.32	(H)
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.94	(L)	0.66	(L)	0.28	(H)	1.78	(L)	2.84	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		0.01	(H)	<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.64	(L)	<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.06	(L)	0.08	(L)	0.47	(L)	0.24	(L)	0.41	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.20	(L)	0.11	(L)	0.04	(H)	0.22	(H)	0.38	(H)
m/p-Xylene	0.92	(L)	0.58	(L)	0.23	(H)	1.32	(H)	2.53	(H)
Styrene/o-xylene	0.51	(L)	0.05	(L)	0.10	(L)	0.55	(H)	0.99	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.72	(L)	0.44	(L)	<0.02		0.02	(L)	<0.02	
p-Dichlorobenzene	0.07	(L)	<0.09		<0.09		0.41	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	3.27	(H)	3.07	(M)	1.24	(M)	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

D Duplicate sample

TABLE A9. TLOH (Continued)

Sample Date	8/15/90		8/15/90		8/15/90		8/27/90		9/08/90	
Sample ID	1345R		1346D		1346R		1355		1367	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		0.20	(M)	<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		13.64	(H)	<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.51	(L)	6.40	(L)	6.36	(L)	0.43	(L)	0.18	(L)
Carbon tetrachloride	0.12	(L)	0.13	(L)	0.13	(L)	0.11	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.72	(H)	1.74	(H)	2.38	(H)	1.46	(H)	0.43	(H)
Trichloroethylene	<0.004		0.20	(M)	0.24	(L)	<0.004		<0.004	
1,2-Dichloropropane	0.24	(H)	<0.04		1.80	(M)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	1.78	(L)	<0.04		<0.04		<0.04		<0.04	
Toluene	2.66	(L)	16.60	(H)	15.16	(H)	1.52	(M)	0.79	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		0.75	(H)	<0.02	
Tetrachloroethylene	0.43	(L)	2.93	(L)	3.05	(L)	<0.07		0.04	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		0.28	(H)	0.25	(H)	<0.02		<0.02	
Ethylbenzene	0.35	(L)	0.72	(H)	0.67	(H)	0.24	(L)	0.09	(L)
m/p-Xylene	2.67	(L)	4.86	(H)	4.86	(H)	1.66	(L)	0.38	(L)
Styrene/o-xylene	0.92	(L)	3.65	(H)	3.45	(H)	0.58	(L)	0.22	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		0.21	(M)	<0.02		0.26	(L)
p-Dichlorobenzene	0.26	(L)	<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A9. TLOH (Continued)

Sample Date	9/20/90		10/02/90		10/14/90		10/26/90		11/07/90	
Sample ID	1387		1410		1425		1440		1455	
Compound	Concentration, ppbv									
Acetylene	7.74	(L)	<1.00		<1.00		2.47	(L)	<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		0.06	(H)	0.05	(M)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		3.15	(H)	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.16	(L)	0.51	(L)	0.44	(L)	0.24	(L)	0.28	(L)
Carbon tetrachloride	0.11	(L)	0.14	(L)	0.15	(L)	0.15	(L)	0.14	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.50	(H)	0.80	(H)	1.03	(H)	1.06	(H)	0.73	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		0.25	(H)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.95	(L)	2.06	(H)	1.78	(H)	1.09	(H)	1.37	(M)
n-Octane	<0.03		0.15	(H)	<0.03		<0.03		0.01	(H)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.03	(H)	<0.02		<0.02		<0.02	
Tetrachloroethylene	0.16	(L)	0.88	(L)	0.34	(L)	0.11	(L)	0.17	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.05	(M)	<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.10	(L)	0.21	(M)	0.14	(M)	0.12	(L)	0.16	(M)
m/p-Xylene	0.50	(L)	0.99	(M)	0.59	(M)	0.50	(L)	0.70	(L)
Styrene/o-xylene	0.31	(M)	0.48	(H)	0.37	(H)	0.28	(L)	0.38	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.35	(L)	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		0.78	(L)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		0.10	(M)	<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A9. TLOH (Continued)

Sample Date	12/01/90		12/13/90	
Sample ID	1486		1507	
Compound	Concentration, ppbv			
Acetylene	<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20	
Chloromethane	<0.20		<0.20	
Chloroethane	<0.10		<0.10	
Bromomethane	<0.20		<0.20	
Methylene chloride	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		0.14	(L)
1,1-Dichloroethane	<0.04		<0.04	
Chloroprene	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003	
Chloroform	<0.006		<0.006	
1,1,1-Trichloroethane	1.49	(L)	0.72	(H)
Carbon tetrachloride	0.15	(L)	0.22	(L)
1,2-Dichloroethane	<0.04		<0.04	
Benzene	0.80	(M)	0.58	(M)
Trichloroethylene	0.89	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04	
Toluene	14.50	(H)	5.74	(M)
n-Octane	<0.03		0.01	(H)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02	
Tetrachloroethylene	2.72	(L)	3.73	(L)
Dibromochloromethane	<0.001		<0.001	
Chlorobenzene	<0.02		<0.02	
Ethylbenzene	0.67	(M)	0.12	(L)
m/p-Xylene	2.90	(M)	0.53	(L)
Styrene/o-xylene	2.04	(M)	0.30	(L)
Bromoform	<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.29	(M)
o-Dichlorobenzene	0.71	(L)	0.12	(M)
Propylene	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level

TABLE A10. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR W1DC

Sample Date	3/12/90		3/24/90		4/05/90		4/17/90		4/17/90	
Sample ID	1171		1179		1188		1202D		1202R	
Compound	Concentration, ppbv									
Acetylene	<1.00		2.18	(L)	<1.00		<1.00		<1.00	
1,3-Butadiene	0.35	(L)	0.12	(L)	0.21	(M)	0.04	(L)	0.10	(H)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.05	(H)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.36	(M)	0.44	(L)	0.22	(L)	0.27	(H)	0.25	(H)
Carbon tetrachloride	0.14	(L)	0.16	(L)	0.12	(L)	0.14	(L)	0.13	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.60	(H)	0.95	(H)	1.11	(L)	0.69	(H)	0.68	(H)
Trichloroethylene	<0.004		0.17	(L)	<0.004		<0.004		<0.004	
1,2-Dichloropropane	0.19	(M)	<0.04		0.22	(L)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	3.26	(M)	2.22	(H)	1.88	(L)	0.83	(L)	0.82	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	1.55	(L)	0.45	(L)	0.26	(L)	1.81	(L)	1.80	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.35	(L)	0.53	(H)	0.22	(L)	0.09	(M)	0.11	(M)
m/p-Xylene	2.08	(L)	1.61	(M)	1.44	(L)	0.54	(M)	0.54	(M)
Styrene/o-xylene	0.70	(L)	0.42	(H)	0.51	(L)	0.19	(M)	0.21	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.04	(L)	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		0.09	(L)	0.12	(M)
o-Dichlorobenzene	0.16	(L)	<0.02		<0.02		<0.02		<0.02	
Propylene	4.55	(H)	<0.10		5.24	(M)	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A10. W1DC (Continued)

Sample Date	4/17/90		4/17/90		4/29/90		5/11/90		5/23/90	
Sample ID	1203D		1203R		1220		1233		1249	
Compound	Concentration, ppbv									
Acetylene	<1.00		1.56	(L)	<1.00		<1.00		2.57	(L)
1,3-Butadiene	0.05	(M)	0.05	(H)	<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	0.92	(M)	<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		0.09	(M)
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		0.02	(H)	<0.06		0.04	(H)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.26	(H)	0.26	(H)	0.41	(H)	0.23	(H)	0.59	(H)
Carbon tetrachloride	0.14	(L)	0.14	(L)	0.15	(L)	0.16	(L)	0.16	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.70	(H)	0.71	(H)	1.88	(H)	0.46	(H)	1.01	(H)
Trichloroethylene	<0.004		<0.004		<0.004		0.04	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		0.71	(M)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.84	(M)	0.80	(M)	6.36	(H)	0.93	(M)	2.29	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.02	(M)	0.02	(M)	0.01	(H)	<0.02	
Tetrachloroethylene	1.88	(L)	1.85	(L)	1.41	(L)	0.30	(L)	2.36	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.09	(M)	0.10	(M)	0.70	(M)	0.10	(M)	0.27	(H)
m/p-Xylene	0.50	(L)	0.52	(M)	4.37	(H)	0.56	(M)	1.46	(H)
Styrene/o-xylene	0.18	(L)	0.18	(M)	1.33	(H)	0.22	(M)	0.52	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.08	(M)	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.11	(L)	0.10	(L)	<0.09		0.06	(L)	<0.09	
o-Dichlorobenzene	0.04	(H)	0.04	(H)	<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A10. WIDC (Continued)

Sample Date	6/04/90		6/16/90		6/28/90		7/10/90		7/22/90	
Sample ID	1258		1265		1284		1295		1309	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.04	(L)	0.31	(H)	<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		1.43	(M)	<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		0.56	(H)	<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		0.02	(H)	0.02	(H)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.32	(L)	0.82	(H)	0.35	(L)	0.21	(L)	0.28	(L)
Carbon tetrachloride	0.18	(L)	0.22	(L)	0.10	(L)	0.11	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.77	(M)	2.70	(H)	1.18	(L)	0.58	(H)	0.73	(L)
Trichloroethylene	<0.004		0.12	(L)	0.14	(L)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.47	(H)	7.86	(H)	2.50	(L)	1.58	(L)	2.08	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		1.92	(L)	<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	0.02	(H)	0.29	(H)	<0.02		<0.02		<0.02	
Tetrachloroethylene	0.83	(L)	3.87	(L)	0.46	(L)	0.22	(L)	0.17	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.31	(H)	0.79	(L)	0.24	(L)	0.30	(L)	0.29	(L)
m/p-Xylene	1.66	(H)	4.54	(L)	1.29	(L)	1.76	(L)	1.35	(L)
Styrene/o-xylene	0.65	(H)	1.78	(H)	0.52	(L)	0.56	(L)	0.66	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.04	(L)	<0.02		0.32	(L)	<0.02		<0.02	
p-Dichlorobenzene	0.37	(L)	0.30	(M)	0.82	(H)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		3.06	(H)	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A10. WIDC (Continued)

Sample Date	8/03/90		8/15/90		8/15/90		8/15/90		8/15/90	
Sample ID	1322		1340D		1340R		1341D		1341R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		0.22	(M)	0.19	(M)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.46	(H)	<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.34	(L)	1.67	(L)	1.26	(L)	1.46	(L)	1.28	(L)
Carbon tetrachloride	0.11	(L)	0.13	(L)	0.10	(L)	0.12	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.90	(H)	2.37	(H)	1.88	(H)	1.65	(H)	2.11	(H)
Trichloroethylene	<0.004		0.09	(L)	<0.004		0.08	(M)	<0.004	
1,2-Dichloropropane	<0.04		1.62	(H)	1.52	(L)	1.32	(L)	1.35	(H)
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.34	(H)	13.71	(M)	10.91	(M)	9.66	(L)	9.35	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.16	(H)	0.25	(M)	<0.02		<0.02	
Tetrachloroethylene	2.13	(L)	1.25	(H)	4.11	(L)	3.98	(L)	4.57	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.34	(M)	1.31	(L)	1.02	(H)	0.88	(H)	0.93	(H)
m/p-Xylene	1.55	(M)	5.96	(L)	4.86	(H)	3.96	(H)	4.08	(H)
Styrene/o-xylene	0.69	(L)	4.02	(L)	3.20	(L)	2.53	(H)	2.43	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	0.32	(M)	<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.65	(L)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		4.26	(L)

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A10. WIDC (Continued)

Sample Date	8/27/90		9/08/90		9/20/90		10/02/90		10/14/90	
Sample ID	1360		1379		1385		1411		1430	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.12	(H)	<0.10		0.08	(H)	0.16	(M)	<0.10	
Vinyl chloride	8.48	(M)	<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.12	(M)	<0.06		<0.06		0.11	(H)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.47	(L)	0.23	(H)	0.39	(L)	0.63	(M)	0.29	(L)
Carbon tetrachloride	0.13	(L)	0.14	(L)	0.14	(L)	0.15	(L)	0.16	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.82	(L)	0.63	(H)	0.87	(H)	1.16	(H)	1.53	(H)
Trichloroethylene	<0.004		<0.004		<0.004		0.31	(H)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	1.09	(M)	<0.04		<0.04		<0.04		<0.04	
Toluene	1.84	(H)	1.30	(H)	1.90	(H)	3.10	(H)	2.86	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.14	(L)	0.24	(L)	0.78	(L)	0.41	(L)	0.38	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	0.03	(L)	<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.31	(M)	0.12	(L)	0.18	(L)	0.24	(M)	0.27	(M)
m/p-Xylene	1.65	(L)	0.50	(L)	0.69	(L)	1.03	(M)	1.11	(M)
Styrene/o-xylene	0.62	(L)	0.33	(M)	0.42	(M)	0.69	(H)	0.73	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		0.54	(M)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		3.95	(H)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A10. W1DC (Continued)

Sample Date	10/26/90		11/07/90		11/19/90		11/19/90		11/19/90	
Sample ID	1442		1457		1480D		1480R		1481D	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		0.39	(L)	<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.25	(L)	0.38	(L)	14.16	(M)	13.76	(M)	14.41	(M)
Carbon tetrachloride	0.13	(L)	0.14	(L)	0.23	(L)	0.21	(L)	0.22	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.50	(H)	1.36	(H)	2.70	(M)	2.28	(L)	2.48	(L)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	0.01	(L)	<0.04		2.62	(M)	<0.04		<0.04	
Toluene	0.60	(H)	2.54	(H)	43.55	(H)	40.93	(H)	41.46	(H)
n-Octane	0.01	(H)	<0.03		<0.03		1.61	(M)	<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.40	(L)	3.62	(L)	4.29	(L)	4.15	(L)	4.20	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.07	(L)	0.30	(M)	2.20	(M)	2.17	(M)	2.27	(M)
m/p-Xylene	0.27	(L)	1.30	(M)	8.73	(H)	8.43	(M)	8.80	(M)
Styrene/o-xylene	0.20	(H)	0.81	(H)	5.89	(H)	5.36	(H)	5.74	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		0.74	(L)	<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		6.54	(M)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A10. WIDC (Continued)

Sample Date	11/19/90		12/01/90		12/13/90		12/25/90		1/06/91	
Sample ID	1481R		1485		1503		1520		1528	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		0.35	(H)	<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.09	(M)	<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	13.95	(H)	0.51	(L)	0.31	(L)	0.57	(L)	0.39	(L)
Carbon tetrachloride	0.23	(L)	0.16	(L)	0.15	(L)	0.62	(L)	0.16	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.36	(L)	3.14	(M)	0.96	(H)	0.93	(M)	2.41	(H)
Trichloroethylene	<0.004		0.08	(L)	<0.004		0.04	(L)	0.55	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	38.73	(H)	6.15	(H)	1.66	(H)	0.86	(M)	2.35	(H)
n-Octane	1.18	(H)	0.27	(H)	<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	3.98	(L)	5.88	(L)	2.24	(L)	0.18	(L)	2.31	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	2.10	(M)	0.66	(M)	0.16	(M)	0.10	(L)	0.26	(M)
m/p-Xylene	8.16	(M)	2.84	(M)	0.57	(L)	0.34	(L)	0.98	(M)
Styrene/o-xylene	5.27	(H)	1.55	(H)	0.34	(H)	0.24	(H)	0.54	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		0.17	(M)	0.06	(M)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		0.08	(L)	<0.02		<0.02	
Propylene	6.46	(M)	10.23	(L)	<0.10		3.72	(M)	7.76	(M)

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis

TABLE A10. WIDC (Continued)

Sample Date	1/18/91		1/30/91		2/11/91		2/11/91		2/11/91	
Sample ID	1550		1566		1588D		1588R		1589D	
Compound	Concentration, ppbv									
Acetylene	2.01	(L)	<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.03	(M)	<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.22	(L)	0.79	(H)	3.10	(L)	3.20	(L)	3.79	(L)
Carbon tetrachloride	0.18	(L)	0.27	(L)	2.51	(L)	2.49	(L)	2.70	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.68	(M)	2.17	(H)	0.56	(H)	0.55	(H)	0.55	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.68	(H)	4.90	(H)	0.49	(H)	0.51	(H)	0.48	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	0.24	(M)	<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.17	(L)	6.64	(L)	0.63	(L)	0.65	(L)	0.54	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.09	(L)	0.50	(H)	0.06	(H)	0.06	(H)	0.06	(H)
m/p-Xylene	0.27	(L)	1.96	(H)	0.18	(H)	0.18	(H)	0.22	(H)
Styrene/o-xylene	0.19	(L)	1.20	(H)	0.24	(L)	0.13	(M)	0.10	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		0.02	(M)
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.41	(L)	<0.09		0.02	(M)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level

R Replicate analysis D Duplicate sample

(Continued)

TABLE A10. W1DC (Continued)

Sample Date	2/11/91		2/23/91	
Sample ID	1589R		1595	
Compound	Concentration, ppbv			
Acetylene	<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20	
Chloromethane	<0.20		<0.20	
Chloroethane	<0.10		<0.10	
Bromomethane	<0.20		<0.20	
Methylene chloride	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04	
Chloroprene	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003	
Chloroform	<0.006		<0.006	
1,1,1-Trichloroethane	4.60	(L)	0.54	(M)
Carbon tetrachloride	2.92	(L)	0.33	(L)
1,2-Dichloroethane	<0.04		<0.04	
Benzene	0.57	(H)	0.51	(L)
Trichloroethylene	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04	
Toluene	0.49	(H)	0.56	(H)
n-Octane	0.03	(H)	<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02	
Tetrachloroethylene	0.61	(L)	0.51	(L)
Dibromochloromethane	<0.001		<0.001	
Chlorobenzene	<0.02		<0.02	
Ethylbenzene	0.07	(H)	0.07	(H)
m/p-Xylene	0.20	(H)	0.26	(H)
Styrene/o-xylene	0.12	(L)	0.18	(H)
Bromoform	<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02	
p-Dichlorobenzene	0.09	(L)	<0.09	
o-Dichlorobenzene	<0.02		<0.02	
Propylene	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level
R Replicate analysis

TABLE A11. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR W2DC

Sample Date	3/12/90		3/24/90		4/05/90		4/17/90		4/29/90	
Sample ID	1172		1181		1191		1199		1216D	
Compound	Concentration, ppbv									
Acetylene	<1.00		2.64	(L)	1.92	(L)	1.26	(L)	1.82	(L)
1,3-Butadiene	0.61	(H)	0.19	(L)	0.26	(H)	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		0.22	(M)	<0.04		<0.04	
1,1-Dichloroethane	<0.04		0.04	(L)	<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		0.03	(M)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.61	(L)	0.31	(H)	0.25	(H)	0.32	(H)	0.22	(H)
Carbon tetrachloride	0.14	(L)	0.15	(L)	0.12	(L)	0.13	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	3.78	(H)	1.06	(L)	1.28	(L)	0.95	(H)	0.76	(H)
Trichloroethylene	<0.004		<0.004		0.11	(M)	0.11	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		0.29	(H)	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	7.58	(M)	1.33	(H)	2.14	(L)	1.49	(M)	1.58	(M)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	2.85	(L)	0.65	(L)	0.61	(L)	0.67	(L)	0.32	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.90	(M)	0.20	(M)	0.23	(L)	0.16	(M)	0.16	(M)
m/p-Xylene	5.54	(M)	1.14	(H)	1.52	(M)	0.92	(M)	0.87	(M)
Styrene/o-xylene	2.08	(H)	0.43	(L)	0.54	(M)	0.34	(M)	0.34	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	1.11	(M)	0.10	(L)	<0.09		0.20	(M)	0.18	(H)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		5.10	(H)	<0.10		2.75	(L)

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

D Duplicate sample

TABLE A11. W2DC (Continued)

Sample Date	4/29/90		4/29/90		4/29/90		5/11/90		5/23/90	
Sample ID	1216R		1217D		1217R		1234		1247	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		2.46	(L)	1.65	(L)	2.14	(L
1,3-Butadiene	<0.10		<0.10		<0.10		0.13	(H)	0.31	(H
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		0.10	(L)	<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		0.22	(H)
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.07	(L)	<0.06		<0.06		0.23	(H)	0.03	(H)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.21	(H)	0.21	(H)	0.20	(H)	0.23	(L)	0.37	(M)
Carbon tetrachloride	0.14	(L)	0.14	(L)	0.14	(L)	0.15	(L)	0.15	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.76	(H)	0.73	(H)	0.74	(H)	0.99	(H)	1.98	(H)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		0.03	(L)	<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.57	(M)	1.53	(M)	1.54	(M)	1.63	(L)	4.36	(H)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.02	(M)	<0.02		<0.02		<0.02	
Tetrachloroethylene	0.36	(L)	0.33	(M)	0.34	(L)	0.29	(L)	2.20	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.18	(H)	0.17	(H)	0.15	(M)	0.17	(M)	0.46	(H)
m/p-Xylene	0.90	(M)	0.89	(M)	0.89	(M)	0.98	(M)	2.72	(H)
Styrene/o-xylene	0.34	(H)	0.34	(M)	0.32	(M)	0.36	(L)	1.03	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		0.06	(L)	<0.02	
p-Dichlorobenzene	0.08	(M)	<0.09		<0.09		0.08	(M)	<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	1.12	(H)	2.07	(H)	2.10	(M)	2.92	(M)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A11. W2DC (Continued)

Sample Date	6/04/90		6/16/90		6/28/90		7/10/90		7/22/90	
Sample ID	1259		1266		1283		1292		1312	
Compound	Concentration, ppbv									
Acetylene	2.67	(L)	<1.00		8.90	(L)	5.85	(L)	<1.00	
1,3-Butadiene	<0.10		0.51	(H)	<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		7.81	(H)	2.74	(H)	<0.11	
trans-1,2-Dichloroethylene	<0.04		0.58	(H)	<0.04		0.45	(M)	<0.04	
1,1-Dichloroethane	0.03	(L)	<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.30	(H)	1.26	(H)	1.78	(H)	0.95	(L)
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.33	(L)	0.76	(L)	0.49	(L)	0.21	(L)	0.38	(L)
Carbon tetrachloride	0.16	(L)	0.17	(L)	0.10	(L)	0.11	(L)	0.11	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.06	(M)	3.41	(H)	1.92	(H)	1.65	(M)	0.96	(L)
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	0.05	(M)	<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.88	(H)	8.41	(H)	1.90	(L)	2.18	(L)	2.06	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		0.26	(L)
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.70	(L)	4.19	(L)	0.16	(L)	0.20	(L)	0.11	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		0.02	(M)	<0.02	
Ethylbenzene	0.21	(H)	0.81	(M)	0.12	(L)	0.25	(L)	0.40	(L)
m/p-Xylene	1.13	(H)	4.82	(L)	0.55	(L)	1.32	(L)	1.41	(L)
Styrene/o-xylene	0.54	(H)	2.01	(H)	0.23	(L)	0.58	(L)	0.82	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		0.13	(L)	<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		0.28	(L)	0.12	(H)
p-Dichlorobenzene	<0.09		<0.09		0.21	(M)	0.50	(M)	<0.09	
o-Dichlorobenzene	<0.02		0.58	(M)	<0.02		<0.02		0.18	(L)
Propylene	<0.10		<0.10		2.45	(M)	4.16	(H)	1.87	(L)

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A11. W2DC (Continued)

Sample Date	8/03/90		8/15/90		8/27/90		9/08/90		9/20/90	
Sample ID	1325		1336		1356		1378		1389	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		2.72	(L)	<1.00		<1.00	
1,3-Butadiene	0.24	(H)	0.22	(M)	0.22	(H)	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		6.84	(L)	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	0.70	(M)	<0.06		<0.06		0.15	(M)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.40	(L)	0.34	(L)	0.30	(L)	0.25	(L)	0.33	(
Carbon tetrachloride	0.12	(L)	0.12	(L)	0.12	(L)	0.14	(L)	0.14	(
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.74	(H)	1.68	(H)	2.32	(L)	1.00	(H)	2.98	(I
Trichloroethylene	<0.004		<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	0.31	(M)	0.29	(M)	<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	4.91	(H)	3.84	(L)	2.70	(M)	2.14	(H)	10.77	(H
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.12	(L)	0.42	(L)	<0.02		<0.02	
Tetrachloroethylene	1.95	(L)	1.37	(L)	0.23	(L)	0.34	(L)	0.96	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		0.05	(L)	<0.02		<0.02	
Ethylbenzene	0.52	(M)	0.46	(H)	0.39	(H)	0.26	(M)	0.89	(M
m/p-Xylene	2.87	(M)	2.65	(H)	2.17	(H)	0.94	(M)	4.34	(H
Styrene/o-xylene	1.27	(H)	1.26	(H)	0.94	(L)	0.61	(H)	2.27	(H
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.46	(L)	1.19	(L)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		0.79	(L)
Propylene	2.81	(L)	<0.10		<0.10		1.85	(M)	8.47	(H)

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A11. W2DC (Continued)

Sample Date	10/02/90		10/14/90		10/26/90		11/07/90		11/19/90	
Sample ID	1408		1429		1443		1456		1473	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		0.06	(H)	0.33	(H)	0.32	(H)
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.10	(M)	<0.06		0.06	(L)	<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.30	(L)	0.29	(L)	0.19	(L)	0.40	(L)	0.52	(L
Carbon tetrachloride	0.15	(L)	0.15	(L)	0.14	(L)	0.14	(L)	0.16	(L
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	2.13	(H)	1.30	(H)	0.97	(H)	2.23	(H)	2.17	(L
Trichloroethylene	<0.004		<0.004		<0.004		0.56	(M)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	6.81	(H)	2.57	(H)	1.31	(H)	5.73	(H)	5.24	(H
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.61	(L)	0.26	(L)	0.26	(L)	3.26	(L)	0.83	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Eth[illegible]ene	0.46	(M)	0.23	(L)	0.16	(M)	0.58	(M)	0.62	(L
m,p-[illegible]e	2.17	(M)	1.00	(M)	0.68	(M)	2.60	(M)	2.83	(L
Sty[illegible]e/o-xylene	1.30	(H)	0.64	(H)	0.36	(H)	1.47	(M)	1.53	(L
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		0.02	(L)	<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.42	(L)	0.08	(H)	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	5.97	(H)	<0.10		<0.10		6.46	(H)	<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A11. W2DC (Continued)

Sample Date	12/13/90		12/25/90		1/18/91		1/30/91		2/12/91	
Sample ID	1506		1518		1551		1569		1583	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.43	(L)	0.64	(M)	0.48	(L)	0.89	(L)	6.59	(L)
Carbon tetrachloride	0.19	(L)	0.66	(L)	0.21	(L)	0.28	(L)	3.14	(L)
1,2-Dichloroethane	<0.04		<0.04		0.08	(L)	<0.04		<0.04	
Benzene	1.11	(M)	0.84	(L)	1.45	(L)	4.71	(L)	1.60	(H)
Trichloroethylene	0.38	(M)	<0.004		<0.004		<0.004		0.19	(L)
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.48	(M)	0.83	(M)	2.27	(L)	13.63	(H)	2.85	(H)
n-Octane	<0.03		0.08	(M)	<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.04	(M)	<0.02		<0.02		<0.02	
Tetrachloroethylene	2.32	(L)	0.12	(L)	2.14	(L)	5.17	(L)	0.81	(L)
Dibromochloromethane	<0.001		<0.001		0.03	(H)	<0.001		<0.001	
Chlorobenzene	<0.02		0.01	(H)	<0.02		<0.02		<0.02	
Ethylbenzene	0.23	(L)	0.10	(M)	0.22	(L)	1.68	(L)	0.34	(H)
m/p-Xylene	0.91	(L)	0.32	(L)	0.99	(L)	7.17	(L)	1.38	(H)
Styrene/o-xylene	0.52	(L)	0.18	(M)	0.05	(L)	4.70	(L)	0.68	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.09	(L)	0.07	(L)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	5.43	(M)	4.06	(M)	<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level

TABLE A12. MULTIPLE DETECTOR SPECIATED UATMP DATA SUMMARY FOR W1KS

Sample Date	3/12/90		3/25/90		4/05/90		4/05/90		4/05/90	
Sample ID	1173		1176		1197D		1197R		1198D	
Compound	Concentration, ppbv									
Acetylene	<1.00		2.33	(L)	<1.00		1.39	(L)	<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		0.05	(L)	<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.18	(M)	0.32	(H)	0.19	(L)	0.20	(L)	0.19	(L)
Carbon tetrachloride	0.13	(L)	0.38	(L)	0.14	(L)	0.14	(L)	0.14	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.76	(H)	0.86	(H)	0.67	(H)	0.65	(H)	0.69	(H)
Trichloroethylene	0.12	(L)	0.32	(L)	<0.004		0.18	(M)	<0.004	
1,2-Dichloropropane	0.09	(H)	<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.63	(L)	0.81	(H)	0.64	(L)	0.63	(L)	0.65	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.18	(L)	0.16	(L)	0.21	(L)	0.22	(L)	0.22	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.09	(H)	0.12	(H)	0.08	(L)	0.09	(M)	0.10	(M)
m/p-Xylene	0.44	(M)	0.71	(H)	0.48	(L)	0.50	(M)	0.51	(M)
Styrene/o-xylene	0.15	(M)	0.50	(L)	0.18	(H)	0.15	(M)	0.18	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	0.20	(H)	<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.37	(L)	<0.09		<0.09		<0.09		0.05	(L)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		7.92	(L)	8.11	(L)	8.05	(L)

(H) High confidence level (M) Medium confidence level (L) Low confidence level

R Replicate analysis D Duplicate sample

(Continued)

TABLE A12. WIKS (Continued)

Sample Date	4/05/90		4/17/90		4/29/90		5/11/90		5/23/90	
Sample ID	1198R		1209		1218		1227		1248	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		1.37	(H)	<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		0.08	(l
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.16	(L)	0.19	(H)	0.18	(L)	0.23	(M)	0.33	(H
Carbon tetrachloride	0.14	(L)	0.15	(L)	0.14	(L)	0.15	(L)	0.21	(L
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.65	(H)	0.46	(L)	0.61	(H)	0.58	(H)	0.75	(H
Trichloroethylene	0.02	(L)	<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		1.07	(H)	<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		0.06	(H
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.64	(L)	0.37	(M)	0.48	(M)	0.60	(L)	1.16	(H
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		0.02	(H)	<0.02		<0.02	
Tetrachloroethylene	0.23	(L)	0.09	(L)	0.17	(L)	0.19	(L)	0.36	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.09	(M)	0.05	(M)	0.07	(H)	0.08	(L)	0.13	(H
m/p-Xylene	0.50	(M)	0.26	(M)	0.34	(H)	0.40	(L)	0.67	(H
Styrene/o-xylene	0.16	(M)	0.13	(M)	0.12	(M)	0.14	(M)	0.26	(H
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		0.13	(H)
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.06	(L)	<0.09		0.12	(L)	0.08	(M)	0.09	(L)
o-Dichlorobenzene	0.02	(M)	0.29	(L)	<0.02		<0.02		<0.02	
Propylene	8.15	(L)	<0.10		0.56	(M)	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis

TABLE A12. WIKS (Continued)

Sample Date	6/04/90		6/16/90		6/28/90		7/10/90		7/22/90	
Sample ID	1254		1272		1287		1296		1311	
Compound	Concentration, ppbv									
Acetylene	6.89	(L)	<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	0.21	(L)	<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		2.59	(L)	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		0.82	(M)	<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.38	(L)	0.20	(L)	0.17	(L)	0.27	(L)	0.13	(L)
Carbon tetrachloride	0.17	(L)	0.11	(L)	0.10	(L)	0.12	(L)	0.12	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.63	(H)	0.56	(L)	1.03	(L)	0.62	(H)	0.51	(H)
Trichloroethylene	1.00	(M)	<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	2.66	(H)	0.17	(L)	<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.66	(H)	1.55	(L)	1.43	(L)	1.29	(L)	0.65	(L)
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		0.06	(H)
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		0.04	(H)	<0.02		<0.02		<0.02	
Tetrachloroethylene	0.60	(L)	0.01	(L)	0.08	(L)	0.19	(L)	<0.07	
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.32	(H)	0.12	(L)	0.28	(L)	0.16	(L)	0.09	(M)
m/p-Xylene	1.89	(H)	0.57	(L)	1.49	(L)	0.85	(L)	0.54	(M)
Styrene/o-xylene	0.78	(H)	0.27	(L)	0.68	(L)	0.38	(L)	0.26	(H)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		0.09	(H)	0.06	(M)
p-Dichlorobenzene	0.31	(L)	<0.09		<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A12. W1KS (Continued)

Sample Date	8/03/90		8/15/90		8/27/90		9/07/90		9/20/90
Sample ID	1333		1342		1362		1370		1395
Compound	Concentration, ppbv								
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20
Chloroethane	0.02	(L)	<0.10		<0.10		<0.10		<0.10
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Chloroprene	0.03	(H)	<0.06		<0.06		<0.06		0.12
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006
1,1,1-Trichloroethane	0.15	(L)	0.24	(L)	0.27	(L)	0.33	(L)	0.18
Carbon tetrachloride	0.05	(L)	0.13	(L)	0.12	(L)	0.16	(L)	0.13
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04
Benzene	0.40	(H)	0.92	(H)	1.17	(H)	2.48	(M)	0.74
Trichloroethylene	<0.004		0.24	(L)	0.01	(M)	<0.004		<0.004
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
trans-1,3-Dichloropropylene	0.06	(H)	<0.04		<0.04		<0.04		0.08
Toluene	0.78	(H)	2.07	(L)	1.66	(H)	6.27	(L)	1.52
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04
1,1,2-Trichloroethane	<0.02		0.13	(H)	<0.02		<0.02		1.58
Tetrachloroethylene	0.09	(L)	0.12	(L)	0.26	(L)	0.58	(L)	0.20
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		0.05
Ethylbenzene	0.10	(L)	0.18	(L)	0.22	(H)	0.81	(L)	0.18
m/p-Xylene	0.54	(L)	1.39	(L)	1.22	(H)	3.72	(L)	0.74
Styrene/o-xylene	0.28	(L)	0.61	(L)	0.59	(M)	1.92	(L)	0.45
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		0.06
p-Dichlorobenzene	<0.09		<0.09		<0.09		0.98	(H)	<0.09
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

TABLE A12. WIKS (Continued)

Sample Date	10/02/90		10/22/90		10/26/90		11/07/90		11/07/90	
Sample ID	1412		1428		1439		1459D		1459R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.05	(H)	0.03	(H)	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.21	(L)	0.25	(L)	0.27	(L)	0.19	(M)	0.20	(M)
Carbon tetrachloride	0.14	(L)	0.16	(L)	0.15	(L)	0.16	(L)	0.16	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.73	(H)	0.91	(H)	0.97	(H)	0.48	(L)	0.46	(L)
Trichloroethylene	<0.004		<0.004		1.20	(L)	<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	1.42	(L)	2.42	(H)	2.39	(H)	0.75	(M)	0.72	(M
n-Octane	<0.03		<0.03		0.20	(M)	<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.46	(L)	0.39	(L)	1.72	(L)	0.08	(L)	0.08	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.16	(M)	0.19	(M)	0.26	(H)	0.10	(L)	0.10	(L)
m/p-Xylene	0.64	(M)	0.81	(M)	0.90	(M)	0.41	(L)	0.40	(L)
Styrene/o-xylene	0.38	(H)	0.46	(H)	0.46	(H)	0.22	(M)	0.25	(M
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		0.02	(L)	<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09		<0.09		0.04	(L)	0.05	(L
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A12. W1KS (Continued)

Sample Date Sample ID	11/07/90 1460D		11/07/90 1460R		11/19/90 1468		12/01/90 1487		12/13/90 1511	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		0.38	(H
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.18	(L)	0.18	(L)	0.46	(L)	0.20	(L)	0.71	(L
Carbon tetrachloride	0.46	(L)	0.16	(L)	0.17	(L)	0.17	(L)	0.15	(L
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	0.58	(L)	0.47	(L)	2.29	(H)	0.62	(H)	1.52	(M
Trichloroethylene	<0.004		<0.004		0.76	(L)	1.12	(H)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	0.75	(M)	0.71	(M)	5.84	(H)	0.82	(M)	3.62	(H
n-Octane	<0.03		<0.03		<0.03		<0.03		<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.08	(L)	0.08	(L)	1.79	(L)	0.46	(L)	0.19	(L
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		0.03	(M)
Ethylbenzene	0.11	(L)	0.10	(L)	0.82	(L)	0.17	(H)	0.25	(M)
m/p-Xylene	0.43	(L)	0.39	(L)	3.79	(M)	0.41	(M)	0.84	(M)
Styrene/o-xylene	0.30	(M)	0.33	(L)	1.90	(M)	0.23	(H)	0.51	(M)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	0.03	(L)	<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.26	(L)	<0.09		<0.09		0.10	(L)	0.08	(M)
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A12. W1KS (Continued)

Sample Date	12/25/90		12/25/90		12/25/90		12/25/90		1/06/91	
Sample ID	1515D		1515R		1516D		1516R		1536	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		0.05	(M)	<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.57	(M)	0.69	(M)	0.53	(L)	0.85	(M)	0.20	(L)
Carbon tetrachloride	0.74	(L)	0.74	(L)	0.74	(L)	0.74	(L)	0.54	(L)
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	1.26	(L)	1.28	(L)	1.22	(L)	1.28	(L)	0.57	(M)
Trichloroethylene	<0.004		<0.004		0.18	(L)	0.20	(L)	<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	2.32	(H)	2.33	(H)	2.33	(H)	2.27	(H)	0.45	(M)
n-Octane	0.27	(H)	0.27	(H)	<0.03		0.24	(H)	<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		0.06	(L)
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	0.17	(M)	0.18	(M)	0.17	(L)	0.17	(L)	0.12	(L)
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.29	(M)	0.29	(M)	0.28	(M)	0.28	(M)	0.08	(H)
m/p-Xylene	1.02	(L)	1.06	(M)	1.04	(M)	1.00	(M)	0.14	(M)
Styrene/o-xylene	0.52	(H)	0.51	(H)	0.49	(H)	0.53	(H)	0.06	(L)
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	0.15	(L)	0.11	(M)	0.09	(L)	0.11	(M)	<0.09	
o-Dichlorobenzene	0.08	(L)	<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		<0.10		<0.10		<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)

R Replicate analysis D Duplicate sample

TABLE A12. WIKS (Continued)

Sample Date	1/18/91		1/30/91		1/30/91		1/30/91		1/30/91	
Sample ID	1549		1560D		1560R		1561D		1561R	
Compound	Concentration, ppbv									
Acetylene	<1.00		<1.00		<1.00		<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10		<0.10		<0.10		<0.10	
Vinyl chloride	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloromethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Chloroethane	<0.10		<0.10		<0.10		<0.10		<0.10	
Bromomethane	<0.20		<0.20		<0.20		<0.20		<0.20	
Methylene chloride	<0.11		<0.11		<0.11		<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Chloroprene	<0.06		<0.06		<0.06		<0.06		<0.06	
Bromochloromethane	<0.003		<0.003		<0.003		<0.003		<0.003	
Chloroform	<0.006		<0.006		<0.006		<0.006		<0.006	
1,1,1-Trichloroethane	0.44	(L)	4.51	(L)	5.50	(L)	4.52	(L)	3.74	
Carbon tetrachloride	0.17	(L)	2.03	(L)	1.95	(L)	2.17	(L)	1.90	
1,2-Dichloroethane	<0.04		<0.04		<0.04		<0.04		<0.04	
Benzene	3.58	(H)	2.78	(H)	2.71	(H)	2.83	(H)	2.83	
Trichloroethylene	1.42	(H)	<0.004		<0.004		<0.004		<0.004	
1,2-Dichloropropane	<0.04		<0.04		<0.04		<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
Toluene	6.61	(H)	5.39	(H)	5.30	(H)	5.34	(H)	5.24	
n-Octane	0.81	(H)	0.50	(H)	0.54	(H)	0.53	(H)	<0.03	
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04		<0.04		<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02		<0.02		<0.02		<0.02	
Tetrachloroethylene	3.62	(L)	0.54	(L)	0.43	(L)	0.54	(L)	0.46	
Dibromochloromethane	<0.001		<0.001		<0.001		<0.001		<0.001	
Chlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Ethylbenzene	0.91	(M)	0.79	(H)	0.76	(H)	0.79	(H)	0.71	(
m/p-Xylene	3.37	(M)	2.91	(H)	2.88	(H)	2.95	(H)	2.78	(
Styrene/o-xylene	1.68	(H)	1.50	(H)	1.51	(H)	1.47	(H)	1.48	(
Bromoform	<0.001		<0.001		<0.001		<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002		<0.002		<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
p-Dichlorobenzene	<0.09		0.22	(L)	<0.09		<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02		<0.02		<0.02		<0.02	
Propylene	<0.10		14.27	(L)	14.52	(L)	<0.10		14.84	(

(H) High confidence level (M) Medium confidence level (L) Low confidence level (Continued)
R Replicate analysis D Duplicate sample

TABLE A12. WIKS (Continued)

Sample Date	2/11/91		2/23/91	
Sample ID	1578		1603	
Compound	Concentration, ppbv			
Acetylene	<1.00		<1.00	
1,3-Butadiene	<0.10		<0.10	
Vinyl chloride	<0.20		<0.20	
Chloromethane	<0.20		<0.20	
Chloroethane	<0.10		<0.10	
Bromomethane	<0.20		<0.20	
Methylene chloride	<0.11		<0.11	
trans-1,2-Dichloroethylene	<0.04		<0.04	
1,1-Dichloroethane	<0.04		<0.04	
Chloroprene	<0.06		<0.06	
Bromochloromethane	<0.003		<0.003	
Chloroform	<0.006		<0.006	
1,1,1-Trichloroethane	0.89	(L)	0.40	(M)
Carbon tetrachloride	0.37	(L)	0.32	(L)
1,2-Dichloroethane	<0.04		<0.04	
Benzene	4.43	(H)	0.57	(L)
Trichloroethylene	3.78	(M)	1.51	(L)
1,2-Dichloropropane	<0.04		<0.04	
Bromodichloromethane	<0.001		<0.001	
trans-1,3-Dichloropropylene	<0.04		<0.04	
Toluene	8.20	(H)	0.52	(H)
n-Octane	<0.03		0.02	(L)
n-Octane/t-1,3-dichloropropylene	<0.04		<0.04	
cis-1,3-Dichloropropylene	<0.04		<0.04	
1,1,2-Trichloroethane	<0.02		<0.02	
Tetrachloroethylene	2.06	(L)	0.70	(L)
Dibromochloromethane	<0.001		<0.001	
Chlorobenzene	<0.02		<0.02	
Ethylbenzene	0.96	(H)	0.04	(M)
m/p-Xylene	3.88	(H)	0.19	(H)
Styrene/o-xylene	2.85	(M)	0.09	(M)
Bromoform	<0.001		<0.001	
1,1,2,2-Tetrachloroethane	<0.002		<0.002	
m-Dichlorobenzene	<0.02		<0.02	
p-Dichlorobenzene	<0.09		<0.09	
o-Dichlorobenzene	<0.02		<0.02	
Propylene	<0.10		<0.10	

(H) High confidence level (M) Medium confidence level (L) Low confidence level

APPENDIX B

UATMP AIRS SITE DATA

Table B-1

1990 Urban Air Toxics Monitoring Program Sites

EPA Region	City	Radian Site Code	AIRS Number
II	Camden, NJ	CANJ	34-007-0003
III	Washington, DC	W1DC	11-001-0025
	Washington, DC	W2DC	11-001-0039
IV	Orlando, FL	ORFL	12-095-2002
	Pensacola, FL	PEFL	12-033-0004
V	Chicago, IL	C4IL	17-031-0060
	Sauget, IL	SAIL	17-163-1010
	Toledo, OH	TLOH	39-095-0081
VI	Houston, TX	H1TX	48-201-1034
	Baton Rouge, LA	BRLA	22-033-0006
	Port Neches, TX	PNTX	48-245-4007
VII	Wichita, KS	W1KS	20-173-0010

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (34) NEW JERSEY

NATMP SITE CODE CANJ

SITE ID	34-007 0003	CITY (10000)	CAMDEN	LATITUDE	39 55 23 N	UTM EASTING	491692
CITY POPULATION	84,910	COUNTY (007)	CAMDEN CO	LONGITUDE	75 05 50 W	DIFF GMT	05
AQCR POPULATION	5,487,472	AQCR (045)	METROPOLITAN PHILADELPHIA	UTM ZONE	18	ELEVATION ABOVE MSL	6 M
DATE ESTABLISHED		LAND USE (1)	RESIDENTIAL	UTM NORTHING	4419012	RECORD LAST UPDATED	89/11/22
DATE TERMINATED		LOCATION SETTING (2)	SUBURBAN	HQ EVAL DATE	81/09/16	LAST REQ EVAL	80/02/25
SITE ADDRESS	CAMDEN TRAILER, CUPEWOOD AND DAVIS STREET			DISTANCE CITY	007	COMPASS SECTOR	SE
URBAN AREA (6160)	PHILADELPHIA, PA NJ			HC IND	Y	MET DATA	Y
SUPPORTING AGENCY (001)	NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION			MSA (6160)	PHILADELPHIA, PA NJ		
COMMENTS	NJ #04081, START 502,03,1/1/68,NJ #058 (TSP) START 9/3/83, 504 10/83						
SITE USER INFO	START IP #2 10/83, SSI, SLAMS - TSP, CU 10/1/84, TSP DISC. 12/31/86						

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (11): DISTRICT OF COLUMBIA

UATMP SITE CODE W1DC

SITE ID	11 001 0025	CITY (00000)	NOT IN A CITY	LATITUDE	38 58 31 N	UTM EASTING	324771
CITY POPULATION	1	COUNTY (001)	WASHINGTON	LONGITUDE	77 01 22 W	DIFF GMT	05
AQCR POPULATION	2,956,793	AQCR (047) :	NATIONAL CAPITAL	UTM ZONE	18	ELEVATION ABOVE MSL	91 M
DATE ESTABLISHED .		LAND USE (2) .	COMMERCIAL	UTM NORTHING	4315771	RECORD LAST UPDATED	89/11/22
DATE TERMINATED .		LOCATION SETTING (1) :	URBAN AND CENTER CITY	HQ EVAL DATE		LAST REQ EVAL .	82/08/31
SITE ADDRESS .	TAKOMA SC, PINEY BRANCH ROAD & DAHLIA ST N			DISTANCE CITY	008	COMPASS SECTOR .	NW
URBAN AREA (8840) :	WASHINGTON, DC-MD-VA			HC IND		MET DATA :	N
SUPPORTING AGENCY (001)	ENVIRONMENTAL CONTROL DIV , D C DCRA			MSA (8840)	WASHINGTON, DC MD VA		
COMMENTS .	TSP ON ROOF OF GYMNASIUM BLDG, 03 MONITOR IN BOILER ROOM OF GYM						
SITE USER-INFO	NASIUM BUILDING (FIRST FLOOR), START DATE 03 01 80						

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EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (11). DISTRICT OF COLUMBIA

UATMP SITE CODE W2DC

SITE ID	11-001 0039	CITY (00000)	NOT IN A CITY	LATITUDE	38 51 51 N	UTM EASTING	327173
CITY POPULATION .	1	COUNTY (001)	WASHINGTON	LONGITUDE	76 59 31 W	DIFF GMI .	05
AQCR POPULATION .	2,956,793	AQCR (047)	NATIONAL CAPITAL	UTM ZONE	18	ELEVATION ABOVE MSL .	24 M
DATE ESTABLISHED .		LAND USE (2)	COMMERCIAL	UTM NORTHING	4303381	RECORD LAST UPDATED .	89/11/22
DATE TERMINATED .		LOCATION SETTING (1) .	URBAN AND CENTER CITY	HQ EVAL DATE .		LAST REQ EVAL .	83/03/30
SITE ADDRESS .	2150 RAILROAD AVE S E WASHINGTON D C			DISTANCE CITY		COMPASS SECTOR .	SE
URBAN AREA (8840)	WASHINGTON, DC MD-VA			HC IND .		MET DATA .	N
SUPPORTING AGENCY (001)	ENVIRONMENTAL CONTROL DIV , D C DCRA			MSA (8840)	WASHINGTON, DC MD VA		
COMMENTS .	DC POLICE PROPERTY DIVISION WAREHOUSE NEXT TO ROUTE I 295						
SITE USER INFO :	NEIGHBORHOOD SCALE LEAD MONITORING SITE SAMPLING BEGUN 06 01 83						

cah 211f
AIRS Site Code Inform...

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (12) FLORIDA

DATMP SITE CODE ORFL

SITE ID	12 095-2002	CITY (78300)	WINTER PARK	LATITUDE	28 35 58 N	UTM EASTING	464502
CITY POPULATION	22 339	COUNTY (095)	ORANGE CO	LONGITUDE	81.21 47 W	DIFF GMT	05
AQCR POPULATION	1,336,646	AQCR (018)	CENTRAL FLORIDA	UTM ZONE	17	ELEVATION ABOVE MSL	27 M
DATE ESTABLISHED		LAND USE (2)	COMMERCIAL	UTM NORTHING	3163490	RECORD LAST UPDATED	91/06/26
DATE TERMINATED		LOCATION SETTING (1)	URBAN AND CENTER CITY	HQ EVAL DATE	82/06/18	LAST REQ EVAL	
SITE ADDRESS	MORRIS BLVD			DISTANCE CITY	006	COMPASS SECTOR	NE
URBAN AREA (5960)	ORLANDO, FL			HC IND	Y	MET DATA	Y
SUPPORTING AGENCY (001)	ORANGE COUNTY HEALTH DEPARTMENT			MSA (5960)	ORLANDO, FL		
COMMENTS	BETWEEN MORRIS BLVD & FAIRBLANKS AVE						
SITE USER INFO	BETWEEN MORRIS BLVD & FAIRBLANKS AVE						

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (12): FLORIDA

DATMP SITE CODE PEFL

SITE ID	12 033-0004	CITY (10225)	CANTONMENTS	LATITUDE	30 32 00 N	UTM EASTING	480814
CITY POPULATION	23,389	COUNTY (033)	ESCAMBIA CO	LONGITUDE	87 12 00 W	DIFF GMT	06
AQCR POPULATION	2,512,539	AQCR (005)	MOBILE PENSACOLA-PAMAMA CITY - S	UTM ZONE	16	ELEVATION ABOVE MSL	35 M
DATE ESTABLISHED	75/01/01	LAND USE (3)	INDUSTRIAL	UTM NORTHING	3377716	RECORD LAST UPDATED	89/11/22
DATE TERMINATED		LOCATION SETTING (2)	SUBURBAN	HQ EVAL DATE		LAST REQ EVAL	88/01/20
SITE ADDRESS	ELLYSON INDUSTRIAL PARK - COPTER ROAD			DISTANCE CITY	008	COMPASS SECTOR	N
URBAN AREA (6080)	PENSACOLA, FL			HC IND	Y	MET DATA	Y
SUPPORTING AGENCY (001)	FLORIDA DEPT ENVIRONMENTAL REGULATION, NORTHWEST DI			MSA (6080)	PENSACOLA, FL		
COMMENTS	ADD NOX INSTRUMENT DELETE CO INSTRUMENT						

cah 211f

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (17). ILLINOIS

UATMP SITE CODE C4IL

SITE ID :	17 031 0060	CITY (14000)	CHICAGO	LATITUDE	41 39 08 N	UTM EASTING	449860
CITY POPULATION .	3,005,072	COUNTY (031)	COOK CO	LONGITUDE	87 36 08 W	DIFF GMI	06
AQCR POPULATION ·	7,917,109	AQCR (067)	METROPOLITAN CHICAGO	UTM ZONE	16	ELEVATION ABOVE MSL	177 M
DATE ESTABLISHED :	87/10/30	LAND USE (1)	RESIDENTIAL	UTM NORTHING	4611156	RECORD LAST UPDATED .	90/01/04
DATE TERMINATED :		LOCATION SETTING (2) ·	SUBURBAN	HQ EVAL DATE		LAST REQ EVAL	
SITE ADDRESS :	13100 S DOTY			DISTANCE CITY		COMPASS SECTOR ·	
URBAN AREA (1601) :	CHICAGO, IL - NORTHWESTERN IN			HC IND	N	MET DATA	N
SUPPORTING AGENCY (001)	ILLINOIS ENVIRONMENTAL PROTECTION AGENCY			MSA (1600)	CHICAGO, IL		
COMMENTS :							
SITE USER INFO	CARVER H S						

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EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (17): ILLINOIS

UATMP SITE CODE: SAIL

SITE ID	17 163 1010	CITY (00000)	NOT IN A CITY	LATITUDE	38 35.31 N	UTM EASTING	747037
CITY POPULATION	1	COUNTY (163)	ST CLAIR CO	LONGITUDE	90 09 49 W	DIFF GMI	06
AQCR POPULATION	2,423,778	AQCR (070)	METROPOLITAN ST LOUIS	UTM ZONE	15	ELEVATION ABOVE MSL	198 M
DATE ESTABLISHED		LAND USE (3)	INDUSTRIAL	UTM NORTHING	4275122	RECORD LAST UPDATED	89/11/22
DATE TERMINATED		LOCATION SETTING (2)	SUBURBAN	HQ EVAL DATE		LAST REQ EVAL	
SITE ADDRESS	IEPA TRAILER, LITTLE AVENUE			DISTANCE CITY		COMPASS SECTOR	
URBAN AREA (7040)	ST LOUIS, MO IL			HC IND		MET DATA	
SUPPORTING AGENCY (001)	ILLINOIS ENVIRONMENTAL PROTECTION AGENCY			MSA (7040)	ST LOUIS, MO IL		
COMMENTS							
SITE USER INFO							

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (39) OHIO

UATMP SITE CODE TLOH

SITE ID	39 095 0081	CITY (77000)	TOLEDO	LATITUDE	41 43 05 N	UTM EASTING	294042
CITY POPULATION	354 635	COUNTY (095)	LUCAS CO	LONGITUDE	83 28 33 W	DIFF GMT	05
AQCR POPULATION	713,772	AQCR (124)	METROPOLITAN TOLEDO	UTM ZONE	17	ELEVATION ABOVE MSL	183 M
DATE ESTABLISHED	71/06/01	LAND USE (1)	RESIDENTIAL	UTM NORTHING	4621222	RECORD LAST UPDATED	91/07/03
DATE TERMINATED		LOCATION SETTING (2)	SUBURBAN	HQ EVAL DATE		LAST REQ EVAL	
SITE ADDRESS	FRIENDSHIP PK SHELTER HOUSE 2930 131ST ST			DISTANCE CITY		COMPASS SECTOR	
URBAN AREA (8400)	TOLEDO, OH-MI			HC IND		MET DATA	
SUPPORTING AGENCY (015)	CITY OF TOLEDO, ENVIRONMENTAL SERVICES DIVISION			MSA (8100)	TOLEDO, OH		
COMMENTS	ENVIRONMENTAL SERVICES DIVSION, CITY OF TOLEDO						
SITE USER INFO	SO2 BUBBLER 3/74 NO2 BUBBLER 7/74						

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (48) TEXAS

DATMP SITE CODE H1TX

SITE ID	48 201-1034	CITY (35000)	HOUSTON	LATITUDE	29 46 17 N	UTM EASTING	285150
CITY POPULATION .	1,595,138	COUNTY (201)	HARRIS CO	LONGITUDE .	95.13.20 W	DIFF GMT .	06
AQCR POPULATION :	3,276,239	AQCR (215)	METROPOLITAN HOUSTON GALVESTON	UTM ZONE .	15	ELEVATION ABOVE MSL	14 M
DATE ESTABLISHED .		LAND USE (1)	RESIDENTIAL	UTM NORTHING	3295344	RECORD LAST UPDATED	90/01/08
DATE TERMINATED :		LOCATION SETTING (2) .	SUBURBAN	HQ EVAL DATE		LAST REQ EVAL	83/03/03
SITE ADDRESS :	HARRIS ELEM SCH 1262 MAE DRIVE			DISTANCE CITY .		COMPASS SECTOR	
URBAN AREA (3360) :	HOUSTON, TX			HC IND	Y	MET DATA	Y
SUPPORTING AGENCY (001)	TEXAS AIR CONTROL BOARD			MSA (3360) .	HOUSTON, TX		
COMMENTS .	EMSL TRACE METALS SAMPLING SITE						
SITE USER INFO .							

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (22) LOUISIANA

DATMP SITE CODE BRLA

SITE ID	22 033 0006	CITY (05000)	BATON ROUGE	LATITUDE	30 27 52 N	UTM EASTING	673956
CITY POPULATION	219,419	COUNTY (033)	EAST BATON ROUGE PAR	LONGITUDE	91 11 17 W	DIFF GMT	06
AQCR POPULATION	3,921,588	AQCR (106)	SOUTHERN LOUISIANA	UTM ZONE	15	ELEVATION ABOVE MSL	62 M
DATE ESTABLISHED	90/01/03	LAND USE (2)	COMMERCIAL	UTM NORTHING	3371464	RECORD LAST UPDATED	91/07/03
DATE TERMINATED		LOCATION SETTING (1)	URBAN AND CENTER CITY	HQ EVAL DATE		LAST REQ EVAL	
SITE ADDRESS	1600 RIVERSIDE ROAD			DISTANCE CITY		COMPASS SECTOR	
URBAN AREA (0760)	BATON ROUGE, LA			HC IND	N	MET DATA	Y
SUPPORTING AGENCY (001)	LOUISIANA STATE DEPARTMENT OF NATURAL RESOURCES			MSA (0760)	BATON ROUGE, LA		
COMMENTS	CAPITOL SITE RELOCATION FOR 220330004						
SITE USER INFO	:						

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (48) TEXAS

UATMP SITE CODE PNTX

SITE ID	48-254-4007	CITY (58940)	PORT NECHES	LATITUDE	29 59 12 N	UTM EASTING	408198
CITY POPULATION	13,944	COUNTY (245)	JEFFERSON CO	LONGITUDE	93.57 06 W	DIFF GMI	
AQCR POPULATION	3,921,588	AQCR (106)	SOUTHERN LOUISIANA SOUTHEAST TEXAS	UTM ZONE	15	ELEVATION ABOVE MSL	12 M
DATE ESTABLISHED		LAND USE (1)	RESIDENTIAL	UTM NORTHING	3317509	RECORD LAST UPDATED	
DATE TERMINATED		LOCATION SETTING (2)	SUBURBAN	HQ EVAL DATE		LAST REQ EVAL	
SITE ADDRESS	PORT NECHES - GROVES HIGH SCHOOL, 1225 MERRIMAN, PORT NECHES, TX			DISTANCE CITY		COMPASS SECTOR	
URBAN AREA ()				HC IND		MET DATA	
SUPPORTING AGENCY	TEXAS AIR CONTROL BOARD			MSA (0840)	BEAUMONT PORT ARTHUR, TX		

COMMENTS

cah 211f
AIRS Site Code Information

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE DESCRIPTION INVENTORY

STATE (20): KANSAS

DATMP SITE CODE W1KS

SITE ID	20 173 0010	CITY (79000)	WICHITA	LATITUDE	37 42 04 N	UTM EASTING	648644
CITY POPULATION	279,835	COUNTY (173)	SEDGWICK CO	LONGITUDE	97 18 50 W	DIFF GMT	06
AQCR POPULATION	602,705	AQCR (099)	SOUTH CENTRAL KANSAS	UTM ZONE	14	ELEVATION ABOVE MSL	396 M
DATE ESTABLISHED		LAND USE (1)	RESIDENTIAL	UTM NORTHING	4173786	RECORD LAST UPDATED	89/11/22
DATE TERMINATED		LOCATION SETTING (1)	URBAN AND CENTER CITY	REQ EVAL DATE		LAST REQ EVAL	79/09/17
SITE ADDRESS	HELATH DEPT., 1900 EAST 9TH ST			DISTANCE CITY	003	COMPASS SECTOR :	NE
URBAN AREA (9040) :	WICHITA, KS			RC IND		MET DATA	N
SUPPORTING AGENCY (001) :	KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT			MSA (9010)	WICHITA, KS		
COMMENTS :	SITE OPERATED BY WICHITA-SEDGWICK CO HEALTH DEPT						
SITE USER INFO :	AT CITY-COUNTY HEALTH BLDG ACTIVE 1/1/73						

APPENDIX C

UATMP CONCENTRATION CORRELATION GRAPHS

APPENDIX C

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C1	1,1,1-Trichloroethane and carbon tetrachloride concentrations in BRLA 1990 UATMP samples.	C1
C2	1,1,1-Trichloroethane and carbon tetrachloride concentrations in C4IL 1990 UATMP samples.	C2
C3	1,1,1-Trichloroethane and carbon tetrachloride concentrations in CANJ 1990 UATMP samples.	C3
C4	1,1,1-Trichloroethane and carbon tetrachloride concentrations in H1TX 1990 UATMP samples.	C4
C5	1,1,1-Trichloroethane and carbon tetrachloride concentrations in ORFL 1990 UATMP samples.	C5
C6	1,1,1-Trichloroethane and carbon tetrachloride concentrations in PEFL 1990 UATMP samples.	C6
C7	1,1,1-Trichloroethane and carbon tetrachloride concentrations in PNTX 1990 UATMP samples.	C7
C8	1,1,1-Trichloroethane and carbon tetrachloride concentrations in SAIL 1990 UATMP samples.	C8
C9	1,1,1-Trichloroethane and carbon tetrachloride concentrations in TLOH 1990 UATMP samples.	C9
C10	1,1,1-Trichloroethane and carbon tetrachloride concentrations in W1DC 1990 UATMP samples.	C10
C11	1,1,1-Trichloroethane and carbon tetrachloride concentrations in W2DC 1990 UATMP samples.	C11
C12	1,1,1-Trichloroethane and carbon tetrachloride concentrations in W1KS 1990 UATMP samples.	C12

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Figure		Page
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C15	Benzene, ethylbenzene, m,p-xylene, styrene/o-xylene, and toluene concentrations in CANJ 1990 UATMP samples	C15
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C17	Benzene, ethylbenzene, m,p-xylene, styrene/o-xylene, and toluene concentrations in ORFL 1990 UATMP samples	C17
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C21	Benzene, ethylbenzene, m,p-xylene, styrene/o-xylene, and toluene concentrations in TLOH 1990 UATMP samples	C21
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C27	Comparison of benzene concentrations in W1DC and W2DC 1990 UATMP samples	C27
C28	Comparison of toluene concentrations in W1DC and W2DC 1990 UATMP samples	C28
C29	Comparison of ethylbenzene concentrations in W1DC and W2DC 1990 UATMP samples.	C29
C30	Comparison of m,p-xylene concentrations in W1DC and W2DC 1990 UATMP samples.	C30
C31	Comparison of styrene/o-xylene concentrations in W1DC and W2DC 1990 UATMP samples.	C31

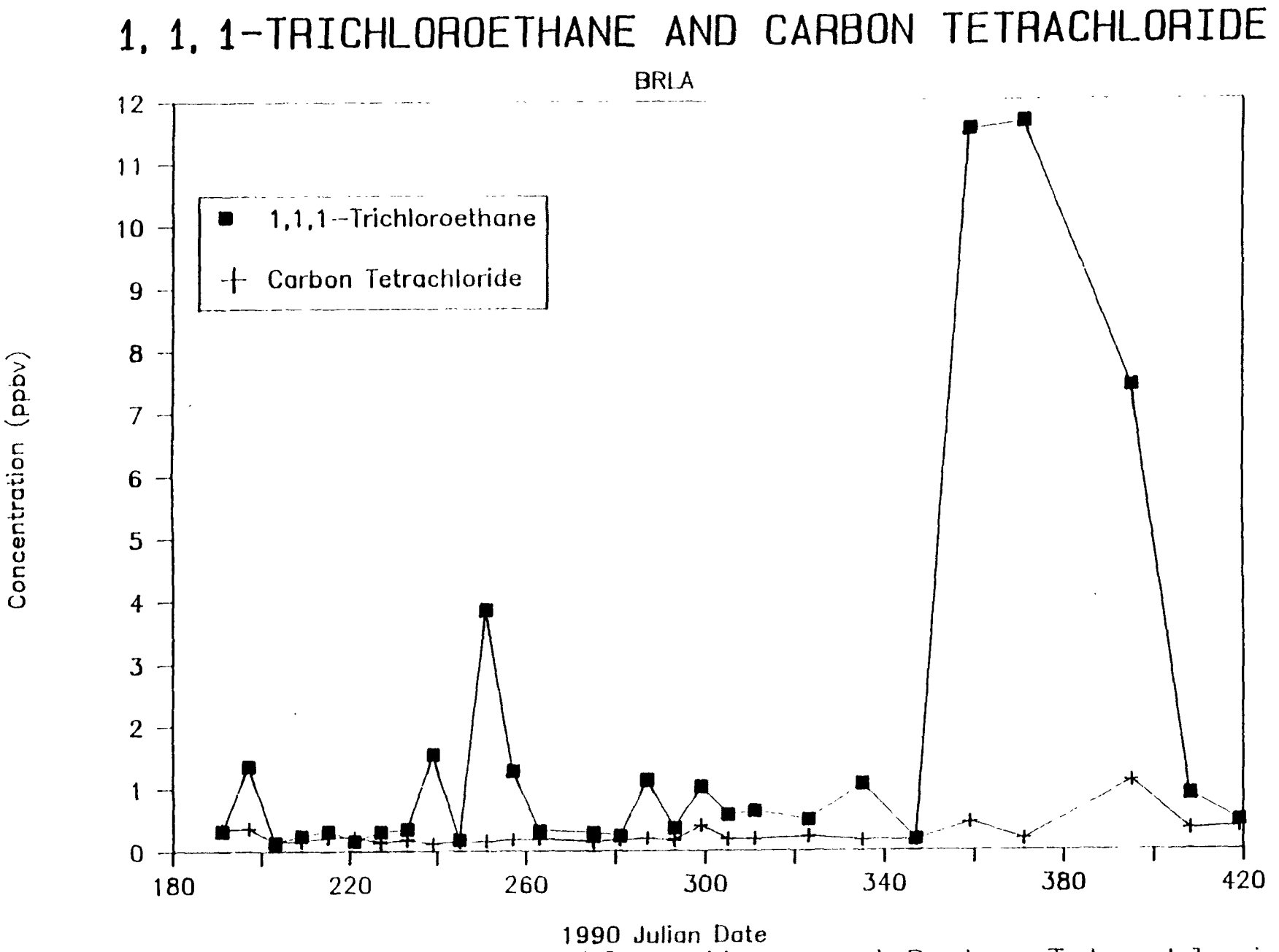

Figure C-1. 1, 1, 1-Trichloroethane and Carbon Tetrachloride concentration in BRLA 1990 UATMP Samples.

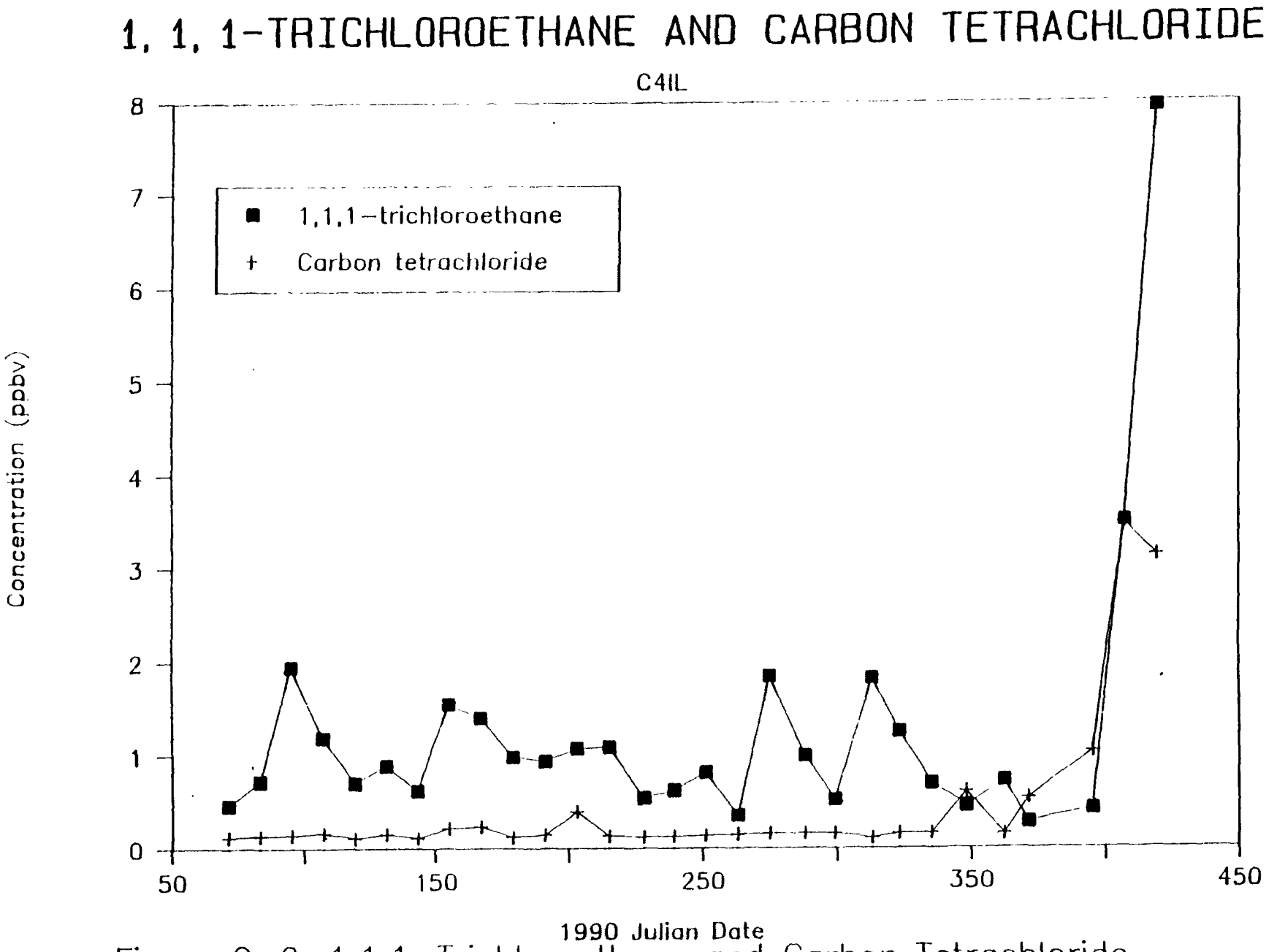

Figure C-2. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in C4IL 1990 UATMP Samples.

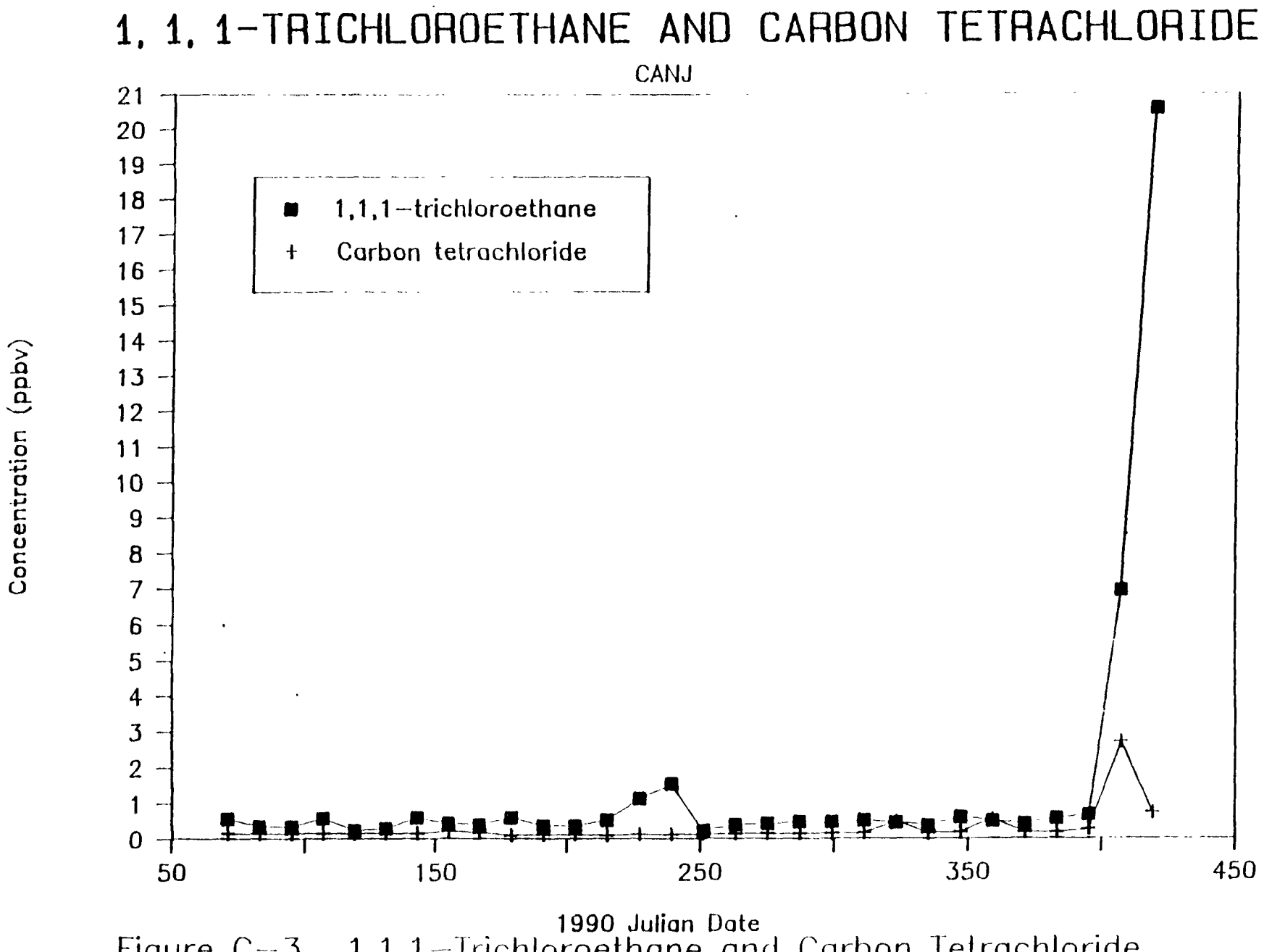

Figure C-3. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in CANJ 1990 UATMP Samples

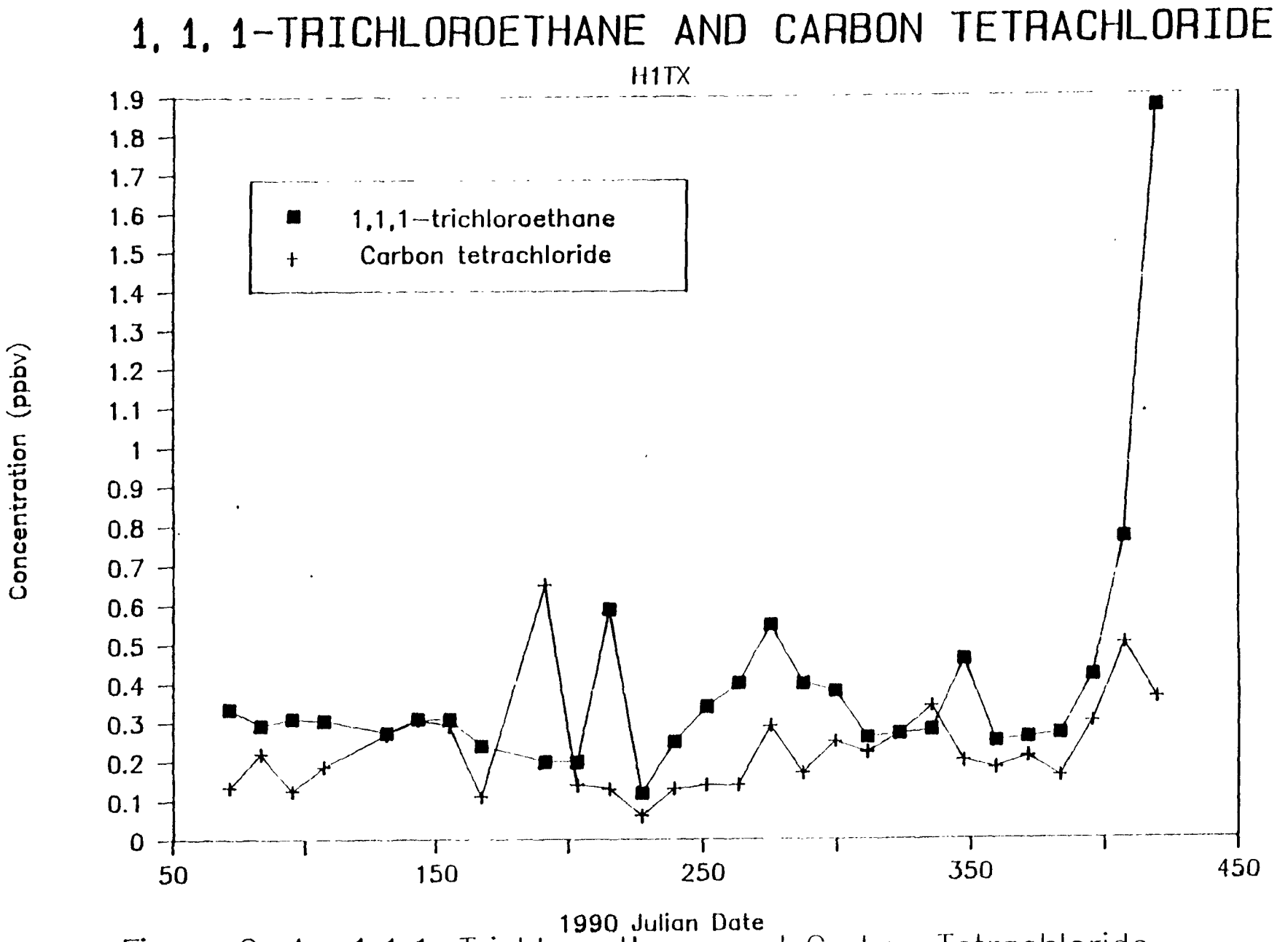

Figure C-4. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in H1TX 1990 UATMP Samples.

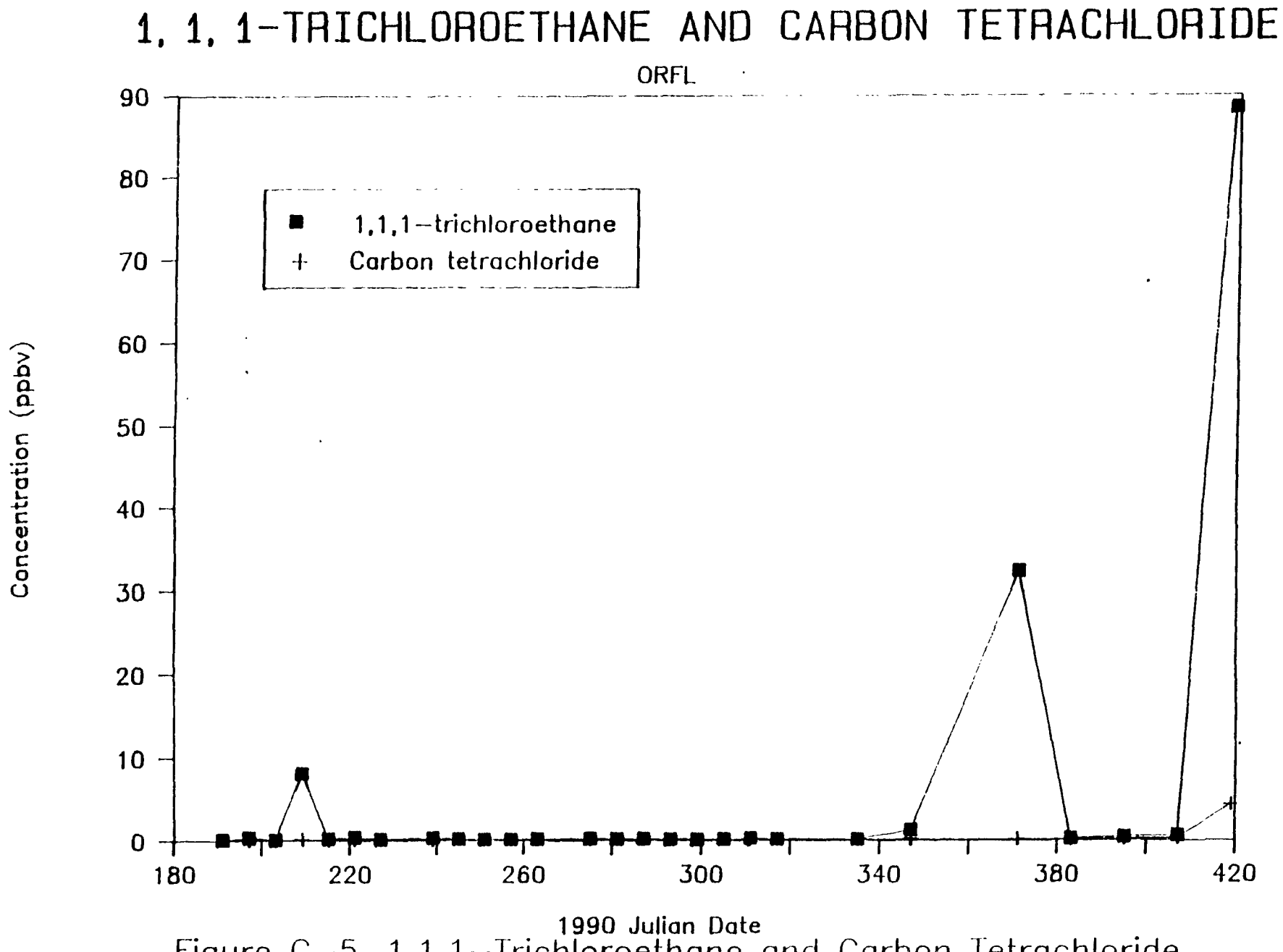

Figure C-5. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in ORFL 1990 UATMP Sample

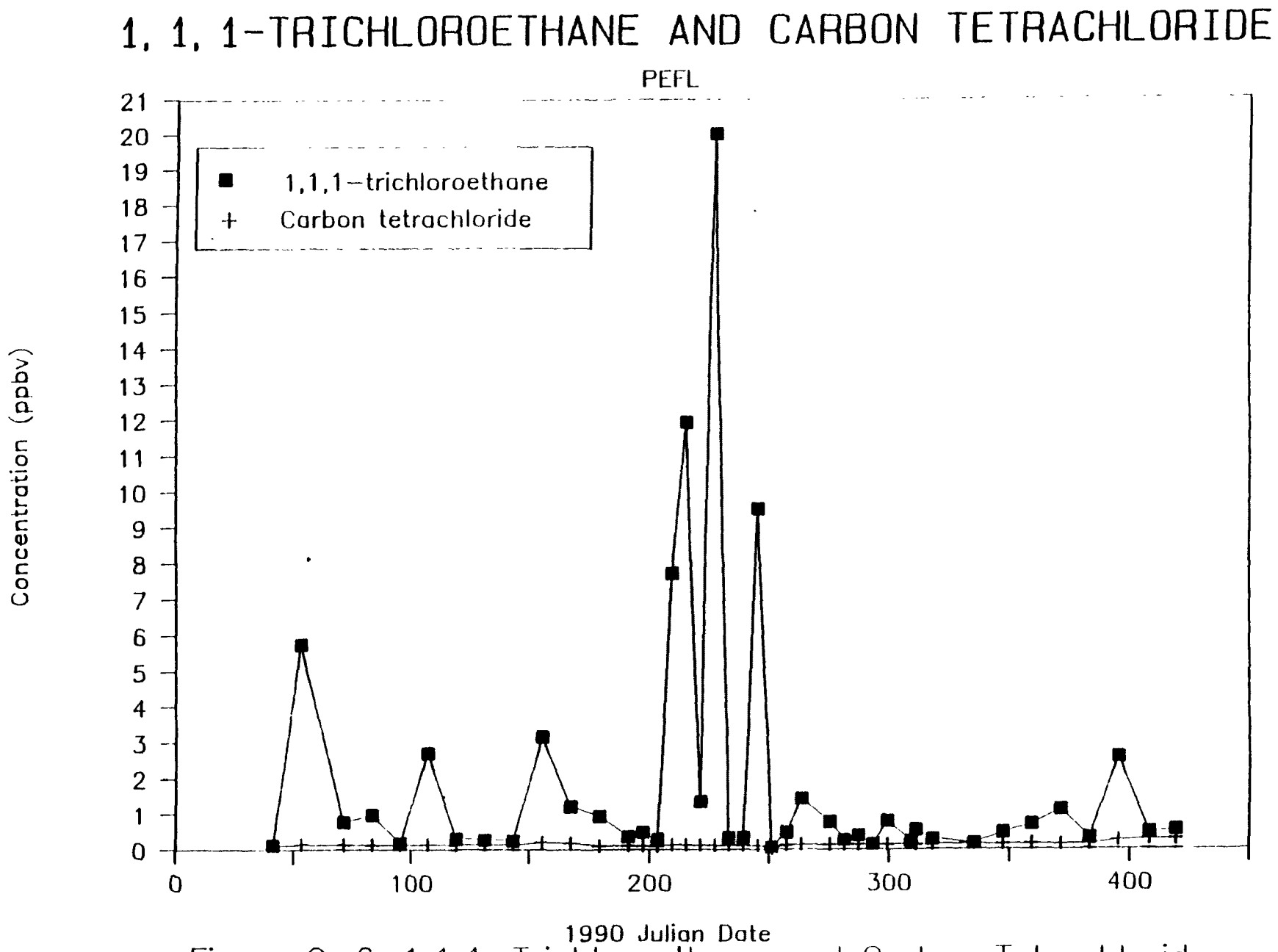

Figure C-6. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in PEFI 1990 UATMP Samples.

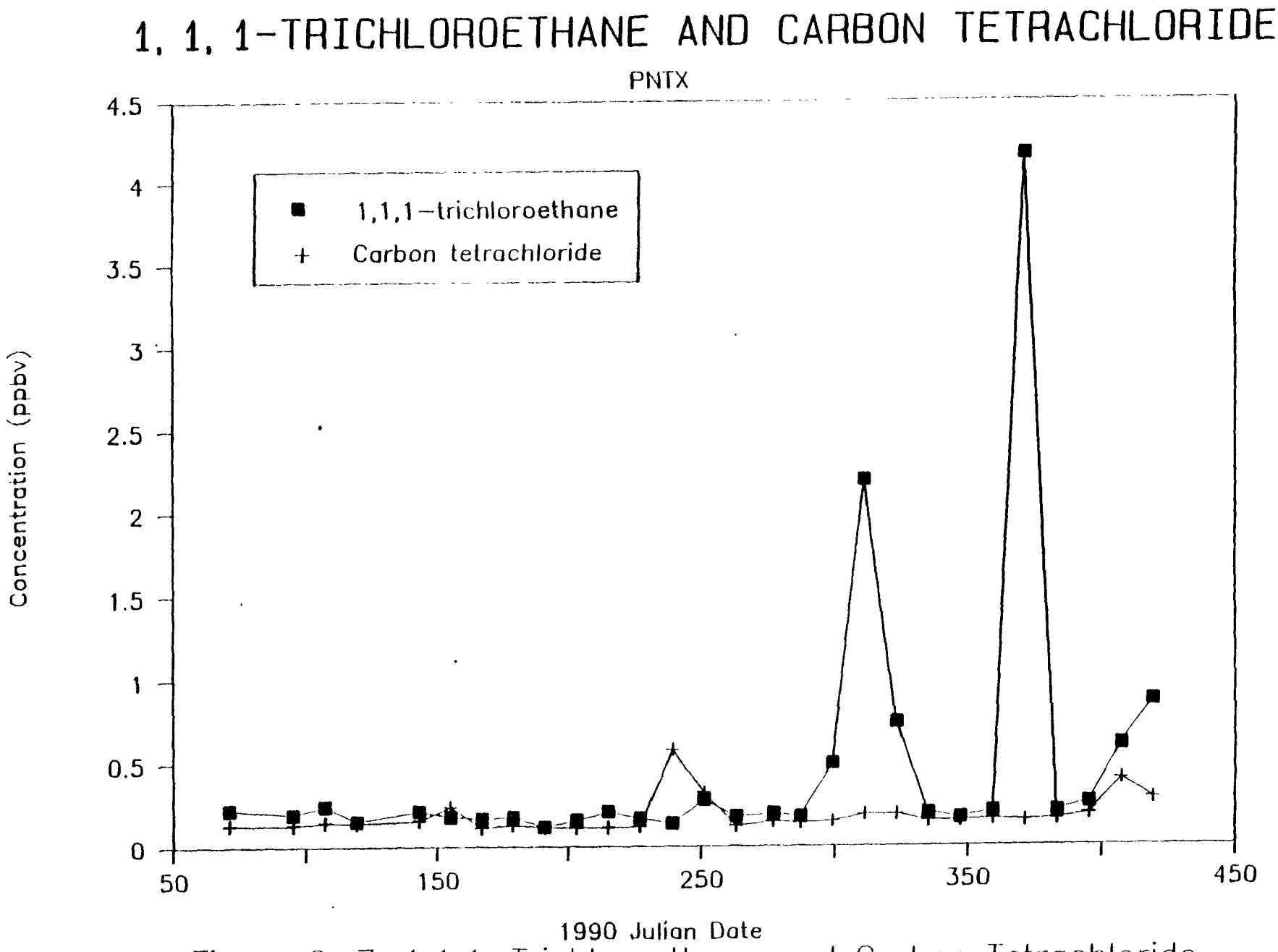

Figure C-7. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in PNTX 1990 UATMP Samples

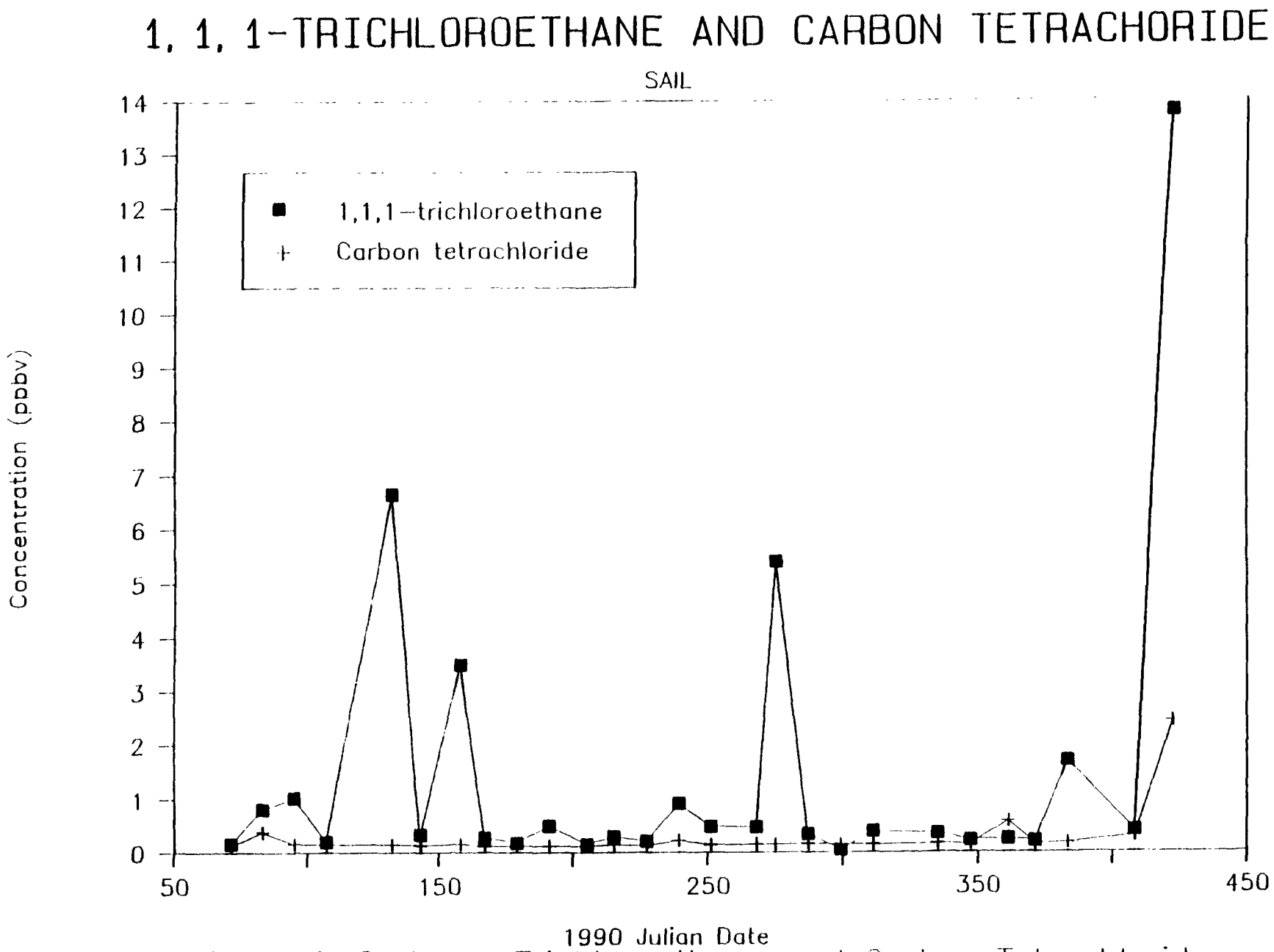

Figure C-8. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in SAIL 1990 UATMP Samples.

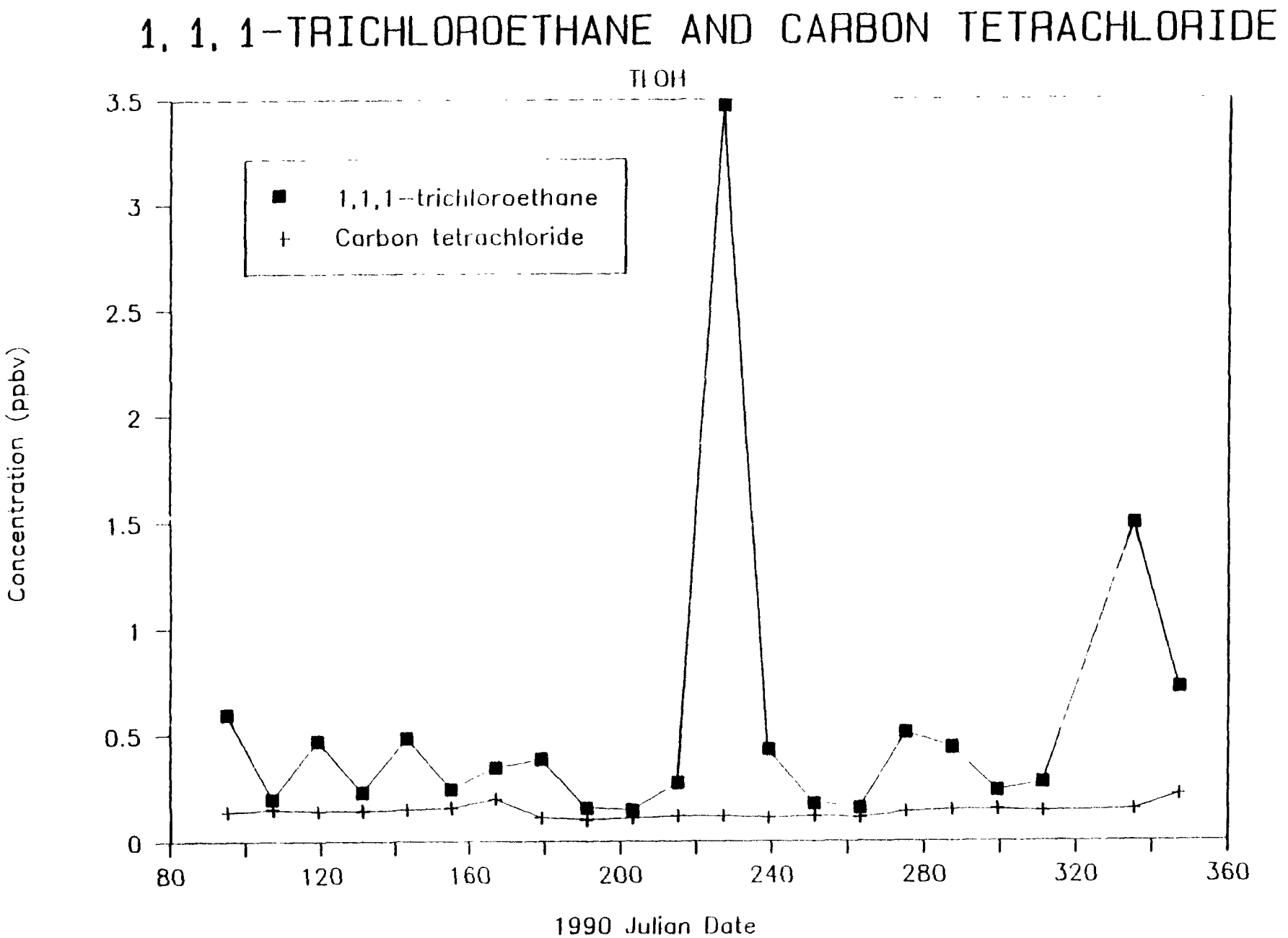

Figure C-9. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in TLOH 1990 UATMP Samples

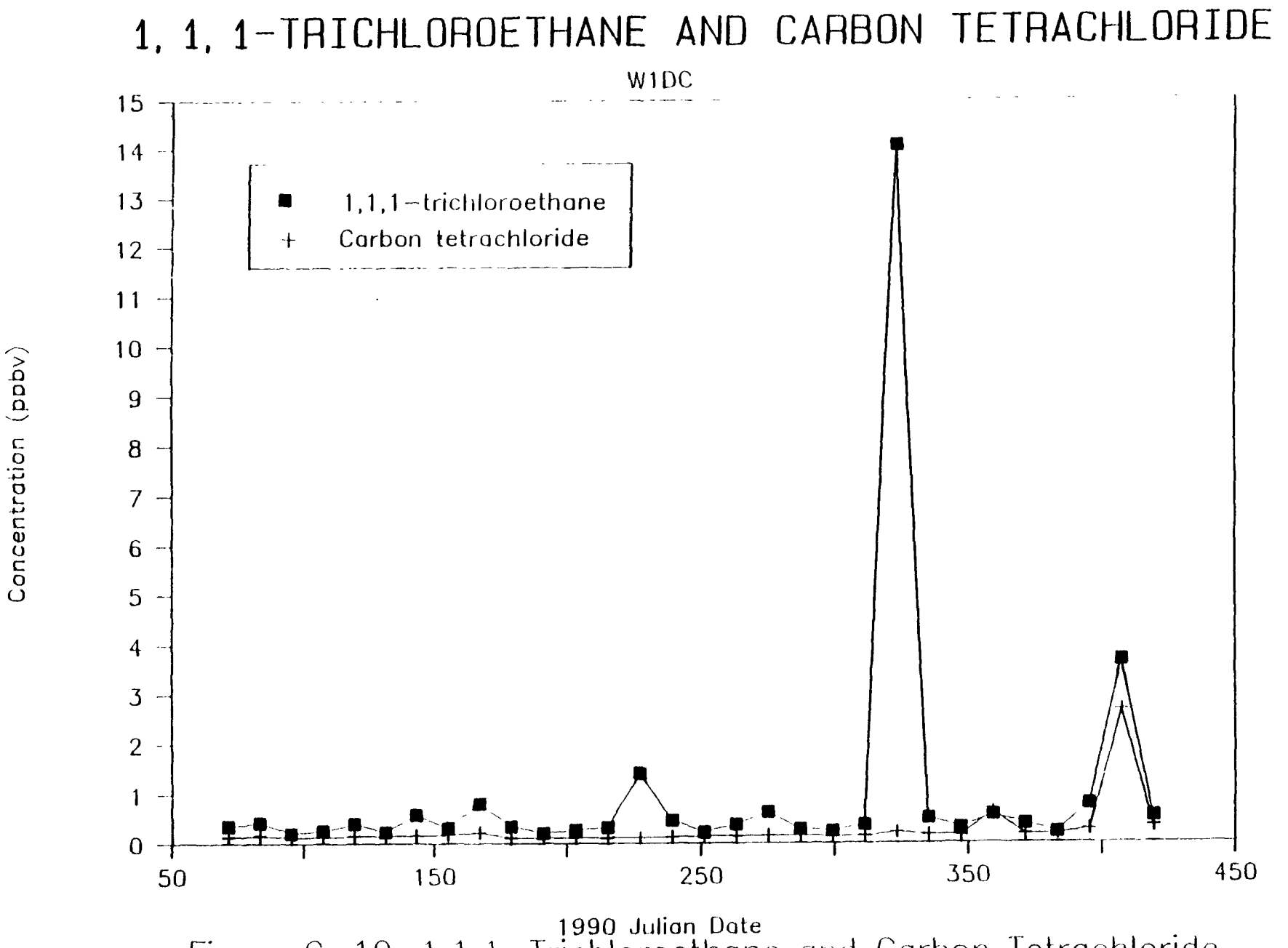

Figure C-10. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in W1DC 1990 UATMP Samples.

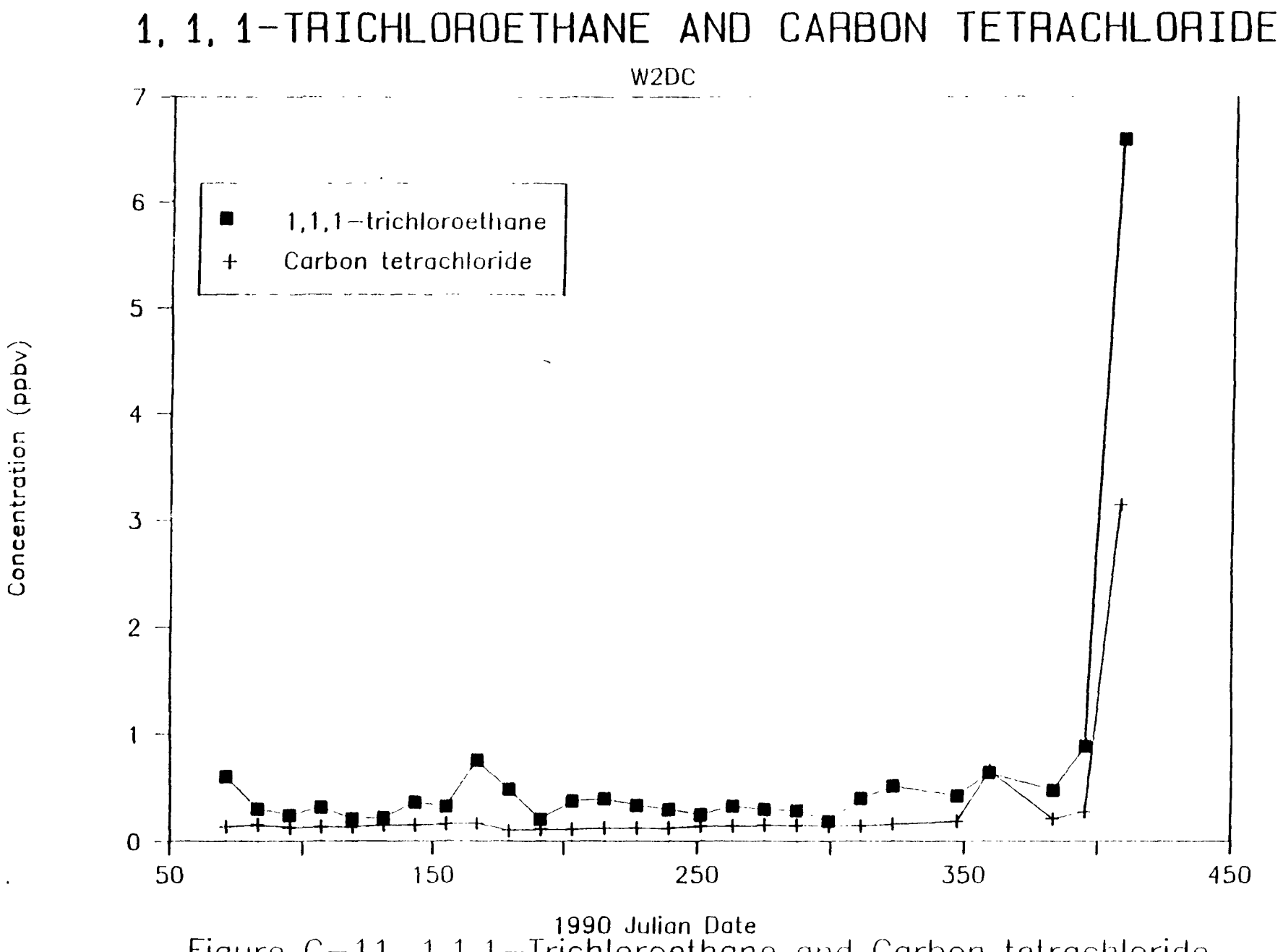

Figure C-11. 1,1,1-Trichloroethane and Carbon tetrachloride concentration in W2DC 1990 UATMP Samples.

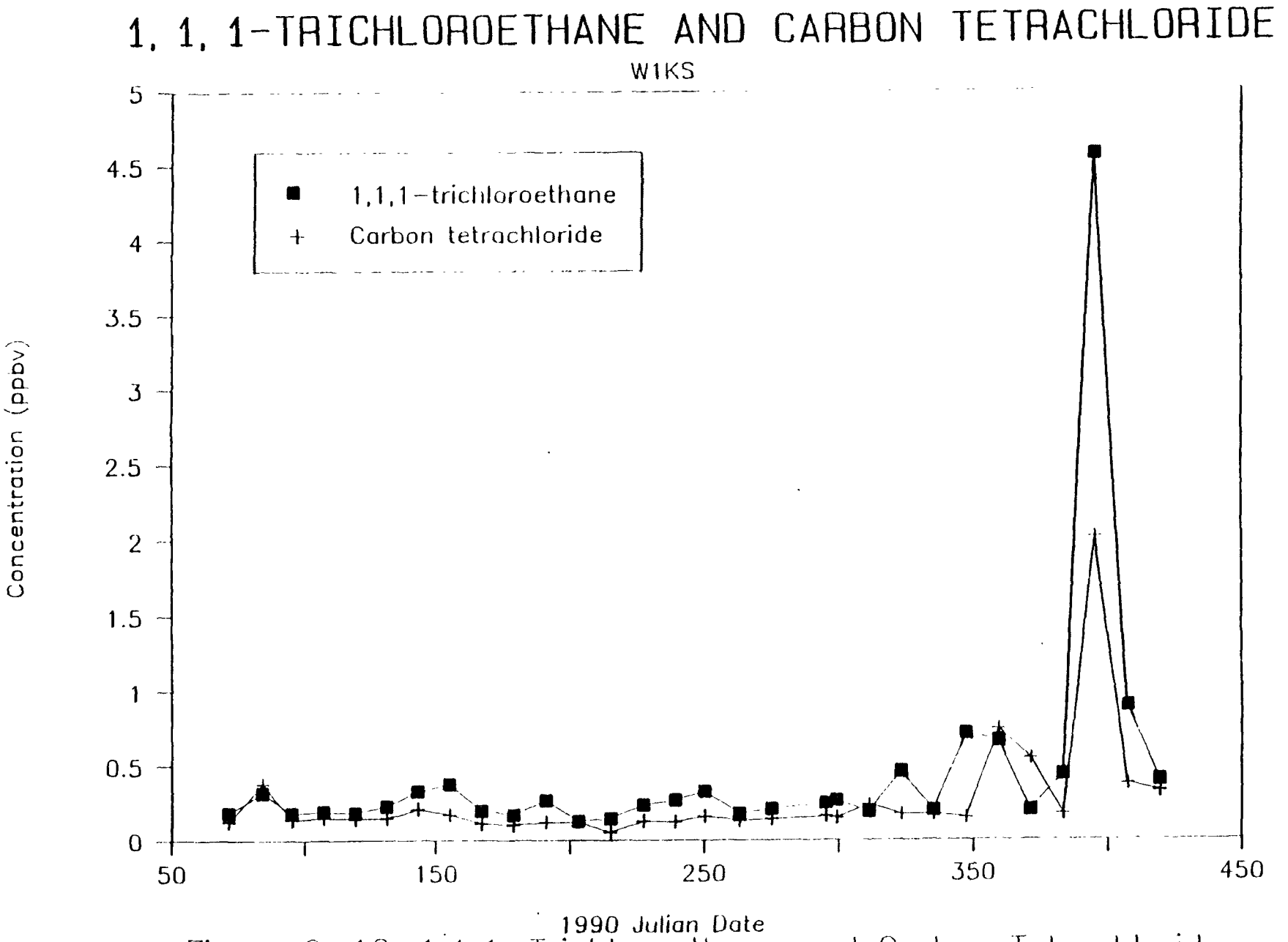

Figure C-12. 1,1,1-Trichloroethane and Carbon Tetrachloride concentration in W1KS 1990 UATMP Samples.

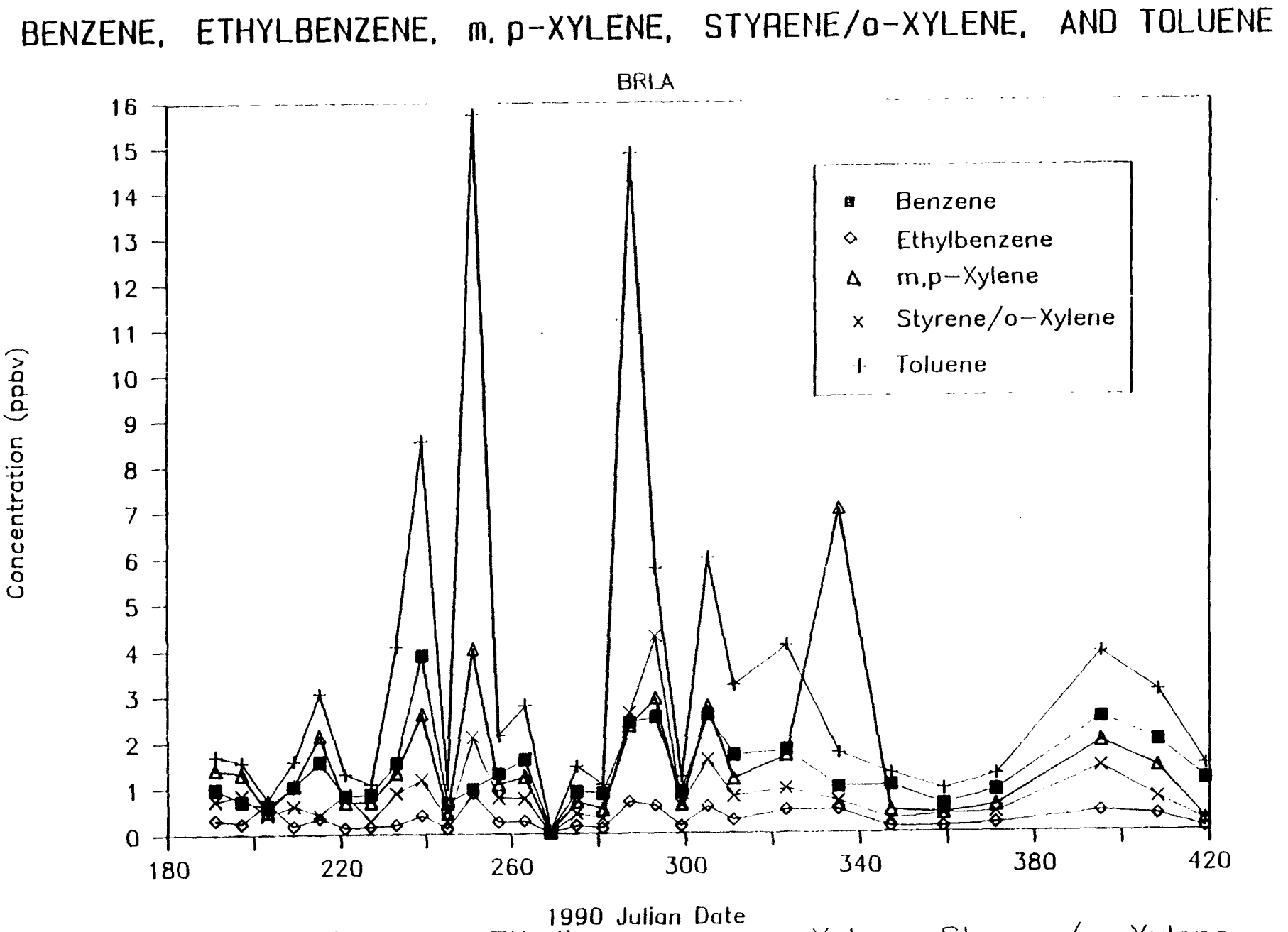

Figure C-13. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in BRLA 1990 UATMP Samples

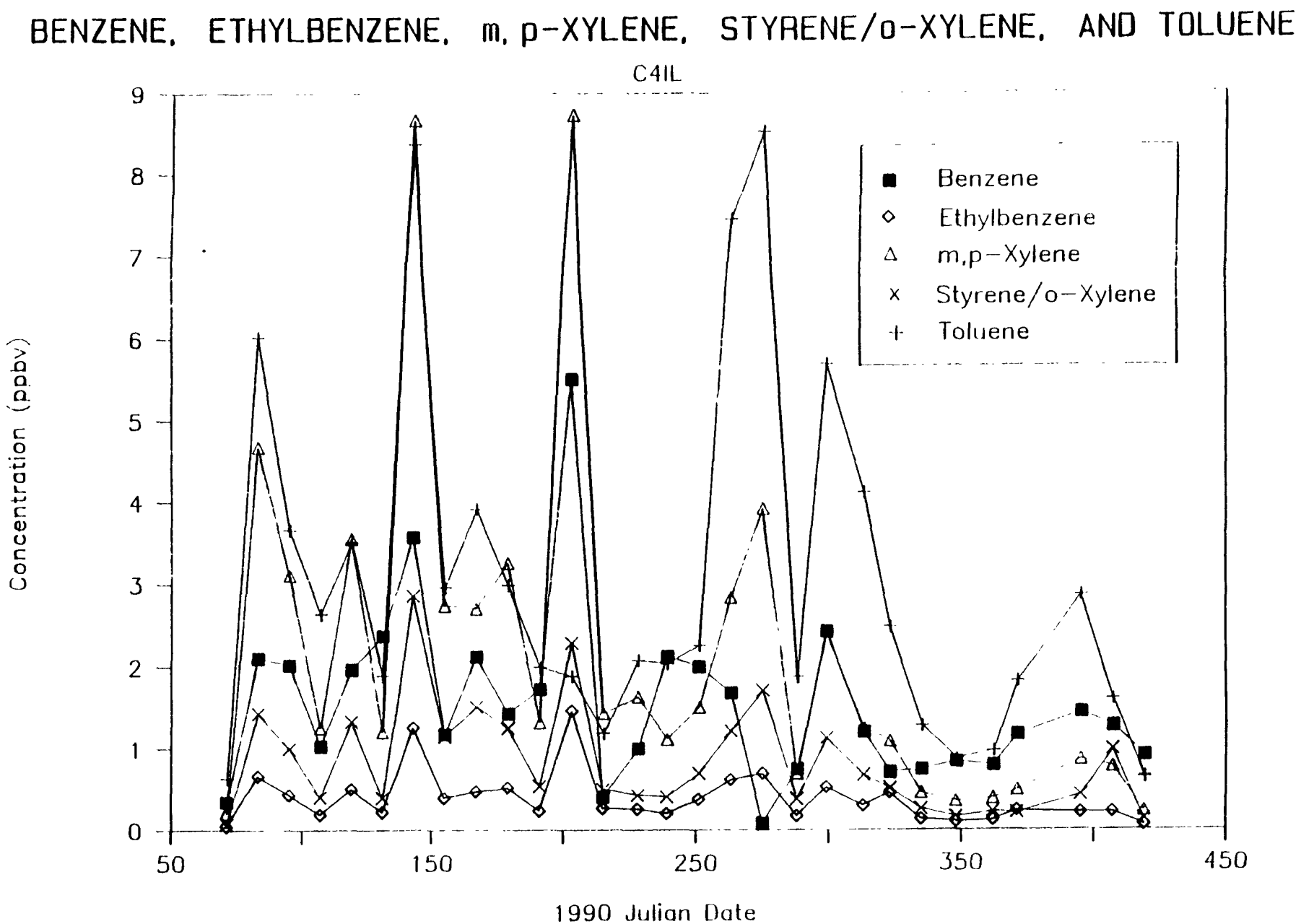

Figure C-14. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in C4II 1990 UATMP Samples.

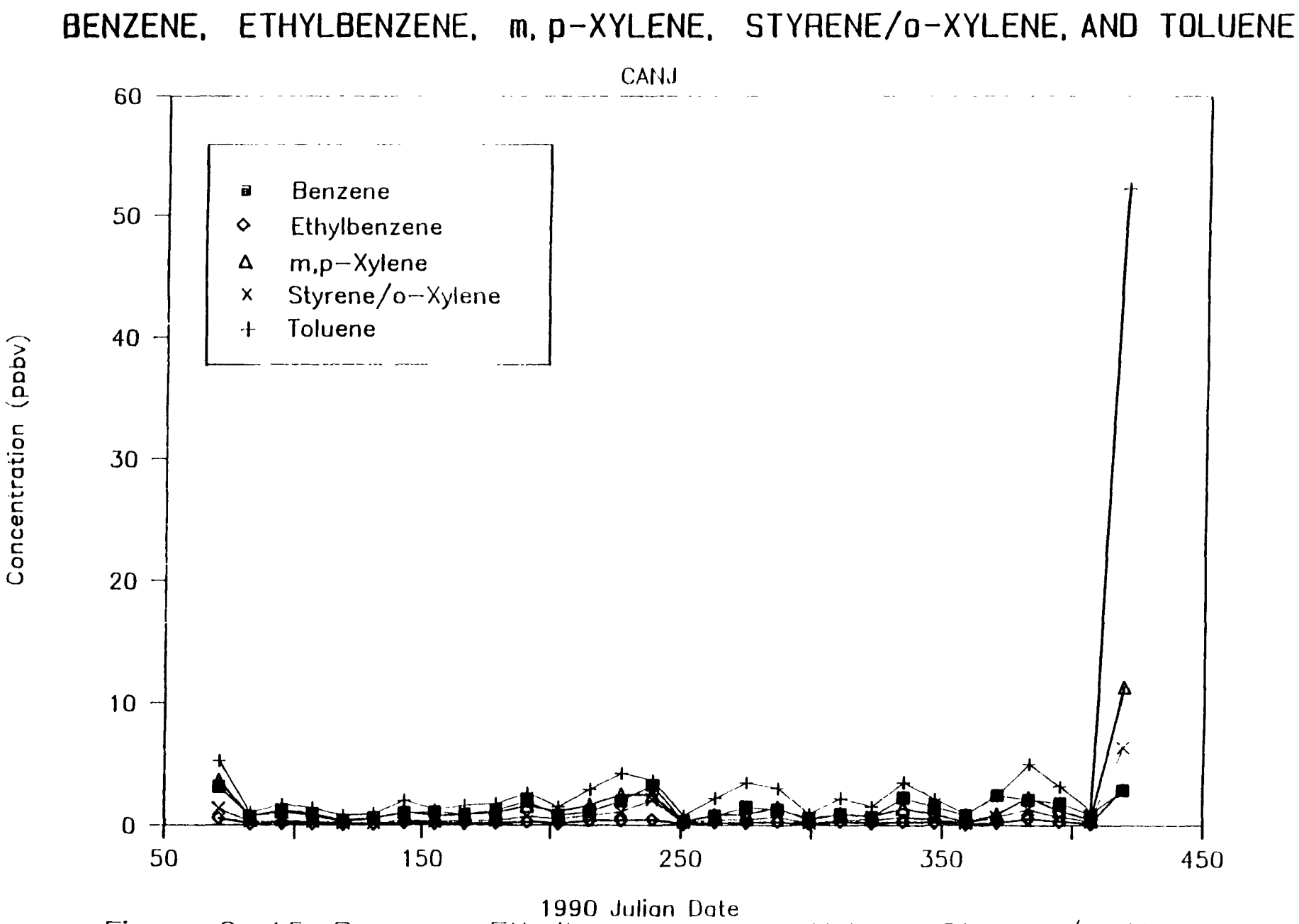

Figure C-15. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in CANJ 1990 HATMP Sample

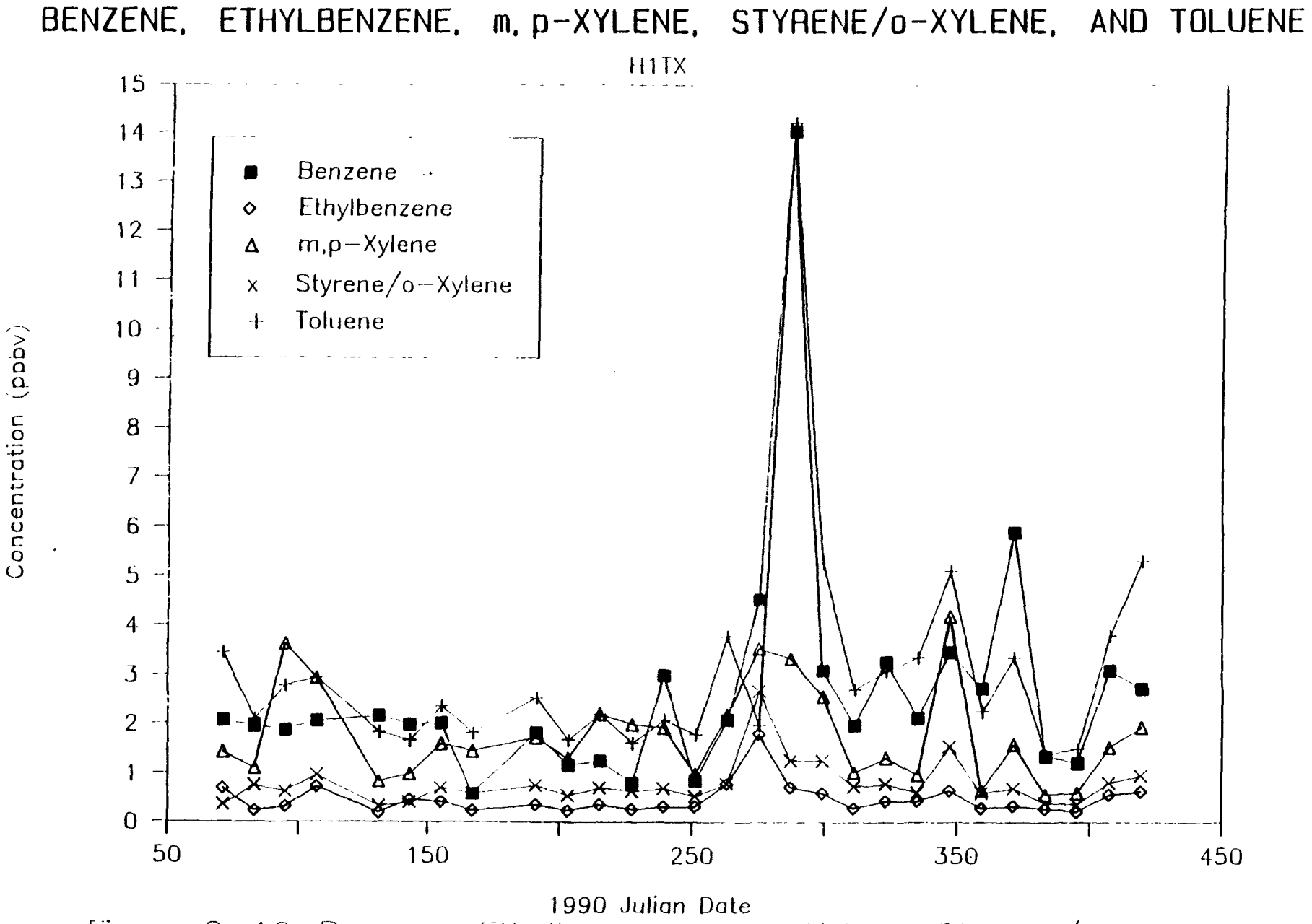

Figure C-16. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in H1TX 1990 UATMP Samples.

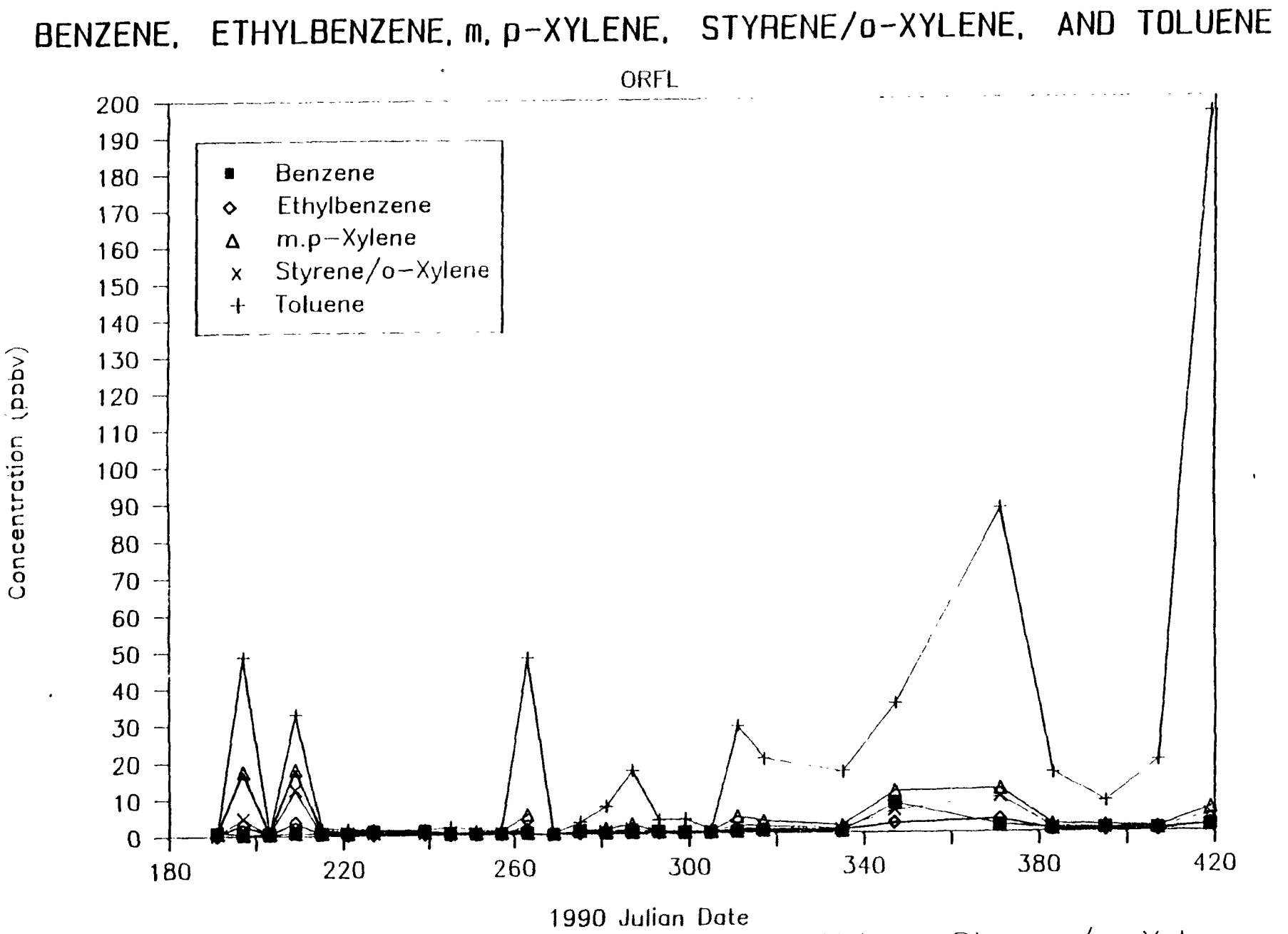

Figure C-17. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in ORFL 1990 UATMP Samples

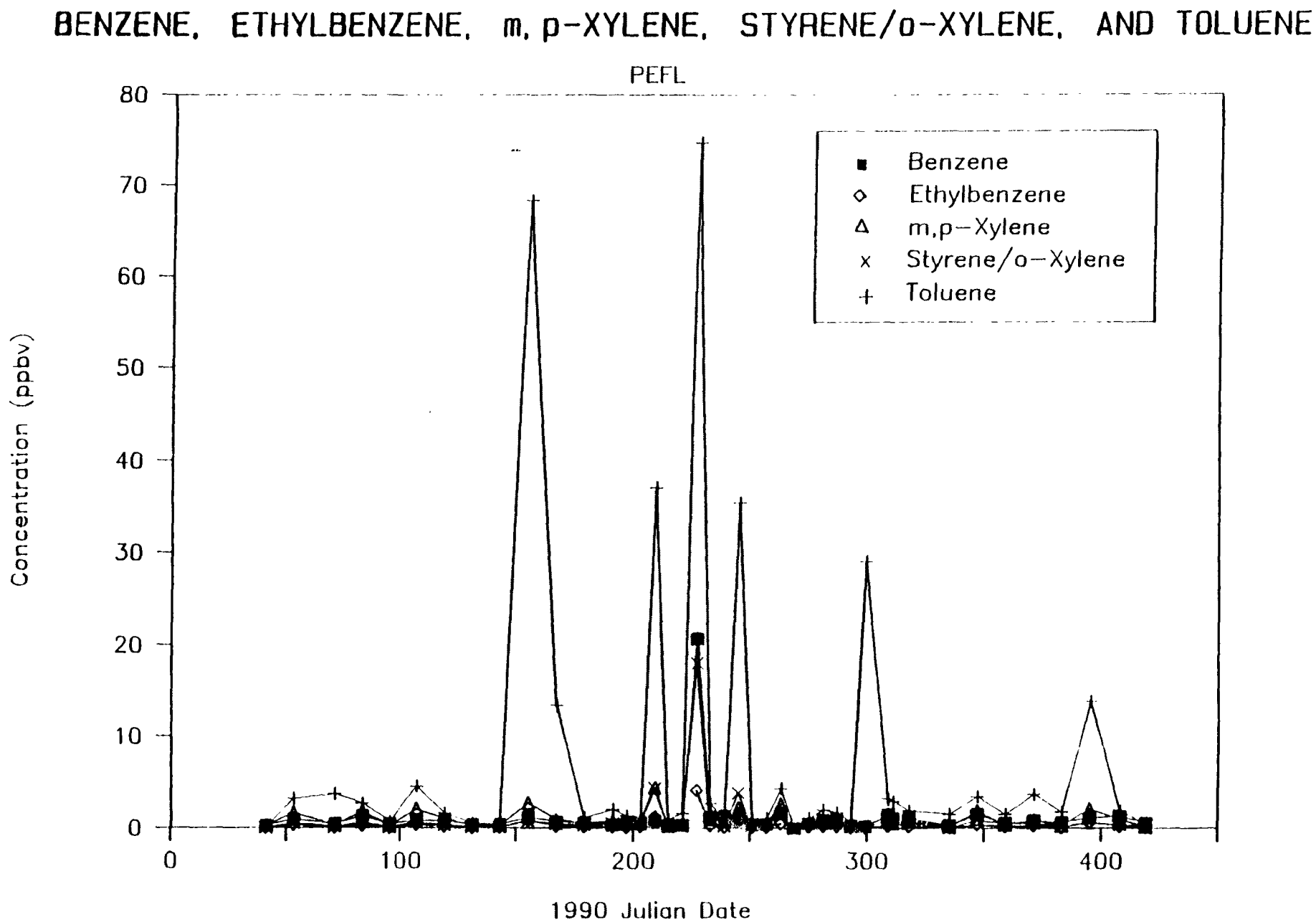

Figure C-18. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concenration in PEFL 1990 UATMP Samples.

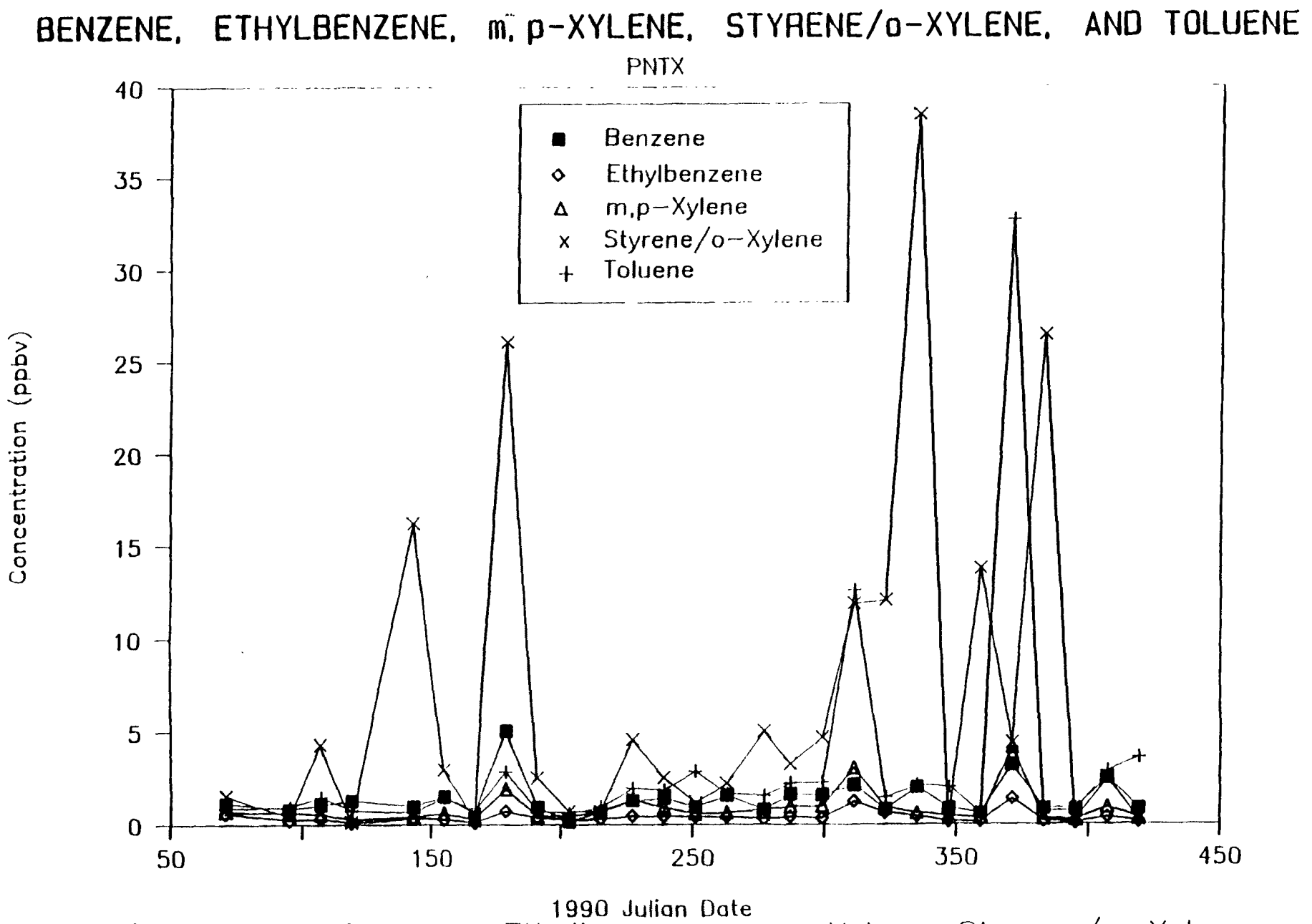

Figure C-19. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in PNTX 1990 UATMP Sampl

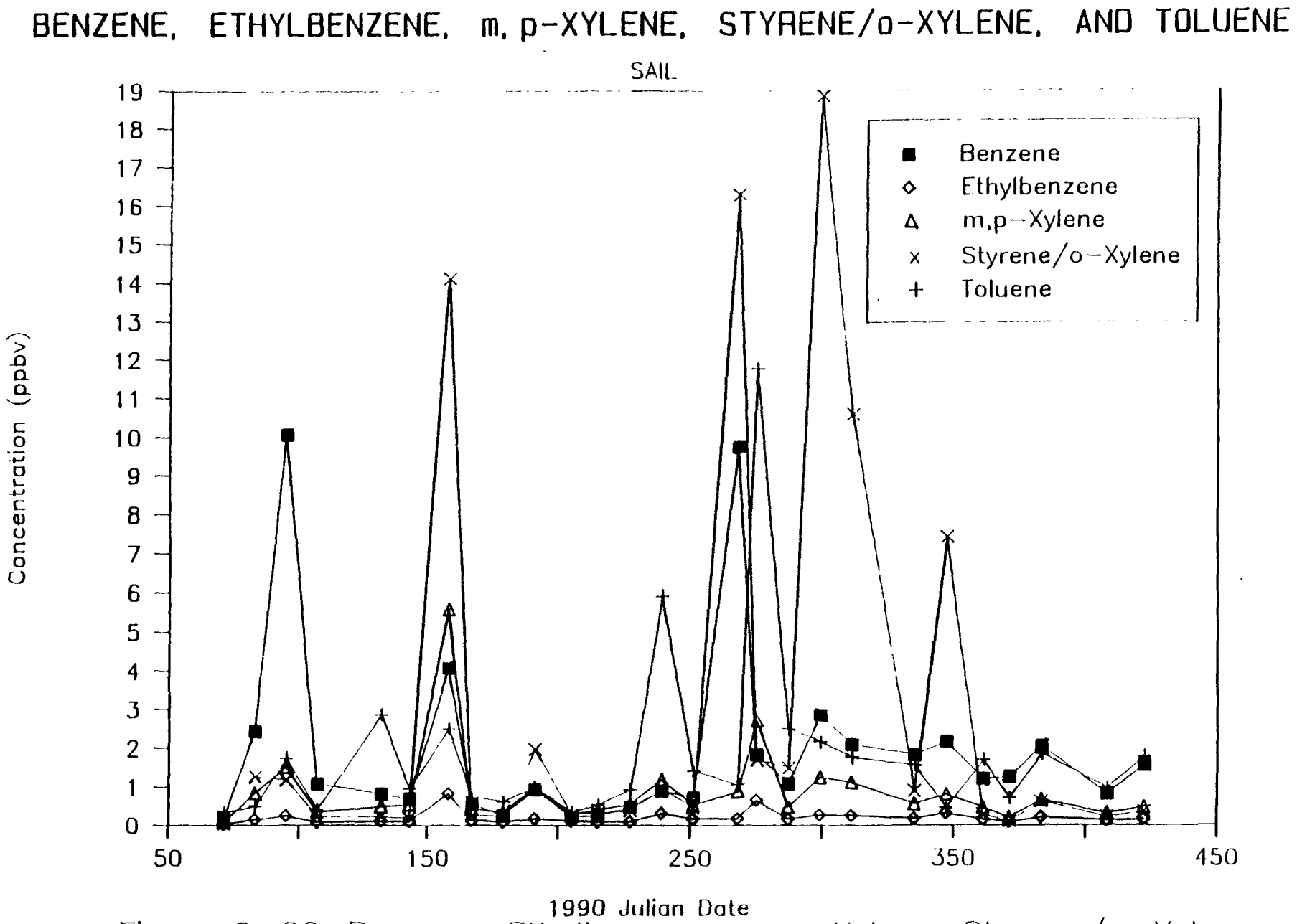

Figure C-20. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in SAIL 1990 UATMP Samples.

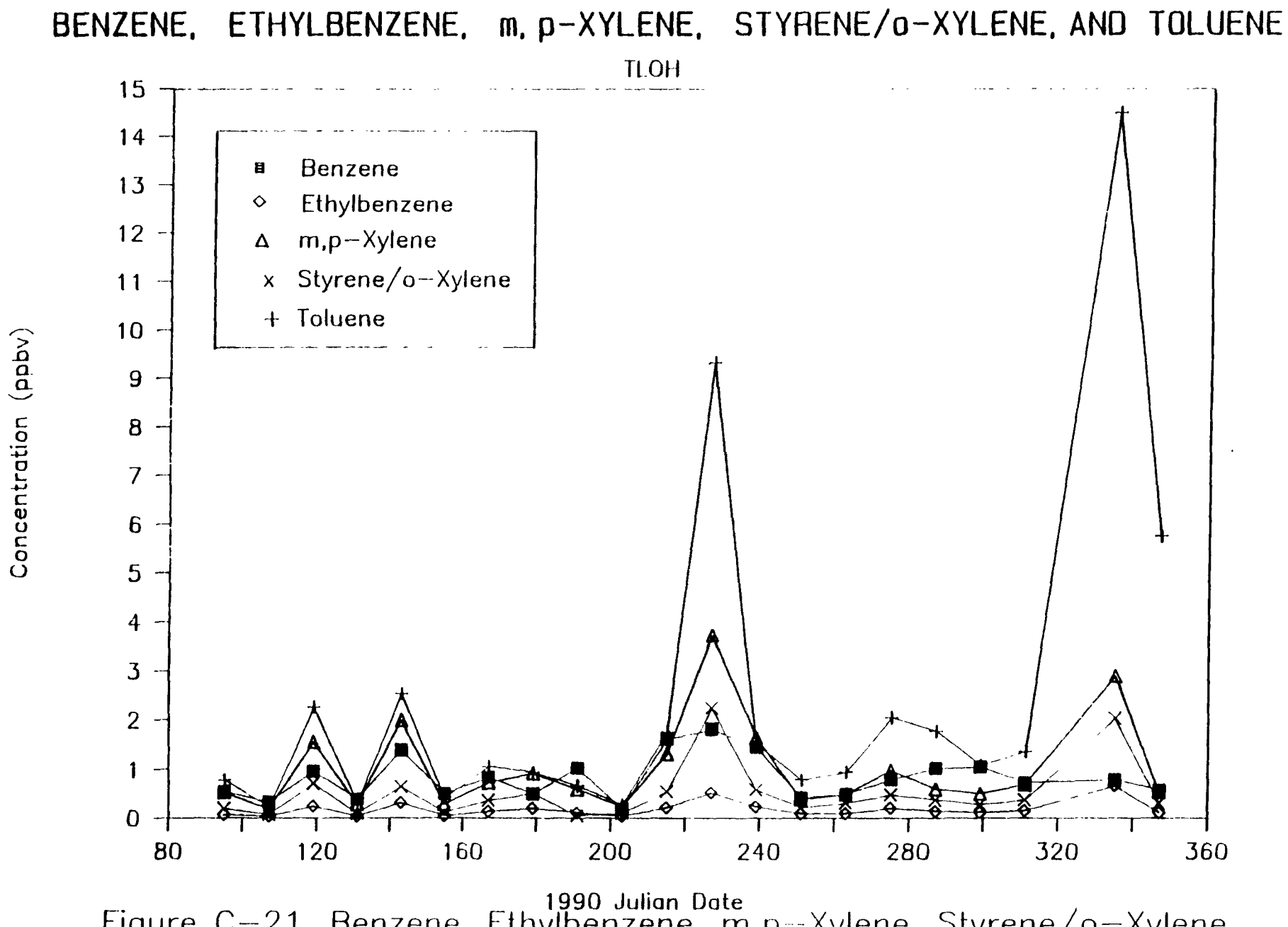

Figure C-21. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in TLOH 1990 UATMP Second

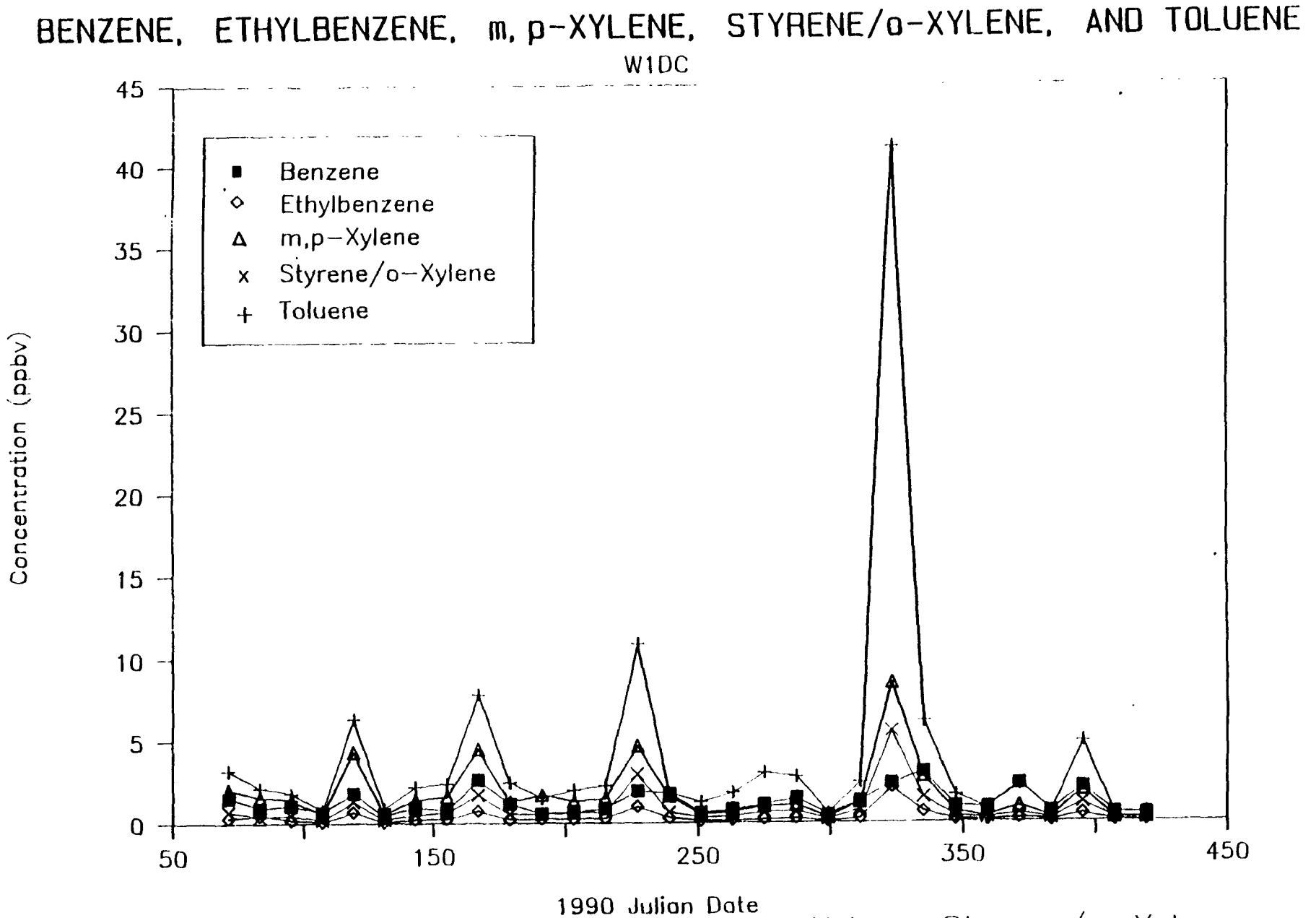

Figure 22. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in W1DC 1990 UATMP Samples.

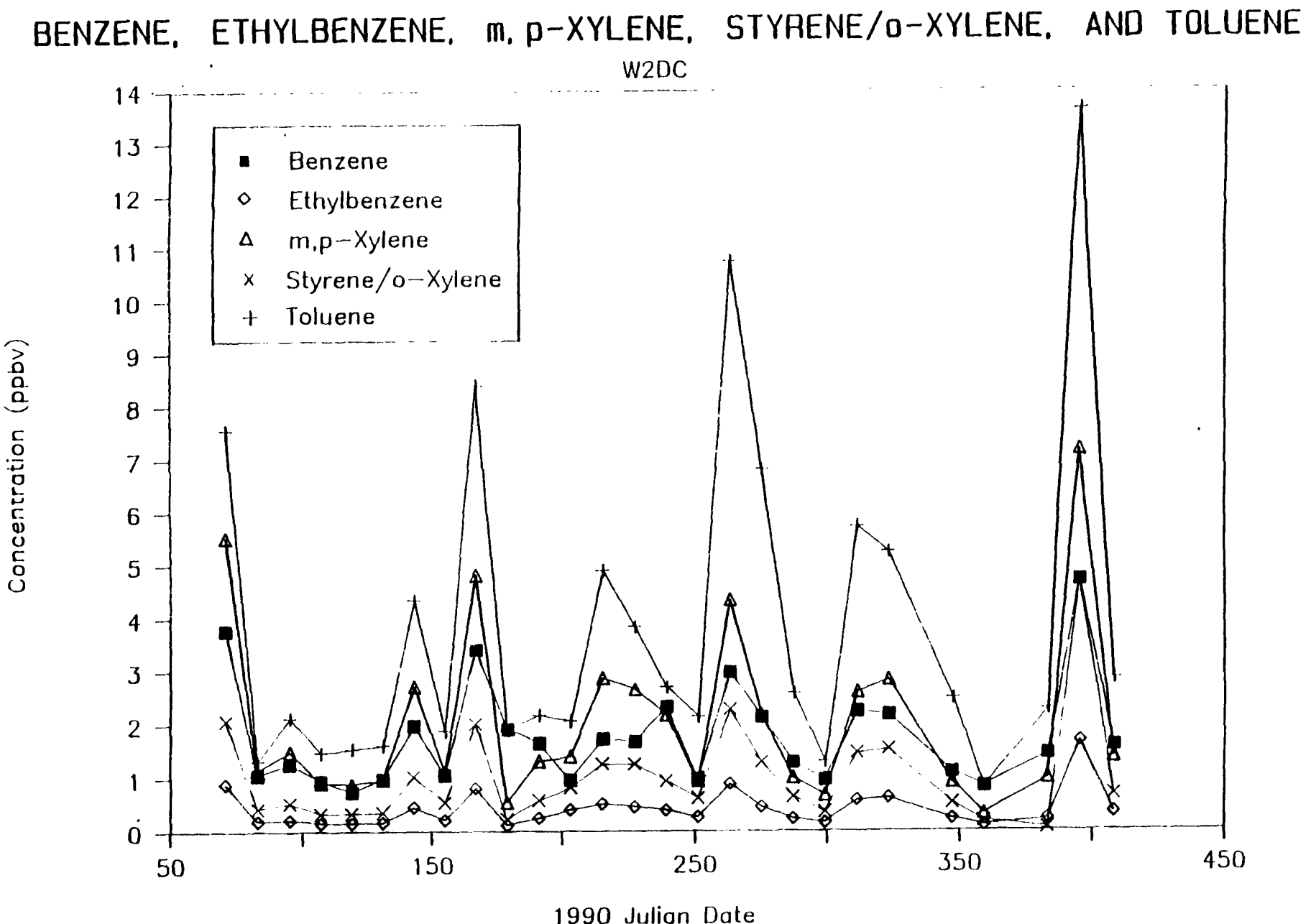

Figure C-23. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene,

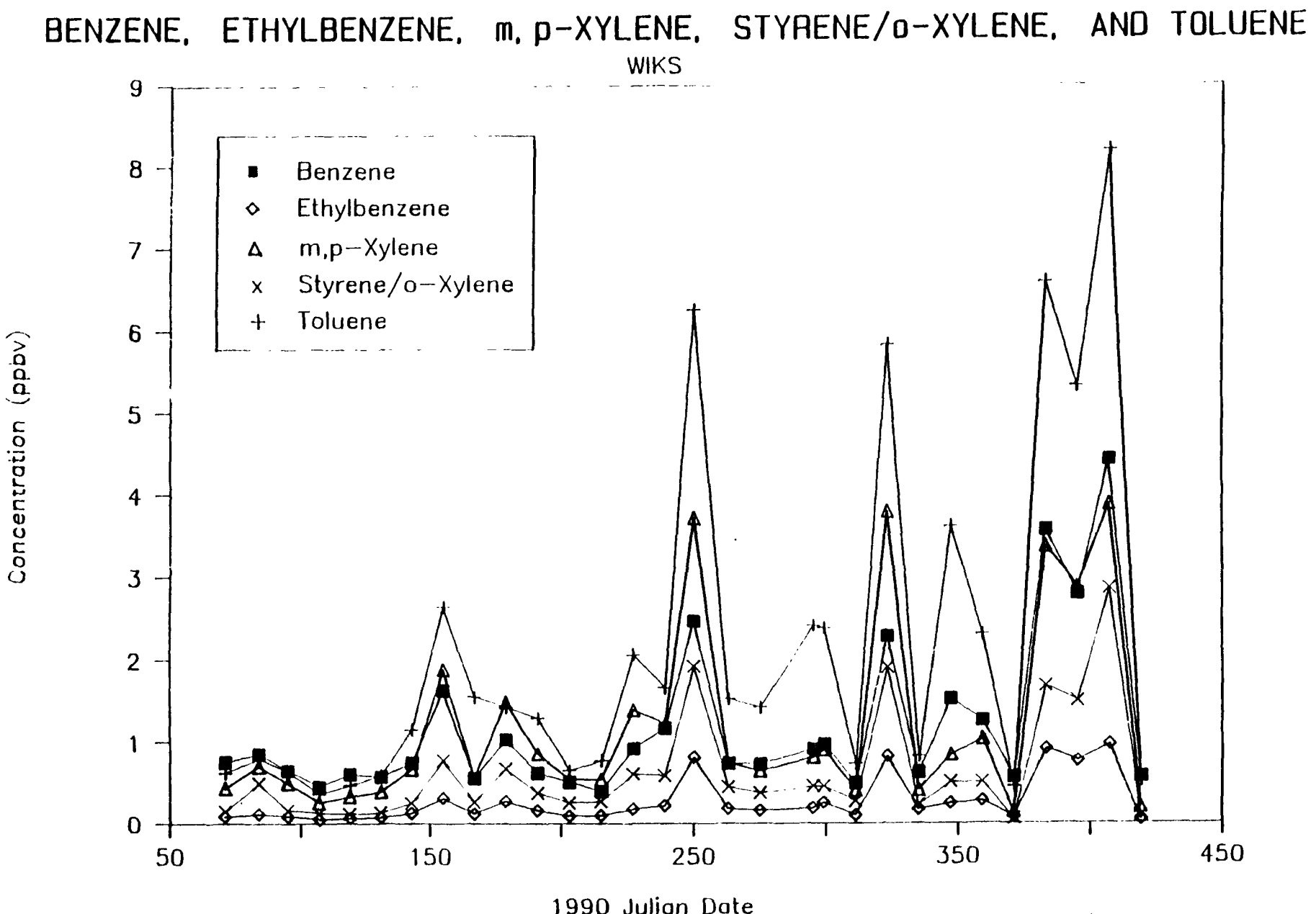

Figure C-24. Benzene, Ethylbenzene, m,p-Xylene, Styrene/o-Xylene, and Toluene concentration in W1KS 1990 UATMP Samples.

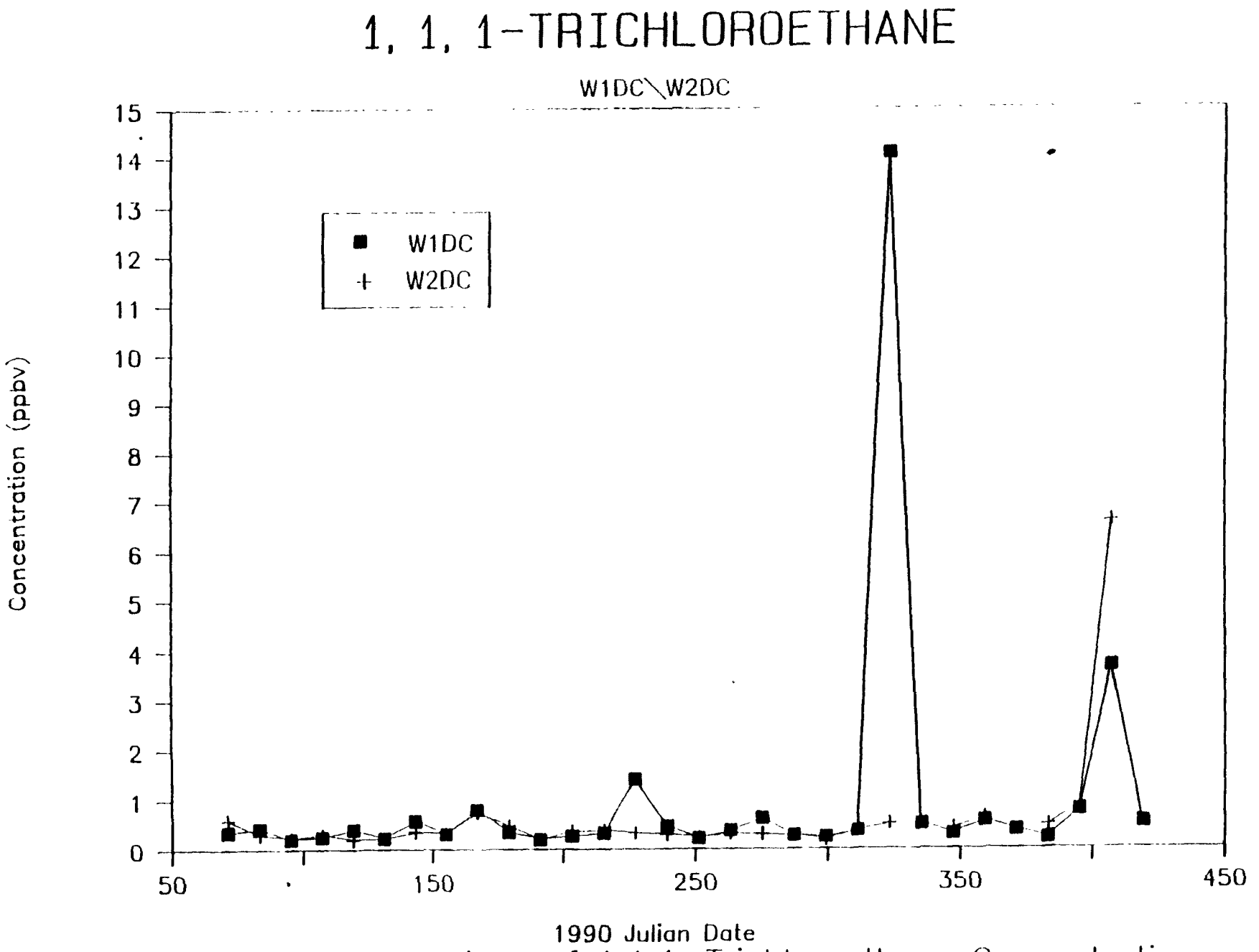

Figure C-25. Comparison of 1,1,1-Trichloroethane Concentrations in W1DC and W2DC 1990 UATMP Samples

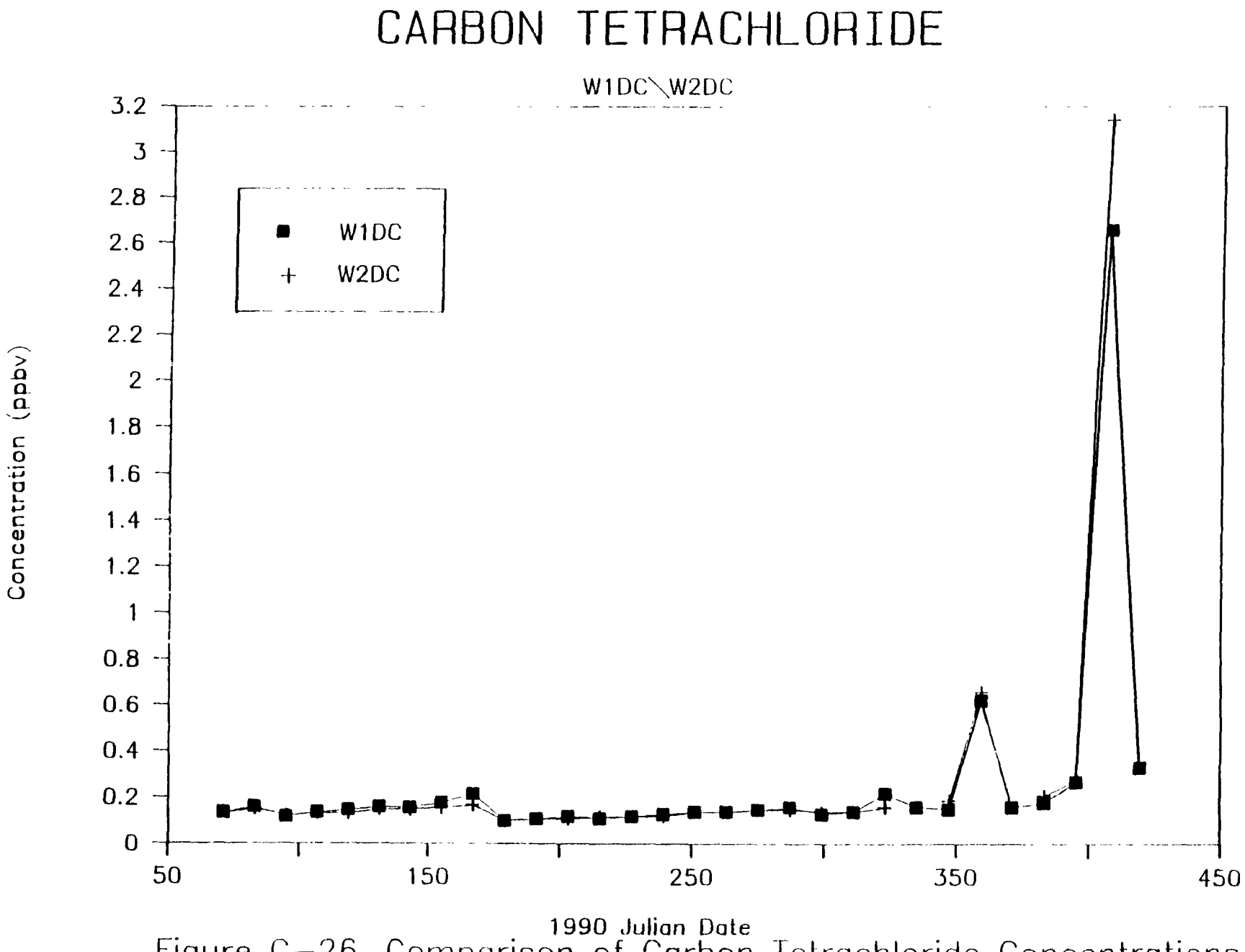

Figure C–26. Comparison of Carbon Tetrachloride Concentrations in W1DC and W2DC 1990 UATMP Samples.

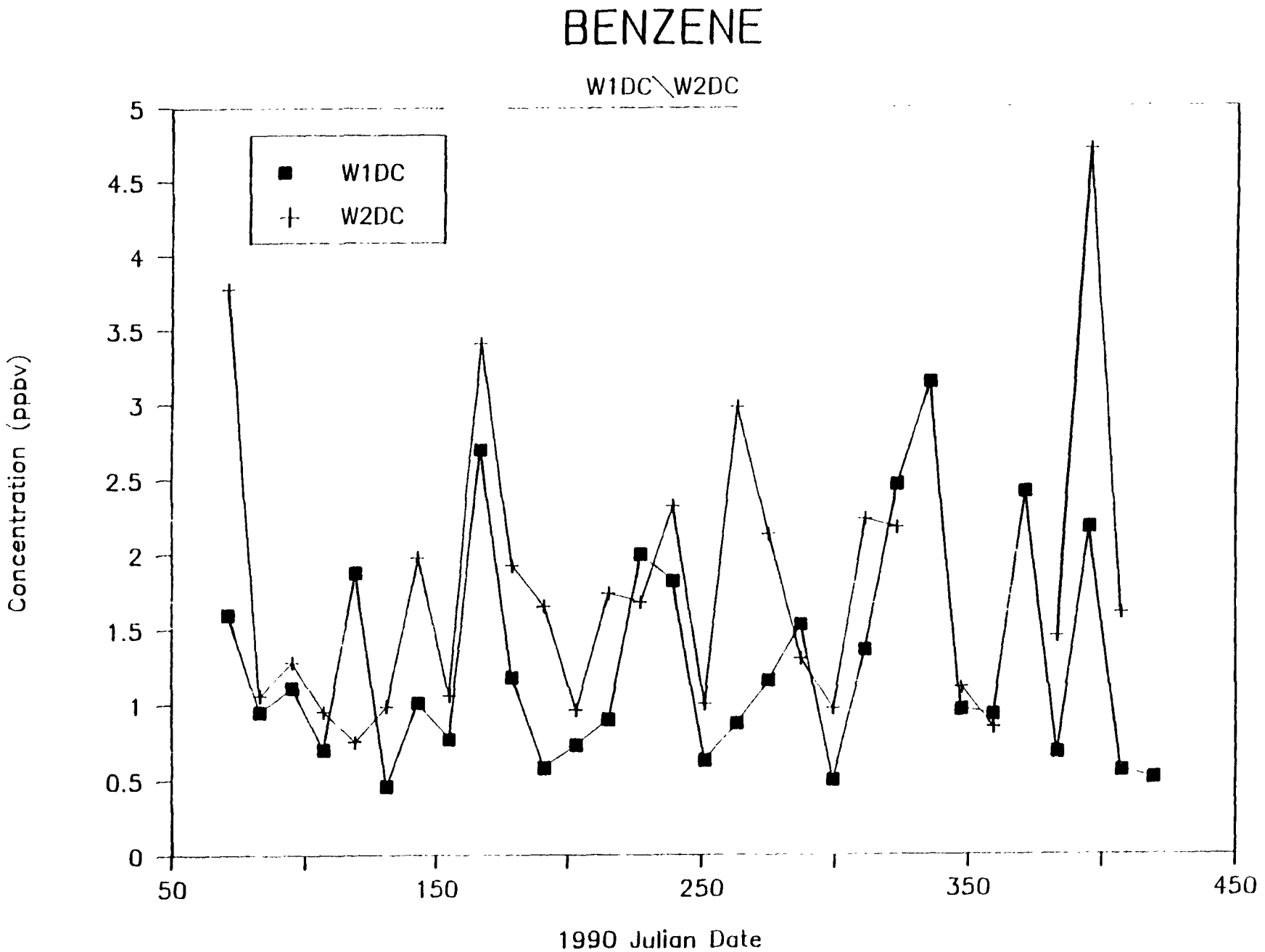

Figure C-27. Comparison of Benzene Concentrations in W1DC and W2DC 1990 UATMP Samples

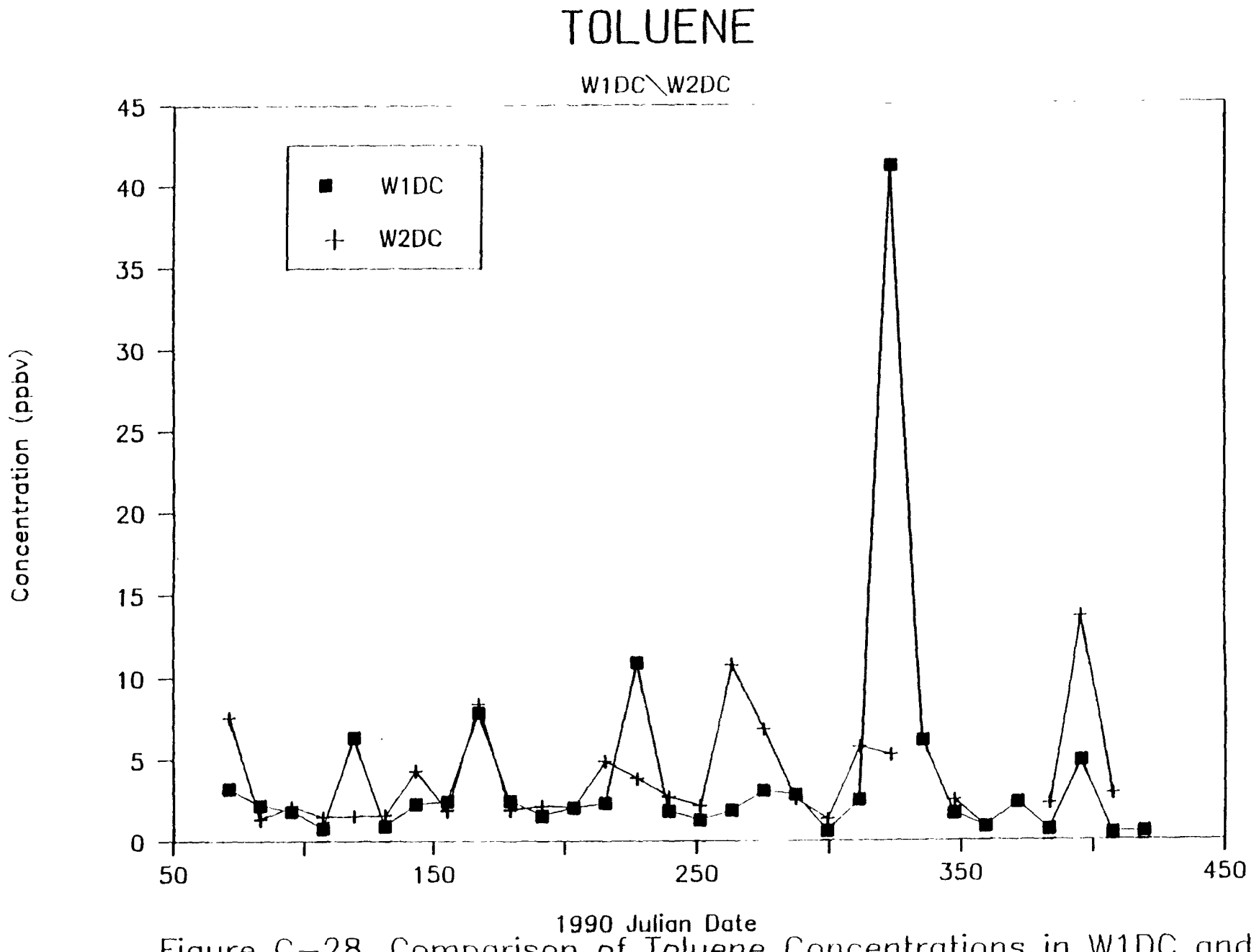

Figure C-28. Comparison of Toluene Concentrations in W1DC and W2DC 1990 UATMP Samples.

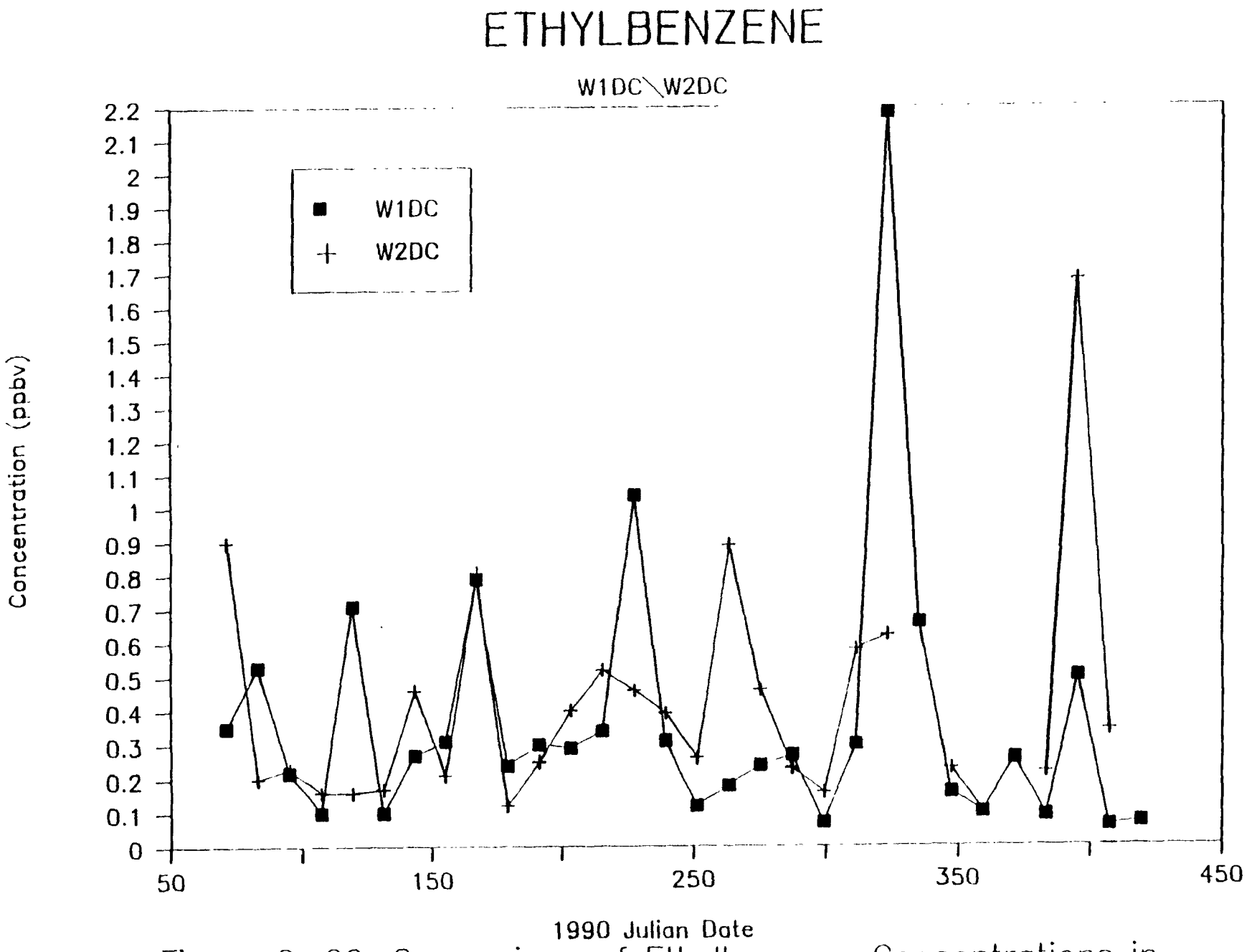

Figure C-29. Comparison of Ethylbenzene Concentrations in W1DC and W2DC 1990 UATMP Samples

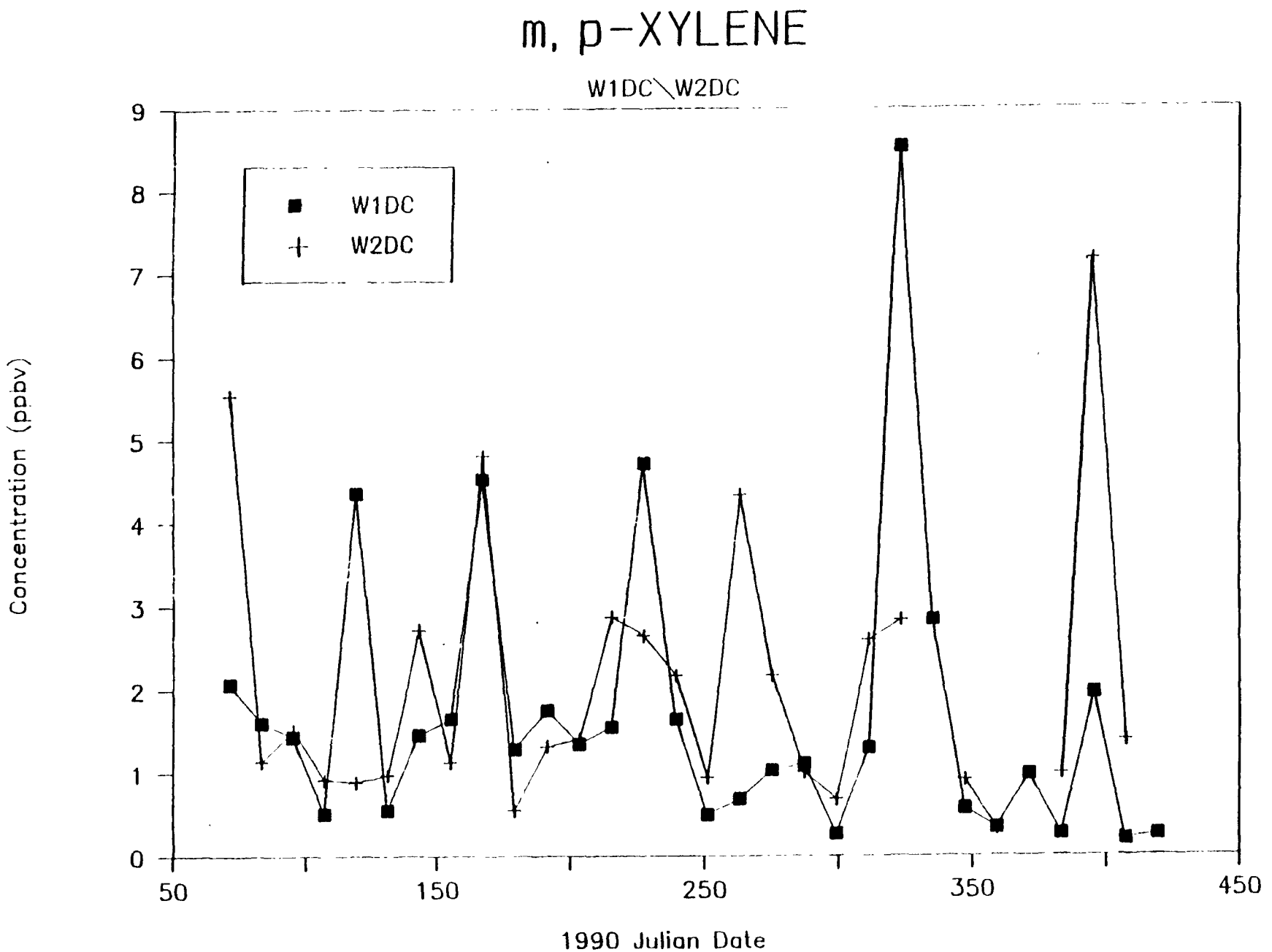

Figure C-30. Comparison of m,p-Xylene Concentrations in W1DC and W2DC 1990 UATMP Samples.

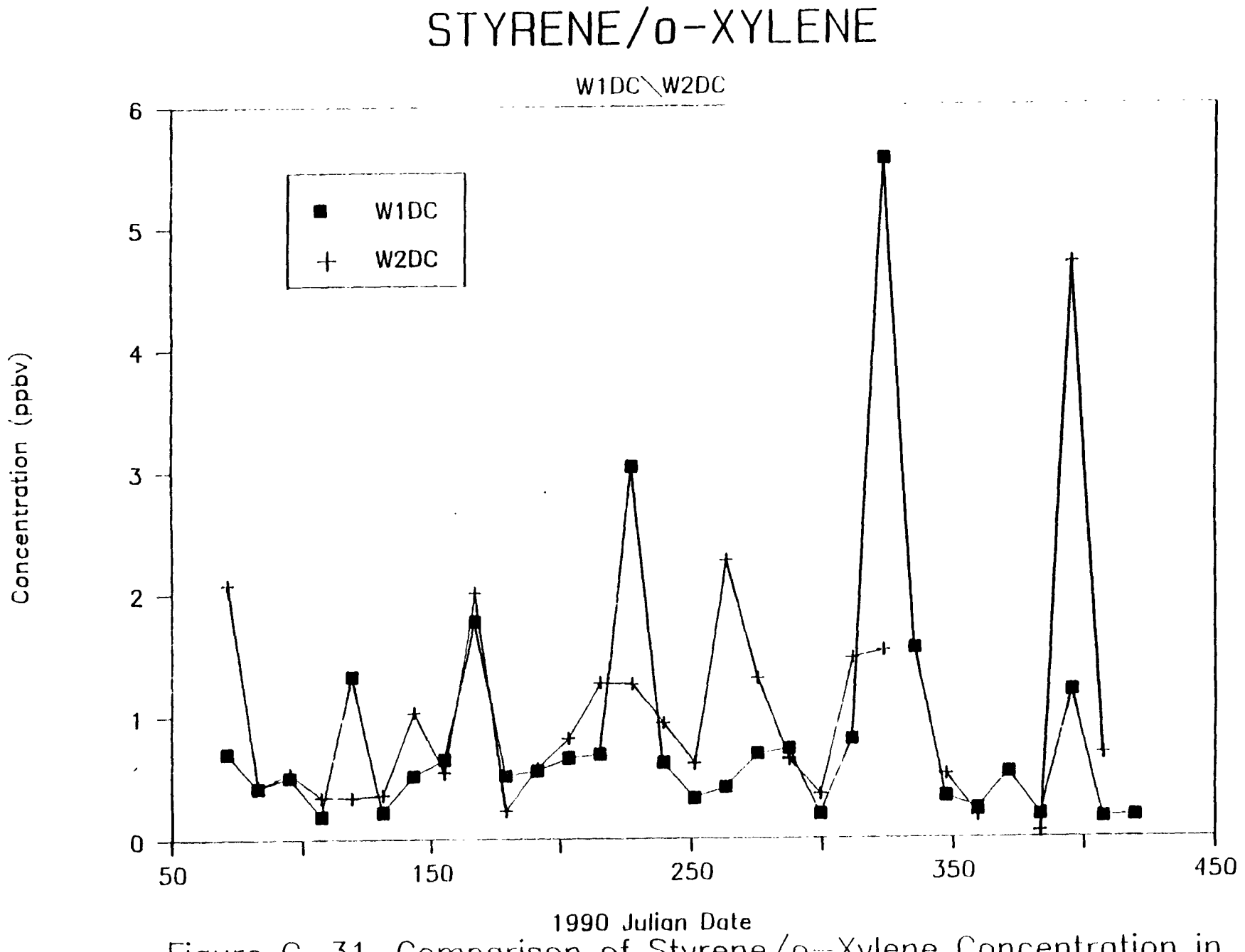

Figure C-31. Comparison of Styrene/o-Xylene Concentration in W1DC and W2DC 1990 UATMP Samples.

APPENDIX D

UATMP AUDIT RESULTS DISCUSSION

20th Anniversary

RADIAN CORPORATION

Progress Center
200 E. Chapel Hill Rd., Nelson Hwy
P.O. Box 13000
Research Triangle Park, NC 27709
919/481-0212

MEMORANDUM

TO: Howard Crist
RMEB/QAD/AREAL (MD-77B)

FROM: Wendy Moore
Radian Corporation

DATE: June 19, 1990

SUBJECT: High bias results for the first UATMP audit of 1990, ID #1164

The results of the first UATMP audit of 1990, # 1164, reflect high bias percentages for three compounds: chloroform, chlorobenzene, and o-xylene.

The daily QC standard response factors for chloroform were in control for the last three months. Previous audits for chloroform have been within acceptable bias ranges. It is possible that a coeluting compound was present in the standard that increased the reported concentration. The canister used for the audit was blanked by GC/MD before filling and no target compounds above 0.2 ppbv were identified. The audit sample will be analyzed by GC/MS in full scan mode to identify any non-target coeluting compounds that may have interfered with chloroform.

The high bias result for chlorobenzene appears to be due to an inaccuracy in the new chlorobenzene standard concentration. The chlorobenzene standard used for calibration was replaced March 26, 1990. This audit was the first check for accuracy performed on this standard. To confirm the possibility of an inaccurate standard concentration, a chlorobenzene standard prepared from another Scott certified cylinder in Austin was analyzed. The chlorobenzene concentration in the audit sample was quantitated at 7.9 using the response factor from the Austin standard. This quantitation results in a bias of 3.9 percent. The new chlorobenzene standard currently in use will be corrected for the difference in concentration and all samples analyzed during the period in which the inaccurate concentration was used will be corrected for chlorobenzene. This will include only the first quarter samples for UATMP 1990, which have not yet been reported.

The concentration for o-xylene was reported along with the styrene concentration since these two compounds coelute on the GC/MD system. This coelution was footnoted in the audit results Radian submitted. The % bias calculated by EPA did not reflect the styrene concentration. When the spiked styrene value is added to the o-xylene value, the concentration for both compounds is 12.5 ppbv. The reported concentration for both compounds together was 14 ppbv, resulting in a % bias of 12, which is well within the acceptable range.

Any conclusions made from the full scan GC/MS analysis of this audit for chloroform will be reported. Please call Joann Rice or me if you have any questions.

Attachments

cc: Bill Barnard (EPA)
Frank McElroy (EPA)
Vince Thompson (EPA)
Emily Bowles (Radian)
Joan Bursey (Radian)
Ray Merrill (Radian)
Joann Rice (Radian)

Table 1

UATMP Audit No. 1, 1990 (ID 1164)

Compound	Spiked, ppbv	Reported, ppbv GC/MD	Reported, ppbv GC/MS
Vinyl Chloride	3.6	3.4	2.8
Bromomethane	3.6	3.6	3.5
Methylene Chloride	7.2	7.9	7.5
Trans-1,2-Dichloroethylene	6.9	6.3	7.0
1,1-Dichloroethane	3.8	3.5	3.3
Chloroform	3.5	4.9	3.8
1,1,1-Trichloroethane	3.6	3.9	4.1
Carbon Tetrachloride	3.3	3.3	3.4
Benzene	7.3	7.0	7.0
Trichloroethylene	3.6	3.2	3.6
1,2-Dichloropropane	7.4	7.6	7.2
Toluene	3.8	3.5	4.1
Tetrachloroethylene	3.8	4.1	5.3
Chlorobenzene	7.6	11.3	9.5
Styrene	3.7	a	2.0
O-Xylene	8.8	14	8.0
Vinylidine Chloride	3.6	NR	NR
Freon-11	3.5	NR	NR
Methyl Ethyl Ketone	2.8	NR	NR
1,2-Dibromoethane	3.8	NR	NR
Ethylbenzene	7.8	6.7	6.8
1,1,2,2-Tetrachloroethane	b	9.9	8.9

a - Coelutes with o-xylene on analytical column.
b - Present but not certified.
NR - Not reported.

	spiked	quant. w/ Austin Std
Methyl Ethyl Ketone	2.8	3.0

$$\% \text{ Bias} = \frac{\text{Radian results} - \text{spiked}}{\text{spiked}} \times 100$$

Table 2

UATMP Audit No. 1, 1990 (ID 1164)

Compound	Bias, % GC/MD	GC/MS
Vinyl Chloride	-5.6	-22
Bromomethane	0.0	-2.8
Methylene Chloride	9.7	4.2
Trans-1,2-Dichloroethylene	-8.7	1.4
1,1-Dichloroethane	-7.9	-13
Chloroform	40	8.6
1,1,1-Trichloroethane	8.3	14
Carbon Tetrachloride	0.0	3.0
Benzene	-4.1	-4.1
Trichloroethylene	-11	0.0
1,2-Dichloropropane	2.7	-2.7
Toluene	-7.9	7.9
Tetrachloroethylene	7.9	39
Chlorobenzene	49	25
Styrene	-	-46
O-Xylene	59	-9.1
Ethylbenzene	-14	-13

RADIAN

MEMORANDUM

TO: Frank McElroy
RMEB/QAD/AREAL (MD-77)

FROM: Joann Rice JR

DATE: February 21, 1991

SUBJECT: **Performance Audit Results for the Second and Third UATMP Audits of 1990 (1252 and #1366)**

Analytical results for both performance audits were submitted to the EPA on December 3, 1990. The nominal concentrations from the auditor were received January 17, 1991, and the percent bias was calculated for both the GC/MD and GC/MS analytical systems. The results are given in Table 1.

AUDIT #1252

The GC/MD results for tetrachloroethylene and styrene/o-xylene were outside the 30 percent window. The percent bias was 57.69 and 41.18 percent respectively. As indicated in Radian's December 3rd memo from Emily Bowles, this audit was contaminated by an unknown source (see Figure 1). The target compounds in question are indicated on the chromatogram.

The audit canister cleanliness was assessed by GC/MD analysis prior to submitting the canister to EPA for preparation. The analytical system was also assessed for cleanliness by analyzing a wet zero sample prior to audit analysis. Both the canister and analytical system checks were acceptable.

It is likely that the contamination affected the ability for accurate quantitation by GC/MD and biased the results in a positive manner. The bias is not a result of the calibration standards used. The GC/MS is calibrated with the same certified standard stock gas and analytical results for these compounds are acceptable. The ability for the GC/MS to deconvolute peaks negates any quantitative interference due to contamination.

The GC/MS results for chlorobenzene and ethylbenzene were outside the 30 percent bias criteria (-35.92 and -31.43, respectively). This negative bias may be due to the length of time that transpired between audit canister preparation and GC/MS analysis. The audit canister was received at PPK in June and was not analyzed by GC/MS until November 11th, due to instrument down time. The results may indicate instability of these compounds in the canister over the 5 month period.

Since the GC/MS is used for qualitative confirmation of GC/MS identification, no corrective actions are recommended.

AUDIT #1366

The results of chloroform, 1,2-dichloropropane, and trichloroethylene were outside the 30 percent criteria (54.29, 46.58, and 61.11, respectively). Prior to the analysis of this performance audit on September 20th, a new vendor certified cylinder was put into use September 18th. When the response factors from several daily QC check standards made from the new cylinder are compared to the previous QC check standard response factor database, large positive biases result for these compounds. The percent biases are 22.72, 34.70, and 44.52 for chloroform, 1,2-dichloropropane, and trichloroethylene. The difference between the old and new certified standards explains the bias results for 1,2-dichloropropane and trichloroethylene. When these audit biases are corrected, the results are 11.88 and 16.59 for 1,2-dichloropropane and trichloroethylene.

The bias correction for chloroform does not bring the result within the required criteria at 31.57 percent. The reason for the high chloroform bias is unknown at this time and results for subsequent audits will be monitored in an attempt to resolve the discrepancy.

Quantitative GC/MD results for 1,2-dichloropropane and trichloroethane in the third quarter of 1990 are affected. The GC/MD results for this quarter, and all relevant statistics, will be corrected in the final UATMP report to be prepared at the end of the monitoring program. The certified calibration stock standard concentration has also been adjusted to reflect the biases for these compounds.

The percentage bias for trichloroethylene as analyzed by GC/MS was 66.67, which compares to the GC/MD result, and is due to the calibration standard bias. When this compound is corrected in accordance with the calibration standard discrepancy, the resulting bias is 22.15 percent. The bias for styrene was -86.49 percent. The 0.5 ppbv styrene result has been checked and verified as reported. The extremely low recovery for styrene is possibly due to the length of time between the audit preparation and analysis because of instrument down time. The canister was received at PPK September 18th and analyzed by GC/MS on November 11th.

Since the GC/MS is used for qualitative confirmation of GC/MD identifications, no corrective actions are recommended.

attachments

cc: Neil Berg (EPA)
[redacted]ian)
Judi DeGarmo (Radian)
Joan Bursey (Radian)
Bob McAllister (Radian)
Ray Merrill (Radian)

TABLE 1 EPA PERFORMANCE AUDITS

	AUDIT 2 (#1252)					AUDIT 3 (#1366)				
	NOMINAL	GC/MD	%BIAS	GC/MS	%BIAS	NOMINAL	GC/MD	%BIAS	GC/MS	%BIAS
VINYL CHLORIDE	4.9	5.1	4.08	4.5	-8.16	3.6	4.6	27.78	3.2	11.11
BROMOMETHANE	4.8	5.2	8.33	4.2	-12.50	3.5	3.6	2.86	3.1	11.43
CARBON TETRACHLORIDE	4.5	4.8	6.67	3.6	-20.00	3.3	4.2	27.27	3.7	12.12
METHYLENE CHLORIDE	9.8	11.1	13.27	9.1	-7.14	7.2	8.2	13.89	6.7	6.94
T-1,2-DICHLOROETHENE	9.3	9	-3.23	7.6	-18.28	6.8	7.6	11.76	5.4	20.59
1,1-DICHLOROETHANE	5.1	5.5	7.84	3.9	-23.53	3.7	4	8.11	2.7	27.03
CHLOROFORM	4.8	5.5	14.58	5.1	12.50	3.5	5.1	51.29 *	4.3	22.86
1,1,1-TRICHLOROETHANE	4.8	5.6	16.67	4.9	2.08	3.6	4.2	16.67	4	11.11
BENZENE	9.9	10.7	8.08	10.5	6.06	7.3	9.1	28.77	8.2	12.33
1,2-DICHLOROPROPANE	10	11.1	11.00	10.1	1.00	7.3	10.7	46.58 *	8.8	20.55
TRICHLOROETHYLENE	4.9	5.1	4.08	5.9	20.41	3.6	5.8	61.11 *	6	66.67 *
TOLUENE	5.1	5.3	3.92	4.6	-9.80	3.8	4.8	26.32	3.6	5.26
TETRACHLOROETHYLENE	5.2	8.2	57.69 *	5.6	7.69	3.8	4.8	26.32	4.6	21.05
CHLOROBENZENE	10.3	9.1	11.65	6.6	-35.92 *	7.5	6.4	-14.67	5.5	26.67
ETHYLBENZENE	10.5	10.2	-2.86	7.2	-31.43 *	7.7	7.3	-5.19	5.7	25.97
STYRENE	5.0	2.1	11.18 *	4.6	-8.00	3.7	15.2	21.60	0.5	86.49 *
O-XYLENE	12.0	a	a	8.9	-25.83	8.8	a	a	6.9	21.59
		AVG	11.1162	AVG	-7.81409		AVG	22.09031	AVG	3.13527

a Styrene and o-Xylene coelute on the GC/MD analytical system

* Indicates bias outside the +/- 30 percent window

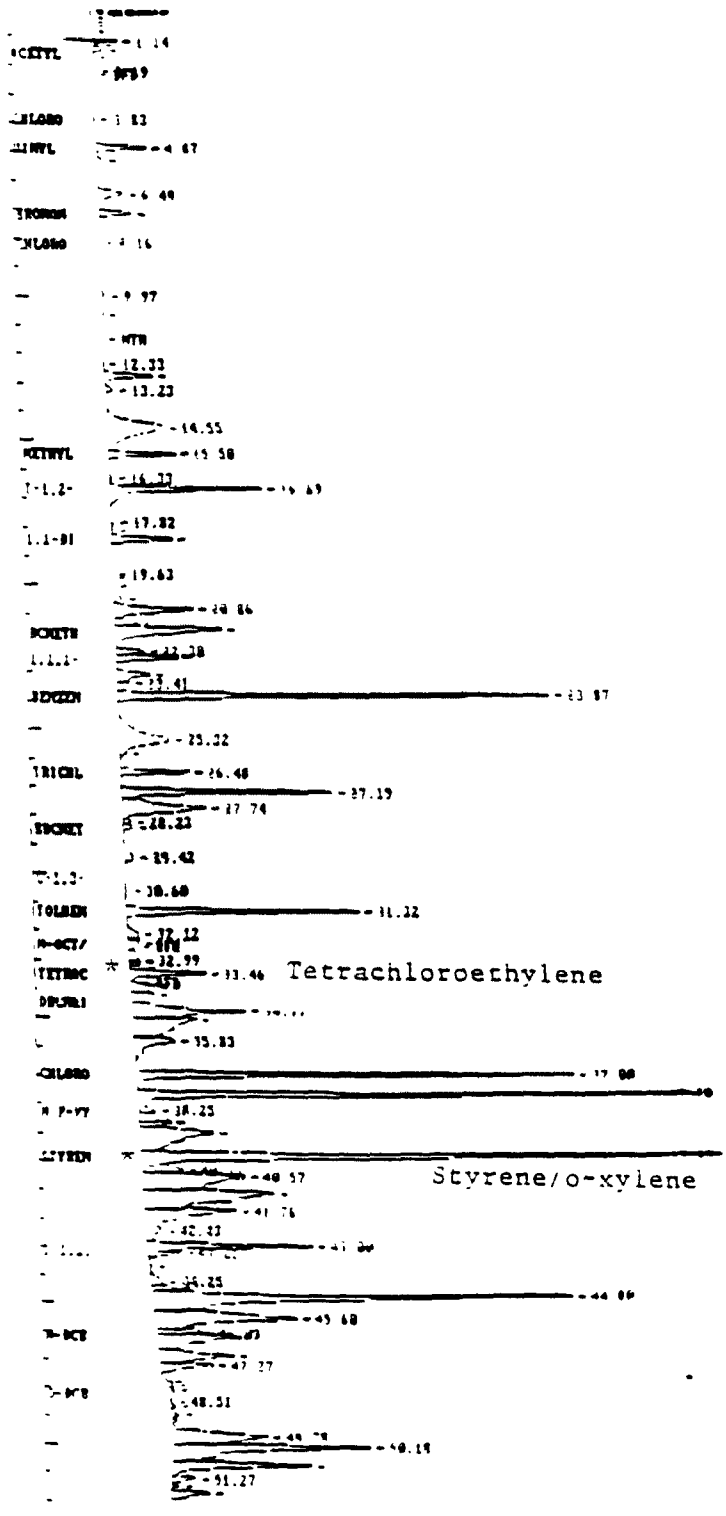

Figure 1. FID Chromatogram Audit #2. ID 1252.

RADIAN
CORPORATION

MEMORANDUM

TO: Neil Berg
Office of Air Quality Planning and Standards (MD-14)

FROM: Joann Rice

DATE: June 26, 1991

SUBJECT: **Performance Results for the Fourth UATMP Audit (#1496) of 1990**

The results for the fourth UATMP audit of 1990, ID #1496, reflected high GC/MD bias percentages for bromomethane and chloroform (-41.67 and 33.33 respectively).

The high percent bias for bromomethane was caused by a transcription error during the data reduction process, which affected the reported GC/MD value. The corrected concentration is 2.3 ppbv and the recalculated bias of -2.91 percent is within the acceptable range of ±30 percent.

The results for chloroform have been consistently high, just outside the ±30 percent window, for 3 of the 4 audits of 1990. The reason for the bias is unknown at this time. Chloroform was not present in the analytical system and audit canister blank analyses. The GC/MS analytical system is calibrated with working standards prepared from the same stock cylinders as used for the GC/MD system, and these results for chloroform are acceptable (20.83 %). This indicates that the stock standard concentrations and calibration standard preparation procedures are satisfactory.

Preventative maintenance is being performed on the analytical system prior to analysis of the 1991 UATMP samples. A new analytical column has been installed and improved calibration procedures are being implemented. Subsequent analysis of audit samples will be monitored to resolve the chloroform discrepancy. The next EPA analytical audit will be analyzed by GC/MS in the full scan mode to determine the presence of compounds that may co-elute with chloroform.

The GC/MS result for bromoform was also outside the ±30 percent bias acceptance criteria (-54.17). All calculations were checked and no transcription or calculation errors were found. Since the GC/MS system is used for qualitative confirmation of GC/MD identifications, and no qualitative issues were identified, no corrective action is recommended at this time.

If you have any questions or need any clarifications, please call.

cc: Howard Crist (EPA MD-77B)
Judi DeGarmo, Radian
Beverly Johnson, Radian
Ray Merrill, Radian
Joan Bursey, Radian
Bob McAllister, Radian

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

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4. TITLE AND SUBTITLE 1990 Urban Air Toxics Monitoring Program		5. REPORT DATE June 1991
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15. SUPPLEMENTARY NOTES

16. ABSTRACT

From March 1990 through February 1991 samples of ambient air were collected at 12 sites in the eastern part of the U.S. Every 12 days, air was integrated over 24-hour periods into passivated stainless steel canisters. Simultaneously, air was drawn through cartridges containing dinitrophenylhydrazine to collect carbonyl compounds. The samples were analyzed at a central laboratory for a total of 37 halogenated and aromatic hydrocarbons, formaldehyde, acetaldehyde, and other oxygenated species. The hydrocarbon species were analyzed by gas chromatography/multiple detectors and gas chromatography/mass spectrometry, while the carbonyl species were analyzed by liquid chromatography. An extensive quality assurance program was carried on to secure high quality data. Complete data for all the hydrocarbon samples are presented in this report.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
UATMP-90 Toxic Hydrocarbons Toxic Species		

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