CONNECTICUT AIR QUALITY SUMMARY

1978

DEPARTMENT
OF
ENVIRONMENTAL
PROTECTION
STANLEY J. PAC, COMMISSIONER

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CONNECTICUT AIR QUALITY SUMMARY - 1978
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I. INTRODUCTION

This summary of 1978 ambient air quality levels in Connecticut is a compilation of all air pollutant measurements made at Department of Environmental Protection (DEP) air monitoring network sites in the State.

A. Overview of Air Pollutant Concentrations in Connecticut

The following paragraphs briefly describe the status of Connecticut's air quality. The measured concentrations of six pollutants are compared to Federal and State air quality standards. There are two categories of air quality standards: primary - established to protect public health; and secondary - established to protect plants and animals and to prevent economic damage. A more detailed discussion of each of these pollutants is provided in subsequent sections of this Annual Summary.

1. Total Suspended Particulates (TSP)

The measured TSP level exceeded the primary annual standard (75 $\mu g/m^3$) in Waterbury at site 123, and measured TSP levels exceeded the secondary annual standard (60 $\mu g/m^3$) at 10 sites in 1978. No sites recorded measured values exceeding the primary 24-hour standard (260 $\mu g/m^3$) in 1978, but 9 sites did exceed the secondary 24-hour standard (150 $\mu g/m^3$) (see Table 1).

In general, measured Total Suspended Particulate levels in Connecticut showed a small, but significant improvement in 1978 as compared to 1977. This improvement is believed to have been primarily caused by a decreased frequency of southwest winds in 1978, compared to 1977, which reduced the amount of TSP transported into Connecticut from the southwest.

2. Sulfur Dioxide (SO_2)

None of the air quality standards for sulfur dioxide were exceeded in Connecticut in 1978. Measured concentrations were substantially below the 80 $\mu g/m^3$ primary annual standard, the 365 $\mu g/m^3$ primary 24-hour standard, and the 1300 $\mu g/m^3$ secondary 3-hour standard. Measured concentrations were closer to, but were also below, the 60 $\mu g/m^3$ secondary annual standard and the 260 $\mu g/m^3$ secondary 24-hour standard.

The continued attainment of the SO_2 standards is primarily attributable to Connecticut's regulation which restricts the sulfur content in fuel to .5%.

The results of sulfation rate monitoring show that sulfur dioxide levels improved significantly from 1977 to 1978. (However, this improvement was not observed in the data obtained from instruments that measure SO_2 directly, probably because there was insufficient data available in 1977 to compare with 1978.) The general improvement in SO_2 levels was probably primarily due to improved meteorological conditions, most notably a decreased frequency of southwest winds and an associated reduction in the transport of SO_2.

3. Ozone (O_3)

New NAAQS - On February 8, 1979 the EPA established a new ambient air quality standard for ozone of 0.12 ppm. This standard replaces the old photochemical oxidant standard of 0.08 ppm. The definition of the pollutant was changed along with the numerical value partly because the instruments used to measure photochemical oxidants in the air really measure only ozone. Ozone is only one of a group of chemicals which are formed photochemically in the air and are called photochemical oxidants. In the past, the two terms have often been used interchangeably. This 1978 Annual Summary uses the term "ozone" in conjunction with the new NAAQS to reflect the changes in both the numerical value of the NAAQS and its definition.

The new primary 1-hour ozone standard was exceeded at all the DEP monitoring sites in 1978 (see Table 1).

The frequency and magnitude of levels in excess of the 0.12 ppm ozone standard decreased from 1977 to 1978. Some of this difference is attributable to the loss of a large amount of data during July of 1978 due to instrument problems. The remainder of this apparent improvement in air quality may be real, but only temporary, because it can be attributed to year-to-year variations in weather conditions. Although the Federal emission controls on motor vehicles should be bringing about a yearly reduction in ozone precursor emissions, these emission reductions are not large enough to account for the improvement in ozone levels.

4. Nitrogen Dioxide (NO_2)

Measured nitrogen dioxide levels were lower than the 100 $\mu g/m^3$ primary annual standard at all the sampling sites in Connecticut. A statistical analysis of the data also demonstrates, with 95% confidence, that every site achieved the annual standard for NO_2.

A small improvement in NO_2 levels took place between 1977 and 1978. Since 60% of the NO_2 emissions in Connecticut come from motor vehicles, some of this improvement could be attributable to the Federal emission control program for motor vehicles, but most of the improvement is probably due to meteorological changes.

5. Carbon Monoxide (CO)

The primary eight-hour standard of 9 ppm was exceeded at eight of the nine carbon monoxide monitoring sites in Connecticut (Bridgeport 004, Greenwich 001, Hartford 012, New Britain 002, New Haven 007, Norwalk 005, Stamford 020, and Waterbury 004) in 1978. The number of times the 8-hour standard was exceeded ranged from twice each at the Greenwich 001 site and the New Haven 007 site up to 104 times at the New Britain 002 site and 366 times at the Stamford 020 site. Hartford 009 was the only site that did not exceed this standard.

No site, except Stamford 020, violated the primary one-hour standard of 35 ppm. The one-hour standard was exceeded seven times at the Stamford 020 site in 1978 (see Table 1).

No significant change in carbon monoxide levels took place between 1977 and 1978.

6. Lead (Pb)

New NAAQS - On October 5, 1978, the EPA established a new ambient air quality standard for lead of 1.5 $\mu g/m^3$ for a calendar quarter-year average. The standard is attained only if the quarterly averages of all four calendar quarters in a year do not exceed 1.5 $\mu g/m^3$.

The newly promulgated primary NAAQS for lead (1.5 $\mu g/m^3$, calendar quarter average) was exceeded at 16 sites in 1978 (see Table 1).

No significant change in measured concentrations of lead occurred between 1977 and 1978.

TABLE 1 AIR QUALITY STANDARDS EXCEEDED IN CONNECTICUT IN 1978

		TOTAL SUSPENDED PARTICULATES				OZONE		CARBON MONOXIDE		LEAD	
		Level Exceeding Annual Standard		Secondary 24-Hour Standard Exceeded		1-Hour Standard Exceeded		8-Hour/1-Hour Standards Exceeded		Quarterly Standard Exceeded	
TOWN	SITE	Primary (75 μg/m³)	Secondary (60 μg/m³)	2nd High Level (150 μg/m³)	Number of Times	2nd High Level (0.12 ppm)	Number of Times	2nd High Level (9 ppm/35 ppm)	Number of Times	Maximum Quarter (1.5 μg/m³)	Number of Times
Ansonia	003	-	62.5	182	9	-	-	-	-	2.24	1
Bridgeport	004	-	-	-	-	-	-	13.5/-	27/-	-	-
Bridgeport	123	-	66.4	184	8	0.201	28	-	-	1.82	1
Danbury	123	-	-	-	-	0.211	36	-	-	1.51	1
Derby	123	-	-	-	-	0.200	41	-	-	-	-
Eastford	001	-	-	-	-	0.193	28	-	-	-	-
East Hartford	002	-	-	-	-	-	-	-	-	1.78	1
Enfield	123	-	-	-	-	0.167	48	-	-	-	-
Greenwich	001	-	-	-	-	-	-	10.1/-	2/-	-	-
Greenwich	004	-	-	-	-	0.240	76	-	-	-	-
Groton	123	-	-	-	-	0.174	27	-	-	-	-
Hamden	001	-	-	-	-	0.230	37	-	-	-	-
Hartford	003	-	64.6	160	3	-	-	-	-	1.79	1
Hartford	012	-	-	-	-	-	-	12.1/-	11/-	-	-
Hartford	123	-	67.1	-	-	0.202	51	-	-	1.74	1
Meriden	002	-	60.7	-	-	-	-	-	-	1.97	1
Middletown	003	-	62.2	-	-	0.162	26	-	-	1.70	1
Morris	001	-	-	-	-	0.184	10	-	-	-	-
Naugatuck	001	-	-	-	-	-	-	-	-	1.68	1
New Britain	002	-	-	-	-	-	-	15.4/-	104/-	-	-
New Britain	123	-	60.1	164	3	-	-	-	-	1.58	1
New Haven	002	-	-	-	-	-	-	-	-	1.85	2
New Haven	007	-	-	-	-	-	-	12.3/-	2/-	-	-
New Haven	123	-	74.0	212	3	0.225	45	-	-	2.48	1
Norwalk	005	-	-	162	2	-	-	15.3/-	85/-	-	-
Stamford	020	-	-	-	-	-	-	27.5/39.0	366/7	-	-
Torrington	123	-	-	217	7	-	-	-	-	1.95	1
Waterbury	002	-	62.3	237	4	-	-	-	-	1.69	1
Waterbury	004	-	-	-	-	-	-	11.4/-	11/-	-	-
Waterbury	123	80.0	80.0	249	17	-	-	-	-	2.52	3
Waterford	001	-	-	-	-	-	-	-	-	1.55	1

B. Trends

Any attempt to assess statewide trends in air pollution levels must be able to overcome the tendency for local changes to obscure the statewide pattern. In order to reach some statistically valid conclusions concerning trends in pollutant levels in Connecticut, the DEP has applied the Wilcoxon Matched Pairs, Signed Rank Statistical Test to the annual average data for three pollutants. The Wilcoxon test has been applied to 1968-1978 Total Suspended Particulate (TSP) data, to 1968-1978 Sulfation rate/Sulfur Dioxide (SO_2) data, and to 1973-1978 Nitrogen Dioxide (NO_2) data.

The Wilcoxon Test is a non-parametric test of high power and efficiency which can be used to ascertain if there was a statistically significant change (increase or decrease) in the annual average pollutant concentrations at all the monitoring sites in Connecticut. This test makes it possible to overcome the trend analyses problems which arise due to the changes in the number and location of monitoring sites from year to year and the problems associated with making equitable comparisons among sites. The annual mean levels for consecutive years are compared at each site; there is no inter-site comparison. Data for two consecutive years are required and the size of the change (increase or decrease) is noted. For example, if a high proportion of sites experienced an increase and/or if the magnitude of an increase at several sites is of much greater importance than the magnitude of a decrease at other sites, the test will show if the increase was statistically significant for those two years.

The results of the Wilcoxon test for TSP, Sulfation rate/SO_2, and NO_2 are presented in Tables 2, 3, and 4, respectively. These analyses were performed only on data computed for sites where the U.S. Environmental Protection Agency (EPA) minimum sampling criteria (see Table 5) were met. The years of data that were paired, the number of sites used, and the statewide arithmetic mean and standard deviation of the pollutant concentrations at the sites are provided in the first four columns of each table. The statistical significance of any changes in the statewide pollutant averages is provided in the last three columns of each table. The significance of change is indicated, by arrows, for two confidence limits, 95% and 99%, and is also given numerically as the number of chances in 10,000 under the heading "actual significance of change". For example, the statewide annual average for TSP decreased between 1968 and 1969 from 73.6 to 66.9. The downward arrows indicate that this change was significant at the 95% and 99% confidence levels. The "actual significance of change" is given as 0.0075. Thus, there are only 75 chances in 10,000 that this measured decrease in TSP levels did not occur.

in Connecticut was limited to a sulfur content not to exceed 1.0%. As of September 1, 1972, the sulfur content of the oil sold in Connecticut could not exceed 0.5%, and the burning of oil with a higher sulfur content than 0.5% was not allowed after April 1, 1973. The inescapable conclusion is that the implementation of these sulfur-in-fuel regulations caused the significant reduction in SO_2 levels from 1970 to 1973, such that all SO_2 standards have been attained in Connecticut. During the winter of 1973 to 1974, certain utilities were given emergency permission to burn higher sulfur oil and coal. The temporary increase in SO_2 levels observed in 1974 could have been due, in part, to this relaxation of the sulfur-in-fuel limitations.

The long-term trend of SO_2 concentrations, as determined from the sulfation rate data, is shown in graphical form in Figure 2.

3. NO_2

The Wilcoxon test shows that NO_2 levels in Connecticut have fluctuated up and down over the last five years, but no overall trend can be observed (see Table 4). The NO_2 levels dropped significantly from 1973 to 1974 and from 1977 to 1978, and they rose significantly from 1974 to 1975 and from 1976 to 1977. No significant change in NO_2 levels occurred between 1975 and 1976.

These fluctuations must be largely attributed to year to year changes in meteorology as no corresponding changes in emissions are known to have occurred in the last five years. In the long run, the Federal program to control motor vehicle emissions should bring about a drop in NO_2 levels. The NO_2 measurement method changed several times during 1973, 1974, and 1975 which could have caused some of the fluctuation in levels in those years.

TABLE 2

TSP TREND, 1968-1978 (WILCOXON SIGNED-RANK TEST)

				SIGNIFICANCE LEVEL		
PAIRED YEARS	NUMBER OF SITES	AVERAGE OF ANNUAL GEOMETRIC MEANS*	STANDARD DEVIATION	TREND AT 95% level**	99% level**	ACTUAL SIGNIFICANCE OF CHANGE
68	17	73.6	21.6			
69	17	66.9	18.6	↓	↓	0.0075
69	21	69.0	23.0			
70	21	71.7	25.5	N.C.	N.C.	0.2891
70	23	67.8	20.6			
71	23	66.2	18.2	N.C.	N.C.	0.3458
71	40	68.4	22.5			
72	40	61.9	17.3	↓	↓	0.0013
72	39	59.1	13.4			
73	39	51.9	10.2	↓	↓	<0.00005
73	41	51.9	11.6			
74	41	48.3	10.3	↓	N.C.	0.0143
74	40	49.9	10.7			
75	40	52.3	10.1	↑	N.C.	0.0101
75	31	52.8	9.8			
76	31	53.0	9.3	N.C.	N.C.	0.7539
76	37	54.9	10.4			
77	37	54.7	10.1	N.C.	N.C.	0.7296
77	32	55.9	10.7			
78	32	53.8	10.2	↓	↓	0.0086

* Note that as the year pairings change, the sites available also change. This explains the different averages for a given year, i.e., the averages are taken from different sets of sites.

** Key to Symbols:
↓ = Significant Downward Trend
↑ = Significant Upward Trend
N.C. = No Significant Change

TABLE 3

SULFATION RATE/SO_2 TREND, 1968-1978 (WILCOXON SIGNED-RANK TEST)

PAIRED YEARS	NUMBER OF SITES	AVERAGE OF ANNUAL ARITHMETIC MEANS*	STANDARD DEVIATION	SIGNIFICANCE LEVEL		
				TREND AT 95% level**	TREND AT 99% level**	ACTUAL SIGNIFICANCE OF CHANGE
68	12	75.4	29.3			
69	12	65.3	21.3	N.C.	N.C.	0.0619
69	22	56.6	18.8			
70	22	64.4	20.3	↑	↑	0.0006
70	34	62.4	20.9			
71	34	50.1	13.9	↓	↓	< 0.00005
71	40	51.6	14.9			
72	40	40.3	6.8	↓	↓	< 0.00005
72	38	41.3	6.9			
73	38	34.0	4.5	↓	↓	< 0.00005
73	25	35.4	5.2			
74	25	38.2	6.3	↑	↑	0.0004
74	25	35.9	8.2			
75	25	33.2	7.8	↓	↓	0.0002
75	18	33.1	7.7			
76	18	33.6	6.0	N.C.	N.C.	0.1071
76	29	35.2	4.7			
77	29	34.9	4.3	N.C.	N.C.	0.8009
77	25	35.1	4.2			
78	25	30.4	3.4	↓	↓	< 0.00005

* Note that as the year pairings change, the sites available also change. This explains the different averages for a given year, i.e., the averages are taken from different sets of sites.

** Key to Symbols:
↓ = Significant Downward Trend
↑ = Significant Upward Trend
N.C. = No Significant Change

TABLE 4

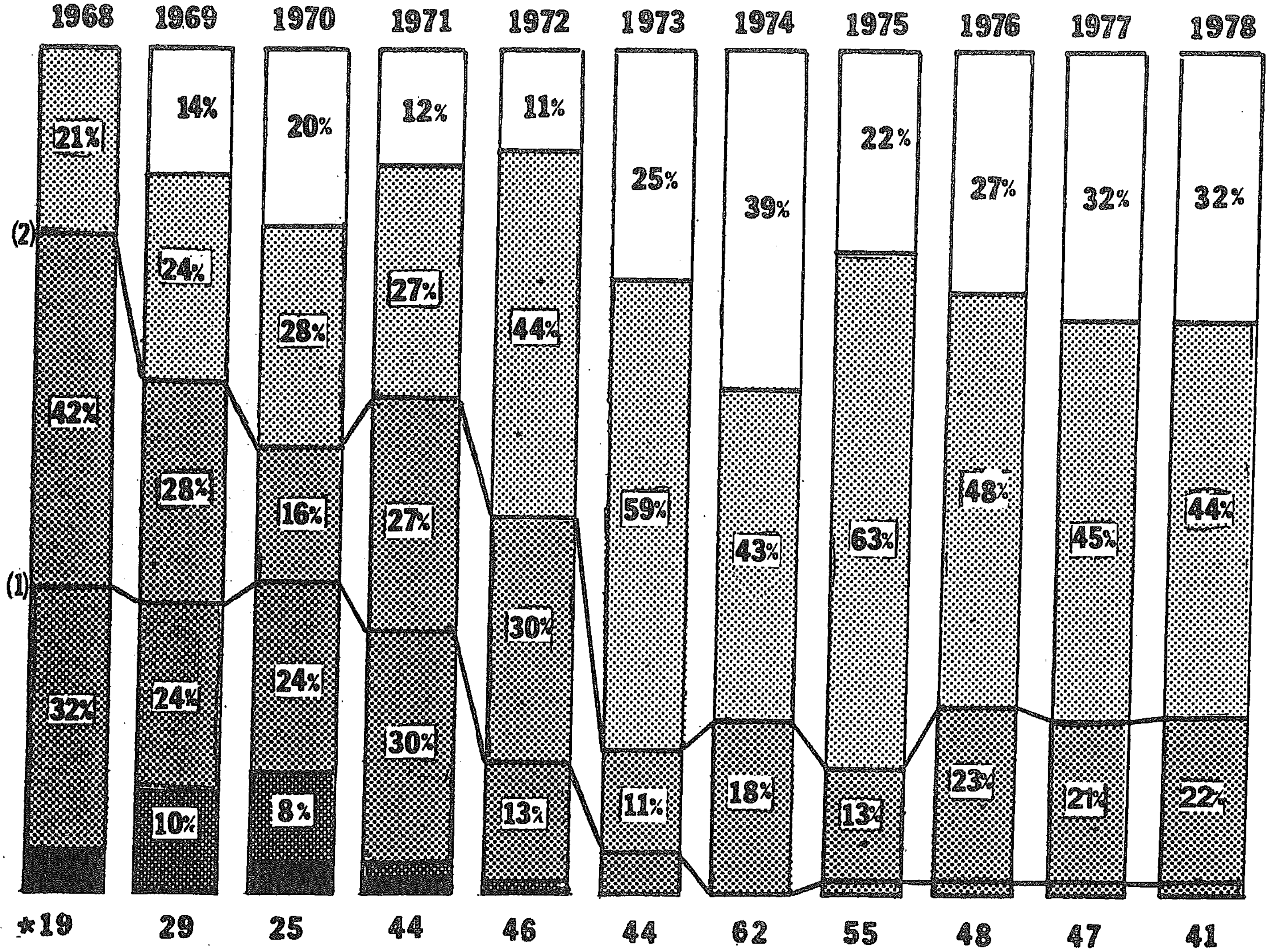
NO$_2$ TREND, 1973-1978 (WILCOXON SIGNED-RANK TEST)

PAIRED YEARS	NUMBER OF SITES	AVERAGE OF ANNUAL ARITHMETIC MEANS*	STANDARD DEVIATION	SIGNIFICANCE LEVEL		
				TREND AT 95% level**	99% level**	ACTUAL SIGNIFICANCE OF CHANGE
73	7	62.0	32.7			
74	7	39.7	20.0	↓	N.C.	0.0180
74	24	43.5	17.2			
75	24	49.6	17.2	↑	↑	0.0004
75	13	58.0	13.8			
76	13	59.4	10.9	N.C.	N.C.	0.8140
76	20	56.9	11.8			
77	20	62.2	12.2	↑	N.C.	0.0158
77	19	62.3	12.6			
78	19	59.2	11.5	↓	N.C.	0.0166

* Note that as the year pairings change, the sites available also change. This explains the different averages for a given year, i.e., the averages are taken from different sets of sites.

** Key to Symbols:
↓ = Significant Downward Trend
↑ = Significant Upward Trend
N.C. = No Significant Change

Figure 1
Total Suspended Particulate Matter Trend



Legend

Annual Geometric Mean (µg/m³)

☐ 0 - 45

▨ 45 - 60

▨ 60 - 75

▨ 75 - 100

▨ 100 - 125

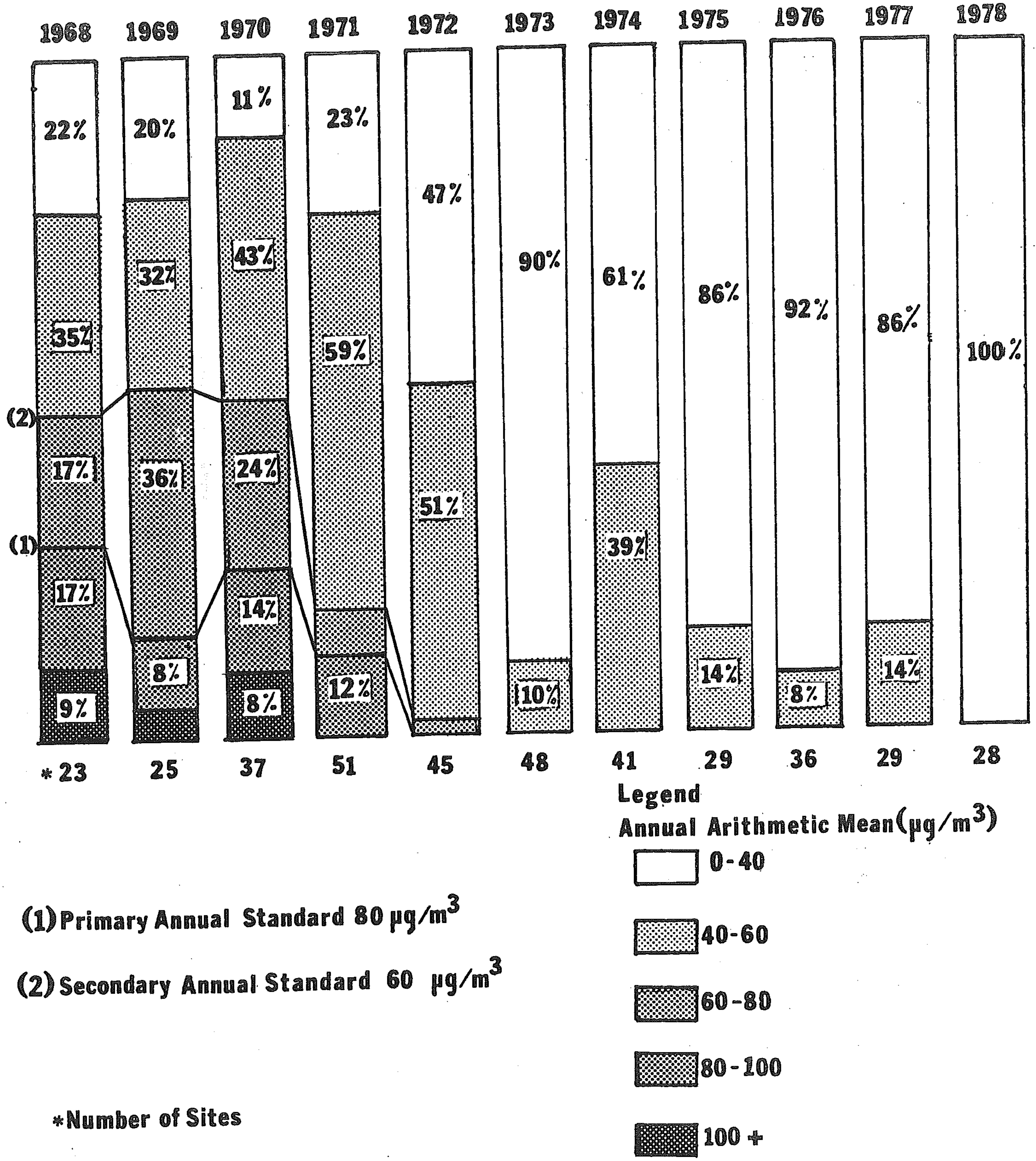
■ 125 +

(1) Primary Annual Standard 75 µg/m³

(2) Secondary Annual Standard 60 µg/m³

*** Number of Sites**

Figure 2
Sulfation Rate/Sulfur Dioxide Trend



C. Air Monitoring Network

A computerized Air Monitoring network consisting of an IBM System 7 computer and 12 telemetered monitoring sites was put into full operation in 1975. Presently, up to 12 measurement parameters from each site are transmitted via telephone lines to the System 7 unit located in the DEP Hartford office. The data are then compiled into 24-hour summaries twice daily. The telemetered sites are located in the towns of Bridgeport, Danbury, Derby, Enfield, Greenwich, Groton, Hartford, Middletown, New Britain, New Haven, Stamford, and Waterbury.

Measured parameters include the pollutants sulfur dioxide, particulates (COH), carbon monoxide, ozone, and meteorological data consisting of wind speed and wind direction, wind horizontal sigma, temperature, dew point, precipitation, barometric pressure and solar radiation.

The real-time capabilities of the System 7 telemetry network have enabled the Air Monitoring Unit to report the Pollutant Standards Index for 12 towns on a daily basis while keeping a close watch for high pollution levels which may occur during adverse weather conditions throughout the year.

The complete monitoring network used in 1978 consisted of:

44 Total Suspended Particulate and Lead (Hi-Vol) sites
11 Total Suspended Particulate (Lo-Vol) sites
15 Sulfur Dioxide sites (Continuous Monitors)
12 Ozone sites
22 Nitrogen Dioxide sites (Bubblers)
9 Carbon Monoxide sites

A complete description of all permanent air monitoring sites in Connecticut operated by DEP in 1978 is available from the Department of Environmental Protection, Air Compliance, State Office Building, Hartford, Connecticut, 06115.

D. Air Quality Standards

Table 5 lists analysis methods and National Ambient Air Quality Standards (NAAQS) for each pollutant. The NAAQS were established by the U.S. Environmental Protection Agency (EPA) and are divided into two categories: primary - established to protect the public health; and secondary - established to protect plants and animals and to prevent economic damage.

Each standard specifies a concentration and an exposure time developed from studies of the effect of various levels of the particular pollutant.

TABLE 5
ASSESSMENT OF AMBIENT AIR QUALITY

	METHOD OF ANALYSIS			NATIONAL AMBIENT AIR STANDARDS			
	SAMPLING PERIOD	DATA REDUCTION	STATISTICAL BASE	PRIMARY STANDARD		SECONDARY STANDARD	
POLLUTANT				$\mu g/m^3$	ppm	$\mu g/m^3$	ppm
Total Suspended Particulates	24-Hours Every Sixth Day[1]	24-Hour Average	Annual Geometric Mean	75		60*	
			24-Hour Concentration[3]	260		150	
Sulfur Oxides (Measured as Sulfur Dioxide)	Continuous[2]	1-Hour Average	Annual Arithmetic Mean	80	.03	60†	.02
			24-Hour Average Concentration[3]	365	.14	260†	.10
			3-Hour Average Concentration[3]			1300	.5
Nitrogen Dioxide	24-Hours Every Sixth Day[1]	24-Hour Average	Annual Arithmetic Mean	100	.05	Same as Primary	
Ozone	Continuous[2]	1-Hour Average	1-Hour Average[4]	235	.12††	Same as Primary	
Hydrocarbons	Continuous[2]	1-Hour Average	3-Hour Average[3] (6-9 AM)	160**	.24	Same as Primary	
Lead	24 Hours Every Sixth Day[1]	Quarterly Composite	Calendar Quarter Average	1.5		Same as Primary	
				mg/m^3	ppm	mg/m^3	ppm
Carbon Monoxide	Continuous[2]	1-Hour Average	8-Hour Average[3]	10	9	Same as Primary	
			1-Hour Average[3]	40	35	Same as Primary	

[1] EPA assessment criteria require at least 5 samples per calendar quarter, and, if one month has no samples, then the other two months in that quarter must have at least two samples each.

[2] EPA assessment criteria require 75% of possible data to compute valid averages.

[3] Not to be exceeded more than once per year.

[4] Not to be exceeded more than an average of once per year in three years.

* A guide to be used in assessing implementation plans to achieve the 24-hour standard.

** For use as a guide in devising implementation plans to achieve the (old) 0.08 ppm ozone standards.

† Secondary Standard applies to State of Connecticut only.

†† In 1978, the year covered by this Annual Summary, the Federal ozone standards were 0.08 ppm. The Connecticut Department of Environmental Protection has commenced a rulemaking proceeding to change the State standards from 0.08 ppm to 0.12 ppm.

Units: $\mu g/m^3$ = Micrograms per cubic meter; mg/m^3 = Milligrams per cubic meter; ppm = Parts per million

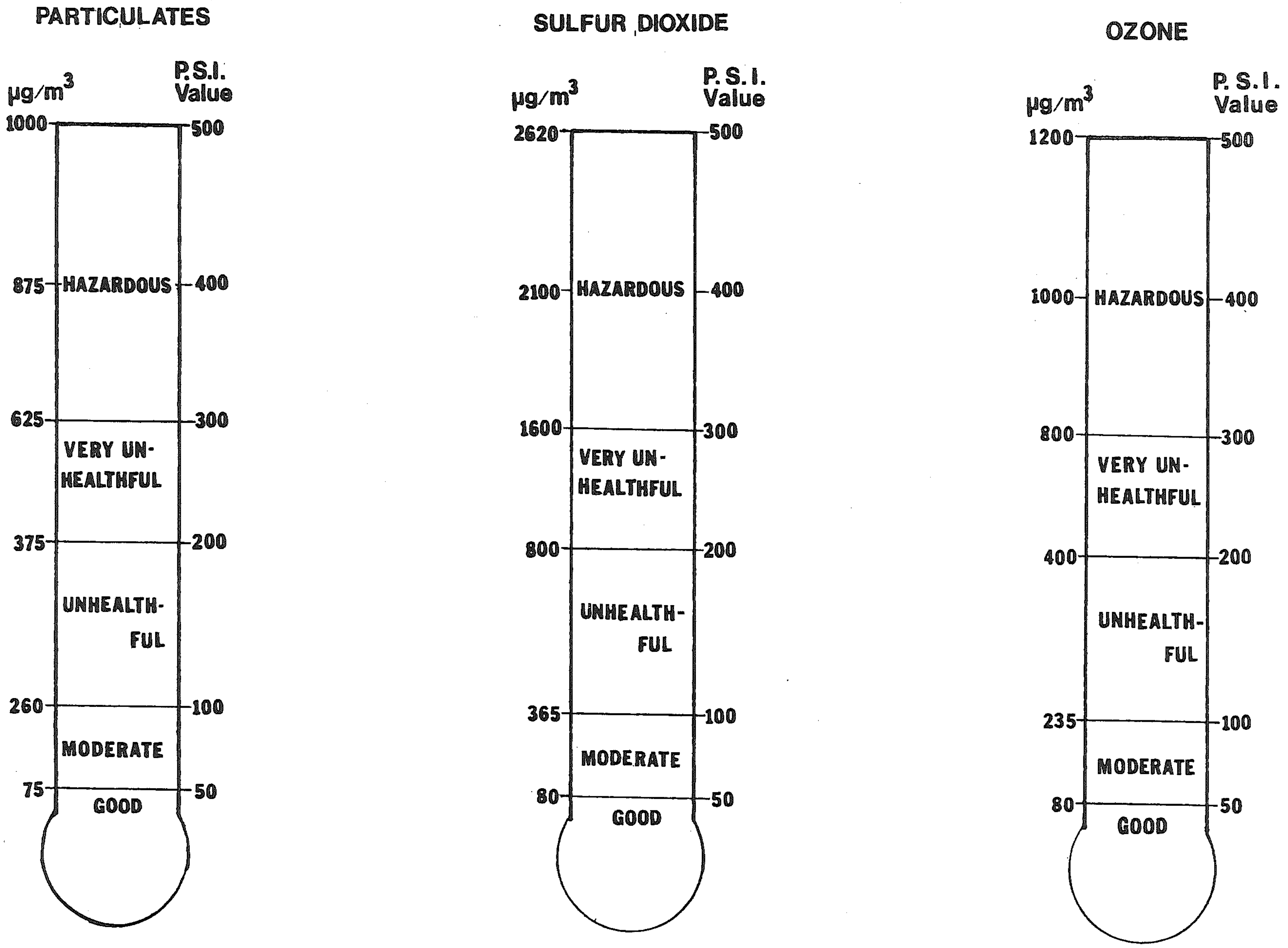
E. Pollutant Standards Index

The Pollutant Standards Index (PSI) is a daily air quality index recommended for common use in state and local agencies by the U.S. Environmental Protection Agency. Connecticut switched to reporting the PSI on a 7-day a week basis on November 15, 1976. The PSI incorporates five pollutants - carbon monoxide, sulfur dioxide, total suspended particulates, ozone, and nitrogen dioxide. The index converts each air pollutant concentration into a normalized number where the National Ambient Air Quality Standard for each pollutant corresponds to PSI = 100 and the Significant Harm Level corresponds to PSI = 500.

Figure 3 shows the breakdown of index values for the commonly reported pollutants (TSP, SO_2, and O_3) in Connecticut. In 1978, the PSI was reported for the 12 telemetered monitoring sites in Connecticut (Bridgeport, Danbury, Derby, Enfield, Greenwich, Groton, Hartford, Middletown, New Britain, New Haven, Stamford, and Waterbury). Each day the pollutant with the highest PSI value of all the pollutants being monitored is reported for each town, along with the dimensionless PSI number, and a descriptor word to characterize the daily air quality.

A telephone recording of the PSI is taped each afternoon at 3 PM, seven days a week, and can be heard by dialing 566-3449. For residents outside of the Hartford telephone exchange, the PSI is now available toll-free from the DEP representative at the Governor's State Information Bureau. The number is 1-800-842-2220. This information is also available to the public weekday afternoons from the Connecticut Lung Association in East Hartford. The number there is 289-5401.

FIGURE 3
POLLUTANT STANDARDS INDEX



F. Quality Assurance

A vigorous and comprehensive Quality Assurance Program for air quality data encompasses a multitude of tasks:

- Personnel training
- Site selection, evaluation and review
- Equipment evaluation, selection and modification when applicable
- Purchasing and inventory control of consumable supplies
- Instrument preventive maintenance, operation and calibration
- Calibration and traceability of working standards
- Sample collection and analysis
- Data recording, documentation, reduction, validation and reporting
- Intra-agency and interagency cross-checks
- Interlaboratory and instrument audits

With the advancement of instrument technology, personnel experience, and improved quality control and quality assurance procedures for the operation, maintenance and calibration of monitoring equipment, the data quality has improved from year to year. However, it appears that these factors could eventually be outweighed by other factors such as instrument degradation due to aging, reduction in resources, and personnel turnover (this turning point has not yet been reached).

1. DEP Data Handling Criteria

The table below briefly summarizes some of the data acceptability criteria used by the DEP on data produced by DEP monitors. Data points are either unadjusted, corrected, or rejected depending upon the % of deviation from a calibrated value:

POLLUTANT	UNADJUSTED DATA	CORRECTED DATA	DISCARDED DATA
Ozone	< ± 10%	± 10% to ± 20%	> ± 20%
Carbon Monoxide	< ± 5%	± 5% to ± 15%	> ± 15%
Sulfur Dioxide	< ± 10%	± 10% to ± 25%	> ± 25%
Particulate*	< ± 7%	± 7% to ± 14%	> ± 14%
NO_2*	< ± 10%	---	> ± 10%

Additional accept/reject criteria apply to deviations due to instrument zero drift. As a result of these checks and corrections, the data accepted for presentation in this summary are probably better than indicated by the EPA audits.

2. EPA Audits

It is essential that data quality be assessed by an impartial source (EPA) who periodically performs quantitative audits on monitoring instruments, calibration systems and laboratory

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* % differences based on sampling flow rates

functions. The results of Connecticut DEP's performance are summarized here in an effort to quantify the degree of data accuracy. The following discussion describes the results for the individual pollutants.

a. Integrating Instruments (24-Hour Sample Either Every 3 Or 6 Days)

1) Particulates

a) Connecticut participated in the audits of 10 samplers using an orifice calibrated by EPA at Research Triangle Park (RTP), North Carolina. Each sampler was audited at five different flow rates for a total of 50 data points. There were seven data points, involving four samplers, which were outside the acceptable range. The discrepancies ranged from -9% to -20% (DEP lower than EPA) but six of the seven values occurred at flows which were outside the normal operating range of the instrument.

An analysis of only those 18 audit points (between 41 and 50 ft^3/min.) which fell within the operating range of DEP's hi-vols, indicated that DEP's flow rates were consistently lower than EPA's (-5.3% on the average). This apparent negative bias prompted DEP to send its calibrating orifice (working standard) to EPA Region I in Boston for comparative calibration. In contrast to the results of the audit using the EPA/RTP orifice, all results now indicated that DEP's flow rates were constantly higher than EPA's. The differences ranged from + 0.3% to + 1.7% overall and from +0.3% to +1.3% within the DEP operating range. These apparent minor discrepancies could not be resolved.

b) The 3 and 1 gram weights, which are used for the laboratory balance calibrations, were certified by Connecticut's Consumer Protection Department, Weights and Measures Division, and were found to weigh 2.999746 and 0.999942 grams, respectively.

2) Nitrogen Dioxide

Five EPA reagent samples were analyzed at the Environmental Chemistry Laboratory of the Connecticut Health Department to determine the accuracy of DEP's analytical system. All results were within acceptable limits and ranged from +3.1% to +6.8% difference.

b. Continuous Instruments

1) Sulfur Dioxide

Nine instrument audits were performed on the SO_2 sampling network, two of which were unacceptable (+ 18% and + 21% difference). Data for that period were eliminated and both units replaced. In addition, an SO_2 network transformation occurred during the year, in which more reliable instrumentation was installed. Audits of this new configuration were all acceptable, having an average difference of +6.2% and a standard deviation of ± 3.5%. Therefore, with these new instruments, the quality and quantity of the SO_2 data should improve in future years.

2) Ozone

During 1978, there were eight O_3 instrument audits performed in Connecticut. Of these audits, there was one marginal audit (+ 15%) and two unacceptable audits (+ 39% and + 53%) which occurred at the beginning of the ozone season. The unacceptable data were caused by a faulty calibrator and all data for that period were rejected. Subsequent audits on the two problem sites were acceptable; this indicates that the apparent discrepancy had been resolved.

3) Carbon Monoxide

a) Six CO instrument audits were performed by EPA during the year with a total of 20 data points being documented. All variations were less than 1 ppm or 10% of value, whichever was greater; i.e., all audit points were acceptable.

b) Thirteen instrument audits were performed by DEP personnel using three tanks of unknown concentrations (low, mid, and high range) received from EPA. All high values (∿40 ppm) were within acceptable limits while the midrange (∿17 ppm) had two of thirteen audit points unacceptable (+ 12% & -22% discrepancy). The low values (in the 5 ppm region) had the tightest criteria. Three of the thirteen audit points were unacceptable although the worst discrepancy was only 1.8 ppm.

II. TOTAL SUSPENDED PARTICULATES

Conclusions:

The measured TSP level exceeded the primary annual standard in Waterbury at site 123 and measured TSP levels exceeded the secondary annual standard at 10 sites in 1978. No sites had measured values exceeding the primary 24-hour standard in 1978, but 9 sites did exceed the secondary 24-hour standard.

In general, measured total suspended particulate (TSP) levels in Connecticut showed a small, but significant improvement in 1978 as compared to 1977 (see Table 2).

The possible causes of this improvement in TSP levels range from more favorable meteorology to decreased particulate emissions. One of the most evident changes in the meteorology was that there were fewer periods of southwesterly wind flows in 1978 than in 1977. At the National Weather Service station located near Bridgeport this drop amounted to 18%, and at Bradley Airport located in Windsor Locks, the drop was 11%. A decrease in frequency of southwesterly winds causes a reduction in the transport of particulate matter into Connecticut from the New York City Metropolitan area and the other sources of emissions situated further to the southwest. As far as decreased emissions are concerned, the increasing cost of fuel and associated conservation efforts between 1977 and 1978 would be expected to decrease TSP emissions, but these efforts had to offset a 10-12% increase in degree day heating requirements, a 10-25% reduction in precipitation (which washes out particulates) and a 3-4% drop in average wind speed (less wind results in less dilution of emissions) between 1977 and 1978.

There was a 1% decline in the sale of distillate oil (used primarily in space heating) in Connecticut between 1977 and 1978, but there was a 13% increase in the sale of residual oil (used primarily by electric utilities and industries). Thus, distillate oil sales dropped in spite of the colder year, indicating considerable conservation in space heating; but part of the apparent decline in distillate oil combustion may have been offset by the increased combustion of wood, which causes more particulate emissions than oil. The utilities and industry were responsible for most of the increase in sales of residual oil. (Although *sales* of residual oil increased by 13%, residual oil *burned* increased by no more than 11% because a 2% increase in sales was due to increased stockpiling by the utilities.)

More than half of the particulate emissions in Connecticut are caused by motor vehicles. One third of these emissions are due to fuel combustion. Most of the remaining two-thirds occur when road dust is stirred up by the motion of the vehicles, so road dust emissions are not dependent upon fuel combustion, but rather, upon vehicle miles traveled (VMT's). Exact VMT's for 1977 and 1978 are unknown at this time, but the Connecticut Department of Transportation expects VMT's to increase each year. Gasoline sales in Connecticut increased by 1.6% from 1977 to 1978.

Since most sources of particulates increased their emissions (those that reduced emissions did so only slightly), and since temperature, precipitation and wind speed favored increased TSP levels, it is remarkable that TSP levels dropped between 1977 and 1978. The only obvious cause is the decreased frequency of southwest winds which reduced the amount of TSP transported into Connecticut from the southwest.

Sample Collection and Analysis:

Hi-Volume Sampler (Hi-Vol): "Hi-Vols" resemble vacuum cleaners in their operation, with an 8" x 10" piece of fiberglass filter paper replacing the vacuum bag. The samplers operate (from midnight to midnight) every sixth day at most sites and every third day at certain urban stations.

The matter collected on the filters is analyzed for weight and chemical composition. The air flow through the filter is recorded during sampling. The weight in micrograms (μg) divided by the volume of air in cubic meters (m^3) yields the pollutant concentration for the day, in micrograms per cubic meter.

The chemical composition of the suspended particulate matter is determined as follows. A standardized strip of every other hi-vol filter collected in each quarter-year is cut-out and composited into one sample.* This procedure is repeated three times so that three quarterly composited samples are made for each site. One of the composited filter samples is digested in benzene. The organic materials in the sample dissolve and are extracted into the benzene. The benzene is evaporated and the organic residue is weighed. The weight of this residue represents the organic material in the sample and the result is reported as the benzene soluble fraction of the TSP, in $\mu g/m^3$. (This method of determining the benzene solubles, or organic, fraction of the particulates was used until 1977 when the analysis for benzene solubles was discontinued because of health hazards associated with the use of benzene, which is a carcinogen.) Another sample is dissolved in water, re-fluxed and the resulting solution is analyzed to determine the water soluble fraction of the TSP using wet chemistry techniques. Results are reported for each individual constituent of the water soluble fraction in $\mu g/m^3$. The last composited sample is digested in acid and the resulting solution is analyzed for the different metals in the TSP using an atomic absorption spectrophotometer. Results are reported for each individual metal in $\mu g/m^3$.

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*The National Air Sampling Network (NASN) every-12th-day sampling schedule determines which filters go into the composite. The National Air Sampling Network consists of several sites in each State, selected from among the State-operated monitoring sites. Filters collected on the NASN schedule at these NASN sites are used by the States only to compute TSP levels. The filters are then sent to the EPA for their analysis and use. Connecticut performs chemical analyses on non-NASN sampling day filters from the NASN sites in Connecticut and on the NASN sampling day filters from the non-NASN sites in Connecticut. (The NASN sites in Connecticut are Bridgeport 001, Hartford 002, New Haven 001 and 123, and Waterbury 001 and 123.)

Lo-Volume Sampler: The low-volume (i.e., Lo-Vol) sampler is a 30-day continuous sampler. It is enclosed in a shelter similar to a hi-vol, uses the same glass fiber filter paper, but operates at an air sampling flow rate approximately one-tenth that used by a standard hi-vol (i.e., 4 cfm as opposed to 40-60 cfm). The air flow through the lo-vol is measured by a temperature compensating dry gas meter. The lo-vol measurement is essentially an arithmetic average for the 30-day sampling interval. The filters are chemically analyzed in the same manner as those from the hi-vol sampler.

Discussion of Data:

Monitoring Network - In 1978 both hi-vol and lo-vol particulate samplers were operated in Connecticut (see Figure 4). Because the Federal EPA does not recognize the lo-vol instrument as an equivalent to the reference (hi-vol) method of sampling for TSP, only hi-vol data are analyzed for compliance with NAAQS.

Annual Averages - The Federal EPA has established minimum sampling criteria (see Table 5) for use in determining compliance with either the primary or secondary annual NAAQS for TSP. Using the EPA criteria, the primary annual standard was exceeded in Waterbury at site 123, while the secondary annual standard was exceeded at 10 sites. In 1978, of the sites that had valid annual geometric means, 23 hi-vol sites showed lower annual geometric means than in 1977, with 8 of these decreases being greater than 5 $\mu g/m^3$. In 1978, 9 hi-vol sites showed higher geometric means than 1977, with 2 of these increases being greater than 5 $\mu g/m^3$.

Historical Data - The DEP's historical file of annual average TSP data for 1957-1978 is presented in Table 6. The entire file of historic TSP data are presented here because some corrections have been made to the data published in earlier Annual Summaries. This table of historic TSP data invalidates and replaces all previous compilations. This table also includes, for the first time, an indication of whether the aforementioned EPA minimum sampling criteria were met at each site for each year. If the sampling was insufficient to meet the EPA criteria an asterisk appears next to the number of samples.

Statistical Projections - Table 6 is the product of a computer program listing all hi-vol monitoring sites used by DEP. The data for each site and year include the number of samples taken (generally, a maximum of 61 samples per year), the geometric mean, 95% confidence limits about the mean, the standard geometric deviation and a statistical prediction of the number of days in each year the 24-hour primary and secondary NAAQS would have been exceeded if sampling had been conducted every day. This analysis (just as the ambient standards) is based on the assumption that the particulate data are log-normally distributed.

Because manpower and economic limitations dictate that hi-vol sampling for particulate matter can not be conducted every day, a degree of uncertainty as to whether the air quality at a site has either met or exceeded the national standards is introduced. This uncertainty for the annual standard can be quantified by determining 95% confidence limits about each of the annual geometric means. For example (see Table 6), in Wallingford at site 001 in 1978, 61 samples were taken and a geometric mean of 57.0 $\mu g/m^3$ was calculated. However, the columns labeled "95-PCT-LIMITS" show the lower and upper limits for a 95% confidence interval of 50 and 65 $\mu g/m^3$, respectively. This means that if a larger (i.e., greater than 61 samples) sample set were collected in 1978 at this site there is a 95% chance that the geometric mean would fall between these limits. Since the national secondary standard for particulates (60 $\mu g/m^3$) is within this interval, one cannot be 95% confident that the secondary standard was met here in 1978.

In Table 7, the 1978 monitoring sites are examined for compliance with standards, using the State's hi-vol confidence limit criteria. The table shows that no sites exceeded the primary annual standard with 95% confidence. It is uncertain whether the primary standard was achieved or exceeded at 2 sites (i.e., New Haven, site 123 and Waterbury, site 123). The table also shows that the secondary standard was exceeded at 5 sites (i.e., Bridgeport, site 123; Hartford, sites 003 and 123; New Haven, site 123; and Waterbury, site 123). Whether the secondary standard was exceeded is uncertain at 13 other sites. Comparing this to the results using the actual measured levels in the discussion above, the 95% confidence method shows one less site exceeding the primary standard and 5 less sites exceeding the secondary standard.

<u>24-Hour Averages</u> - Table 8 presents 1st and 2nd high 24-hour concentrations recorded at each site. There was no violation of the primary 24-hour standard recorded in 1978 or 1977. Measured violations of the secondary 24-hour standard were recorded at 9 sites in 1978, 1 more than in 1977. The 2nd high 24-hour average increased at 12 of the 32 sites which met the minimum EPA sampling criteria in both 1977 and 1978. 3 of these increases exceeded 25 $\mu g/m^3$. The 2nd high 24-hour average decreased at 19 of the 32 sites, and 5 of these decreases exceeded 25 $\mu g/m^3$. The 2nd high at one site (Bridgeport, site 123) remained the same.

Table 9 summarizes the statistical predictions from Table 6 regarding the number of days exceeding the 24-hour standards. This table shows that if sampling had been conducted every day in 1978 there would have been 7 sites with violations of the primary 24-hour standard, and 22 sites with violations of the secondary 24-hour standard. In 1977, only one site was predicted to have exceeded the primary 24-hour standard and 27 sites were predicted to have exceeded the secondary 24-hour standard.

<u>Chemical Analyses</u> - Annual averages of seventeen components or characteristics of the particulate matter collected at each hi-vol sampling location have been computed for the years 1970 through 1978 and are presented in Table 10. (Once again, some corrections have been made to the chemical analyses data reported in previous Annual Summaries, so the data presented in this 1978 Air Quality Summary supercede the data presented in all previous publications.) The abbreviations used in the table are defined below. All values shown are annual *arithmetic* means, in micrograms per cubic meter, except for pH.

#S - Number of Samples
Al - Aluminum
Be - Berylium
Cd - Cadmium
Cr - Chromium
Cu - Copper
Fe - Iron
Pb - Lead
Mn - Manganese
Ni - Nickel

V Vanadium
Zn Zinc
NO3 Total Nitrates
SO4 Total Sulfates
NH4 Ammonium
Na Sodium
pH Acidity
BENZ Total Benzene Solubles
TSP* Total Suspended Particulates

Lo-Vol Averages - For 5 years, the DEP has been experimenting and gathering data with the lo-vol particulate monitor. Lo-vols operate continuously for 30 day periods. The lo-vol has four advantages and one disadvantage in relation to the hi-vol. First, the lo-vol's continuous operation can provide annual averages which include every day of the year, rather than only the fractional portion of the year sampled by every-sixth- (or third-) day hi-vol operation. Second, there is no passive sampling error (see Special Studies Section) associated with the lo-vol as there is with the standard hi-vol. Third, the lo-vol needs less frequent servicing (12 times/year) than the hi-vol (e.g., 61 times/year), so it is more cost-effective to operate. Fourth, the lo-vol has a higher collection efficiency than the hi-vol, especially for small, respirable particles. But, a disadvantage of the lo-vol is that it does not provide daily samples for direct comparison to the 24-hour TSP standards (although 24-hour averages can be obtained by statistical extrapolation).

In early 1976, hi-vol monitors at 3 remote sites and 5 rural sites were replaced by lo-vols. The use of the lo-vols made it possible to continue to obtain data on annual average particulate levels at these hard-to-service sites. Meanwhile, a lo-vol was operated alongside the hi-vol at the Hartford 003 site for comparison purposes. In 1978, lo-vols were installed at two other hi-vol sites for this purpose also. But, in 1978, hi-vols were returned to 4 of the lo-vol sites, due to the need to obtain data on 24-hour background concentrations.

Annual averages of the chemical components (and pH) of the lo-vol TSP have been computed for 1974 through 1978 and are presented in Table 11. The abbreviations used in Table 11 are identical to those used in Table 10 except for the column which indicates the number of samples. In Table 11 this column is headed "#M" to show that the number of samples and the number of months are equivalent.

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* Note that Table 10 gives the *arithmetic* means of the every-12th-day samples that were used in the composites, whereas Table 6 gives the *geometric* means of all the scheduled samples.

TABLE 6 1957-1978 TSP, ANNUAL AVERAGES AND STATISTICAL PROJECTIONS

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 1 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
ANSONIA	01	1966	22*	98.4	82	119	1.546	58	5
ANSONIA	01	1967	27*	85.9	70	105	1.703	58	7
ANSONIA	01	1968	19*	97.2	68	138	2.120	100	35
ANSONIA	01	1969	25	102.5	92	114	1.310	29	
ANSONIA	01	1970	25	132.4	113	156	1.498	139	16
ANSONIA	01	1971	12*	143.1	117	175	1.383	168	13
ANSONIA	03	1971	40*	107.9	95	122	1.524	77	7
ANSONIA	03	1972	59	83.0	75	91	1.501	24	1
ANSONIA	03	1973	57	57.3	50	66	1.789	16	2
ANSONIA	03	1974	53	56.0	50	63	1.602	7	
ANSONIA	03	1975	58	55.7	50	62	1.539	4	
ANSONIA	03	1976	61	59.8	53	68	1.715	16	1
ANSONIA	03	1977	59	63.1	57	70	1.537	8	
ANSONIA	03	1978	117	62.5	58	68	1.739	20	2
BERLIN	01	1973	56	38.6	35	43	1.562		
BERLIN	01	1974	56	31.8	28	36	1.722	1	
BERLIN	01	1975	56	36.6	33	41	1.532		
BERLIN	01	1976	13*	38.0	29	49	1.538		
BERLIN	01	1978	60	31.3	28	35	1.625		
BRIDGEPORT	01	1970	27	65.0	55	77	1.551	10	
BRIDGEPORT	01	1971	55	54.3	50	60	1.445	1	
BRIDGEPORT	01	1972	61	56.1	52	61	1.438	1	
BRIDGEPORT	01	1973	60	45.5	42	50	1.463		
BRIDGEPORT	01	1974	60	48.9	44	54	1.564	2	
BRIDGEPORT	01	1975	60	51.9	48	56	1.418		
BRIDGEPORT	01	1976	61	54.3	49	61	1.595	5	
BRIDGEPORT	01	1977	58	56.7	52	62	1.448	2	
BRIDGEPORT	01	1978	58	49.8	45	55	1.492	1	
BRIDGEPORT	02	1972	10*	91.7	54	157	2.138	100	29
BRIDGEPORT	02	1973	61	57.1	52	63	1.526	4	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 2 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
BRIDGEPORT		02	1974	61	45.7	41	51	1.659	4	
BRIDGEPORT		02	1975	20*	44.9	37	55	1.538	1	
BRIDGEPORT		05	1966	25*	99.5	84	117	1.508	58	4
BRIDGEPORT		05	1967	36*	93.4	82	107	1.524	50	3
BRIDGEPORT		05	1968	27	79.2	70	89	1.360	7	
BRIDGEPORT		05	1969	21*	80.3	71	90	1.300	3	
BRIDGEPORT		123	1975	38*	65.7	58	75	1.535	10	
BRIDGEPORT		123	1976	60	68.4	61	77	1.638	20	1
BRIDGEPORT		123	1977	120	70.9	67	75	1.508	13	
BRIDGEPORT		123	1978	120	66.4	61	72	1.683	20	2
BRIDGEPORT	A	01	1960	24	86.5	71	105	1.620	50	4
BRIDGEPORT	A	01	1962	26	88.8	78	101	1.380	20	
BRIDGEPORT	A	01	1966	24	78.2	64	96	1.660	35	3
BRIDGEPORT	A	01	1969	25	65.9	60	72	1.270		
BRIDGEPORT	A	01	1970	26	63.9	54	75	1.510	7	
BRIDGEPORT	A	01	1971	26	57.9	50	67	1.450	2	
BRIDGEPORT	A	01	1972	30	51.0	44	60	1.550	2	
BRISTOL		01	1970	18*	40.0	30	53	1.773	4	
BRISTOL		01	1971	54	50.4	44	57	1.642	5	
BRISTOL		01	1972	58	51.1	46	56	1.510	2	
BRISTOL		01	1973	58	52.5	47	59	1.572	4	
BRISTOL		01	1974	59	42.3	38	48	1.638	2	
BRISTOL		01	1975	54	49.0	43	56	1.644	4	
BRISTOL		01	1976	53	58.1	50	67	1.744	16	1
BRISTOL		01	1977	58	51.5	46	57	1.531	2	
BRISTOL		01	1978	59	47.0	43	52	1.511	1	
BRISTOL		02	1973	19*	28.2	23	35	1.583		
BRISTOL		02	1974	61	29.4	26	33	1.695		
BRISTOL		03	1973	18*	40.1	32	50	1.584	1	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 3 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
BRISTOL	03	1974	59	35.2	31	40	1.653	1	
BRISTOL	04	1973	18*	50.3	39	66	1.733	8	
BRISTOL	04	1974	59	48.9	44	55	1.607	3	
BRISTOL	04	1975	43	53.8	46	63	1.705	10	
BRISTOL	04	1976	49	60.5	53	69	1.658	13	1
BRISTOL	04	1977	61	56.1	52	61	1.405	1	
BRISTOL	04	1978	45*	53.4	47	60	1.554	4	
BURLINGTON	01	1973	25*	32.5	26	40	1.729	1	
BURLINGTON	01	1974	56	27.1	23	31	1.800	1	
BURLINGTON	01	1975	46*	27.5	24	32	1.680		
BURLINGTON	01	1976	7*	24.3	14	41	1.791		
BURLINGTON	01	1978	39*	26.1	22	31	1.843	1	
DANBURY	01	1966	23*	51.1	43	60	1.475	1	
DANBURY	01	1967	28*	67.1	55	82	1.692	24	2
DANBURY	01	1968	21*	113.4	84	154	1.990	126	42
DANBURY	01	1969	16*	82.0	64	105	1.610	35	3
DANBURY	01	1970	21*	82.1	63	107	1.813	58	10
DANBURY	01	1972	8*	84.1	45	159	2.154	77	24
DANBURY	01	1973	38	58.1	49	70	1.782	20	2
DANBURY	01	1974	51	51.5	46	58	1.588	4	
DANBURY	01	1975	8*	58.1	37	91	1.722	16	1
DANBURY	123	1975	49*	53.2	48	59	1.431	1	
DANBURY	123	1976	60	53.0	47	60	1.671	8	
DANBURY	123	1977	58	56.8	51	63	1.560	5	
DANBURY	123	1978	60	50.8	45	57	1.661	7	
DANBURY 01/	123	1975	57	53.9	49	59	1.478	2	
DERBY	123	1975	18*	55.0	45	67	1.522	3	
DERBY	123	1976	58	53.9	48	61	1.634	7	
DERBY	123	1977	60	53.9	50	58	1.410		

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 4 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
DERBY	123	1978	45*	48.5	42	55	1.604	3	
EAST HARTFORD	01	1974	42*	42.8	37	49	1.605	1	
EAST HARTFORD	01	1975	58	49.3	44	56	1.679	7	
EAST HARTFORD	01	1976	11*	35.4	21	60	2.212	13	2
EAST HARTFORD	02	1974	37*	41.2	36	47	1.560	1	
EAST HARTFORD	02	1975	55	46.6	42	52	1.540	1	
EAST HARTFORD	02	1976	53	41.2	36	47	1.680	2	
EAST HARTFORD	02	1977	60	47.3	42	53	1.589	2	
EAST HARTFORD	02	1978	58	49.8	44	56	1.679	7	
EAST WINDSOR	01	1975	38*	51.4	45	59	1.533	2	
EAST WINDSOR	01	1976	13*	69.0	54	88	1.512	10	
ENFIELD	01	1966	12*	71.3	59	87	1.366	3	
ENFIELD	01	1967	35*	76.2	64	90	1.676	35	3
ENFIELD	01	1968	18*	99.4	70	141	2.070	100	35
ENFIELD	01	1969	19*	68.6	52	91	1.810	35	5
ENFIELD	01	1970	22*	82.4	70	97	1.466	20	
ENFIELD	01	1971	44	80.9	70	94	1.686	42	5
ENFIELD	01	1972	36	74.4	60	92	1.940	50	10
ENFIELD	01	1973	50	55.6	49	63	1.627	8	
ENFIELD	01	1974	59	50.5	45	57	1.654	5	
ENFIELD	01	1975	21*	62.7	52	76	1.558	8	
ENFIELD	03	1972	8*	64.3	50	83	1.363	1	
ENFIELD	123	1975	33*	38.6	33	45	1.562		
ENFIELD	123	1976	56	43.2	38	49	1.638	2	
ENFIELD	123	1977	54	40.4	37	45	1.487		
ENFIELD	123	1978	56	41.6	38	46	1.513		
ENFIELD 01/	123	1975	54	46.6	41	53	1.655	4	

TABLE 6 (continued)

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
FAIRFIELD	02	1966	31*	38.3	33	44	1.523		
FAIRFIELD	02	1967	36*	44.0	39	50	1.455		
FAIRFIELD	02	1968	20*	49.8	40	62	1.600	4	
FAIRFIELD	02	1969	20	36.9	30	46	1.600		
FAIRFIELD	02	1970	27	44.1	35	56	1.883	10	1
FAIRFIELD	02	1971	46	65.6	56	77	1.806	29	4
FAIRFIELD	02	1972	56	43.9	40	48	1.459		
FAIRFIELD	02	1973	47	43.6	41	47	1.305		
FAIRFIELD	02	1974	47	42.3	39	46	1.384		
FAIRFIELD	02	1975	34*	44.9	39	52	1.558	1	
GREENWICH	01	1968	25*	62.4	52	75	1.610	13	
GREENWICH	01	1969	26	62.0	51	76	1.660	16	1
GREENWICH	01	1970	25	55.4	44	69	1.752	13	1
GREENWICH	01	1971	52	53.9	49	60	1.505	2	
GREENWICH	01	1972	58	56.9	50	65	1.702	13	1
GREENWICH	01	1973	56	46.5	42	51	1.491	1	
GREENWICH	01	1974	54	52.1	46	59	1.619	5	
GREENWICH	01	1975	27*	62.7	51	78	1.761	24	2
GREENWICH	01	1976	58	54.4	49	61	1.567	4	
GREENWICH	01	1977	55	57.7	52	64	1.515	4	
GREENWICH	01	1978	44*	54.9	48	63	1.624	7	
GREENWICH	02	1966	29*	59.2	50	70	1.567	7	
GREENWICH	02	1967	35*	66.1	56	78	1.634	16	1
GREENWICH	02	1968	26	61.2	48	78	1.870	29	4
GREENWICH	02	1969	25	54.7	46	65	1.530	3	
GREENWICH	02	1970	24	53.0	43	65	1.636	7	
GREENWICH	02	1971	54	60.2	55	66	1.478	4	
GREENWICH	02	1972	61	60.6	54	69	1.700	16	1
GREENWICH	02	1973	58	58.1	52	65	1.570	7	
GREENWICH	02	1974	59	51.3	45	58	1.675	7	
GREENWICH	02	1975	58	52.6	46	60	1.676	8	
GREENWICH	02	1976	16*	54.6	44	68	1.502	2	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 6 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
GREENWICH	03	1968	21	53.2	43	66	1.650	7	
GREENWICH	03	1969	23	51.9	44	61	1.480	1	
GREENWICH	03	1970	26	56.2	48	66	1.508	3	
GREENWICH	03	1971	54	58.4	53	64	1.455	2	
GREENWICH	03	1972	60	56.4	51	63	1.576	5	
GREENWICH	03	1973	59	51.1	46	57	1.568	3	
GREENWICH	03	1974	59	52.6	47	58	1.555	3	
GREENWICH	03	1975	59	50.1	45	55	1.530	2	
GREENWICH	03	1976	54	55.8	50	63	1.580	5	
GREENWICH	03	1977	59	59.2	54	65	1.444	2	
GREENWICH	03	1978	43*	58.1	50	67	1.631	10	
GREENWICH	04	1973	47*	42.1	36	49	1.751	4	
GREENWICH	04	1974	58	40.1	35	46	1.733	3	
GREENWICH	04	1975	56	37.4	33	43	1.747	2	
GREENWICH	04	1976	57	40.3	35	46	1.755	4	
GREENWICH	04	1977	58	42.3	38	47	1.589	1	
GREENWICH	04	1978	58	36.4	32	41	1.673	1	
GREENWICH	07	1968	9*	32.8	22	48	1.650		
GREENWICH	07	1969	24	39.6	32	48	1.630	1	
GREENWICH	07	1970	26	49.1	41	59	1.622	4	
GREENWICH	07	1971	56	45.6	41	51	1.587	2	
GREENWICH	07	1972	60	38.6	33	45	1.850	5	
GREENWICH	07	1973	56	36.1	32	41	1.607		
GREENWICH	07	1974	60	43.8	39	49	1.662	3	
GREENWICH	08	1970	7*	83.5	39	177	2.273.	88	29
GREENWICH	08	1971	50	74.9	68	83	1.451	10	
GREENWICH	08	1972	57	70.4	63	79	1.575	16	1
GREENWICH	08	1973	59	62.7	56	70	1.620	13	1
GREENWICH	08	1974	61	64.5	58	72	1.608	13	1
GREENWICH	08	1975	59	61.5	56	68	1.512	5	
GREENWICH	08	1976	57	55.2	49	62	1.668	8	
GREENWICH	08	1977	60	61.2	55	68	1.547	7	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 7 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
GREENWICH	08	1978	57	51.3	45	59	1.723	8	
GREENWICH	14	1974	60	63.0	57	69	1.501	7	
GREENWICH	14	1975	28*	58.5	52	66	1.363		
GROTON	01	1967	16*	36.4	28	47	1.631	1	
GROTON	01	1968	21*	61.2	46	80	1.860	29	4
GROTON	01	1969	25	72.5	62	84	1.460	10	
GROTON	01	1970	25	102.5	86	122	1.555	67	7
GROTON	01	1971	53	87.4	77	99	1.638	50	5
GROTON	01	1972	56	46.2	40	53	1.716	5	
GROTON	01	1973	55	34.8	31	39	1.652	1	
GROTON	01	1974	61	34.5	31	39	1.674	1	
GROTON	01	1975	25*	38.5	32	47	1.635	1	
GROTON	04	1966	6*	44.8	28	72	1.584	2	
GROTON	04	1967	14*	40.3	30	55	1.722	3	
GROTON	123	1975	35*	38.8	34	44	1.495		
GROTON	123	1976	58	44.7	41	49	1.506		
GROTON	123	1977	61	42.7	39	47	1.542	1	
GROTON	123	1978	61	40.7	37	44	1.462		
GROTON 01/	123	1975	60	38.7	35	43	1.555		
HADDAM	02	1974	44*	32.9	29	38	1.649		
HADDAM	02	1975	59	33.3	30	37	1.523		
HADDAM	02	1976	58	35.4	31	40	1.641	1	
HADDAM	02	1977	59	34.5	31	38	1.548		
HADDAM	02	1978	52	35.4	32	40	1.554		
HARTFORD	02	1967	64*	68.0	63	73	1.374	2	
HARTFORD	02	1973	11*	54.2	45	65	1.329		
HARTFORD	02	1974	51	50.7	46	56	1.512	2	
HARTFORD	02	1975	60	53.7	49	59	1.466	1	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 8 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
HARTFORD	02	1976	59	48.6	43	54	1.620	4	
HARTFORD	02	1977	59	50.6	46	55	1.472	1	
HARTFORD	02	1978	44*	50.2	43	59	1.714	8	
HARTFORD	03	1967	44*	132.3	115	153	1.647	139	29
HARTFORD	03	1968	133*	101.1	95	107	1.530	67	5
HARTFORD	03	1969	177	105.9	101	112	1.630	88	13
HARTFORD	03	1970	150	104.7	99	111	1.639	88	13
HARTFORD	03	1971	169	86.6	83	91	1.517	35	2
HARTFORD	03	1972	139	74.3	70	79	1.602	24	1
HARTFORD	03	1973	33*	80.7	71	92	1.474	20	
HARTFORD	03	1974	55	62.4	56	70	1.599	10	
HARTFORD	03	1975	60	68.5	63	75	1.471	8	
HARTFORD	03	1976	58	73.5	67	81	1.496	13	
HARTFORD	03	1977	105	66.2	62	71	1.568	13	
HARTFORD	03	1978	119	64.6	60	69	1.596	13	
HARTFORD	04	1968	18*	80.6	60	108	1.810	58	8
HARTFORD	04	1969	20*	119.2	92	155	1.770	126	29
HARTFORD	04	1970	13*	158.2	104	241	2.029	197	88
HARTFORD	04	1972	40	47.8	40	57	1.757	8	
HARTFORD	04	1973	49	49.6	43	57	1.635	4	
HARTFORD	04	1974	47*	48.4	42	56	1.653	4	
HARTFORD	04	1975	58	47.1	43	52	1.527	1	
HARTFORD	04	1976	13*	58.6	44	78	1.624	10	
HARTFORD	05	1968	16*	60.7	48	76	1.550	7	
HARTFORD	05	1969	24	53.9	42	69	1.820	16	2
HARTFORD	05	1970	13*	101.8	69	150	1.917	100	29
HARTFORD	05	1971	18*	117.6	89	155	1.761	126	29
HARTFORD	05	1974	48*	43.1	38	49	1.623	2	
HARTFORD	05	1975	58	50.2	45	56	1.547	2	
HARTFORD	05	1976	12*	55.8	44	71	1.481	2	
HARTFORD	10	1966	210	100.1	96	104	1.597	67	8

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 9 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
HARTFORD		10	1967	329	90.6	89	92	1.658	58	7
HARTFORD		10	1968	96*	97.0	90	104	1.510	50	3
HARTFORD		11	1967	32*	113.1	97	131	1.546	100	10
HARTFORD		123	1976	19*	47.7	40	57	1.455		
HARTFORD		123	1977	60	65.7	59	73	1.542	10	
HARTFORD		123	1978	61	67.1	61	74	1.519	10	
HARTFORD	A	01	1957	26	110.4	90	135	1.680	100	16
HARTFORD	A	01	1958	25	80.6	66	98	1.630	35	3
HARTFORD	A	01	1959	26	79.6	68	93	1.500	20	1
HARTFORD	A	01	1960	26	105.0	89	123	1.510	67	5
HARTFORD	A	01	1961	23	72.2	62	83	1.410	7	
HARTFORD	A	01	1962	26	112.0	93	135	1.600	100	13
HARTFORD	A	01	1963	25	98.3	86	112	1.400	35	1
HARTFORD	A	01	1964	25	105.5	86	130	1.690	88	16
HARTFORD	A	01	1965	25	84.4	71	100	1.530	29	2
HARTFORD	A	01	1966	26	81.5	68	98	1.590	35	2
HARTFORD	A	01	1967	26	76.0	61	95	1.790	42	7
HARTFORD	A	01	1968	26	60.2	50	72	1.580	8	
HARTFORD	A	01	1969	25	62.3	52	75	1.570	10	
HARTFORD	A	01	1970	26	61.9	52	74	1.560	8	
HARTFORD	A	01	1971	23	63.8	55	74	1.430	3	
HARTFORD	A	01	1972	29	60.5	51	72	1.600	10	
KENT		01	1973	27*	38.6	30	49	1.923	7	1
KENT		01	1974	56	31.4	27	37	1.859	2	
KENT		01	1975	38*	31.9	27	37	1.628		
MANCHESTER		01	1971	26*	80.8	66	99	1.666	42	4
MANCHESTER		01	1972	15*	47.3	39	57	1.409		
MANCHESTER		01	1973	36*	47.8	40	57	1.715	7	
MANCHESTER		01	1974	38*	45.2	39	52	1.590	2	
MANCHESTER		01	1975	56	44.2	39	50	1.659	3	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 10 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
MANCHESTER	01	1976	55	39.8	35	45	1.604	1	
MANCHESTER	01	1977	60	43.5	39	48	1.567	1	
MANCHESTER	01	1978	56	41.8	38	46	1.541		
MANSFIELD	01	1969	14*	37.9	31	47	1.460		
MANSFIELD	01	1970	22	44.8	37	55	1.593	2	
MANSFIELD	01	1971	34*	46.2	40	53	1.543	1	
MANSFIELD	01	1972	26*	43.1	32	58	2.101	16	3
MANSFIELD	01	1973	18*	23.2	19	28	1.497		
MANSFIELD	01	1974	47	34.3	30	39	1.609		
MANSFIELD	01	1975	60	36.5	33	41	1.628	1	
MANSFIELD	01	1976	14*	40.5	31	54	1.646	2	
MERIDEN	01	1971	53	40.4	36	45	1.535		
MERIDEN	01	1972	54	72.5	66	80	1.484	13	
MERIDEN	01	1973	36*	58.2	48	71	1.839	20	2
MERIDEN	01	1974	55	50.3	45	57	1.607	4	
MERIDEN	01	1975	35*	53.2	42	67	2.013	24	4
MERIDEN	02	1968	14*	66.1	50	87	1.630	16	1
MERIDEN	02	1969	18*	79.8	59	108	1.850	58	10
MERIDEN	02	1970	14*	97.6	79	121	1.454	50	2
MERIDEN	02	1971	58	95.4	86	106	1.540	58	4
MERIDEN	02	1972	60	82.3	73	92	1.620	42	3
MERIDEN	02	1973	56	66.2	58	76	1.762	29	3
MERIDEN	02	1974	59	50.4	45	57	1.655	5	
MERIDEN	02	1975	51	52.0	46	59	1.580	4	
MERIDEN	02	1976	51	51.8	46	58	1.560	3	
MERIDEN	02	1977	60	52.5	47	58	1.550	3	
MERIDEN	02	1978	60	60.7	54	68	1.596	10	
MERIDEN	03	1968	12*	45.0	34	60	1.570	1	
MERIDEN	03	1969	19*	69.4	51	95	1.950	42	8
MERIDEN	03	1970	20*	85.8	67	110	1.721	58	8
MERIDEN	03	1971	54	79.2	67	94	1.930	58	13

TABLE 6 (continued)

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
MERIDEN	03	1972	53	60.4	53	69	1.655	13	1
MERIDEN	03	1973	57	54.5	47	64	1.887	20	2
MERIDEN	03	1974	53	50.9	44	59	1.798	13	1
MERIDEN	03	1975	28*	54.7	43	69	1.858	20	2
MERIDEN	04	1969	14*	93.8	69	127	1.720	67	10
MERIDEN	04	1970	8*	98.8	59	166	1.880	88	24
MERIDEN	05	1968	8*	128.5	50	331	3.140	168	100
MERIDEN	05	1969	18*	156.3	106	231	2.240	197	100
MERIDEN	05	1970	13*	194.5	111	340	2.558	226	139
MERIDEN	05	1971	55	157.9	130	192	2.179	197	100
MERIDEN	05	1972	60	98.0	81	118	2.206	113	42
MERIDEN	05	1973	50	59.3	51	69	1.778	20	2
MERIDEN	05	1974	57	63.4	54	74	1.871	29	4
MERIDEN	05	1975	52	58.9	50	69	1.840	24	3
MERIDEN	05	1976	59	62.8	54	73	1.926	35	5
MERIDEN	05	1977	59	61.5	54	69	1.671	16	1
MERIDEN	05	1978	58	54.2	48	61	1.657	8	
MERIDEN	06	1971	52	78.8	70	88	1.543	24	1
MERIDEN	06	1972	38	68.0	56	82	1.822	35	5
MERIDEN	06	1973	51	49.3	42	58	1.903	16	2
MERIDEN	06	1974	54	56.1	49	65	1.755	16	1
MERIDEN	06	1975	53	59.3	50	70	1.916	29	4
MERIDEN	06	1976	23*	59.7	43	84	2.242	50	13
MERIDEN	07	1968	10*	61.1	47	79	1.430	2	
MIDDLETOWN	01	1966	23*	44.2	36	55	1.678	3	
MIDDLETOWN	01	1967	38*	36.9	32	42	1.558		
MIDDLETOWN	01	1968	22	60.9	46	81	1.950	35	5
MIDDLETOWN	01	1969	25	56.0	46	68	1.600	7	
MIDDLETOWN	01	1970	22	38.6	29	52	2.003	8	1
MIDDLETOWN	01	1971	57	35.9	32	40	1.577		

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION   PAGE 12   AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
MIDDLETOWN	01	1972	59	47.3	42	53	1.602	3	
MIDDLETOWN	01	1973	59	50.7	44	59	1.880	16	2
MIDDLETOWN	01	1974	59	34.6	31	39	1.679	1	
MIDDLETOWN	02	1966	25*	46.8	39	56	1.584	2	
MIDDLETOWN	02	1967	38*	45.4	39	52	1.569	1	
MIDDLETOWN	03	1968	20*	59.6	50	71	1.450	2	
MIDDLETOWN	03	1969	25	66.5	54	82	1.700	24	2
MIDDLETOWN	03	1970	24	66.1	56	78	1.482	7	
MIDDLETOWN	03	1971	57	66.9	60	74	1.543	10	
MIDDLETOWN	03	1972	59	59.0	52	66	1.638	10	
MIDDLETOWN	03	1973	59	54.5	49	60	1.514	3	
MIDDLETOWN	03	1974	61	52.1	47	58	1.585	4	
MIDDLETOWN	03	1975	55	53.7	48	60	1.521	2	
MIDDLETOWN	03	1976	60	58.4	52	65	1.591	8	
MIDDLETOWN	03	1977	60	52.0	47	57	1.529	2	
MIDDLETOWN	03	1978	56	62.2	54	72	1.772	24	2
MIDDLETOWN	04	1973	52*	51.4	42	63	2.245	35	8
MILFORD	01	1968	19*	59.3	44	81	1.930	29	5
MILFORD	01	1969	22*	43.2	35	53	1.630	2	
MILFORD	01	1970	16*	58.0	46	74	1.580	7	
MILFORD	01	1971	53	53.7	48	60	1.552	4	
MILFORD	01	1972	58	49.2	44	55	1.613	4	
MILFORD	01	1973	49*	43.8	39	49	1.476		
MILFORD	01	1974	60	46.7	42	52	1.552	1	
MILFORD	01	1975	58	45.7	41	51	1.537	1	
MILFORD	01	1976	60	50.6	45	56	1.566	3	
MILFORD	01	1977	55	45.6	41	51	1.556	1	
MILFORD	01	1978	32*	48.4	42	56	1.549	2	
MILFORD	02	1968	18*	64.7	49	85	1.750	24	2
MILFORD	02	1969	20	67.7	56	81	1.500	8	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 13 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
MILFORD	02	1970	16*	75.9	63	92	1.442	10	
MILFORD	02	1971	54	65.1	59	72	1.469	5	
MILFORD	02	1972	59	55.5	49	63	1.725	13	1
MILFORD	02	1973	54	49.9	46	55	1.440		
MILFORD	02	1974	54	51.2	46	57	1.525	2	
MILFORD	02	1975	59	62.5	57	68	1.459	4	
MILFORD	02	1976	58	52.2	47	58	1.538	2	
MILFORD	02	1977	58	57.3	53	62	1.424	1	
MILFORD	02	1978	54	53.9	49	59	1.439	1	
MILFORD	06	1970	11*	56.6	38	84	1.821	20	2
MILFORD	06	1971	48	42.8	38	48	1.508		
MILFORD	06	1972	56	46.8	41	53	1.700	5	
MILFORD	06	1973	56	42.7	38	47	1.536	1	
MILFORD	06	1974	60	40.9	37	45	1.548		
MILFORD	06	1975	56	41.6	38	46	1.496		
MORRIS	01	1967	31*	29.4	23	37	2.002	4	
MORRIS	01	1968	24	56.2	45	70	1.710	13	1
MORRIS	01	1969	27	41.9	34	51	1.670	2	
MORRIS	01	1970	26	45.0	34	59	2.040	16	2
MORRIS	01	1971	48	35.8	31	41	1.692	1	
MORRIS	01	1972	51	34.1	30	39	1.699	1	
MORRIS	01	1973	57	31.4	27	36	1.812	2	
MORRIS	01	1974	60	27.7	24	32	1.746		
MORRIS	01	1975	60	28.8	26	32	1.644		
MORRIS	01	1976	12*	35.0	25	50	1.753	2	
MORRIS	01	1978	120	27.4	26	29	1.636		
NAUGATUCK	01	1966	24*	62.0	51	75	1.578	10	
NAUGATUCK	01	1967	34*	76.6	63	92	1.762	42	5
NAUGATUCK	01	1968	20	98.9	77	128	1.750	88	16
NAUGATUCK	01	1969	23	92.6	74	116	1.710	67	10
NAUGATUCK	01	1970	25	98.0	80	120	1.676	77	10
NAUGATUCK	01	1971	52	85.7	76	96	1.571	42	2

TABLE 6(continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 14 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NAUGATUCK	01	1972	61	72.1	64	81	1.673	29	2
NAUGATUCK	01	1973	59	70.2	62	79	1.653	24	2
NAUGATUCK	01	1974	61	61.1	54	69	1.646	13	1
NAUGATUCK	01	1975	60	56.8	51	63	1.603	7	
NAUGATUCK	01	1976	60	54.6	48	62	1.685	10	
NAUGATUCK	01	1977	60	57.7	52	64	1.530	5	
NAUGATUCK	01	1978	58	50.8	45	57	1.659	7	
NEW BRITAIN	01	1968	26	87.6	75	103	1.510	35	2
NEW BRITAIN	01	1969	26	76.8	64	93	1.620	29	2
NEW BRITAIN	01	1970	26	80.1	70	92	1.430	13	
NEW BRITAIN	01	1971	55	74.1	66	84	1.638	29	2
NEW BRITAIN	01	1972	34*	77.6	68	88	1.477	16	
NEW BRITAIN	01	1973	18*	49.8	41	61	1.496	1	
NEW BRITAIN	01	1974	61	52.4	47	59	1.617	5	
NEW BRITAIN	02	1968	25	96.9	82	114	1.510	50	3
NEW BRITAIN	02	1969	27	100.1	85	117	1.520	58	4
NEW BRITAIN	02	1970	26	88.2	75	104	1.517	35	2
NEW BRITAIN	02	1971	57	93.6	83	105	1.599	58	5
NEW BRITAIN	02	1972	60	82.8	73	94	1.679	50	5
NEW BRITAIN	02	1973	56	77.7	69	88	1.660	35	3
NEW BRITAIN	02	1974	58	70.1	63	79	1.600	20	1
NEW BRITAIN	02	1975	58	83.4	76	92	1.484	24	1
NEW BRITAIN	02	1976	19*	100.7	82	123	1.532	67	5
NEW BRITAIN	03	1966	24*	105.8	86	130	1.644	88	13
NEW BRITAIN	03	1967	28*	111.7	91	137	1.727	113	24
NEW BRITAIN	03	1968	26	131.9	102	171	1.940	154	58
NEW BRITAIN	03	1969	25	97.3	77	122	1.780	77	16
NEW BRITAIN	03	1970	26	90.8	72	115	1.826	77	16
NEW BRITAIN	03	1971	58	86.3	75	99	1.782	58	10
NEW BRITAIN	03	1972	59	69.9	61	80	1.724	29	3
NEW BRITAIN	03	1973	57	73.9	64	85	1.751	35	5
NEW BRITAIN	03	1974	60	62.9	56	71	1.676	16	1

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 15 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NEW BRITAIN	03	1975	60	72.9	66	80	1.487	13	
NEW BRITAIN	03	1976	57	64.7	57	73	1.688	20	1
NEW BRITAIN	03	1977	31*	84.7	70	102	1.692	50	7
NEW BRITAIN	04	1968	25	62.4	52	76	1.620	13	
NEW BRITAIN	04	1969	25	49.3	41	60	1.630	4	
NEW BRITAIN	04	1970	26	55.3	47	65	1.506	3	
NEW BRITAIN	04	1971	56	49.0	44	54	1.526	2	
NEW BRITAIN	04	1972	58	52.4	47	58	1.565	4	
NEW BRITAIN	04	1973	59	51.1	45	58	1.726	8	
NEW BRITAIN	04	1974	60	38.0	33	43	1.744	2	
NEW BRITAIN	04	1975	59	44.4	40	49	1.478		
NEW BRITAIN	04	1976	13*	48.7	37	64	1.575	2	
NEW BRITAIN	05	1968	25	49.0	40	60	1.690	7	
NEW BRITAIN	05	1969	26	41.4	35	50	1.590	1	
NEW BRITAIN	05	1970	26	44.7	38	53	1.566	1	
NEW BRITAIN	05	1971	57	49.4	45	55	1.494	1	
NEW BRITAIN	05	1972	59	42.1	37	49	1.816	7	
NEW BRITAIN	05	1973	58	45.5	40	51	1.638	3	
NEW BRITAIN	05	1974	58	38.8	33	45	1.863	5	
NEW BRITAIN	06	1966	24*	74.8	64	88	1.490	16	
NEW BRITAIN	06	1967	29*	71.1	63	81	1.422	7	
NEW BRITAIN	123	1975	13*	63.1	50	79	1.475	5	
NEW BRITAIN	123	1976	61	56.7	51	63	1.607	7	
NEW BRITAIN	123	1977	120	57.9	55	61	1.444	2	
NEW BRITAIN	123	1978	121	60.1	56	64	1.564	8	
NEW BRITAIN A	01	1959	25	90.5	77	107	1.510	42	2
NEW BRITAIN A	01	1965	26	92.1	77	110	1.570	50	4
NEW HAVEN	01	1967	85	91.3	83	100	1.620	58	5
NEW HAVEN	01	1968	178	82.2	78	86	1.550	29	2

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 16 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NEW HAVEN	01	1969	146	84.4	79	90	1.710	50	7
NEW HAVEN	01	1971	139	69.4	66	73	1.535	13	
NEW HAVEN	01	1972	76	65.1	61	70	1.439	4	
NEW HAVEN	01	1973	48	56.2	51	62	1.404	1	
NEW HAVEN	01	1974	61	57.4	52	64	1.565	7	
NEW HAVEN	01	1975	60	59.0	54	65	1.458	2	
NEW HAVEN	01	1976	58	58.0	51	66	1.699	13	1
NEW HAVEN	01	1977	35*	63.2	55	73	1.526	8	
NEW HAVEN	02	1967	63*	98.0	82	117	2.130	100	35
NEW HAVEN	02	1968	76	74.2	68	82	1.600	24	1
NEW HAVEN	02	1969	69	77.9	70	87	1.630	35	2
NEW HAVEN	02	1970	21*	107.0	86	133	1.634	88	13
NEW HAVEN	02	1971	88	74.6	68	81	1.613	24	2
NEW HAVEN	02	1972	67	84.1	76	93	1.559	35	2
NEW HAVEN	02	1973	51*	62.9	55	72	1.720	20	2
NEW HAVEN	02	1974	56	42.6	35	52	2.160	20	4
NEW HAVEN	02	1975	31*	68.3	57	82	1.696	24	2
NEW HAVEN	02	1976	58	60.3	54	67	1.551	7	
NEW HAVEN	02	1977	58	55.8	50	62	1.579	5	
NEW HAVEN	02	1978	59	58.5	53	65	1.529	5	
NEW HAVEN	03	1967	69*	77.0	69	86	1.660	35	3
NEW HAVEN	03	1968	76	68.4	62	76	1.670	24	2
NEW HAVEN	03	1969	69	63.8	58	70	1.550	10	
NEW HAVEN	03	1970	7*	84.3	61	117	1.433	20	
NEW HAVEN	03	1971	47*	48.2	42	55	1.634	4	
NEW HAVEN	03	1972	69	50.2	46	55	1.569	3	
NEW HAVEN	03	1973	61	43.4	40	48	1.489		
NEW HAVEN	03	1974	61	46.4	41	52	1.650	4	
NEW HAVEN	03	1975	59	52.1	47	58	1.544	3	
NEW HAVEN	03	1976	15*	49.2	41	59	1.396		
NEW HAVEN	05	1967	56*	63.9	50	81	2.610	67	24
NEW HAVEN	05	1968	60*	69.7	62	79	1.680	24	2

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 17 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NEW HAVEN		05	1969	57*	61.4	54	70	1.670	16	1
NEW HAVEN		05	1971	63*	67.4	61	74	1.526	10	
NEW HAVEN		05	1972	70	54.8	50	60	1.504	2	
NEW HAVEN		05	1973	58	57.6	51	66	1.704	13	1
NEW HAVEN		05	1974	58	47.2	42	54	1.687	5	
NEW HAVEN		05	1975	58	53.4	48	59	1.552	4	
NEW HAVEN		05	1976	19*	53.3	41	69	1.760	13	1
NEW HAVEN		06	1967	69*	98.1	85	113	1.950	100	24
NEW HAVEN		06	1968	59*	115.8	102	132	1.710	113	24
NEW HAVEN		06	1969	42*	106.5	90	126	1.790	100	24
NEW HAVEN		07	1966	23*	93.5	77	113	1.578	58	5
NEW HAVEN		09	1971	63*	59.4	54	65	1.510	5	
NEW HAVEN		09	1972	65	52.4	48	58	1.544	3	
NEW HAVEN		09	1973	61	48.8	45	53	1.461		
NEW HAVEN		09	1974	60	50.7	46	56	1.544	2	
NEW HAVEN		09	1975	40*	54.8	50	61	1.388		
NEW HAVEN		123	1977	46*	63.2	58	69	1.403	2	
NEW HAVEN		123	1978	122	74.0	69	79	1.555	20	1
NEW HAVEN	A	01	1957	23	92.6	78	110	1.500	42	2
NEW HAVEN	A	01	1958	25	79.5	69	92	1.430	13	
NEW HAVEN	A	01	1959	23	86.8	73	104	1.530	35	2
NEW HAVEN	A	01	1960	25	81.7	70	95	1.450	20	
NEW HAVEN	A	01	1961	26	84.5	73	97	1.440	20	
NEW HAVEN	A	01	1962	26	80.0	71	90	1.340	7	
NEW HAVEN	A	01	1963	25	79.7	69	92	1.450	16	
NEW HAVEN	A	01	1964	26	103.2	84	126	1.680	88	13
NEW HAVEN	A	01	1965	24	99.2	84	117	1.500	58	3
NEW HAVEN	A	01	1966	25	100.7	85	119	1.510	58	4
NEW HAVEN	A	01	1967	26	82.6	67	102	1.730	50	7
NEW HAVEN	A	01	1968	26	68.4	58	80	1.510	10	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 18 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NEW HAVEN A	01	1969	26	85.9	72	102	1.570	42	2
NEW HAVEN A	01	1970	26	93.2	80	109	1.480	42	2
NEW HAVEN A	01	1971	26	89.4	79	102	1.390	20	
NEW HAVEN A	01	1972	29	59.7	52	69	1.480	4	
NEW LONDON	01	1966	14*	59.3	50	71	1.375	1	
NORTH CANAAN	01	1974	58	38.0	34	43	1.687	2	
NORTH CANAAN	01	1975	56	48.2	42	55	1.672	5	
NORTH CANAAN	01	1976	59	39.6	34	46	1.794	4	
NORTH CANAAN	01	1977	41*	40.8	36	47	1.574	1	
NORWALK	01	1968	7*	44.5	28	70	1.630	2	
NORWALK	01	1969	26	58.0	50	67	1.470	2	
NORWALK	01	1970	25	59.7	48	74	1.700	16	1
NORWALK	01	1971	57	57.0	52	63	1.469	2	
NORWALK	01	1972	59	55.2	50	61	1.487	2	
NORWALK	01	1973	59	52.6	47	58	1.560	3	
NORWALK	01	1974	57	53.1	47	60	1.603	5	
NORWALK	01	1975	57	53.8	48	61	1.619	7	
NORWALK	01	1976	10*	68.3	52	90	1.470	8	
NORWALK	03	1968	26	69.8	55	89	1.850	42	7
NORWALK	05	1970	26	65.9	55	79	1.615	16	1
NORWALK	05	1971	58	69.3	64	75	1.396	4	
NORWALK	05	1972	61	63.0	57	69	1.481	5	
NORWALK	05	1973	61	58.1	53	64	1.513	4	
NORWALK	05	1974	57	66.4	59	75	1.640	20	1
NORWALK	05	1975	56	56.1	51	62	1.480	2	
NORWALK	05	1976	59	58.7	52	66	1.620	10	
NORWALK	05	1977	60	60.8	55	67	1.471	4	
NORWALK	05	1978	60	57.0	50	64	1.674	10	1
NORWICH	01	1966	43	67.8	61	76	1.450	7	

TABLE 6 -(continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 19 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NORWICH	01	1967	27*	60.0	51	71	1.547	7	
NORWICH	01	1968	25	67.4	59	76	1.370	2	
NORWICH	01	1969	25	61.3	52	72	1.500	5	
NORWICH	01	1970	25	62.3	54	71	1.405	2	
NORWICH	01	1971	55	66.3	61	73	1.437	4	
NORWICH	01	1972	59	59.4	54	66	1.522	5	
NORWICH	01	1973	50	58.0	52	65	1.533	5	
NORWICH	01	1974	58	47.7	42	54	1.675	5	
NORWICH	01	1975	60	47.8	43	53	1.517	1	
NORWICH	01	1976	59	49.6	45	55	1.489	1	
NORWICH	01	1977	61	47.1	43	51	1.452		
NORWICH	01	1978	60	45.7	42	50	1.417		
NORWICH A	01	1963	26	65.1	55	77	1.530	8	
NORWICH A	01	1965	24	73.5	62	86	1.490	13	
OLD SAYBROOK	01	1973	25*	62.5	54	72	1.447	3	
OLD SAYBROOK	01	1974	60	66.1	59	74	1.641	16	1
OLD SAYBROOK	01	1975	60	64.9	59	71	1.490	7	
OLD SAYBROOK	01	1976	58	63.8	57	71	1.569	10	
OLD SAYBROOK	01	1977	61	59.9	54	66	1.535	7	
OLD SAYBROOK	01	1978	61	55.0	50	60	1.447	1	
ORANGE	03	1968	18*	42.2	29	61	2.160	20	3
ORANGE	03	1969	12*	41.9	34	51	1.380		
ORANGE	03	1970	17*	58.9	45	77	1.700	13	1
ORANGE	03	1971	47	40.6	36	46	1.579	1	
ORANGE	03	1972	51	46.6	40	54	1.765	7	
ORANGE	03	1973	56	46.6	41	52	1.619	3	
ORANGE	03	1974	36*	48.4	41	58	1.731	7	
PUTNAM	01	1967	25*	51.7	43	62	1.579	4	
PUTNAM	01	1968	17*	69.5	57	84	1.470	8	
PUTNAM	02	1968	8*	48.9	32	75	1.670	5	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 20 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
PUTNAM	02	1969	25	86.3	72	103	1.550	35	2
PUTNAM	02	1970	24	84.6	68	105	1.685	50	5
PUTNAM	02	1971	55	99.5	88	112	1.624	77	8
PUTNAM	02	1972	54	53.2	47	60	1.618	5	
PUTNAM	02	1973	52	42.8	37	50	1.790	5	
PUTNAM	02	1974	59	34.9	30	40	1.835	3	
PUTNAM	02	1975	59	47.9	43	54	1.652	4	
PUTNAM	02	1976	16*	63.5	47	86	1.773	24	2
PUTNAM	03	1966	27*	52.6	46	61	1.458	1	
STAMFORD	01	1966	21*	88.8	69	114	1.754	67	10
STAMFORD	01	1967	33*	76.0	65	88	1.559	24	1
STAMFORD	01	1968	23	87.6	71	108	1.640	50	5
STAMFORD	01	1969	25	70.3	59	84	1.560	16	1
STAMFORD	01	1970	22*	100.5	85	118	1.466	58	2
STAMFORD	01	1971	46	78.0	68	90	1.663	35	3
STAMFORD	01	1972	44	124.6	106	146	1.748	139	35
STAMFORD	01	1973	17*	99.3	81	121	1.487	58	3
STAMFORD	01	1974	55	66.2	58	76	1.726	24	2
STAMFORD	01	1975	49	55.4	49	63	1.623	7	
STAMFORD	01	1976	11*	68.9	50	94	1.609	20	1
STAMFORD	03	1969	17*	75.5	62	93	1.500	16	
STAMFORD	03	1970	21*	115.9	93	144	1.648	113	20
STAMFORD	03	1971	38	122.2	102	146	1.773	126	35
STAMFORD	03	1972	30*	112.5	90	141	1.895	113	35
STAMFORD	03	1974	46*	46.7	40	55	1.805	8	1
STAMFORD	03	1975	50	57.5	50	66	1.691	13	1
STAMFORD	03	1976	25*	65.5	56	77	1.494	7	
STAMFORD	04	1969	17*	49.1	37	66	1.790	10	1
STAMFORD	04	1970	22*	55.5	43	72	1.814	16	2
STAMFORD	04	1971	39	50.7	41	62	1.974	20	3
STAMFORD	04	1972	42*	72.7	62	85	1.680	29	2

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 21 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
STAMFORD		04	1973	33	80.6	64	101	1.936	67	13
STAMFORD		04	1974	59	45.2	38	53	1.981	13	2
STAMFORD		04	1975	47	41.9	35	49	1.837	7	
STAMFORD		04	1976	11*	45.9	34	61	1.545	1	
STAMFORD		07	1974	48*	73.4	62	87	1.846	42	7
STAMFORD		07	1975	54	64.4	57	73	1.632	16	1
STAMFORD		07	1976	58	57.5	51	64	1.577	7	
STAMFORD		07	1977	53	59.8	54	66	1.498	4	
STAMFORD		07	1978	55	58.3	52	66	1.626	10	
STAMFORD		10	1971	14*	86.4	58	129	2.023	77	20
STAMFORD		10	1972	41	69.0	55	87	2.156	58	16
STAMFORD		10	1973	35	62.1	52	74	1.696	16	1
STAMFORD		123	1976	36*	57.4	50	66	1.555	5	
STAMFORD		123	1977	61	62.6	57	69	1.486	5	
STAMFORD		123	1978	60	53.1	47	61	1.745	10	1
STAMFORD	A	01	1957	26	96.7	76	123	1.840	88	20
STAMFORD	A	01	1960	26	82.6	69	99	1.600	35	3
STAMFORD	A	01	1962	26	61.2	54	70	1.410	2	
STAMFORD	03/	123	1976	61	60.6	55	67	1.538	7	
STRATFORD		01	1966	30*	40.1	32	50	1.858	7	
STRATFORD		01	1967	35*	43.0	36	51	1.697	3	
STRATFORD		01	1968	24	52.4	42	65	1.690	8	
STRATFORD		01	1969	23	54.6	44	67	1.640	8	
STRATFORD		01	1970	21*	59.4	50	71	1.488	4	
STRATFORD		01	1971	44	55.2	49	62	1.514	3	
STRATFORD		01	1972	43	44.5	39	51	1.634	2	
STRATFORD		01	1973	14*	51.0	38	68	1.670	7	
STRATFORD		01	1974	50	38.0	33	44	1.756	3	
STRATFORD		01	1975	46	45.7	39	53	1.713	5	

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 22 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
STRATFORD	01	1976	47	47.2	42	54	1.595	2	
STRATFORD	01	1977	48	41.3	36	47	1.628	2	
STRATFORD	01	1978	21*	62.6	50	78	1.649	16	1
STRATFORD	02	1968	20*	76.4	62	95	1.600	29	2
STRATFORD	02	1969	21*	70.2	59	84	1.490	10	
STRATFORD	02	1970	18*	75.2	60	94	1.596	24	1
STRATFORD	02	1971	38	70.1	61	81	1.594	20	1
STRATFORD	02	1972	20*	64.1	53	78	1.531	8	
STRATFORD	05	1973	16*	57.9	48	70	1.446	2	
STRATFORD	05	1974	45	58.0	51	66	1.621	8	
STRATFORD	05	1975	49	52.7	46	60	1.611	5	
STRATFORD	05	1976	60	60.0	54	67	1.567	8	
STRATFORD	05	1977	59	57.9	52	65	1.584	7	
STRATFORD	05	1978	61	55.3	50	62	1.598	7	
THOMASTON	01	1967	33*	82.0	67	101	1.839	58	10
THOMASTON	03	1968	15*	75.2	59	96	1.570	24	1
THOMASTON	03	1969	18*	67.1	55	81	1.490	8	
THOMASTON	03	1970	24*	74.2	62	88	1.537	20	1
THOMASTON	03	1971	47	72.2	61	85	1.799	42	5
THOMASTON	03	1972	45	65.0	55	76	1.754	24	2
THOMASTON	03	1973	57	39.7	35	45	1.625	1	
THOMASTON	03	1974	59	41.7	36	48	1.767	5	
THOMASTON	03	1975	57	44.7	40	50	1.584	2	
THOMASTON	04	1966	29*	63.9	53	77	1.644	16	1
TORRINGTON	01	1966	26*	39.4	33	47	1.598	1	
TORRINGTON	01	1967	25*	51.8	44	61	1.537	2	
TORRINGTON	01	1968	23	61.0	50	74	1.570	8	
TORRINGTON	01	1969	23	62.9	53	75	1.530	8	
TORRINGTON	01	1970	24*	83.1	71	98	1.489	24	1

TABLE 6 (continued)

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
TORRINGTON	01	1971	51	77.5	67	89	1.710	42	4
TORRINGTON	01	1972	55	64.9	56	75	1.763	24	3
TORRINGTON	01	1973	59	47.3	42	53	1.651	4	
TORRINGTON	01	1974	60	53.4	47	60	1.681	8	
TORRINGTON	01	1975	30*	68.3	58	80	1.582	16	1
TORRINGTON	123	1975	28*	45.6	40	52	1.401		
TORRINGTON	123	1976	57	67.7	59	77	1.702	24	2
TORRINGTON	123	1977	61	62.7	56	71	1.653	16	1
TORRINGTON	123	1978	120	59.7	54	66	1.929	29	5
TORRINGTON 1/	123	1975	58	56.2	50	63	1.573	5	
VOLUNTOWN	01	1973	48	28.6	24	34	1.858	1	
VOLUNTOWN	01	1974	56	25.6	22	30	1.851	1	
VOLUNTOWN	01	1975	42*	28.8	24	34	1.754	1	
VOLUNTOWN	01	1976	12*	22.7	18	29	1.497		
VOLUNTOWN	01	1978	119	26.4	24	29	1.697		
WALLINGFORD	01	1975	26*	43.3	37	51	1.486		
WALLINGFORD	01	1976	60	58.4	52	65	1.608	8	
WALLINGFORD	01	1977	53	57.1	51	64	1.601	7	
WALLINGFORD	01	1978	61	57.0	50	65	1.799	20	2
WALLINGFORD	02	1970	7*	43.0	25	75	1.826	7	
WALLINGFORD	03	1970	9*	39.3	25	61	1.795	4	
WALLINGFORD	04	1970	9*	42.0	24	72	2.053	13	2
WALLINGFORD	05	1970	6*	66.1	44	99	1.480	7	
WATERBURY	01	1966	34*	84.0	71	99	1.657	50	5
WATERBURY	01	1967	60	80.0	70	91	1.770	50	7
WATERBURY	01	1968	24*	88.2	71	110	1.720	58	8

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 24 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
WATERBURY		01	1969	25	95.4	82	111	1.460	42	2
WATERBURY		01	1970	25	95.0	76	118	1.730	77	13
WATERBURY		01	1971	55	84.4	75	95	1.588	42	3
WATERBURY		01	1972	60	78.9	70	89	1.638	35	3
WATERBURY		01	1973	26*	76.9	65	91	1.556	24	1
WATERBURY		01	1974	51	72.3	63	83	1.725	35	4
WATERBURY		01	1975	20*	82.6	64	107	1.749	50	7
WATERBURY		02	1974	20*	53.2	42	68	1.715	10	1
WATERBURY		02	1975	59	65.5	59	73	1.539	10	
WATERBURY		02	1976	60	60.1	54	67	1.625	10	
WATERBURY		02	1977	60	70.0	64	77	1.505	10	
WATERBURY		02	1978	60	62.3	54	72	1.842	29	4
WATERBURY		03	1975	52	57.1	51	64	1.536	4	
WATERBURY		03	1976	13*	65.0	47	89	1.711	20	2
WATERBURY		123	1975	37*	84.7	74	97	1.539	35	2
WATERBURY		123	1976	60	86.5	76	98	1.689	58	7
WATERBURY		123	1977	118	81.3	75	88	1.651	42	4
WATERBURY		123	1978	122	80.0	74	86	1.715	42	5
WATERBURY	A	01	1963	25	64.9	54	77	1.560	10	
WATERBURY	A	01	1965	26	105.2	85	130	1.740	100	20
WATERBURY	A	01	1969	26	79.3	68	92	1.480	20	
WATERBURY	A	01	1970	25	85.9	71	104	1.620	42	4
WATERBURY	A	01	1971	26	87.7	75	102	1.470	29	1
WATERBURY	A	01	1972	28	68.8	58	82	1.590	16	1
WATERFORD		01	1974	48*	31.1	27	36	1.745	1	
WATERFORD		01	1975	60	32.3	28	37	1.753	1	
WATERFORD		01	1976	57	34.3	30	39	1.633		
WATERFORD		01	1977	61	32.2	29	36	1.669		
WATERFORD		01	1978	61	33.0	30	36	1.523		

TABLE 6 (continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 25 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
WILLIMANTIC	01	1973	28*	45.7	39	53	1.476		
WILLIMANTIC	01	1974	61	40.1	36	45	1.591	1	
WILLIMANTIC	01	1975	59	48.7	44	54	1.531	2	
WILLIMANTIC	01	1976	13*	54.7	45	66	1.377		
WINCHESTER	01	1967	13*	80.8	56	117	1.868	58	10
WINCHESTER	01	1968	22*	61.9	50	77	1.640	13	1
WINCHESTER	01	1969	23*	51.0	44	59	1.430		
WINCHESTER	01	1970	25	55.4	48	64	1.420	1	
WINCHESTER	01	1971	56	58.2	53	64	1.504	4	
WINCHESTER	01	1972	50	50.0	43	58	1.746	8	
WINCHESTER	01	1973	58	40.6	36	46	1.731	3	
WINCHESTER	01	1974	60	44.7	39	51	1.722	5	
WINCHESTER	01	1975	58	52.0	46	58	1.606	5	
WINCHESTER	01	1976	13*	68.7	47	100	1.886	42	7
WINCHESTER	03	1966	20*	48.7	40	59	1.536	2	
WINCHESTER	03	1967	11*	51.8	39	68	1.524	2	

* SAMPLING NOT RANDOM OR OF INSUFFICIENT SIZE FOR REPRESENTATIVE ANNUAL STATISTICS.

TABLE 7

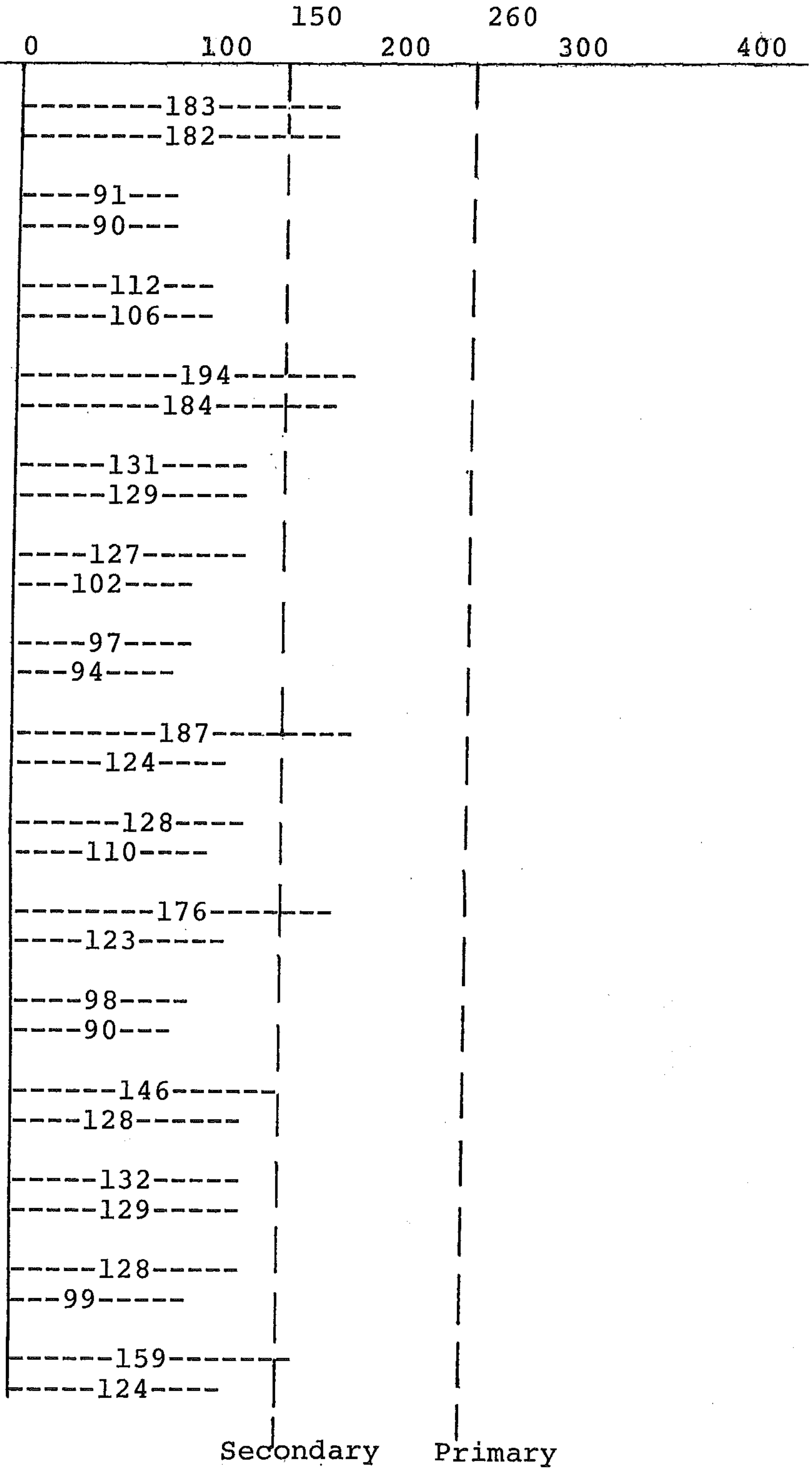
CONFIDENCE OF COMPLIANCE WITH ANNUAL TSP STANDARDS (1978)

PRIMARY STANDARD		SECONDARY STANDARD	
95% CONFIDENT STANDARD HAS BEEN EXCEEDED (> 75)	UNCERTAIN WHETHER STANDARD HAS BEEN ACHIEVED OR EXCEEDED	95% CONFIDENT STANDARD HAS BEEN EXCEEDED (> 60)	UNCERTAIN WHETHER STANDARD HAS BEEN ACHIEVED OR EXCEEDED
	New Haven 123	Bridgeport 123	Ansonia 03
	Waterbury 123	Hartford 03	Meriden 02
		Hartford 123	Meriden 05
		New Haven 123	Middletown 03
		Waterbury 123	New Britain 123
			New Haven 02
			Norwalk 05
			Stamford 07
			Stamford 123
			Stratford 05
			Torrington 123
			Wallingford 01
			Waterbury 02

TABLE 8

1978 MAXIMUM 24-HOUR TSP CONCENTRATIONS*

SITE	1st HIGH	2nd HIGH	
Ansonia-003	12/16		183
		3/18	182
Berlin-001	1/26		91
		5/20	90
Bridgeport-001	5/20		112
		8/24	106
Bridgeport-123	1/5		194
		4/29	184
Bristol-001	12/16		131
		5/20	129
Bristol-004	5/20		127
		3/21	102
Burlington-001	8/9		97
		10/23	94
Danbury-123	12/16		187
		3/21	124
Derby-123	8/24		128
		5/20	110
E. Hartford-002	4/2		176
		12/16	123
Enfield-123	5/20		98
		12/16	90
Greenwich-001	3/21		146
		8/24	128
Greenwich-003	3/21		132
		3/15	129
Greenwich-04	8/24		128
		6/7	99
Greenwich-08	7/13		159
		7/7	124



* Units in μg/m^3

TABLE 8 (continued)

SITE	1ST HIGH	2ND HIGH	0 100 150 200 260 300 400
Groton-123	8/30		129
		5/20	84
Haddam-002	4/2		93
		5/20	92
Hartford-002	8/24		152
		5/20	117
Hartford-003	12/7		209
		1/11	160
Hartford-123	3/21		157
		5/20	148
Manchester-001	5/20		113
		3/9	92
Meriden-002	12/16		177
		3/9	122
Meriden-005	7/19		134
		3/21	131
Middletown-003	8/24		195
		7/19	135
Milford-001	5/20		124
		6/19	98
Milford-002	5/20		105
		10/23	105
Morris-001	7/22		121
		8/9	79
Naugatuck-001	12/16		148
		3/9	116
N. Britain-123	12/7		220
		1/5	164
N. Haven-002	5/20		132
		8/24	124
N. Haven-123	12/7		229
		1/5	212
Norwalk-005	5/14		260
		7/13	162
Norwich-001	5/20		91
		12/16	91

Secondary Primary

TABLE 8 (continued)

SITE	1ST HIGH	2ND HIGH	0 100 150 200 260 300 400
O. Saybrook-001	1/26		150
		3/15	105
Stamford-007	8/24		150
		5/20	145
Stamford-123	5/20		152
		3/21	130
Stratford-001	5/26		181
		6/7	135
Stratford-005	5/20		122
		3/15	119
Torrington-123	4/2		220
		3/18	217
Voluntown-001	6/1		73
		5/20	71
Wallingford-001	12/16		178
		3/9	136
Waterbury-002	11/10		416
		11/4	237
Waterbury-123	1/5		259
		12/16	249
Waterford-001	5/20		81
		7/19	74

Secondary Primary

TABLE 9 SUMMARY OF THE STATISTICALLY PREDICTED NUMBER OF SITES

EXCEEDING THE 24-HOUR TSP STANDARDS

1971-1978

	SITES WITH $\geq$ 2 DAYS EXCEEDING THE SECONDARY STANDARD (150 μg/m^3)		SITES WITH $\geq$ 2 DAYS EXCEEDING THE PRIMARY STANDARD (260 μg/m^3)		
YEAR	Number of Sites	% of Total Sites	Number of Sites	% of Total Sites	TOTAL # OF HI-VOL SITES
1971	37	84%	20	45%	44
1972	43	93%	13	28%	46
1973	31	70%	11	25%	44
1974	49	79%	5	8%	62
1975	41	75%	2	4%	55
1976	36	88%	3	7%	41
1977	27	69%	1	3%	39
1978	22	61%	7	19%	36

TABLE 10 CHEMICAL CHARACTERIZATION OF HI-VOL TSP, 1970-1978

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
ANSONIA	001	70	25			0.0366	0.009	0.12	3.30	1.57	0.109	0.080		4.45	1.94	19.67			6.36	7.72	143
		71	7			0.0406	0.003	0.90	1.83	1.84	0.047	0.066		1.94	1.40	12.10			6.65	7.63	158
ANSONIA	003	71	18			0.0707	0.011	0.45	1.53	1.68	0.029	0.029	0.24	2.67	2.42	11.53			7.35	5.70	120
		72	30		0.0000	0.0136	0.015	0.31	1.10	1.65	0.021	0.030	0.18	2.00	3.68	13.23			8.70	4.74	87
		73	30		0.0000	0.0086	0.006	0.33	1.05	1.35	0.016	0.022	0.07	0.95	2.66	8.82			7.82	3.28	67
		74	26		0.0001	0.0149	0.009	0.33	0.94	1.27	0.020	0.024	0.05	0.90	0.70	6.76	0.34	3.42	5.68	4.67	58
		75	28		0.0000	0.0159	0.006	0.26	0.89	1.32	0.014	0.019	0.03	0.72	3.38	9.16	0.22	8.15	7.87	4.55	62
		76	30	0.27	0.0000	0.0103	0.008	0.18	0.80	1.08	0.015	0.016	0.03	0.93	3.43	13.77	0.13	3.46	8.54	3.16	59
		77	30	0.60	0.0000	0.0555	0.011	0.20	1.15	1.41	0.024	0.017	0.04	1.21	4.93	10.04	0.07	5.63	9.06		67
		78	30	0.54	0.0000	0.0464	0.005	0.20	1.17	1.32	0.024	0.014	0.04	1.28	3.05	7.13	0.02	6.45	9.29		68
BERLIN	001	73	28		0.0000	0.0017	0.005	0.37	0.25	0.57	0.008	0.007	0.02	0.29	1.24	7.44			6.89	1.82	38
		74	28		0.0000	0.0027	0.005	0.26	0.34	0.59	0.011	0.012	0.02	0.31	0.60	10.13	0.26	5.88	6.21	2.50	39
		75	27		0.0000	0.0020	0.005	0.14	0.31	0.45	0.008	0.008	0.02	0.18	2.82	8.94	0.34	6.62	7.94	1.47	39
		76	7	0.06	0.0000	0.0015	0.002	0.13	0.22	0.49	0.007	0.008	0.03	0.06	3.27	18.51	0.30	6.98	9.00	2.52	38
		78	30	0.40	0.0000	0.0021	0.001	0.20	0.30	0.36	0.011	0.007	0.02	0.07	2.14	5.96	0.02	5.52	9.53		32
BRIDGEPORT	001	70	26			0.0110	0.003	0.44	1.96	1.63	0.066	0.050		2.13	1.27	10.78			6.35	4.87	72
		71	24			0.0054	0.008	0.65	0.60	1.42	0.020	0.033	0.25	1.10	3.05	8.57			6.49	4.00	60
		72	23		0.0000	0.0079	0.008	0.58	0.56	1.47	0.016	0.033	0.14	0.61	3.01	12.62			8.41	3.44	62
		73	22		0.0001	0.0058	0.009	0.68	0.54	1.02	0.011	0.015	0.07	0.28	3.11	8.59			7.63	2.78	51
		75	30	0.45	0.0000	0.0046	0.005	0.31	0.84	1.35	0.017	0.015	0.03	0.31	0.97	8.08	0.01		8.54		54
		76	29	0.46	0.0000	0.0067	0.003	0.19	0.86	1.27	0.019	0.013	0.04	0.24	3.39	9.66	0.01		9.39		63
		77	28	0.91	0.0000	0.0065	0.005	0.12	0.94	1.38	0.021	0.013	0.04	0.27	3.30	9.56	0.13	1.31	9.32		65
		78	27	0.41	0.0000	0.0049	0.003	0.33	0.83	1.15	0.020	0.014	0.05	0.59	4.76	10.22	0.07	5.86	9.16		59
BRIDGEPORT	002	72	4		0.0002	0.0651	0.009	0.56	1.37	3.33	0.030	0.028	0.18	0.54	4.80	23.98			7.85	2.26	131
		73	30		0.0001	0.0244	0.010	0.28	0.66	1.45	0.082	0.019	0.04	0.26	2.10	9.40			6.73	4.07	60
		74	30		0.0001	0.0123	0.010	0.21	0.82	0.86	0.014	0.016	0.03	0.37	1.16	8.21	0.25	3.91	6.08	4.15	51
		75	8		0.0000	0.0056	0.013	0.19	0.74	1.25	0.023	0.021	0.04	0.28	0.80	9.30	0.52	3.85	6.70	5.38	58
BRIDGEPORT	123	75	21		0.0000	0.0042	0.004	0.09	0.96	1.35	0.014	0.018	0.03	0.30	6.02	12.06	0.11	11.66	8.30	3.66	68
		76	31	0.55	0.0000	0.0071	0.011	0.14	1.37	1.43	0.031	0.024	0.05	0.64	4.78	14.28	0.16	3.88	8.40	3.93	77
		77	29	0.66	0.0000	0.0066	0.013	0.15	1.53	1.45	0.040	0.024	0.05	0.41	4.85	11.56	0.08	6.69	9.00		73
		78	31	0.51	0.0000	0.0037	0.005	0.25	1.30	1.27	0.027	0.017	0.05	0.24	3.65	10.31	0.04	8.53	9.30		66
BRISTOL	001	71	22			0.0026	0.007	0.22	0.70	0.78	0.025	0.014	0.13	0.35	1.21	5.77			6.32	3.02	58
		72	27		0.0000	0.0210	0.005	0.26	0.49	1.15	0.012	0.015	0.17	0.26	1.80	12.58			8.48	2.89	54
		73	29		0.0001	0.0337	0.009	0.40	0.48	1.03	0.012	0.010	0.05	0.39	2.48	8.55			7.69	2.19	55
		74	28		0.0000	0.0370	0.003	0.62	0.44	0.55	0.011	0.013	0.03	0.49	0.62	8.91	0.27	3.91	6.06	3.14	45
		75	27		0.0000	0.0527	0.006	0.09	0.86	0.85	0.015	0.011	0.03	0.34	1.64	10.21	0.51	4.77	6.18	5.59	55
		76	29	0.70	0.0000	0.0314	0.007	0.11	0.71	0.96	0.016	0.010	0.03	0.32	2.91	14.67	0.20	3.16	8.32	3.46	65
		77	29	0.46	0.0000	0.0084	0.009	0.12	0.89	0.84	0.023	0.008	0.03	0.20	4.56	11.13	0.20	5.60	9.11		55
		78	31	0.26	0.0000	0.0213	0.002	0.06	0.62	0.72	0.017	0.008	0.04	0.16	2.96	9.19	0.02	7.78	9.55		45
BRISTOL	002	73	10		0.0000	0.0224	0.009	0.78	0.26	0.50	0.011	0.006	0.00	2.34	0.48	5.67			6.40	2.43	33
		74	30		0.0001	0.0241	0.003	0.69	0.27	0.50	0.009	0.008	0.02	0.49	0.25	8.24	0.31	2.65	5.92	1.98	31
		75	3		0.0000	0.0041	0.004	0.95	0.45	0.40	0.008	0.005	0.03	0.19	0.52	4.84	0.41	1.14	6.60	2.43	36
BRISTOL	003	73	9		0.0000	0.0095	0.015	0.84	0.54	0.94	0.016	0.012	0.04	0.78	0.38	8.41			6.42	3.83	48
		74	30		0.0001	0.0076	0.003	0.57	0.39	0.89	0.010	0.013	0.03	0.46	0.81	11.99	0.29	3.01	5.70	3.29	40

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
BRISTOL	003	75	3		0.0000	0.0047	0.009	0.74	0.89	0.55	0.019	0.003	0.03	0.15	0.63	9.06	0.56	4.42	6.40	4.57	50
BRISTOL	004	73	9		0.0000	0.0270	0.014	0.50	0.70	2.54	0.016	0.011	0.03	1.15	0.90	4.40			6.33	6.11	53
		74	29		0.0000	0.0454	0.004	1.01	0.51	0.90	0.012	0.011	0.03	1.17	0.64	9.99	0.28	3.79	5.96	4.15	53
		75	20		0.0000	0.0690	0.005	0.29	0.77	1.68	0.013	0.010	0.03	0.98	1.30	8.41	0.48	4.19	6.16	4.24	63
		76	26	0.72	0.0000	0.0165	0.007	0.19	1.03	1.60	0.023	0.011	0.03	0.97	3.42	13.03	0.36	5.03	8.49	3.76	76
		77	30	0.50	0.0000	0.0145	0.019	0.20	0.97	1.36	0.022	0.009	0.02	1.34	3.76	10.14	0.19	5.28	8.99		59
		78	23	0.40	0.0000	0.0062	0.003	0.14	0.67	1.02	0.020	0.005	0.02	1.13	2.92	8.78	0.01	7.21	9.43		51
BURLINGTON	001	73	12		0.0000	0.0024	0.006	0.48	0.24	0.44	0.006	0.010	0.01	0.34	0.21	7.57			6.57	1.86	36
		74	25		0.0000	0.0021	0.002	0.23	0.28	0.66	0.008	0.005	0.02	0.36	0.22	7.95	0.18	3.85	6.19	2.45	32
		75	20		0.0000	0.0013	0.001	0.11	0.23	0.28	0.005	0.003	0.02	0.20	1.43	8.73	0.24	11.05	6.90	2.03	33
		76	4	0.10	0.0000	0.0023	0.001	0.16	0.28	0.28	0.008	0.004	0.02	0.10	2.20	13.39	0.07	5.38	9.10	0.64	28
		78	21	0.12	0.0000	0.0015	0.004	0.26	0.31	0.23	0.010	0.005	0.02	0.05	1.51	4.20	0.01		9.59		28
DANBURY	001	70	17			0.0028	0.003	0.02	1.52	1.26	0.071	0.028		0.68	1.45	10.76			6.39	5.91	100
		71	1												2.82	8.10			6.50		
		72	4		0.0000	0.0025	0.008	0.19	1.13	1.03	0.017	0.016	0.13	0.56	0.77	9.20			6.80	4.22	80
		73	18		0.0000	0.0029	0.007	0.11	0.95	1.05	0.018	0.010	0.04	0.41	1.80	7.72			6.85	3.60	70
		74	24		0.0001	0.0034	0.005	0.70	0.81	0.73	0.018	0.016	0.04	0.47	0.67	10.52	0.41	3.59	6.14	3.88	55
		75	7		0.0000	0.0008	0.003	0.25	1.09	1.42	0.013	0.012	0.03	0.14	1.53	8.66	0.65	3.08	6.50	3.23	64
DANBURY	123	75	20		0.0000	0.0020	0.001	0.18	0.72	1.16	0.011	0.007	0.02	0.12	2.23	11.10	0.29	7.92	7.66	2.91	54
		76	28	0.34	0.0000	0.0015	0.006	0.16	0.84	0.88	0.018	0.009	0.02	0.10	2.85	11.61	0.11	3.15	8.71	2.00	52
		77	26	0.35	0.0000	0.0016	0.007	0.18	0.95	0.92	0.020	0.010	0.03	0.08	4.33	9.35	0.08	4.83	9.04		59
		78	31	0.33	0.0000	0.0012	0.002	0.06	0.78	0.90	0.020	0.007	0.03	0.07	1.56	6.19	0.02	6.38	9.07		51
DERBY	123	75	5		0.0000	0.0029	0.002	0.15	1.12	1.30	0.014	0.010	0.01	0.18	3.13	10.12	0.24	11.84	9.30	3.92	64
		76	27	0.27	0.0000	0.0035	0.005	0.15	0.88	0.79	0.017	0.016	0.03	0.35	3.64	13.39	0.08	4.67	8.40	1.93	55
		77	30	0.33	0.0000	0.0079	0.009	0.09	1.07	0.89	0.023	0.016	0.05	0.28	4.04	10.52	0.13	5.54	9.10		57
		78	23	0.57	0.0000	0.0052	0.004	0.05	0.85	0.57	0.018	0.011	0.04	0.20	2.50	8.90	0.04	0.00	9.36		49
EAST HAMPTON	002	74	7		0.0000	0.0022	0.002	0.13	0.41	0.69	0.027	0.010	0.03	0.23	0.09	13.12	0.25	5.10	6.60	4.74	60
EAST HARTFORD	001	74	20		0.0000	0.0020	0.003	0.18	0.31	0.76	0.013	0.009	0.03	0.14	0.27	8.73	0.36	2.38	5.55	2.76	44
		75	29		0.0000	0.0023	0.005	0.15	0.65	1.15	0.011	0.010	0.02	0.19	3.02	8.62	0.31	5.38	7.43	2.90	55
		76	5	0.24	0.0000	0.0007	0.003	0.08	0.47	0.62	0.008	0.006	0.02	0.07	1.27	8.93	0.25	4.72	9.10	1.76	39
EAST HARTFORD	002	74	19		0.0000	0.0025	0.001	0.32	0.68	1.65	0.011	0.008	0.04	0.40	0.41	14.19	0.57	2.65	5.85	5.42	44
		75	27		0.0000	0.0027	0.003	0.15	0.63	1.17	0.011	0.015	0.02	0.25	2.95	10.16	0.42	7.20	7.39	3.11	53
		76	25	0.15	0.0000	0.0019	0.005	0.16	0.47	0.72	0.014	0.010	0.02	0.10	2.75	12.59	0.10	3.52	8.56	1.60	46
		77	28	0.26	0.0000	0.0025	0.008	0.08	0.68	0.83	0.020	0.010	0.04	0.15	3.66	11.36	0.10	5.38	9.21		52
		78	30	0.53	0.0000	0.0021	0.003	0.10	0.77	0.90	0.024	0.009	0.03	0.11	2.74	7.63	0.02	6.01	9.42		54
EAST WINDSOR	001	75	19		0.0000	0.0026	0.003	0.29	0.59	1.16	0.011	0.012	0.02	0.16	2.28	10.00	0.22	7.01	8.38	1.62	57
		76	6	0.18	0.0000	0.0050	0.003	0.15	0.51	1.30	0.011	0.016	0.04	0.14	4.92	14.47	0.42	7.38	8.90	6.17	65
ENFIELD	001	70	22			0.0023	0.004	0.04	2.30	1.62	0.184	0.064		0.75	1.12	11.25			6.42	5.40	88
		71	20			0.0030	0.008	0.11	0.83	1.76	0.027	0.027	0.13	0.43	2.20	10.78			7.06	5.16	91
		72	14		0.0000	0.0020	0.004	0.10	0.89	1.43	0.014	0.020	0.17	0.14	2.12	10.49			8.35	4.00	90
		73	23		0.0000	0.0024	0.005	0.19	0.82	1.08	0.018	0.013	0.06	0.45	0.92	8.23			6.58	3.32	66
		74	30		0.0000	0.0011	0.002	0.26	0.56	0.75	0.011	0.012	0.03	0.21	0.71	7.63	0.26	3.05	6.06	3.53	54

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
ENFIELD	001	75	8		0.0000	0.0016	0.002	0.18	0.88	1.23	0.018	0.015	0.06	0.46	1.76	5.78	0.59	5.84	6.50	4.81	79
ENFIELD	002	72	5		0.0000	0.0043	0.000	0.08	0.08	0.71	0.004	0.051	0.09	0.19	1.62	9.20			9.40	1.75	52
ENFIELD	003	73	1		0.0000	0.0010	0.000	0.93	0.40	0.36	0.012	0.073	0.30	0.00	4.42	11.68			9.00		57
ENFIELD	123	75	19		0.0000	0.0023	0.003	0.25	0.46	0.88	0.009	0.009	0.02	0.18	4.17	9.52	0.29	4.56	7.79	2.16	43
		76	27	0.41	0.0000	0.0025	0.004	0.17	0.45	0.83	0.011	0.012	0.02	0.15	3.21	12.79	0.09	4.05	9.09	2.04	46
		77	27	0.34	0.0000	0.0009	0.006	0.10	0.51	0.75	0.015	0.084	0.02	0.22	3.04	9.20	0.05	4.81	9.13		42
		78	29	0.30	0.0000	0.0013	0.002	0.11	0.59	0.74	0.015	0.008	0.03	0.13	2.73	8.24	0.03	6.01	9.36		42
FAIRFIELD	002	70	23			0.0042	0.002	1.59	1.47	1.33	0.041	0.070		1.07	0.56	7.71			5.51	2.96	52
		71	21			0.0045	0.012	9.57	0.51	0.32	0.019	0.050	0.08	2.11	1.75	5.71			6.74	3.53	72
		72	26		0.0000	0.0039	0.003	5.39	0.18	0.50	0.013	0.011	0.06	0.14	2.96	7.12			7.94	1.88	50
		73	21		0.0001	0.0029	0.003	7.33	0.18	0.50	0.005	0.008	0.04	0.18	3.44	5.20			9.53	2.43	45
		74	19		0.0000	0.0030	0.001	2.72	0.34	0.46	0.009	0.011	0.03	0.27	3.98	9.69	0.14	10.61	9.67	1.40	44
		75	14		0.0000	0.0042	0.003	0.30	0.61	0.57	0.012	0.013	0.03	0.50	3.67	9.29	0.32	8.46	7.70	2.14	51
GREENWICH	001	70	25			0.0029	0.003	0.05	2.02	1.04	0.043	0.049		0.84	1.13	11.24			6.24	4.63	64
		71	25			0.0024	0.006	0.16	0.69	1.04	0.017	0.021	0.12	0.35	1.71	8.56			6.62	3.63	59
		72	28		0.0000	0.0039	0.006	0.10	0.79	1.50	0.014	0.015	0.11	0.28	3.09	11.46			7.96	3.15	68
		73	29		0.0001	0.0032	0.006	0.26	0.60	1.03	0.012	0.010	0.03	1.39	1.53	7.13			6.69	2.04	52
		74	27		0.0001	0.0027	0.002	0.24	0.61	1.58	0.011	0.007	0.02	0.48	1.44	7.83	0.29	2.13	6.06	3.62	54
		75	12		0.0000	0.0033	0.004	0.13	0.54	1.05	0.010	0.011	0.02	0.25	3.48	9.63	0.28	6.42	8.39	1.76	59
		76	27	0.46	0.0000	0.0023	0.006	0.16	0.74	1.01	0.016	0.014	0.02	0.21	5.37	16.86	0.16	5.14	8.77	2.08	58
		77	22	0.34	0.0000	0.0018	0.007	0.14	0.84	0.88	0.015	0.010	0.02	0.12	5.61	10.96	0.07	7.59	9.25		62
		78	21	0.29	0.0000	0.0017	0.001	0.12	0.81	0.64	0.018	0.009	0.02	0.09	3.87	9.76	0.04	6.54	9.36		57
GREENWICH	002	70	24			0.0034	0.004	0.05	1.40	1.43	0.035	0.032		0.54	1.06	9.53			5.50	4.70	59
		71	25			0.0033	0.015	0.31	0.77	1.51	0.019	0.014	0.07	0.28	1.66	9.07			6.64	3.97	63
		72	30		0.0002	0.0040	0.008	0.26	0.77	1.83	0.015	0.016	0.09	0.36	3.00	12.96			7.71	4.01	77
		73	30		0.0001	0.0036	0.005	0.14	0.70	1.45	0.013	0.014	0.04	1.53	1.99	9.59			6.67	4.03	65
		74	30		0.0001	0.0025	0.002	0.20	0.79	0.98	0.011	0.010	0.03	0.59	0.92	8.78	0.29	3.33	5.85	4.94	58
		75	29		0.0000	0.0030	0.003	0.11	0.67	1.16	0.012	0.010	0.03	0.30	4.56	12.25	0.29	7.85	7.66	3.34	57
		76	7	0.25	0.0000	0.0021	0.001	0.18	0.51	1.12	0.009	0.011	0.04	0.19	3.61	16.15	0.33	8.27	9.20	3.79	43
GREENWICH	003	70	26			0.0041	0.002	0.04	1.54	1.58	0.038	0.035		0.96	1.06	10.31			5.36	4.35	60
		71	24			0.0028	0.007	0.24	0.61	1.27	0.016	0.013	0.09	0.26	1.24	6.59			6.87	4.01	60
		72	30		0.0000	0.0038	0.008	0.19	0.85	1.71	0.016	0.013	0.09	0.32	3.00	9.84			7.98	4.15	65
		73	29		0.0001	0.0044	0.005	0.14	0.69	1.38	0.013	0.014	0.06	1.47	2.39	7.16			6.47	3.34	57
		74	28		0.0001	0.0027	0.004	0.16	0.81	1.18	0.012	0.011	0.02	0.23	1.66	10.37	0.23	2.95	6.05	4.47	55
		75	29		0.0000	0.0028	0.003	0.14	0.72	1.21	0.012	0.009	0.02	0.32	3.48	12.34	0.25	8.44	7.62	3.14	54
		76	27	0.25	0.0000	0.0026	0.005	0.18	0.82	1.11	0.015	0.010	0.02	0.27	4.86	14.34	0.18	5.02	8.77	2.70	58
		77	29	0.26	0.0000	0.0019	0.007	0.17	0.86	1.02	0.017	0.008	0.02	0.13	5.20	10.28	0.05	6.71	9.22		60
		78	21	0.42	0.0000	0.0015	0.002	0.11	0.83	0.59	0.019	0.009	0.02	0.10	2.65	8.40	0.02	5.96	9.42		61
GREENWICH	004	73	23		0.0001	0.0033	0.005	0.49	0.39	0.49	0.011	0.009	0.03	1.83	3.04	7.33			6.79	2.03	45
		74	29		0.0001	0.0027	0.004	0.40	0.54	0.83	0.010	0.011	0.03	0.23	0.88	7.35	0.31	2.52	6.31	1.83	49
		75	28		0.0000	0.0028	0.003	0.23	0.58	0.76	0.012	0.009	0.02	0.28	4.08	12.30	0.29	6.98	7.54	2.60	44
		76	27	0.23	0.0000	0.0029	0.004	0.19	0.58	0.57	0.014	0.009	0.01	0.18	4.15	13.97	0.20	4.33	8.68	1.41	46
		77	28	0.16	0.0000	0.0020	0.007	0.15	0.51	0.60	0.013	0.009	0.02	0.12	3.83	9.11	0.06	6.17	9.15		42
		78	30	0.21	0.0000	0.0013	0.001	0.10	0.56	0.69	0.012	0.009	0.02	0.08	3.42	6.82	0.02	6.19	9.52		39

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
GREENWICH	007	70	26			0.0038	0.004	0.04	1.58	0.99	0.024	0.055		0.61	0.95	11.37			6.42	4.64	55
		71	26			0.0028	0.010	0.17	0.43	0.83	0.015	0.017	0.12	0.23	1.39	10.05			6.94	3.76	47
		72	29		0.0000	0.0037	0.005	0.19	0.40	0.83	0.014	0.018	0.10	0.28	1.91	9.24			8.18	1.87	51
		73	28		0.0001	0.0043	0.004	0.12	0.25	0.65	0.008	0.011	0.06	1.67	1.35	9.03			6.65	2.02	41
		74	29		0.0001	0.0022	0.004	0.15	0.67	0.60	0.013	0.011	0.02	0.21	1.07	8.74	0.25	1.80	5.74	2.91	52
		75	4		0.0000	0.0047	0.002	0.09	0.72	0.70	0.014	0.012	0.03	0.28	1.70	1.26	0.36	0.00	7.20	3.34	50
GREENWICH	008	71	23			0.0029	0.011	0.17	0.98	1.71	0.022	0.018	0.10	0.43	1.73	8.36			6.85	4.40	79
		72	28		0.0001	0.0033	0.008	0.26	1.10	1.46	0.017	0.016	0.08	0.27	2.71	7.72			7.81	4.34	77
		73	30		0.0001	0.0031	0.006	0.35	1.10	1.42	0.015	0.013	0.05	1.53	1.65	9.09			6.36	3.61	67
		74	30		0.0001	0.0021	0.003	0.25	0.98	0.81	0.013	0.010	0.03	0.22	1.39	9.63	0.22	2.35	6.15	2.89	69
		75	30		0.0000	0.0028	0.004	0.18	0.92	1.11	0.015	0.010	0.02	0.30	3.90	12.16	0.34	9.17	7.66	3.45	67
		76	28	0.23	0.0000	0.0019	0.005	0.18	0.73	0.85	0.012	0.008	0.01	0.17	3.59	12.04	0.21	3.66	8.62	2.32	53
		77	29	0.24	0.0000	0.0015	0.006	0.16	0.89	0.85	0.015	0.008	0.01	0.12	3.35	10.45	0.07	6.07	9.27		61
		78	29	0.30	0.0000	0.0014	0.001	0.27	0.80	0.77	0.016	0.008	0.02	0.10	3.49	9.03	0.02	5.71	9.28		55
GREENWICH	014	74	30		0.0001	0.0033	0.007	0.22	0.78	0.97	0.022	0.019	0.03	1.06	1.80	13.07	0.55	3.62	6.88	4.51	67
		75	14		0.0000	0.0035	0.002	0.15	0.77	1.11	0.015	0.011	0.03	0.45	4.04	9.93	0.45	4.17	7.35	5.38	69
GROTON	001	70	24			0.0019	0.010	0.14	2.84	1.20	0.108	0.088		0.89	2.01	20.20			6.38	5.71	109
		71	25			0.0035	0.023	0.75	1.28	2.05	0.037	0.058	0.43	0.61	1.41	16.81			6.47	4.86	105
		72	30		0.0000	0.0022	0.004	0.62	0.44	0.81	0.012	0.019	0.10	0.08	3.57	11.64			8.72	1.84	54
		73	26		0.0002	0.0016	0.007	0.26	0.49	0.79	0.012	0.018	0.05	0.26	1.06	4.19			7.01	2.31	37
		74	30		0.0001	0.0012	0.012	0.16	0.67	0.97	0.022	0.028	0.05	0.27	1.24	10.16	0.28	3.90	6.08	2.42	36
		75	8		0.0000	0.0018	0.006	0.05	0.61	0.81	0.010	0.016	0.04	2.82	1.19	8.50	0.53	5.96	7.40	3.70	44
GROTON	123	75	22		0.0000	0.0024	0.006	0.18	0.53	0.61	0.015	0.019	0.02	0.25	5.85	10.83	0.16	6.35	9.12	3.27	44
		76	31	0.14	0.0000	0.0016	0.004	0.20	0.58	0.47	0.017	0.015	0.02	0.11	3.49	13.31	0.10	4.75	8.94	1.51	45
		77	30	0.15	0.0000	0.0011	0.007	0.10	0.88	0.56	0.030	0.025	0.02	0.13	2.81	9.91	0.04	5.90	9.28		46
		78	31	0.31	0.0000	0.0013	0.003	0.04	0.64	0.48	0.022	0.016	0.03	0.09	3.11	9.72	0.06	6.02	9.48		42
HADDAM	002	74	21		0.0000	0.0016	0.002	0.34	0.28	0.91	0.012	0.006	0.04	0.21	0.08	10.41	0.27	3.47	6.00	2.69	35
		75	29		0.0000	0.0023	0.003	0.16	0.49	0.44	0.010	0.009	0.02	0.73	3.47	6.82	0.17	6.04	8.61	2.53	37
		76	29	0.14	0.0000	0.0009	0.003	0.09	0.35	0.39	0.011	0.005	0.01	0.06	2.74	12.77	0.14	3.07	9.06	1.75	36
		77	27	0.07	0.0000	0.0010	0.003	0.08	0.39	0.44	0.011	0.007	0.02	0.04	2.72	8.19	0.04	3.80	9.28		37
		78	27	0.32	0.0000	0.0013	0.002	0.07	0.41	0.43	0.013	0.007	0.02	0.08	1.87	7.24	0.02	8.12	9.51		36
HARTFORD	002	75	26	0.49	0.0000	0.0022	0.003	0.22	0.78	0.94	0.016	0.012	0.04	0.12	2.63	8.89	0.15		7.94		57
		76	25	0.32	0.0000	0.0020	0.005	0.11	0.79	1.01	0.015	0.015	0.06	0.13	2.94	6.41	0.02		9.27		54
		77	29	0.34	0.0000	0.0012	0.005	0.05	0.70	0.89	0.019	0.013	0.06	0.03	3.36	10.17	0.09	0.72	9.30		55
		78	22	0.20	0.0000	0.0025	0.004	0.26	0.83	0.87	0.018	0.012	0.04	0.12	3.89	9.99	0.10	8.89	9.35		63
HARTFORD	003	70	19			0.0027	0.006	0.11	1.74	1.44	0.058	0.050		1.30	0.76	15.39			6.25	7.49	117
		71	23			0.0031	0.014	0.14	1.36	1.95	0.028	0.047	0.30	0.47	1.33	9.79			6.63	8.24	98
		72	25		0.0000	0.0036	0.007	0.37	1.05	1.88	0.018	0.026	0.28	0.21	2.76	11.72			8.22	5.09	83
		73	15		0.0001	0.0025	0.005	0.76	1.08	1.26	0.019	0.019	0.10	0.12	4.11	7.46			8.69	5.24	88
		74	27		0.0001	0.0028	0.006	0.16	1.34	1.07	0.023	0.033	0.04	0.39	3.31	9.91	0.21	5.74	6.00	6.24	67
		75	30		0.0000	0.0027	0.006	0.29	1.40	1.90	0.016	0.015	0.04	0.25	3.34	9.97	0.34	8.39	8.56	4.17	76
		76	31	0.44	0.0000	0.0025	0.007	0.17	1.22	1.48	0.024	0.018	0.04	0.18	4.15	16.56	0.26	4.57	8.76	4.58	79
		77	27	0.39	0.0000	0.0017	0.010	0.14	1.31	1.37	0.026	0.014	0.05	0.17	3.58	12.12	0.06	5.21	9.16		72
		78	30	0.43	0.0000	0.0015	0.004	0.17	1.13	1.11	0.024	0.012	0.04	0.13	2.63	8.03	0.02	8.06	9.57		62

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
HARTFORD	004	72	19		0.0000	0.0034	0.005	0.63	0.80	1.43	0.013	0.014	0.10	0.14	1.86	8.57			7.94	4.06	60
		73	23		0.0000	0.0040	0.004	0.26	0.73	1.11	0.020	0.017	0.05	1.64	2.63	8.23			8.73	3.24	56
		74	24		0.0000	0.0018	0.003	0.21	0.61	0.72	0.013	0.010	0.05	0.20	0.61	7.40	0.31	2.92	5.91	3.32	54
		75	28		0.0000	0.0023	0.003	0.17	0.74	1.21	0.012	0.009	0.02	0.19	4.54	8.75	0.29	5.43	8.45	2.07	51
		76	7	0.28	0.0000	0.0018	0.003	0.12	0.66	1.17	0.011	0.017	0.04	0.09	3.61	18.62	0.45	5.62	9.10	6.99	54
HARTFORD	005	71	11			0.0046	0.029	0.50	1.53	2.00	0.043	0.055	0.43	0.51	1.01	16.34			6.47	9.89	161
		74	23		0.0000	0.0031	0.002	0.12	0.55	0.88	0.013	0.011	0.05	0.20	1.39	9.27	0.38	2.64	5.83	1.50	48
		75	29		0.0000	0.0024	0.004	0.09	0.75	1.21	0.012	0.013	0.03	0.21	4.36	8.13	0.27	7.58	8.57	4.22	57
		76	6	0.30	0.0000	0.0036	0.002	0.03	0.74	0.70	0.010	0.016	0.05	0.10	2.38	16.03	0.31	6.26	8.90	2.82	47
HARTFORD	123	76	8	0.29	0.0000	0.0016	0.005	0.08	0.62	1.15	0.018	0.021	0.05	0.12	2.70	7.63	0.25	0.86	9.40	3.27	45
		77	29	0.41	0.0000	0.0019	0.008	0.15	1.21	1.31	0.025	0.013	0.05	0.14	4.68	11.97	0.08	6.33	9.06		71
		78	31	0.93	0.0000	0.0019	0.005	0.11	1.28	1.19	0.026	0.017	0.06	0.10	3.86	9.46	0.06	5.73	9.44		70
KENT	001	73	13		0.0000	0.0019	0.005	0.26	0.49	0.34	0.012	0.009	0.02	0.16	0.31	7.00			7.21	2.77	44
		74	28		0.0000	0.0018	0.004	0.27	0.51	0.91	0.010	0.009	0.03	0.29	0.76	6.70	0.29	7.90	5.91	1.58	39
		75	21		0.0000	0.0013	0.003	0.47	0.43	0.23	0.009	0.003	0.01	0.17	2.18	7.04	0.32	6.50	8.55	1.15	41
LTCH CTY(MORRI	001	70	24			0.0021	0.006	0.11	1.00	0.60	0.038	0.031		0.81	0.75	9.36			6.28	2.59	52
		71	21			0.0013	0.007	0.40	0.34	0.37	0.011	0.005	0.05	0.23	0.91	4.68			7.11	2.05	40
		72	26		0.0000	0.0034	0.103	0.19	0.48	0.57	0.010	0.030	0.03	0.05	2.44	8.16			8.37	1.67	39
		73	27		0.0000	0.0018	0.003	0.34	0.20	0.51	0.007	0.008	0.02	0.11	1.54	7.18			8.11	2.44	39
		74	28		0.0000	0.0010	0.003	0.28	0.23	0.88	0.007	0.007	0.03	0.19	1.07	7.51	0.36	4.05	6.50	1.61	32
		75	30		0.0000	0.0019	0.003	0.14	0.39	0.36	0.008	0.007	0.02	0.09	0.27	6.62	0.31	0.20	6.99	2.59	33
		76	7	0.71	0.0000	0.0014	0.002	0.18	0.46	0.33	0.009	0.005	0.02	0.10	1.52	4.98	0.07	2.78	8.90	1.11	31
		78	30	0.13	0.0000	0.0010	0.001	0.24	0.24	0.33	0.008	0.004	0.01	0.04	1.87	6.32	0.07	5.73	9.44		26
MANCHESTER	001	71	13			0.0019	0.018	0.18	0.57	0.64	0.022	0.019	0.17	0.37	0.70	11.58			6.40	3.64	88
		72	7		0.0000	0.0065	0.006	0.37	0.54	1.58	0.015	0.031	0.14	0.28	6.87	9.22			8.80		54
		73	17		0.0000	0.0022	0.002	0.25	0.43	0.82	0.012	0.010	0.06	0.11	2.47	9.85			8.27	2.70	59
		74	20		0.0000	0.0015	0.002	0.18	0.22	1.07	0.020	0.080	0.03	0.55	1.09	9.98	0.40	6.49	6.82	2.53	48
		75	27		0.0000	0.0015	0.002	0.21	0.57	0.83	0.012	0.008	0.02	0.16	1.98	9.68	0.41	6.20	8.30	2.73	53
		76	27	0.10	0.0000	0.0012	0.002	0.16	0.47	0.77	0.011	0.009	0.02	0.09	3.26	12.45	0.20	3.14	8.37	1.28	44
		77	29	0.28	0.0000	0.0009	0.004	0.10	0.58	0.69	0.014	0.007	0.02	0.05	3.68	10.94	0.06	5.60	9.14		46
		78	28	0.24	0.0000	0.0013	0.001	0.07	0.49	0.60	0.013	0.007	0.03	0.07	3.06	8.81	0.03	4.84	9.37		41
MANSFIELD	001	70	19			0.0009	0.003	0.05	1.93	0.66	0.027	0.025		0.62	1.45	6.89			6.53	2.41	51
		71	19			0.0012	0.006	0.13	0.41	0.33	0.010	0.013	0.08	0.20	0.76	9.28			6.46	3.03	55
		72	12		0.0001	0.0032	0.006	0.19	0.72	0.86	0.016	0.024	0.17	0.15	2.85	8.73			8.67	1.33	66
		73	4		0.0005	0.0044	0.003	0.12	0.24	0.29	0.010	0.012	0.04	8.26	5.13	11.02			6.60	2.22	25
		74	24		0.0006	0.0028	0.002	0.30	0.49	0.46	0.012	0.008	0.03	6.93	2.25	12.37	0.25	6.22	5.77	2.13	37
		75	30		0.0000	0.0016	0.002	0.13	0.44	0.37	0.007	0.005	0.02	0.71	3.70	11.75	0.27	7.40	8.93	0.91	41
		76	6	0.07	0.0000	0.0027	0.001	0.10	0.27	0.33	0.008	0.006	0.02	0.05	2.50	8.94	0.08	10.48	9.10	1.04	30
MERIDEN	001	71	23			0.0029	0.011	1.54	0.38	1.00	0.012	0.014	0.06	0.50	0.99	3.09			7.69	3.52	44
		72	26		0.0000	0.0036	0.004	0.90	0.83	1.94	0.019	0.017	0.10	0.62	3.31	9.35			7.89	3.01	78
		73	16		0.0000	0.0051	0.005	0.94	0.82	2.09	0.018	0.019	0.06	0.42	1.61	4.95			6.89	3.76	68
		74	26		0.0000	0.0020	0.004	0.26	0.62	1.02	0.013	0.017	0.03	0.35	1.38	8.42	0.20	3.87	6.18	3.26	50
		75	19		0.0002	0.0026	0.004	0.47	1.12	1.50	0.018	0.011	0.03	0.26	2.40	8.96	0.51	3.44	6.84	3.63	75
MERIDEN	002	70	6			0.0070	0.007	0.06	0.68	1.07	0.130	0.082		18.55	0.90	23.50			6.10	5.83	136

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
MERIDEN	002	71	26			0.0038	0.017	0.73	1.15	1.71	0.036	0.107	0.24	1.55	1.56	11.17			6.96	5.62	107
		72	29		0.0002	0.0046	0.005	0.71	1.13	1.62	0.023	0.036	0.21	1.47	4.63	11.58			8.75	3.22	90
		73	26		0.0000	0.0043	0.004	1.19	0.75	1.36	0.020	0.029	0.12	0.86	1.76	9.36			7.37	2.26	71
		74	27		0.0000	0.0034	0.004	0.22	0.69	0.85	0.026	0.021	0.04	0.61	1.21	8.56	0.32	4.16	6.58	2.38	55
		75	27		0.0002	0.0043	0.006	0.26	1.03	1.23	0.016	0.023	0.03	0.53	3.42	10.18	0.35	2.93	7.83	3.51	61
		76	26	0.72	0.0000	0.0024	0.004	0.25	0.62	0.96	0.013	0.016	0.03	0.66	2.05	10.82	0.29	2.47	8.28	3.27	53
		77	30	0.32	0.0000	0.0031	0.005	0.20	0.81	0.93	0.020	0.015	0.04	0.65	4.56	10.99	0.07	5.66	9.16		58
		78	29	0.43	0.0000	0.0032	0.002	0.32	0.85	1.14	0.024	0.014	0.05	1.02	3.03	9.84	0.06	7.91	9.41		62
MERIDEN	003	70	14			0.0036	0.002	0.03	0.36	0.68	0.072	0.056		2.44	1.37	18.05			5.96	6.43	109
		71	24			0.0034	0.019	0.07	0.81	1.32	0.034	0.034	0.23	0.80	1.61	9.96			7.37	4.67	91
		72	25		0.0000	0.0041	0.004	0.27	1.10	1.56	0.038	0.021	0.17	0.33	3.26	11.85			8.25	3.30	68
		73	24		0.0000	0.0026	0.004	0.09	1.08	1.36	0.030	0.017	0.09	0.40	1.53	8.00			7.55	3.01	63
		74	24		0.0000	0.0029	0.003	0.07	0.65	0.90	0.021	0.013	0.02	0.59	1.89	8.97	0.28	4.27	5.68	3.87	50
		75	14		0.0001	0.0033	0.007	0.16	1.60	1.36	0.030	0.015	0.04	0.45	3.53	11.03	0.49	2.90	6.61	7.26	86
MERIDEN	005	71	25			0.0250	0.022	0.57	1.22	1.83	0.067	0.067	0.25	86.39	3.92	12.60			6.84	5.61	202
		72	29		0.0005	0.0133	0.004	0.33	0.70	1.11	0.036	0.048	0.15	43.76	3.84	12.24			7.20	3.09	126
		73	22		0.0000	0.0049	0.006	0.35	0.85	1.30	0.026	0.049	0.09	2.36	1.89	7.66			7.47	2.68	73
		74	27		0.0000	0.0142	0.005	0.33	1.33	1.00	0.032	0.054	0.03	4.52	1.36	7.35	0.20	3.47	6.22	3.58	71
		75	27		0.0001	0.0841	0.007	0.29	1.09	1.06	0.022	0.033	0.03	7.62	3.50	8.68	0.26	5.93	7.33	3.81	77
		76	28	0.96	0.0000	0.0134	0.005	0.26	0.74	0.92	0.023	0.025	0.02	5.96	2.90	13.62	0.35	0.90	7.69	2.99	70
		77	29	0.40	0.0000	0.0052	0.006	0.28	0.94	0.84	0.027	0.017	0.03	5.28	4.17	9.07	0.09	4.30	8.92		64
		78	30	0.29	0.0000	0.0028	0.002	0.26	0.76	0.74	0.024	0.014	0.03	4.02	2.32	9.11	0.04	7.04	9.29		54
MERIDEN	006	71	24			0.0068	0.018	0.69	0.73	0.90	0.024	0.021	0.12	0.40	1.60	10.01			7.38	4.09	81
		72	17		0.0000	0.0047	0.009	0.66	0.74	1.31	0.025	0.026	0.20	0.42	3.56	14.46			7.16	3.50	97
		73	22		0.0000	0.0034	0.010	1.11	0.78	0.96	0.018	0.025	0.05	0.27	1.05	4.60			7.44	2.80	64
		74	25		0.0000	0.0024	0.008	0.45	0.96	0.61	0.020	0.016	0.04	0.28	1.89	8.77	0.25	4.41	5.42	2.83	64
		75	30		0.0001	0.0025	0.012	0.48	1.40	0.84	0.023	0.015	0.03	0.26	4.92	9.59	0.40	4.10	7.58	4.21	84
		76	12	2.12	0.0000	0.0027	0.007	0.13	1.05	0.81	0.019	0.014	0.03	0.57	1.63	14.41	0.58	2.35	6.80	3.38	65
MIDDLETOWN	001	70	20			0.0015	0.014	0.02	0.68	0.28	0.028	0.038		0.26	0.93	8.82			6.42	2.89	53
		71	26			0.0042	0.008	0.24	0.30	0.39	0.014	0.014	0.07	0.53	0.93	5.48			6.59	2.17	36
		72	29		0.0000	0.0048	0.012	0.38	0.54	0.81	0.018	0.024	0.13	0.86	0.88	7.95			6.12	2.72	54
		73	30		0.0000	0.0033	0.005	0.39	0.38	0.83	0.014	0.015	0.05	0.28	4.06	9.25			8.00	1.72	61
		74	29		0.0000	0.0019	0.004	0.08	0.44	0.50	0.013	0.012	0.04	0.30	1.67	12.15	0.21	5.36	5.93	2.41	38
		75	2		0.0000	0.0008	0.007	0.07	0.92	0.34	0.023	0.009	0.03	0.33	0.18	1.96	0.28	1.24	6.80	0.00	33
MIDDLETOWN	003	70	24			0.0061	0.004	0.06	1.54	1.11	0.048	0.040		0.46	0.97	10.70			6.40	4.83	71
		71	24			0.0033	0.011	0.58	0.84	1.54	0.031	0.034	0.14	0.52	0.72	9.51			6.52	4.33	76
		72	29		0.0000	0.0043	0.008	0.63	0.91	1.69	0.020	0.024	0.22	0.65	1.20	8.10			6.37	3.99	65
		73	30		0.0000	0.0026	0.002	0.70	0.60	1.21	0.017	0.013	0.07	0.24	2.58	7.35			7.92	2.36	57
		74	30		0.0001	0.0024	0.004	0.61	0.71	0.85	0.016	0.013	0.04	0.33	1.43	8.50	0.20	4.93	6.14	3.72	56
		75	28		0.0000	0.0023	0.005	0.14	0.73	0.99	0.015	0.010	0.02	0.18	3.55	5.19	0.28	6.68	7.75	3.59	60
		76	31	0.40	0.0000	0.0019	0.005	0.08	0.98	0.96	0.022	0.011	0.03	0.13	3.02	12.32	0.11	2.46	8.62	2.73	64
		77	30	0.57	0.0000	0.0016	0.007	0.04	0.88	1.11	0.022	0.010	0.03	0.12	4.49	9.94	0.08	5.44	9.05		55
		78	30	0.45	0.0000	0.0018	0.003	0.08	0.94	1.07	0.025	0.009	0.04	0.11	2.26	8.14	0.02	7.59	9.32		62
MIDDLETOWN	004	72	7		0.0000	0.0017	0.000	0.49	0.15	0.47	0.009	0.007	0.00	0.52	0.53	1.66			7.00	2.21	18
		73	26		0.0000	0.0009	0.004	1.74	0.36	0.39	0.006	0.013	0.01	0.09	5.10	14.24			8.76	2.20	66

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
MIDDLETOWN	005	74	5		0.0001	0.0019	0.003	0.14	0.32	0.23	0.017	0.013	0.03	0.38	0.50	12.27	0.13	5.87	7.30	4.15	45
MILFORD	001	70	16			0.0033	0.007	0.03	1.43	1.60	0.037	0.068		1.47	0.93	10.28			6.45	3.90	65
		71	25			0.0037	0.008	0.23	0.66	0.99	0.021	0.024	0.11	0.43	1.28	8.93			6.90	3.58	54
		72	28		0.0000	0.0036	0.001	0.10	0.51	0.92	0.011	0.021	0.11	0.24	2.54	10.37			7.89	2.62	56
		73	24		0.0001	0.0026	0.004	0.18	0.36	0.98	0.008	0.019	0.03	0.11	3.49	7.47			9.06	2.50	46
		74	29		0.0000	0.0034	0.002	0.14	0.65	1.16	0.013	0.019	0.04	0.41	2.14	10.13	0.24	6.87	6.23	2.81	47
		75	28		0.0000	0.0030	0.006	0.11	0.64	0.84	0.011	0.015	0.02	0.25	3.20	7.66	0.28	7.27	8.59	4.12	50
		76	30	0.28	0.0000	0.0042	0.003	0.16	0.68	0.88	0.013	0.013	0.02	0.21	3.93	15.22	0.06	4.34	8.80	2.31	52
		77	27	0.33	0.0000	0.0033	0.004	0.15	0.66	0.75	0.014	0.014	0.03	0.15	4.13	10.03	0.13	5.43	9.13		50
		78	14	0.39	0.0000	0.0022	0.002	0.05	0.71	0.66	0.015	0.011	0.04	0.14	4.62	11.82	0.13	6.97	9.05		48
MILFORD	002	70	16			0.0023	0.007	0.07	1.27	0.98	0.044	0.078		0.50	1.08	13.10			6.32	5.04	82
		71	24			0.0040	0.007	0.13	0.80	1.26	0.019	0.032	0.19	0.37	1.14	8.92			6.79	3.30	70
		72	29		0.0000	0.0045	0.007	0.07	0.83	1.24	0.016	0.032	0.17	0.23	2.43	9.81			7.63	2.97	61
		73	26		0.0000	0.0033	0.003	0.18	0.66	1.06	0.013	0.024	0.06	0.10	3.20	8.85			8.82	2.89	52
		74	26		0.0001	0.0028	0.005	0.17	0.85	1.16	0.012	0.024	0.05	0.39	1.83	8.61	0.29	6.38	6.46	3.68	51
		75	28		0.0000	0.0033	0.007	0.21	1.06	1.15	0.016	0.021	0.03	0.35	2.09	9.20	0.24	8.02	8.50	3.74	70
		76	30	0.40	0.0000	0.0036	0.004	0.18	0.77	0.89	0.015	0.015	0.02	0.18	3.93	16.89	0.23	3.94	8.79	2.79	55
		77	29	0.44	0.0000	0.0028	0.004	0.09	0.91	0.96	0.018	0.020	0.03	0.14	5.24	10.54	0.08	5.94	9.15		60
		78	27	0.32	0.0000	0.0022	0.003	0.08	0.72	0.80	0.018	0.016	0.04	0.14	3.76	10.73	0.05	7.25	9.32		54
MILFORD	006	70	8			0.0024	0.011	0.09	1.08	0.40	0.053	0.033		0.29	1.10	14.15			6.30	3.88	71
		71	22			0.0027	0.011	0.08	0.45	0.58	0.017	0.020	0.10	0.29	0.83	7.46			7.00	2.07	45
		72	28		0.0000	0.0047	0.004	0.09	0.47	0.84	0.012	0.020	0.11	0.13	2.01	9.17			7.62	1.97	52
		73	29		0.0000	0.0033	0.002	0.03	0.32	0.71	0.009	0.013	0.03	0.11	3.24	8.12			8.85	2.28	44
		74	29		0.0000	0.0030	0.002	0.05	0.49	0.58	0.010	0.018	0.04	0.34	1.80	8.76	0.25	6.10	6.62	3.23	41
		75	27		0.0000	0.0027	0.006	0.10	0.61	0.69	0.010	0.013	0.03	0.23	2.41	8.37	0.28	7.77	8.49	1.95	46
		76	3	0.19	0.0000	0.0084	0.003	0.06	0.30	0.58	0.010	0.018	0.05	0.12	1.69	18.77	0.29	6.91	9.00	2.73	39
NAUGATUCK	001	70	23			0.0048	0.014	0.03	1.75	0.87	0.029	0.055		1.09	2.67	18.46			5.62	7.14	103
		71	24			0.0047	0.014	0.11	0.89	1.46	0.024	0.026	0.22	0.41	1.85	10.62			7.03	5.05	90
		72	30		0.0000	0.0068	0.009	0.16	1.25	1.88	0.027	0.030	0.28	0.64	3.92	12.45			8.07	5.51	89
		73	30		0.0000	0.0029	0.006	0.18	1.07	1.42	0.018	0.016	0.07	0.47	4.84	11.61			8.26	3.77	79
		74	30		0.0000	0.0046	0.004	0.17	1.42	1.32	0.018	0.014	0.04	0.49	1.57	7.48	0.44	2.96	6.27	3.81	66
		75	30		0.0000	0.0100	0.007	0.09	1.45	1.23	0.020	0.013	0.02	0.39	2.09	7.67	0.39	7.93	8.57	4.28	66
		76	31	0.29	0.0000	0.0036	0.004	0.08	0.83	0.94	0.017	0.012	0.02	0.25	3.12	15.81	0.22	4.59	9.00	3.19	59
		77	30	0.63	0.0000	0.0047	0.010	0.13	1.05	1.13	0.029	0.013	0.05	0.23	4.37	10.54	0.18	4.44	9.06		61
		78	30	0.27	0.0000	0.0019	0.005	0.10	0.97	1.00	0.030	0.010	0.03	0.17	2.69	8.08	0.05	6.13	9.51		54
NEW BRITAIN	001	70	26			0.0028	0.002	0.04	2.56	1.88	0.057	0.124		2.45	1.12	12.08			5.42	7.52	85
		71	23			0.0041	0.015	0.13	1.29	1.47	0.030	0.034	0.21	0.47	0.85	9.65			6.80	6.56	87
		72	16		0.0000	0.0032	0.008	0.04	1.11	1.58	0.023	0.031	0.32	0.21	3.10	11.06			8.42	5.55	87
		73	8		0.0000	0.0023	0.005	0.08	0.65	1.27	0.015	0.021	0.06	0.17	2.23	1.99			7.85	2.47	46
		74	30		0.0000	0.0027	0.002	0.06	0.75	0.82	0.017	0.011	0.03	0.15	1.90	7.44	0.30	2.76	6.28	3.39	57
		75	4		0.0000	0.0018	0.004	0.06	1.69	1.54	0.028	0.019	0.08	0.15	1.37	5.42	0.34	4.42	6.70	8.89	128
NEW BRITAIN	002	70	26			0.0121	0.052	0.06	1.65	2.24	0.058	0.035		2.15	1.00	13.38			6.37	6.76	97
		71	26			0.0044	0.013	0.20	1.27	2.13	0.031	0.036	0.26	0.76	1.12	14.18			6.64	7.50	110
		72	29		0.0000	0.0047	0.007	0.23	1.22	1.85	0.021	0.034	0.32	0.20	3.20	12.62			8.53	5.91	105
		73	28		0.0000	0.0034	0.005	0.23	1.01	1.58	0.023	0.022	0.09	0.22	4.14	8.85			7.95	4.69	85
		74	30		0.0000	0.0031	0.004	0.16	1.22	1.02	0.029	0.013	0.04	0.15	1.53	6.42	0.21	2.60	6.71	4.67	75

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
NEW BRITAIN	002	75	29		0.0000	0.0021	0.003	0.05	1.32	1.05	0.020	0.013	0.02	0.21	2.26	9.07	0.19	7.24	8.63	4.72	91
		76	10	0.72	0.0000	0.0027	0.006	0.15	1.65	1.76	0.027	0.018	0.05	0.16	6.12	21.03	0.54	7.21	9.05	4.64	98
NEW BRITAIN	003	70	26			0.0121	0.008	0.04	1.47	1.58	0.053	0.052		0.70	1.02	10.14			5.67	6.53	105
		71	26			0.0028	0.010	0.24	1.50	1.93	0.031	0.019	0.12	0.43	0.82	8.85			6.89	7.31	101
		72	28		0.0000	0.0038	0.006	0.14	1.36	2.14	0.022	0.014	0.09	0.19	2.84	9.74			8.17	4.51	83
		73	28		0.0000	0.0031	0.003	0.26	1.36	1.73	0.023	0.014	0.07	0.16	3.59	8.35			7.59	4.72	82
		74	29		0.0000	0.0053	0.002	0.16	1.24	1.45	0.024	0.011	0.04	0.19	1.60	6.52	0.33	3.40	6.04	4.62	71
		75	29		0.0000	0.0021	0.004	0.20	1.43	1.56	0.019	0.009	0.02	0.17	1.05	10.44	0.17	6.75	8.62	3.32	83
		76	28	0.56	0.0000	0.0018	0.003	0.14	1.33	1.46	0.024	0.011	0.02	0.14	2.68	15.24	0.26	4.13	9.12	3.73	75
		77	15	0.95	0.0000	0.0013	0.005	0.19	2.49	1.15	0.042	0.008	0.03	0.10	4.33	11.60	0.10	5.40	9.00		100
NEW BRITAIN	004	70	26			0.0052	0.016	0.04	2.19	1.36	0.039	0.070		1.30	0.79	10.83			5.32	3.96	60
		71	26			0.0020	0.007	0.20	0.52	1.04	0.016	0.022	0.13	0.39	0.76	6.53			6.97	2.97	54
		72	30		0.0001	0.0039	0.009	0.44	0.55	1.00	0.015	0.018	0.13	0.19	2.60	9.73			7.62	3.01	62
		73	30		0.0001	0.0036	0.004	0.48	0.52	1.15	0.014	0.020	0.06	0.18	3.32	7.53			7.08	3.58	57
		74	29		0.0001	0.0051	0.004	0.25	0.70	0.90	0.019	0.016	0.03	0.21	1.96	8.21	0.28	3.30	5.87	4.04	51
		75	30		0.0000	0.0024	0.003	0.12	0.57	0.86	0.012	0.011	0.02	0.17	1.51	10.34	0.20	7.33	8.51	3.69	49
		76	7	0.23	0.0000	0.0039	0.008	0.11	0.50	1.11	0.013	0.028	0.06	0.14	3.65	22.51	0.31	6.93	8.80	2.97	48
NEW BRITAIN	005	70	26			0.0069	0.005	0.03	2.16	1.36	0.040	0.057		0.38	0.65	9.20			5.09	3.19	49
		71	25			0.0028	0.007	0.14	0.54	1.16	0.017	0.017	0.12	0.42	0.75	8.83			6.72	3.58	52
		72	29		0.0001	0.0036	0.003	0.20	0.47	1.06	0.012	0.015	0.09	0.11	2.24	9.64			8.08	2.91	51
		73	29		0.0000	0.0025	0.003	0.31	0.45	1.08	0.011	0.011	0.06	0.15	2.50	7.62			8.08	3.11	50
		74	30		0.0000	0.0023	0.002	0.19	0.44	0.80	0.013	0.010	0.04	0.14	1.51	9.73	0.20	3.22	6.32	3.20	42
		75	4		0.0000	0.0018	0.006	0.17	0.70	1.12	0.012	0.012	0.04	0.20	0.99	4.66	0.43	2.87	7.00	4.10	54
NEW BRITAIN	123	75	6		0.0000	0.0023	0.008	0.12	0.84	1.24	0.017	0.009	0.01	0.16	1.84	11.51	0.22	8.86	9.10	3.47	75
		76	30	0.37	0.0000	0.0018	0.006	0.06	0.71	1.03	0.017	0.013	0.03	0.12	2.75	14.40	0.26	3.95	9.18	2.62	60
		77	29	0.42	0.0000	0.0015	0.009	0.08	0.83	1.05	0.019	0.010	0.03	0.11	3.66	14.56	0.07	5.49	8.89		58
		78	31	0.34	0.0000	0.0014	0.003	0.11	0.72	0.96	0.020	0.009	0.03	0.10	2.64	8.56	0.07	4.66	9.53		54
NEW HAVEN	001	71	4			0.0044	0.003	0.09	0.89	2.37	0.018	0.045	0.33	0.29	3.69	9.57			9.32	5.86	76
		72	9		0.0000	0.0030	0.006	0.15	0.67	1.04	0.014	0.039	0.33	0.62	3.50	9.47			9.63	4.10	65
		75	26	0.72	0.0000	0.0038	0.002	0.09	0.98	1.22	0.020	0.024	0.07	0.22	2.59	7.57	0.06		9.01		64
		76	28	0.63	0.0000	0.0029	0.002	0.15	1.19	1.18	0.025	0.027	0.11	0.16	2.82	10.16	0.01		9.45		74
		77	19	0.69	0.0000	0.0025	0.002	0.23	1.21	1.00	0.029	0.025	0.14	0.15	2.48	7.58	0.00		9.00		75
NEW HAVEN	002	70	21			0.0096	0.005	0.05	3.67	2.63	0.400	0.144		1.74	1.33	15.60			4.41	9.06	120
		71	24			0.0038	0.011	0.21	0.92	1.29	0.025	0.039	0.16	0.36	1.44	9.68			7.82	5.97	83
		72	28		0.0000	0.0050	0.009	0.25	1.22	1.64	0.023	0.047	0.42	0.76	3.08	9.98			9.31	4.72	90
		73	26		0.0000	0.0017	0.008	0.09	0.74	1.40	0.012	0.017	0.09	0.26	2.52	6.84			8.87	3.09	66
		74	28		0.0000	0.0023	0.009	0.15	1.06	1.18	0.028	0.026	0.06	0.25	0.77	7.95	0.45	2.73	6.19	4.05	57
		75	16		0.0000	0.0030	0.005	0.21	1.21	1.19	0.016	0.016	0.03	0.17	2.53	13.44	0.13	9.42	9.19	3.53	70
		76	30	0.40	0.0000	0.0018	0.007	0.26	0.94	1.32	0.019	0.017	0.04	0.17	3.72	13.77	0.24	4.62	9.17	3.99	66
		77	28	0.65	0.0000	0.0020	0.007	0.13	1.25	1.41	0.024	0.015	0.04	0.20	4.07	10.63	0.12	4.19	9.11		59
		78	31	0.45	0.0000	0.0021	0.003	0.13	1.29	1.37	0.027	0.015	0.05	0.17	3.86	10.02	0.10	7.73	9.33		59
NEW HAVEN	003	71	11			0.0053	0.004	0.27	3.72	1.06	0.011	0.024	0.13	0.15	2.38	7.55			9.53	3.08	56
		72	28		0.0000	0.0057	0.005	0.20	0.53	0.85	0.014	0.016	0.12	0.48	2.88	6.75			9.47	2.88	56
		73	31		0.0001	0.0025	0.003	0.07	0.45	0.85	0.009	0.020	0.04	0.26	2.28	7.44			8.31	3.71	44
		74	30		0.0000	0.0031	0.001	0.07	0.72	0.71	0.019	0.017	0.05	0.33	0.81	10.25	0.35	5.13	5.76	3.15	45

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
NEW HAVEN	003	75	28		0.0000	0.0029	0.004	0.09	0.75	0.75	0.014	0.010	0.02	0.21	2.44	12.52	0.20	6.05	8.60	4.26	59
		76	8	0.39	0.0000	0.0023	0.003	0.11	0.72	0.73	0.012	0.014	0.03	0.13	7.78	18.80	0.42	7.09	9.00	2.75	48
NEW HAVEN	005	71	5			0.0098	0.004	0.35	1.08	2.61	0.018	0.030	0.23	0.34	3.83	10.00			9.30	6.87	73
		72	28		0.0000	0.0052	0.007	0.22	0.79	1.26	0.016	0.034	0.26	0.67	2.77	9.36			9.05	3.82	61
		73	29		0.0000	0.0033	0.005	0.10	0.81	1.07	0.015	0.017	0.08	0.37	2.21	4.68			8.21	4.97	63
		74	29		0.0000	0.0029	0.005	0.08	0.95	0.93	0.017	0.018	0.06	0.25	0.98	10.47	0.29	4.22	5.97	3.01	47
		75	28		0.0000	0.0026	0.002	0.23	0.73	0.86	0.011	0.013	0.03	0.16	1.89	8.23	0.30	5.65	8.55	3.30	57
		76	10	0.32	0.0000	0.0023	0.003	0.34	0.83	0.83	0.013	0.015	0.04	0.14	2.83	16.76	0.43	4.95	8.90	2.70	64
NEW HAVEN	009	71	5			0.0034	0.001	0.21	0.96	2.90	0.016	0.030	0.26	0.19	3.30	10.00			9.50	6.43	76
		72	25		0.0001	0.0038	0.005	0.28	0.54	1.06	0.014	0.037	0.39	0.53	1.91	8.60			9.39	1.62	62
		73	31		0.0000	0.0019	0.002	0.07	0.46	0.96	0.010	0.015	0.08	0.26	1.82	7.02			8.13	2.93	50
		74	29		0.0001	0.0021	0.003	0.12	0.68	1.15	0.014	0.023	0.08	0.24	2.31	7.91	0.20	3.78	5.94	3.04	50
		75	20		0.0000	0.0025	0.004	0.13	0.88	1.01	0.014	0.016	0.06	0.24	1.91	10.18	0.35	6.78	8.09	2.54	62
NEW HAVEN	123	77	11			0.0018	0.010	0.04	1.19	1.90	0.027	0.018	0.06	0.22	5.22	9.17	0.14	4.96	9.43		64
		78	30	0.64	0.0000	0.0023	0.004	0.07	1.40	1.53	0.032	0.017	0.06	0.17	2.85	9.64	0.06	6.55	9.39		79
NORTH CANAAN	001	74	29		0.0000	0.0010	0.004	0.17	0.50	0.27	0.013	0.005	0.03	0.18	1.28	7.35	0.26	3.84	6.19	3.73	45
		75	29		0.0000	0.0015	0.002	0.21	0.57	0.28	0.012	0.004	0.01	0.12	1.37	9.44	0.31	7.21	8.32	2.10	55
		76	29	0.16	0.0000	0.0009	0.001	0.07	0.52	0.22	0.015	0.005	0.01	0.07	2.49	10.50	0.14	3.25	9.32	1.45	47
		77	20	0.28	0.0000	0.0007	0.005	0.07	0.51	0.24	0.014	0.004	0.02	0.03	4.06	9.76	0.03	4.78	9.21		43
NORWALK	001	70	24			0.0043	0.005	0.04	1.61	2.76	0.063	0.057		2.25	1.08	10.06			5.45	5.37	70
		71	25			0.0027	0.006	0.09	0.61	1.09	0.018	0.011	0.10	0.36	1.47	8.68			7.76	4.14	63
		72	26		0.0002	0.0036	0.007	0.12	0.66	1.40	0.013	0.017	0.09	0.15	3.17	10.00			8.45	3.20	65
		73	27		0.0000	0.0027	0.005	0.25	0.77	1.40	0.013	0.016	0.06	0.82	2.10	5.42			7.39	4.15	60
		74	28		0.0002	0.0039	0.006	0.22	0.91	1.06	0.017	0.015	0.06	3.87	1.59	13.18	0.35	5.66	6.09	4.93	61
		75	28		0.0000	0.0029	0.003	0.18	0.77	1.09	0.011	0.009	0.02	0.20	1.23	10.21	0.38	3.45	8.13	3.99	53
		76	5	0.30	0.0000	0.0019	0.002	0.09	0.79	1.17	0.012	0.013	0.04	0.13	2.57	19.17	0.31	7.52	9.00	4.23	55
NORWALK	005	70	25			0.0035	0.004	0.03	4.07	3.26	0.055	0.055		3.25	1.33	9.53			5.91	5.55	73
		71	26			0.0020	0.012	0.10	0.90	1.32	0.024	0.015	0.08	0.36	1.40	7.12			7.77	4.66	73
		72	27		0.0000	0.0044	0.009	0.15	0.97	1.60	0.018	0.016	0.10	0.18	2.81	7.57			8.21	3.16	72
		73	30		0.0000	0.0028	0.006	0.17	0.70	1.30	0.013	0.011	0.04	0.26	1.60	5.48			7.31	2.79	65
		74	28		0.0002	0.0035	0.004	0.17	1.31	1.40	0.024	0.012	0.04	3.13	2.72	11.28	0.25	5.50	5.89	5.96	78
		75	28		0.0000	0.0025	0.005	0.13	0.69	1.19	0.011	0.007	0.02	0.19	1.07	8.85	0.36	3.38	8.09	3.75	57
		76	30	0.40	0.0000	0.0029	0.004	0.12	0.88	1.19	0.017	0.010	0.02	0.24	3.84	14.08	0.16	4.42	9.32	3.31	60
		77	29	0.42	0.0000	0.0023	0.009	0.10	1.00	1.17	0.020	0.008	0.03	0.14	3.38	14.73	0.08	4.94	8.83		61
		78	30	0.60	0.0000	0.0025	0.002	0.13	0.92	0.94	0.019	0.011	0.04	0.15	3.95	8.59	0.09	5.57	9.47		64
NORWICH	001	70	24			0.0068	0.005	0.04	2.05	1.16	0.039	0.048		1.26	1.08	10.08			6.47	4.23	65
		71	26			0.0015	0.011	0.26	0.77	0.92	0.017	0.026	0.16	0.31	0.93	7.92			6.69	4.67	71
		72	28		0.0000	0.0021	0.005	0.19	0.67	1.07	0.011	0.022	0.14	0.05	3.08	9.98			8.86	3.19	65
		73	25		0.0001	0.0018	0.007	0.26	0.71	1.08	0.012	0.017	0.10	0.24	1.17	7.56			6.78	3.40	59
		74	29		0.0000	0.0008	0.003	0.21	0.67	0.79	0.015	0.013	0.04	0.11	1.27	10.83	0.30	5.61	6.34	4.05	49
		75	30		0.0001	0.0015	0.004	0.11	0.64	0.89	0.014	0.018	0.03	1.64	1.95	9.67	0.30	4.69	8.20	3.09	54
		76	30	0.16	0.0000	0.0008	0.002	0.19	0.50	0.60	0.010	0.007	0.02	0.07	2.98	13.23	0.23	3.93	9.29	2.02	47
		77	29	0.25	0.0000	0.0008	0.004	0.09	0.67	0.70	0.015	0.008	0.03	0.05	3.11	10.87	0.09	5.48	9.15		51
		78	31	0.27	0.0000	0.0007	0.002	0.06	0.60	0.58	0.013	0.009	0.04	0.05	3.46	7.47	0.04	8.50	9.42		45

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
OLD SAYBROOK	001	73	12		0.0000	0.0015	0.009	0.32	0.97	2.29	0.015	0.021	0.04	0.28	0.99	2.61			6.48	5.47	68
		74	30		0.0000	0.0015	0.006	0.28	1.16	1.48	0.017	0.012	0.04	0.29	1.07	9.79	0.30	5.32	6.16	6.05	74
		75	30		0.0000	0.0016	0.002	0.22	0.84	1.19	0.010	0.006	0.01	0.91	1.26	7.89	0.25	6.90	8.58	3.27	67
		76	30	0.46	0.0000	0.0009	0.003	0.15	0.90	1.39	0.016	0.004	0.01	0.14	2.75	11.74	0.13	4.98	9.31	2.30	65
		77	30	0.48	0.0000	0.0009	0.007	0.09	0.85	1.29	0.020	0.006	0.01	0.09	3.36	9.97	0.06	5.96	9.33		64
		78	31	0.28	0.0000	0.0008	0.002	0.30	0.72	0.91	0.017	0.006	0.01	0.07	2.95	7.62	0.01	8.30	9.41		55
OLD SAYBROOK	002	73	3		0.0000	0.0012	0.016	0.91	0.34	0.63	0.009	0.008	0.04	0.28	0.94	0.98			6.60	1.29	48
ORANGE	003	70	17			0.0032	0.007	0.03	1.86	0.84	0.055	0.018		0.83	1.34	12.56			6.32	3.54	67
		71	21			0.0028	0.007	0.12	0.36	0.39	0.013	0.015	0.08	0.40	0.64	5.57			6.63	2.05	42
		72	23		0.0000	0.0036	0.006	0.04	0.70	0.91	0.016	0.021	0.11	0.29	3.18	8.60			8.23	2.86	57
		73	28		0.0000	0.0028	0.005	0.04	0.69	0.80	0.016	0.012	0.05	0.21	2.18	5.70			7.46	2.82	54
		74	18		0.0000	0.0024	0.003	0.04	1.12	0.53	0.022	0.013	0.03	0.23	1.10	7.73	0.17	3.24	6.33	3.23	55
PORTLAND	001	74	5		0.0000	0.0030	0.001	1.11	0.20	0.23	0.011	0.008	0.03	0.28	0.00	11.95	0.20	4.77	6.90	3.73	45
PUTNAM	002	70	22			0.0002	0.016	0.06	0.90	0.92	0.050	0.111		0.18	1.77	14.95			6.45	6.82	93
		71	24			0.0034	0.012	0.13	0.91	0.87	0.036	0.045	0.21	0.62	1.15	16.86			6.38	7.88	121
		72	28		0.0000	0.0018	0.004	0.17	0.62	0.78	0.015	0.016	0.09	0.07	2.87	10.98			8.62	2.65	64
		73	25		0.0000	0.0019	0.006	0.19	0.51	0.67	0.009	0.012	0.05	0.14	1.23	5.79			7.05	3.51	50
		74	27		0.0000	0.0008	0.003	0.15	0.47	0.45	0.010	0.009	0.03	0.11	0.70	9.76	0.27	3.52	5.71	2.31	43
		75	29		0.0000	0.0019	0.003	0.07	0.54	0.47	0.008	0.007	0.01	0.07	2.89	5.51	0.22	3.81	8.39	2.40	57
		76	8	0.25	0.0000	0.0004	0.001	0.04	0.56	0.28	0.009	0.005	0.02	0.03	5.04	13.31	0.00	6.68	9.00	3.43	52
STAMFORD	001	71	23			0.0027	0.007	0.21	0.86	1.30	0.020	0.031	0.13	0.40	2.75	7.66			8.00	4.37	82
		72	22		0.0000	0.0053	0.012	0.19	1.91	2.52	0.034	0.044	0.27	0.25	6.56	17.83			8.58	11.99	157
		73	9		0.0000	0.0039	0.014	0.49	1.36	2.09	0.023	0.023	0.05	0.27	1.61	7.45			6.37	5.82	97
		74	20		0.0001	0.0026	0.005	0.41	1.20	1.01	0.021	0.012	0.05	0.26	1.79	12.53	0.31	3.07	6.05	3.78	69
		75	24		0.0000	0.0029	0.004	0.17	0.74	1.12	0.011	0.012	0.03	0.21	3.40	7.79	0.23	4.83	8.45	2.69	56
		76	6	0.23	0.0000	0.0023	0.001	0.10	0.63	1.09	0.011	0.013	0.04	0.11	2.83	17.80	0.07	6.26	9.00	0.97	68
STAMFORD	003	71	18			0.0082	0.016	0.11	1.01	1.83	0.026	0.021	0.17	0.44	3.57	15.26			8.28	6.26	128
		72	15		0.0003	0.0072	0.012	0.07	1.33	2.18	0.026	0.048	0.40	0.26	5.83	16.97			8.14	7.34	133
		74	24		0.0001	0.0053	0.005	0.12	0.65	1.00	0.012	0.009	0.05	0.25	2.65	8.89	0.26	4.68	5.92	3.73	56
		75	22		0.0000	0.0029	0.003	0.19	0.66	1.15	0.010	0.014	0.03	0.19	3.59	10.76	0.49	5.88	7.98	3.75	64
		76	14	0.34	0.0000	0.0025	0.003	0.10	0.90	1.21	0.015	0.011	0.03	0.17	4.77	17.54	0.25	4.86	8.89	3.07	70
STAMFORD	004	71	19			0.0028	0.008	1.92	0.75	0.89	0.014	0.015	0.10	0.30	2.09	5.88			7.82	3.55	68
		72	21		0.0000	0.0052	0.008	0.93	0.76	1.78	0.019	0.026	0.13	0.29	3.36	19.66			8.52	4.44	90
		73	16		0.0000	0.0054	0.013	0.53	0.90	1.96	0.019	0.021	0.06	0.47	0.71	16.68			6.31	6.84	105
		74	29		0.0001	0.0058	0.004	0.36	0.53	0.78	0.011	0.012	0.03	0.19	2.10	7.42	0.30	4.48	6.07	3.36	47
		75	22		0.0000	0.0027	0.004	0.14	0.46	0.86	0.008	0.014	0.02	0.17	1.93	8.54	0.23	5.16	8.15	3.14	43
		76	6	0.03	0.0000	0.0019	0.001	0.07	0.29	0.69	0.006	0.008	0.03	0.21	6.30	17.08	0.29	7.59	9.30	2.15	36
STAMFORD	007	74	23		0.0001	0.0049	0.010	0.28	3.55	1.02	0.049	0.022	0.06	0.44	3.02	10.41	0.30	3.60	6.14	3.25	91
		75	26		0.0000	0.0037	0.005	0.13	1.73	0.90	0.031	0.016	0.02	0.37	2.05	10.59	0.24	5.65	8.35	2.98	74
		76	28	0.50	0.0000	0.0032	0.005	0.15	1.21	0.81	0.030	0.013	0.02	0.28	3.92	13.80	0.13	3.52	9.18	2.53	59
		77	25	0.32	0.0000	0.0026	0.004	0.15	0.80	0.71	0.029	0.010	0.02	0.23	4.69	9.87	0.12	5.75	9.27		61
		78	28	0.39	0.0000	0.0029	0.002	0.18	0.88	0.67	0.028	0.013	0.03	0.29	3.99	9.45	0.06	8.15	9.47		55
STAMFORD	010	71	5			0.0042	0.004	0.07	1.02	1.67	0.040	0.013	0.13	0.55	3.69	11.40			7.54	4.81	112

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
STAMFORD	010	72	21		0.0000	0.0065	0.013	0.24	0.89	1.96	0.024	0.024	0.09	0.20	5.05	13.28			9.20	3.66	98
		73	19		0.0000	0.0032	0.012	0.16	0.71	1.32	0.013	0.016	0.04	0.40	1.26	9.42			6.37	3.73	63
		74	1		0.0000	0.0048	0.011	0.37	2.51	1.68	0.048	0.051	0.02	0.43	4.06	14.55	0.17	4.35	6.50		15
STAMFORD	123	76	15	0.20	0.0000	0.0039	0.003	0.08	0.67	1.04	0.014	0.012	0.01	0.24	2.97	10.47	0.10	2.09	9.31	2.35	51
		77	30	0.35	0.0000	0.0019	0.048	0.12	1.50	1.10	0.022	0.013	0.03	0.13	3.35	11.37	0.08	5.84	9.05		65
		78	31	0.34	0.0000	0.0020	0.002	0.25	0.76	0.86	0.019	0.011	0.03	0.11	2.80	8.88	0.06	4.01	9.27		52
STRATFORD	001	70	18			0.0042	0.011	0.55	0.88	1.50	0.080	0.111		1.18	0.74	11.55			6.41	4.25	65
		71	23			0.0041	0.008	1.73	0.48	0.73	0.020	0.036	0.21	0.66	1.93	9.10			7.23	3.07	59
		72	19		0.0001	0.0034	0.004	0.55	0.43	0.83	0.013	0.017	0.08	0.20	2.55	8.84			9.56	2.36	51
		73	5		0.0000	0.0033	0.009	3.26	3.72	0.65	0.016	0.015	0.02	0.33	3.31	8.23			6.57	0.00	54
		74	21		0.0000	0.0046	0.005	0.45	0.57	0.70	0.016	0.017	0.04	0.31	1.73	8.23	0.16	5.32	6.79	3.62	47
		75	18		0.0000	0.0070	0.002	0.23	0.56	0.89	0.010	0.013	0.03	0.29	3.48	11.00	0.34	7.01	8.03	2.49	51
		76	22	0.21	0.0000	0.0042	0.003	0.11	0.55	0.78	0.014	0.013	0.03	0.20	3.69	14.67	0.24	4.58	8.90	2.25	52
		77	20	0.10	0.0000	0.0022	0.005	0.10	0.46	0.52	0.012	0.008	0.02	0.10	2.67	8.97	0.06	5.96	9.15		40
		78	10	0.29	0.0000	0.0031	0.001	0.13	0.91	0.63	0.021	0.011	0.03	0.23	3.29	13.67	0.17	10.03	9.30		80
STRATFORD	002	70	15			0.0060	0.010	0.44	2.20	2.40	0.077	0.066		1.80	1.03	13.00			6.37	5.77	89
		71	18			0.0039	0.012	0.16	0.53	1.06	0.016	0.082	0.28	0.52	1.77	11.01			7.27	3.90	80
		72	7		0.0000	0.0045	0.009	0.34	0.95	1.45	0.020	0.047	0.38	0.43	3.87	10.61			9.27	5.71	94
STRATFORD	005	73	9		0.0000	0.0022	0.003	0.62	0.26	0.82	0.004	0.008	0.01	0.15	2.53	5.73			8.72	2.68	58
		74	20		0.0000	0.0037	0.006	0.41	0.97	1.11	0.018	0.027	0.07	0.30	1.41	10.89	0.23	5.80	6.79	2.72	65
		75	23		0.0000	0.0027	0.005	0.13	0.61	1.20	0.010	0.022	0.03	0.24	4.66	10.65	0.25	7.77	8.70	4.10	62
		76	30	0.36	0.0000	0.0048	0.004	0.16	0.80	1.21	0.015	0.014	0.02	0.23	2.70	16.44	0.34	3.96	9.13	2.37	64
		77	29	0.25	0.0000	0.0026	0.010	0.12	0.82	1.13	0.017	0.015	0.04	0.13	3.76	7.09	0.09	5.15	9.18		59
		78	31	0.30	0.0000	0.0027	0.002	0.22	0.80	0.98	0.017	0.011	0.04	0.13	3.12	10.04	0.05	7.45	9.50		55
THOMASTON	003	70	24			0.0031	0.008	0.05	0.90	0.96	0.063	0.059		3.09	0.86	12.01			6.35	4.25	82
		71	22			0.0038	0.012	0.17	0.81	0.83	0.023	0.034	0.18	2.17	1.76	8.42			7.17	4.67	83
		72	23		0.0000	0.0052	0.004	0.25	0.68	1.21	0.017	0.020	0.15	1.06	2.30	11.39			8.46	4.10	74
		73	29		0.0000	0.0025	0.004	0.32	0.35	0.71	0.008	0.009	0.03	0.61	1.11	4.03			7.16	4.38	41
		74	29		0.0000	0.0025	0.007	0.46	0.67	0.78	0.012	0.015	0.05	0.59	0.91	8.18	0.24	3.84	6.38	3.13	45
		75	29		0.0000	0.0020	0.003	0.47	0.60	0.80	0.008	0.007	0.02	0.23	1.62	10.31	0.11	4.48	7.47	2.92	50
TORRINGTON	001	70	24			0.0020	0.005	0.03	1.26	0.66	0.061	0.068		3.25	0.98	12.78			6.54	5.88	90
		71	24			0.0030	0.010	0.32	0.90	1.25	0.036	0.026	0.16	0.20	0.99	9.70			6.76	6.45	93
		72	27		0.0000	0.0030	0.008	0.35	0.74	1.61	0.022	0.019	0.15	0.13	2.49	10.99			8.07	4.04	74
		73	29		0.0000	0.0021	0.009	0.25	0.60	1.07	0.016	0.012	0.07	0.22	1.83	5.22			7.60	3.81	53
		74	30		0.0001	0.0014	0.006	0.19	0.81	1.43	0.018	0.017	0.05	0.36	1.11	9.86	0.32	5.73	6.40	3.94	53
		75	15		0.0000	0.0013	0.006	0.23	1.17	2.43	0.021	0.014	0.04	0.27	2.79	11.90	0.41	5.16	8.25	4.13	80
TORRINGTON	123	75	14		0.0000	0.0019	0.002	0.26	0.59	1.16	0.012	0.008	0.01	0.14	1.14	7.92	0.08	6.79	9.05	3.99	48
		76	26	0.51	0.0000	0.0026	0.005	0.19	1.19	0.96	0.047	0.009	0.02	0.18	2.39	12.07	0.13	2.89	8.52	2.39	76
		77	30	0.55	0.0000	0.0007	0.009	0.12	1.32	1.03	0.030	0.007	0.02	0.08	2.71	10.02	0.08	5.57	9.28		71
		78	31	0.40	0.0000	0.0010	0.003	0.25	1.18	0.98	0.028	0.008	0.03	0.08	3.67	6.76	0.05	7.39	9.25		60
VERNON	001	71	2			0.0005	0.001	0.09	0.42	0.81	0.015	0.010	0.10	1.02	2.64	5.40			6.40	3.49	45
VOLUNTOWN	001	73	24		0.0000	0.0008	0.005	0.40	0.29	0.21	0.004	0.006	0.01	0.18	0.55	2.48			6.94	1.44	33
		74	25		0.0000	0.0009	0.004	0.16	0.40	0.18	0.018	0.008	0.02	0.27	0.87	4.78	0.23	4.96	6.50	1.94	30

TABLE 10 (Continued)

TOWN	SITE	YR	#S	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
VOLUNTOWN	001	75	21		0.0000	0.0013	0.004	0.20	0.33	0.25	0.005	0.005	0.01	1.11	0.98	9.31	0.19	5.10	7.77	2.24	31
		76	6	0.04	0.0000	0.0008	0.000	0.19	0.15	0.13	0.004	0.003	0.01	0.03	7.05	12.37	0.08	5.66	8.90	0.94	23
		78	30	0.12	0.0000	0.0009	0.001	0.12	0.60	0.37	0.006	0.004	0.01	0.03	3.17	6.11	0.00	7.95	9.56		27
WALLINGFORD	001	75	13		0.0000	0.0022	0.001	0.04	0.50	1.24	0.009	0.010	0.02	0.14	1.65	10.77	0.10	9.26	9.11	3.85	46
		76	31	0.33	0.0000	0.0017	0.005	0.04	0.74	1.05	0.015	0.013	0.03	0.18	2.90	14.26	0.15	3.86	8.71	2.73	59
		77	27	0.46	0.0000	0.0012	0.009	0.09	1.00	1.06	0.022	0.013	0.04	0.18	3.19	10.65	0.16	5.65	9.13		60
		78	31	0.44	0.0000	0.0022	0.003	0.06	0.88	0.94	0.021	0.012	0.04	0.14	2.96	9.00	0.05	7.25	9.38		57
WATERBURY	001	70	24			0.0398	0.006	0.13	0.92	1.49	0.055	0.075		5.29	1.76	15.04			6.64	6.35	108
		71	26			0.0597	0.020	0.33	0.96	1.27	0.029	0.052	0.38	1.88	1.26	11.13			6.30	7.01	109
		72	30		0.0000	0.0212	0.012	0.25	1.03	1.75	0.018	0.030	0.26	1.56	3.26	8.54			8.43	5.18	91
		73	5		0.0000	0.0046	0.020	0.54	0.80	1.63	0.014	0.027	0.09	0.45	1.48	17.46			8.10		89
WATERBURY	002	74	10		0.0000	0.0597	0.009	0.29	1.18	1.41	0.017	0.020	0.05	0.56	1.00	11.79	0.60	1.57	5.72	3.83	62
		75	29		0.0000	0.0255	0.014	0.26	1.18	1.22	0.017	0.018	0.02	0.70	3.45	8.60	0.21	6.39	8.08	3.02	72
		76	31	0.53	0.0000	0.0099	0.008	0.20	1.21	1.07	0.022	0.017	0.02	0.37	2.51	14.49	0.32	4.34	8.79	2.56	67
		77	29	0.29	0.0000	0.0371	0.018	0.22	1.30	1.56	0.032	0.023	0.05	0.58	3.73	13.37	0.17	6.12	9.07		76
		78	30	0.48	0.0000	0.0180	0.023	0.30	1.95	1.07	0.043	0.045	0.03	0.50	3.11	10.01	0.10	6.81	9.35		72
WATERBURY	003	75	26		0.0000	0.0088	0.005	0.09	0.80	1.25	0.014	0.010	0.02	0.90	1.42	8.97	0.16	5.72	8.72	3.87	60
		76	7	0.20	0.0000	0.0037	0.005	0.10	0.36	1.04	0.007	0.010	0.04	0.28	6.93	12.28	0.31	6.34	8.80	2.53	55
WATERBURY	123	75	18	0.97	0.0000	0.0080	0.019	0.15	2.23	2.07	0.037	0.011	0.03	0.67	2.40	8.08	0.05		8.24		103
		76	29	1.40	0.0000	0.0047	0.013	0.14	2.24	2.34	0.049	0.026	0.05	0.35	4.04	10.88	0.10	2.49	8.30		106
		77	30	0.79	0.0000	0.0036	0.008	0.11	1.83	1.99	0.035	0.017	0.04	0.20	2.38	9.45	0.10	4.53	8.79		96
		78	31	0.63	0.0006	0.0047	0.016	0.17	1.81	1.85	0.043	0.015	0.04	0.37	3.64	9.58	0.14	6.49	9.25		93
WATERFORD	001	74	23		0.0000	0.0012	0.003	0.57	0.50	0.34	0.019	0.005	0.03	0.25	0.48	6.39	0.36	4.81	6.10	2.28	36
		75	30		0.0000	0.0013	0.002	0.21	0.35	0.36	0.008	0.008	0.01	1.04	0.91	8.21	0.21	5.99	8.92	2.21	39
		76	30	0.15	0.0000	0.0007	0.005	0.13	0.32	0.23	0.008	0.005	0.01	0.06	4.39	10.75	0.06	2.10	9.25	1.20	37
		77	30	0.14	0.0000	0.0006	0.008	0.07	0.37	0.27	0.011	0.006	0.02	0.04	2.83	9.66	0.07	5.98	9.35		39
		78	31	0.16	0.0000	0.0006	0.001	0.04	0.35	0.60	0.010	0.006	0.01	0.05	3.01	6.74	0.03	5.66	9.61		33
WILLIMANTIC	001	73	14		0.0000	0.0005	0.007	0.33	0.39	0.86	0.010	0.008	0.05	0.19	0.73	3.24			6.55	2.97	44
		74	30		0.0000	0.0009	0.003	0.22	0.50	0.65	0.010	0.008	0.03	0.24	0.47	4.68	0.28	5.67	6.44	2.68	43
		75	30		0.0000	0.0020	0.002	0.19	1.13	0.66	0.010	0.007	0.01	2.43	1.15	9.15	0.31	7.28	8.31	2.57	54
		76	7	0.10	0.0000	0.0009	0.001	0.18	0.38	0.32	0.006	0.004	0.01	0.03	1.67	7.57	0.06	5.43	9.20	1.49	56
WINCHESTER	001	70	25			0.0014	0.003	0.09	0.83	0.48	0.042	0.026		0.43	0.81	8.86			6.54	3.92	59
		71	25			0.0014	0.011	0.32	0.59	0.75	0.016	0.009	0.05	0.07	1.32	4.87			8.04	3.88	67
		72	25		0.0000	0.0020	0.004	0.57	0.51	0.94	0.012	0.014	0.05	0.08	2.51	6.29			8.74	2.68	59
		73	30		0.0000	0.0010	0.007	0.49	0.44	0.74	0.009	0.010	0.04	0.18	0.83	4.94			6.89	2.83	48
		74	30		0.0000	0.0011	0.003	0.40	0.63	0.90	0.015	0.008	0.03	0.21	0.74	9.24	0.30	4.29	6.36	3.28	47
		75	29		0.0000	0.0016	0.003	0.14	0.67	0.87	0.010	0.008	0.02	0.10	1.65	10.75	0.32	7.22	8.56	2.91	57
		76	6	0.23	0.0000	0.0018	0.002	0.12	0.72	0.54	0.012	0.008	0.02	0.07	2.64	8.28	0.30	7.38	9.10	1.88	57

TABLE 11 CHEMICAL CHARACTERIZATION OF LO-VOL TSP, 1974-1978

TOWN	SITE	YR	#M	AL	BE	CD	CR	CU	FE	PB	MN	NI	V	ZN	NO3	SO4	NH4	NA	PH	BENZ	TSP
BERLIN	001	76	8	0.16	0.0000	0.0022	0.002	0.01	0.29	0.41	0.010	0.007	0.01	0.09	0.92	6.70	0.09	1.19	7.57	0.55	34
		77	12	0.14	0.0000	0.0014	0.004	0.01	0.33	0.39	0.011	0.008	0.02	0.09	0.96	5.30	0.10	1.76	7.81		31
		78	4	0.11	0.0000	0.0016	0.001	0.01	0.31	0.33	0.012	0.008	0.04	0.12	1.38	5.44	0.07	5.46	9.27		30
BURLINGTON	001	76	8	0.08	0.0000	0.0012	0.002	0.01	0.27	0.20	0.008	0.003	0.01	0.07	0.45	7.35	0.03	1.06	7.90	0.33	30
		77	12	0.10	0.0000	0.0010	0.003	0.01	0.28	0.26	0.008	0.005	0.02	0.06	0.74	5.67	0.05	1.67	8.17		25
		78	9	0.08	0.0000	0.0014	0.002	0.13	0.31	0.27	0.014	0.007	0.02	0.07	1.81	6.90	0.05	5.10	9.24		31
HARTFORD	003	74	5		0.0000	0.0034	0.003	0.02	1.35	1.75	0.023	0.019	0.09	0.27	0.21	5.20	0.16		6.60	6.19	70
		75	10		0.0000	0.0026	0.004	0.02	1.05	1.32	0.017	0.014	0.03	0.16	1.32	5.65	0.15	3.10	7.82	2.15	62
		76	8	0.57	0.0000	0.0022	0.005	0.02	1.25	1.40	0.030	0.016	0.04	0.18	1.55	7.38	0.09	1.62	8.34	2.06	68
		77	12	0.53	0.0000	0.0019	0.008	0.03	1.41	1.27	0.029	0.015	0.05	0.27	2.40	7.56	0.05	2.82	7.65		78
		78	12	0.48	0.0000	0.0019	0.005	0.05	1.35	1.15	0.030	0.013	0.06	0.13	2.51	7.02	0.07	6.60	9.01		70
HARTFORD	012	76	4	0.06	0.0000	0.0028	0.002	0.01	0.17	1.05	0.007	0.009	0.03	0.10	2.10	4.85	0.22	0.85	9.02	1.25	23
KENT	001	76	7	0.14	0.0000	0.0005	0.001	0.00	0.19	0.10	0.007	0.002	0.01	0.03	0.80	3.95	0.01	1.21	8.76	0.44	27
		77	10	0.05	0.0000	0.0005	0.003	0.00	0.25	0.12	0.006	0.003	0.01	0.02	0.63	4.53	0.04	2.15	8.54		22
		78	11	0.10	0.0000	0.0010	0.001	0.01	0.29	0.15	0.008	0.005	0.02	0.04	1.52	5.60	0.08	5.27	9.32		27
LTCH CTY(MORRI	001	76	9	0.21	0.0000	0.0009	0.002	0.01	0.41	0.39	0.011	0.004	0.01	0.06	0.49	6.24	0.05	1.00	8.58	0.41	35
		77	12	0.16	0.0000	0.0008	0.004	0.01	0.33	0.37	0.009	0.005	0.01	0.04	0.72	6.62	0.06	2.11	8.67		28
		78	4	0.08	0.0000	0.0009	0.001	0.03	0.26	0.30	0.008	0.004	0.02	0.04	1.47	5.01	0.08	4.79	9.25		22
MANSFIELD	001	76	9	0.21	0.0000	0.0013	0.002	0.01	0.42	0.36	0.010	0.006	0.02	0.07	1.37	7.22	0.13	1.31	8.64	0.65	43
		77	12	0.29	0.0000	0.0010	0.005	0.01	0.56	0.35	0.010	0.007	0.02	0.06	1.70	5.69	0.11	2.02	8.19		41
		78	12	0.21	0.0000	0.0007	0.003	0.01	0.50	0.30	0.014	0.008	0.02	0.07	2.02	5.08	0.13	5.11	8.88		38
NORWALK	005	78	5	0.42	0.0000	0.0023	0.004	0.02	1.19	1.36	0.026	0.013	0.05	0.22	2.92	6.93	0.12		8.64		74
OLD SAYBROOK	001	78	5	0.20	0.0000	0.0012	0.002	0.07	0.78	1.25	0.019	0.008	0.02	0.10	2.97	6.65	0.07		9.00		63
PUTNAM	002	76	9	0.27	0.0000	0.0007	0.003	0.01	0.51	0.37	0.012	0.005	0.02	0.06	0.68	5.89	0.07	1.07	8.75	0.62	46
		77	12	0.41	0.0000	0.0006	0.005	0.01	0.69	0.39	0.013	0.007	0.02	0.05	0.92	5.96	0.06	1.90	8.22		46
		78	11	0.27	0.0000	0.0007	0.003	0.01	0.66	0.46	0.016	0.008	0.03	0.11	2.08	6.73	0.07	11.39	9.05		50
VOLUNTOWN	001	76	9	0.24	0.0000	0.0008	0.002	0.01	0.35	0.17	0.009	0.003	0.01	0.05	0.70	6.12	0.03	1.21	8.62	0.60	36
		77	12	0.16	0.0000	0.0007	0.003	0.01	0.25	0.16	0.007	0.005	0.01	0.07	0.90	5.51	0.02	2.00	8.57		27
		78	3	0.12	0.0000	0.0034	0.002	0.03	0.32	0.19	0.009	0.009	0.01	0.41	3.49	10.43	0.09	8.62	8.83		34
WEST HAVEN	001	76	6	0.21	0.0000	0.0018	0.003	0.01	0.64	1.18	0.015	0.011	0.03	0.13	1.27	7.43	0.06	1.46	7.82	1.28	45
		77	2	0.48	0.0000	0.0030	0.004	0.01	0.80	1.04	0.018	0.015	0.07	0.13	1.55	4.35	0.15	3.02	8.30		62
WILLIMANTIC	001	76	9	0.35	0.0000	0.0009	0.002	0.01	0.64	0.57	0.014	0.005	0.01	0.07	0.73	7.22	0.05	1.20	8.43	0.75	47
		77	11	0.35	0.0000	0.0008	0.005	0.01	0.77	0.58	0.012	0.007	0.02	0.49	1.26	6.23	0.07	2.04	8.60		43
		78	11	0.26	0.0000	0.0008	0.002	0.02	0.66	0.52	0.016	0.006	0.03	0.06	1.73	5.35	0.07	5.38	9.18		57

TABLE 12

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE SAMPLES	1	2	3	4	5	6	7	8	9	10
ANSONIA	3 117	183	182	173	170	167	164	157	154	154	139
	DATE	12/16/78	3/18/78	2/22/78	2/16/78	12/ 1/78	2/ 4/78	1/ 5/78	12/ 7/78	12/13/78	2/19/78
METEOROLOGICAL SITE	DIR (DEG)	210	280	310	100	30	350	200	70	230	330
NEWARK N. J.	VEL (MPH)	7.6	7.4	15.2	1.3	1.4	9.1	5.2	2.9	10.6	11.0
	SPD (MPH)	8.0	10.1	15.5	5.2	8.0	10.3	5.5	5.6	12.8	11.4
	RATIO	0.938	0.737	0.980	0.250	0.177	0.878	0.950	0.521	0.826	0.967
METEOROLOGICAL SITE	DIR (DEG)	240	300	300	260	250	320	260	80	240	330
BRIDGEPORT CONN.	VEL (MPH)	8.5	10.6	14.7	4.1	3.5	12.9	9.5	4.8	12.4	14.9
	SPD (MPH)	10.9	12.2	15.2	6.3	8.6	13.7	10.2	6.5	13.7	15.2
	RATIO	0.778	0.865	0.965	0.652	0.405	0.948	0.928	0.743	0.907	0.978
METEOROLOGICAL SITE	DIR (DEG)	190	290	310	140	180	340	170	20	180	320
BRADLEY FIELD CONN.	VEL (MPH)	3.1	7.7	13.1	1.1	1.9	7.0	5.9	0.3	6.1	9.5
	SPD (MPH)	3.4	9.2	13.4	3.7	5.3	7.6	6.0	2.9	7.0	10.1
	RATIO	0.888	0.835	0.982	0.283	0.351	0.915	0.983	0.108	0.871	0.941
METEOROLOGICAL SITE	DIR (DEG)	260	280	290	280	270	330	250	290	230	320
WORCESTER MASS.	VEL (MPH)	5.7	9.1	15.5	3.7	4.7	13.2	5.8	2.9	8.3	13.3
	SPD (MPH)	6.2	9.8	16.0	4.2	5.6	13.4	6.2	3.7	8.6	13.7
	RATIO	0.927	0.929	0.971	0.889	0.833	0.990	0.943	0.784	0.958	0.972
BERLIN	1 60	91	90	70	60	60	59	58	57	55	55
	DATE	1/26/78	5/20/78	7/19/78	8/24/78	10/23/78	12/16/78	3/21/78	7/ 7/78	3/ 9/78	6/19/78
METEOROLOGICAL SITE	DIR (DEG)	220	210	200	240	270	210	180	220	180	250
NEWARK N. J.	VEL (MPH)	16.9	9.0	6.6	6.2	7.4	7.6	5.4	8.4	1.0	4.4
	SPD (MPH)	20.6	9.8	7.8	7.0	11.2	8.0	8.9	8.9	5.0	9.9
	RATIO	0.821	0.924	0.851	0.881	0.662	0.938	0.610	0.939	0.195	0.440
METEOROLOGICAL SITE	DIR (DEG)	220	220	230	90	280	240	190	240	200	180
BRIDGEPORT CONN.	VEL (MPH)	14.8	10.0	5.4	4.2	12.5	8.5	4.2	11.1	4.0	3.1
	SPD (MPH)	26.2	10.6	8.0	9.9	16.2	10.9	11.8	11.6	7.3	8.3
	RATIO	0.567	0.936	0.671	0.427	0.770	0.778	0.360	0.950	0.550	0.370
METEOROLOGICAL SITE	DIR (DEG)	200	210	200	20	310	190	170	190	160	170
BRADLEY FIELD CONN.	VEL (MPH)	15.2	5.5	4.6	3.3	3.6	3.1	6.7	6.9	3.4	2.1
	SPD (MPH)	19.3	6.3	5.3	5.0	8.2	3.4	7.0	7.6	5.7	4.3
	RATIO	0.788	0.872	0.870	0.665	0.444	0.888	0.954	0.902	0.586	0.494
METEOROLOGICAL SITE	DIR (DEG)	220	270	250	60	300	260	210	240	230	260
WORCESTER MASS.	VEL (MPH)	9.4	7.4	5.7	5.5	11.2	5.7	10.2	7.7	1.9	2.1
	SPD (MPH)	15.5	8.3	5.9	6.2	12.9	6.2	10.5	7.9	5.3	6.0
	RATIO	0.602	0.889	0.968	0.888	0.866	0.927	0.975	0.969	0.365	0.346
BRIDGEPORT	1 58	112	106	99	97	92	89	87	83	79	74
	DATE	5/20/78	8/24/78	3/21/78	12/16/78	7/19/78	10/23/78	3/ 9/78	7/ 7/78	11/10/78	5/14/78
METEOROLOGICAL SITE	DIR (DEG)	210	240	180	210	200	270	180	220	90	90
NEWARK N. J.	VEL (MPH)	9.0	6.2	5.4	7.6	6.6	7.4	1.0	8.4	2.3	13.2
	SPD (MPH)	9.8	7.0	8.9	8.0	7.8	11.2	5.0	8.9	5.5	15.7
	RATIO	0.924	0.881	0.610	0.938	0.851	0.662	0.195	0.939	0.421	0.840

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE			DIR (DEG)	220	90	190	240	230	280	200	240	80	80
BRIDGEPORT CONN.			VEL (MPH)	10.0	4.2	4.2	8.5	5.4	12.5	4.0	11.1	10.6	29.5
			SPD (MPH)	10.6	9.9	11.8	10.9	8.0	16.2	7.3	11.6	12.1	29.8
			RATIO	0.936	0.427	0.360	0.778	0.671	0.770	0.550	0.950	0.874	0.990
METEOROLOGICAL SITE			DIR (DEG)	210	20	170	190	200	310	160	190	50	80
BRADLEY FIELD CONN.			VEL (MPH)	5.5	3.3	6.7	3.1	4.6	3.6	3.4	6.9	1.6	14.9
			SPD (MPH)	6.3	5.0	7.0	3.4	5.3	8.2	5.7	7.6	3.3	15.8
			RATIO	0.872	0.665	0.954	0.888	0.870	0.444	0.586	0.902	0.481	0.941
METEOROLOGICAL SITE			DIR (DEG)	270	60	210	260	250	300	230	240	70	90
WORCESTER MASS.			VEL (MPH)	7.4	5.5	10.2	5.7	5.7	11.2	1.9	7.7	4.1	13.3
			SPD (MPH)	8.3	6.2	10.5	6.2	5.9	12.9	5.3	7.9	5.2	13.7
			RATIO	0.889	0.888	0.975	0.927	0.968	0.866	0.365	0.969	0.791	0.975
BRIDGEPORT	123	120		194	184	171	169	167	166	156	155	150	141
			DATE	1/ 5/78	4/29/78	4/20/78	4/23/78	6/16/78	3/21/78	3/18/78	2/28/78	12/13/78	5/20/78
METEOROLOGICAL SITE			DIR (DEG)	200	290	270	280	110	180	280	280	230	210
NEWARK N. J.			VEL (MPH)	5.2	11.9	5.0	7.3	2.5	5.4	7.4	6.8	10.6	9.0
			SPD (MPH)	5.5	12.5	12.1	8.3	6.0	8.9	10.1	7.3	12.8	9.8
			RATIO	0.950	0.951	0.414	0.880	0.422	0.610	0.737	0.926	0.826	0.924
METEOROLOGICAL SITE			DIR (DEG)	260	290	260	280	220	190	300	280	240	220
BRIDGEPORT CONN.			VEL (MPH)	9.5	15.2	2.8	9.5	1.0	4.2	10.6	7.2	12.4	10.0
			SPD (MPH)	10.2	15.8	13.2	13.2	9.1	11.8	12.2	9.3	13.7	10.6
			RATIO	0.928	0.963	0.215	0.716	0.106	0.360	0.865	0.770	0.907	0.936
METEOROLOGICAL SITE			DIR (DEG)	170	310	360	300	40	170	290	310	180	210
BRADLEY FIELD CONN.			VEL (MPH)	5.9	6.2	2.8	9.8	2.7	6.7	7.7	5.2	6.1	5.5
			SPD (MPH)	6.0	7.2	8.9	9.9	5.3	7.0	9.2	5.7	7.0	6.3
			RATIO	0.983	0.862	0.316	0.987	0.507	0.954	0.835	0.911	0.871	0.872
METEOROLOGICAL SITE			DIR (DEG)	250	300	60	310	360	210	280	300	230	270
WORCESTER MASS.			VEL (MPH)	5.8	13.2	2.9	9.9	2.1	10.2	9.1	10.3	8.3	7.4
			SPD (MPH)	6.2	14.1	7.9	10.3	7.6	10.5	9.8	10.5	8.6	8.3
			RATIO	0.943	0.939	0.372	0.952	0.282	0.975	0.929	0.985	0.958	0.889
BRISTOL	1	.59		131	129	120	102	82	76	73	73	72	71
			DATE	12/16/78	5/20/78	3/ 9/78	3/21/78	8/24/78	6/ 1/78	4/ 2/78	10/23/78	11/10/78	7/19/78
METEOROLOGICAL SITE			DIR (DEG)	210	210	180	180	240	310	320	270	90	200
NEWARK N. J.			VEL (MPH)	7.6	9.0	1.0	5.4	6.2	7.4	18.7	7.4	2.3	6.6
			SPD (MPH)	8.0	9.8	5.0	8.9	7.0	9.1	19.3	11.2	5.5	7.8
			RATIO	0.938	0.924	0.195	0.610	0.881	0.820	0.973	0.662	0.421	0.851
METEOROLOGICAL SITE			DIR (DEG)	240	220	200	190	90	270	310	280	80	230
BRIDGEPORT CONN.			VEL (MPH)	8.5	10.0	4.0	4.2	4.2	3.8	22.0	12.5	10.6	5.4
			SPD (MPH)	10.9	10.6	7.3	11.8	9.9	8.2	22.1	16.2	12.1	8.0
			RATIO	0.778	0.936	0.550	0.360	0.427	0.467	0.993	0.770	0.874	0.671
METEOROLOGICAL SITE			DIR (DEG)	190	210	160	170	20	360	300	310	50	200
BRADLEY FIELD CONN.			VEL (MPH)	3.1	5.5	3.4	6.7	3.3	3.9	17.0	3.6	1.6	4.6
			SPD (MPH)	3.4	6.3	5.7	7.0	5.0	5.2	18.5	8.2	3.3	5.3
			RATIO	0.888	0.872	0.586	0.954	0.665	0.754	0.918	0.444	0.481	0.870

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION — AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES — UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	260	270	230	210	60	340	310	300	70	250
	VEL (MPH)	5.7	7.4	1.9	10.2	5.5	3.9	20.5	11.2	4.1	5.7
	SPD (MPH)	6.2	8.3	5.3	10.5	6.2	6.8	22.9	12.9	5.2	5.9
	RATIO	0.927	0.889	0.365	0.975	0.888	0.572	0.897	0.866	0.791	0.968
BRISTOL	4 45	127	102	99	97	89	86	83	83	83	76
	DATE	5/20/78	3/21/78	3/ 9/78	7/19/78	8/24/78	6/ 7/78	4/ 2/78	6/ 1/78	4/14/78	4/26/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)	210	180	180	200	240	150	320	310	310	70
	VEL (MPH)	9.0	5.4	1.0	6.6	6.2	6.9	18.7	7.4	19.1	7.8
	SPD (MPH)	9.8	8.9	5.0	7.8	7.0	8.3	19.3	9.1	19.8	9.1
	RATIO	0.924	0.610	0.195	0.851	0.881	0.828	0.973	0.820	0.964	0.864
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)	220	190	200	230	90	190	310	270	300	70
	VEL (MPH)	10.0	4.2	4.0	5.4	4.2	8.0	22.0	3.8	19.5	8.1
	SPD (MPH)	10.6	11.8	7.3	8.0	9.9	10.8	22.1	8.2	19.8	11.2
	RATIO	0.936	0.360	0.550	0.671	0.427	0.744	0.993	0.467	0.983	0.726
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)	210	170	160	200	20	170	300	360	300	50
	VEL (MPH)	5.5	6.7	3.4	4.6	3.3	8.7	17.0	3.9	16.5	1.7
	SPD (MPH)	6.3	7.0	5.7	5.3	5.0	8.8	18.5	5.2	16.7	4.2
	RATIO	0.872	0.954	0.586	0.870	0.665	0.992	0.918	0.754	0.990	0.413
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	270	210	230	250	60	210	310	340	290	40
	VEL (MPH)	7.4	10.2	1.9	5.7	5.5	8.2	20.5	3.9	19.8	3.5
	SPD (MPH)	8.3	10.5	5.3	5.9	6.2	8.9	22.9	6.8	20.4	4.7
	RATIO	0.889	0.975	0.365	0.968	0.888	0.921	0.897	0.572	0.968	0.735
BURLINGTON	1 204	97	94	89	81	78	77	76	72	71	70
	DATE	8/ 9/78	10/23/78	9/24/78	7/22/78	7/21/78	6/27/78	8/16/78	9/21/78	6/ 2/78	8/15/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)	220	270	250	280	240	180	190	220	100	180
	VEL (MPH)	9.3	7.4	4.3	7.0	7.4	4.6	9.2	8.8	5.0	5.7
	SPD (MPH)	9.6	11.2	7.0	9.1	7.8	5.7	10.1	8.9	7.5	6.0
	RATIO	0.965	0.662	0.611	0.778	0.947	0.803	0.917	0.983	0.665	0.940
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)	250	280	210	250	230	220	200	250	70	170
	VEL (MPH)	10.8	12.5	4.5	9.4	9.5	4.3	10.4	11.8	15.5	3.2
	SPD (MPH)	11.1	16.2	10.5	10.2	10.8	7.0	11.2	12.8	15.7	8.0
	RATIO	0.975	0.770	0.433	0.922	0.881	0.606	0.928	0.924	0.990	0.396
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)	210	310	180	260	170	170	170	170	170	180
	VEL (MPH)	7.3	3.6	3.9	3.7	6.0	6.1	8.8	8.6	6.5	2.7
	SPD (MPH)	8.0	8.2	4.7	6.0	6.5	6.2	8.9	8.8	6.9	4.5
	RATIO	0.901	0.444	0.818	0.617	0.925	0.992	0.988	0.985	0.936	0.604
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	250	300	240	280	250	230	230	260	160	190
	VEL (MPH)	9.8	11.2	5.0	8.5	7.4	5.3	7.2	9.2	3.6	2.4
	SPD (MPH)	10.1	12.9	5.2	8.8	7.8	5.7	7.5	9.5	7.0	3.9
	RATIO	0.972	0.866	0.971	0.969	0.954	0.924	0.962	0.974	0.504	0.612

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
DANBURY	123	60		187	124	111	109	109	108	96	85	84	79
			DATE	12/16/78	3/21/78	12/22/78	3/ 9/78	4/14/78	8/24/78	5/20/78	7/ 7/78	7/19/78	7/13/78
METEOROLOGICAL SITE			DIR (DEG)	210	180	250	180	310	240	210	220	200	220
NEWARK N. J.			VEL (MPH)	7.6	5.4	10.1	1.0	19.1	6.2	9.0	8.4	6.6	9.8
			SPD (MPH)	8.0	8.9	11.1	5.0	19.8	7.0	9.8	8.9	7.8	10.5
			RATIO	0.938	0.610	0.916	0.195	0.964	0.881	0.924	0.939	0.851	0.938
METEOROLOGICAL SITE			DIR (DEG)	240	190	260	200	300	90	220	240	230	230
BRIDGEPORT CONN.			VEL (MPH)	8.5	4.2	13.2	4.0	19.5	4.2	10.0	11.1	5.4	6.5
			SPD (MPH)	10.9	11.8	13.5	7.3	19.8	9.9	10.6	11.6	8.0	10.8
			RATIO	0.778	0.360	0.979	0.550	0.983	0.427	0.936	0.950	0.671	0.606
METEOROLOGICAL SITE			DIR (DEG)	190	170	210	160	300	20	210	190	200	210
BRADLEY FIELD CONN.			VEL (MPH)	3.1	6.7	3.0	3.4	16.5	3.3	5.5	6.9	4.6	6.1
			SPD (MPH)	3.4	7.0	4.5	5.7	16.7	5.0	6.3	7.6	5.3	7.3
			RATIO	0.888	0.954	0.666	0.586	0.990	0.665	0.872	0.902	0.870	0.826
METEOROLOGICAL SITE			DIR (DEG)	260	210	280	230	290	60	270	240	250	240
WORCESTER MASS.			VEL (MPH)	5.7	10.2	12.0	1.9	19.8	5.5	7.4	7.7	5.7	5.0
			SPD (MPH)	6.2	10.5	12.8	5.3	20.4	6.2	8.3	7.9	5.9	5.5
			RATIO	0.927	0.975	0.937	0.365	0.968	0.888	0.889	0.969	0.968	0.917
DERBY	123	45		128	110	102	91	83	79	79	75	69	68
			DATE	8/24/78	5/20/78	7/25/78	7/ 7/78	3/21/78	3/ 9/78	7/19/78	1/ 2/78	5/26/78	4/26/78
METEOROLOGICAL SITE			DIR (DEG)	240	210	140	220	180	180	200	280	30	70
NEWARK N. J.			VEL (MPH)	6.2	9.0	8.3	8.4	5.4	1.0	6.6	10.7	10.8	7.8
			SPD (MPH)	7.0	9.8	8.5	8.9	8.9	5.0	7.8	12.6	11.2	9.1
			RATIO	0.881	0.924	0.984	0.939	0.610	0.195	0.851	0.846	0.963	0.864
METEOROLOGICAL SITE			DIR (DEG)	90	220	140	240	190	200	230	310	60	70
BRIDGEPORT CONN.			VEL (MPH)	4.2	10.0	8.0	11.1	4.2	4.0	5.4	10.2	15.2	8.1
			SPD (MPH)	9.9	10.6	8.6	11.6	11.8	7.3	8.0	13.5	16.5	11.2
			RATIO	0.427	0.936	0.928	0.950	0.360	0.550	0.671	0.757	0.919	0.726
METEOROLOGICAL SITE			DIR (DEG)	20	210	190	190	170	160	200	310	20	50
BRADLEY FIELD CONN.			VEL (MPH)	3.3	5.5	5.5	6.9	6.7	3.4	4.6	4.9	7.5	1.7
			SPD (MPH)	5.0	6.3	6.8	7.6	7.0	5.7	5.3	6.9	8.3	4.2
			RATIO	0.665	0.872	0.815	0.902	0.954	0.586	0.870	0.703	0.904	0.413
METEOROLOGICAL SITE			DIR (DEG)	60	270	240	240	210	230	250	300	60	40
WORCESTER MASS.			VEL (MPH)	5.5	7.4	5.8	7.7	10.2	1.9	5.7	7.0	7.3	3.5
			SPD (MPH)	6.2	8.3	6.9	7.9	10.5	5.3	5.9	10.3	7.8	4.7
			RATIO	0.888	0.889	0.845	0.969	0.975	0.365	0.968	0.676	0.936	0.735
EAST HARTFORD	2	58		176	123	116	102	100	98	97	87	87	80
			DATE	4/ 2/78	12/16/78	4/14/78	7/13/78	5/20/78	6/19/78	6/ 1/78	8/18/78	5/ 2/78	7/19/78
METEOROLOGICAL SITE			DIR (DEG)	320	210	310	220	210	250	310	330	310	200
NEWARK N. J.			VEL (MPH)	18.7	7.6	19.1	9.8	9.0	4.4	7.4	8.4	13.5	6.6
			SPD (MPH)	19.3	8.0	19.8	10.5	9.8	9.9	9.1	8.9	14.1	7.8
			RATIO	0.973	0.938	0.964	0.938	0.924	0.440	0.820	0.947	0.958	0.851

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION　　　　AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES　　　　UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	310	240	300	230	220	180	270	340	330	230
			VEL (MPH)	22.0	8.5	19.5	6.5	10.0	3.1	3.8	8.8	12.2	5.4
			SPD (MPH)	22.1	10.9	19.8	10.8	10.6	8.3	8.2	9.6	12.6	8.0
			RATIO	0.993	0.778	0.983	0.606	0.936	0.370	0.467	0.910	0.961	0.671
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	300	190	300	210	210	170	360	320	300	200
			VEL (MPH)	17.0	3.1	16.5	6.1	5.5	2.1	3.9	3.8	11.1	4.6
			SPD (MPH)	18.5	3.4	16.7	7.3	6.3	4.3	5.2	4.0	11.5	5.3
			RATIO	0.918	0.888	0.990	0.826	0.872	0.494	0.754	0.936	0.961	0.870
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	310	260	290	240	270	260	340	310	300	250
			VEL (MPH)	20.5	5.7	19.8	5.0	7.4	2.1	3.9	6.4	11.5	5.7
			SPD (MPH)	22.9	6.2	20.4	5.5	8.3	6.0	6.8	6.8	13.1	5.9
			RATIO	0.897	0.927	0.968	0.917	0.889	0.346	0.572	0.944	0.881	0.968
ENFIELD	123	56		98	90	84	78	70	65	64	64	63	60
			DATE	5/20/78	12/16/78	5/14/78	11/ 4/78	6/ 1/78	7/19/78	7/13/78	7/25/78	7/ 7/78	2/25/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	210	210	90	20	310	200	220	140	220	240
			VEL (MPH)	9.0	7.6	13.2	8.0	7.4	6.6	9.8	8.3	8.4	9.0
			SPD (MPH)	9.8	8.0	15.7	8.2	9.1	7.8	10.5	8.5	8.9	10.3
			RATIO	0.924	0.938	0.840	0.973	0.820	0.851	0.938	0.984	0.939	0.874
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	220	240	80	40	270	230	230	140	240	250
			VEL (MPH)	10.0	8.5	29.5	6.9	3.8	5.4	6.5	8.0	11.1	9.8
			SPD (MPH)	10.6	10.9	29.8	8.0	8.2	8.0	10.8	8.6	11.6	11.2
			RATIO	0.936	0.778	0.990	0.854	0.467	0.671	0.606	0.928	0.950	0.874
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	210	190	80	350	360	200	210	190	190	230
			VEL (MPH)	5.5	3.1	14.9	1.2	3.9	4.6	6.1	5.5	6.9	2.8
			SPD (MPH)	6.3	3.4	15.8	1.3	5.2	5.3	7.3	6.8	7.6	4.6
			RATIO	0.872	0.888	0.941	0.904	0.754	0.870	0.826	0.815	0.902	0.613
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	270	260	90	150	340	250	240	240	240	270
			VEL (MPH)	7.4	5.7	13.3	1.6	3.9	5.7	5.0	5.8	7.7	7.9
			SPD (MPH)	8.3	6.2	13.7	2.2	6.8	5.9	5.5	6.9	7.9	8.0
			RATIO	0.889	0.927	0.975	0.756	0.572	0.968	0.917	0.845	0.969	0.982
GREENWICH	1	44		146	128	116	111	110	107	93	89	87	83
			DATE	3/21/78	8/24/78	5/20/78	6/ 7/78	3/ 9/78	7/19/78	1/ 2/78	7/ 7/78	6/19/78	5/26/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	180	240	210	150	180	200	280	220	250	30
			VEL (MPH)	5.4	6.2	9.0	6.9	1.0	6.6	10.7	8.4	4.4	10.8
			SPD (MPH)	8.9	7.0	9.8	8.3	5.0	7.8	12.6	8.9	9.9	11.2
			RATIO	0.610	0.881	0.924	0.828	0.195	0.851	0.846	0.939	0.440	0.963
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	190	90	220	190	200	230	310	240	180	60
			VEL (MPH)	4.2	4.2	10.0	8.0	4.0	5.4	10.2	11.1	3.1	15.2
			SPD (MPH)	11.8	9.9	10.6	10.8	7.3	8.0	13.5	11.6	8.3	16.5
			RATIO	0.360	0.427	0.936	0.744	0.550	0.671	0.757	0.950	0.370	0.919
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	170	20	210	170	160	200	310	190	170	20
			VEL (MPH)	6.7	3.3	5.5	8.7	3.4	4.6	4.9	6.9	2.1	7.5
			SPD (MPH)	7.0	5.0	6.3	8.8	5.7	5.3	6.9	7.6	4.3	8.3
			RATIO	0.954	0.665	0.872	0.992	0.586	0.870	0.703	0.902	0.494	0.904

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION — AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES — UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE	DIR (DEG)	210	60	270	210	230	250	300	240	260	60
WORCESTER MASS.	VEL (MPH)	10.2	5.5	7.4	8.2	1.9	5.7	7.0	7.7	2.1	7.3
	SPD (MPH)	10.5	6.2	8.3	8.9	5.3	5.9	10.3	7.9	6.0	7.8
	RATIO	0.975	0.888	0.889	0.921	0.365	0.968	0.676	0.969	0.346	0.936
GREENWICH	3 43	132	129	126	124	100	98	97	95	94	86
	DATE	3/21/78	3/15/78	8/24/78	5/20/78	3/ 9/78	7/19/78	7/ 7/78	6/19/78	2/19/78	2/25/78
METEOROLOGICAL SITE	DIR (DEG)	180	260	240	210	180	200	220	250	330	240
NEWARK N. J.	VEL (MPH)	5.4	11.2	6.2	9.0	1.0	6.6	8.4	4.4	11.0	9.0
	SPD (MPH)	8.9	12.6	7.0	9.8	5.0	7.8	8.9	9.9	11.4	10.3
	RATIO	0.610	0.888	0.881	0.924	0.195	0.851	0.939	0.440	0.967	0.874
METEOROLOGICAL SITE	DIR (DEG)	190	280	90	220	200	230	240	180	330	250
BRIDGEPORT CONN.	VEL (MPH)	4.2	15.0	4.2	10.0	4.0	5.4	11.1	3.1	14.9	9.8
	SPD (MPH)	11.8	16.0	9.9	10.6	7.3	8.0	11.6	8.3	15.2	11.2
	RATIO	0.360	0.941	0.427	0.936	0.550	0.671	0.950	0.370	0.978	0.874
METEOROLOGICAL SITE	DIR (DEG)	170	280	20	210	160	200	190	170	320	230
BRADLEY FIELD CONN.	VEL (MPH)	6.7	6.5	3.3	5.5	3.4	4.6	6.9	2.1	9.5	2.8
	SPD (MPH)	7.0	8.5	5.0	6.3	5.7	5.3	7.6	4.3	10.1	4.6
	RATIO	0.954	0.772	0.665	0.872	0.586	0.870	0.902	0.494	0.941	0.613
METEOROLOGICAL SITE	DIR (DEG)	210	280	60	270	230	250	240	260	320	270
WORCESTER MASS.	VEL (MPH)	10.2	15.6	5.5	7.4	1.9	5.7	7.7	2.1	13.3	7.9
	SPD (MPH)	10.5	15.8	6.2	8.3	5.3	5.9	7.9	6.0	13.7	8.0
	RATIO	0.975	0.988	0.888	0.889	0.365	0.968	0.969	0.346	0.972	0.982
GREENWICH	4 58	128	99	94	77	72	70	69	69	68	67
	DATE	8/24/78	6/ 7/78	5/20/78	7/19/78	7/ 7/78	10/29/78	7/13/78	6/19/78	3/21/78	10/23/78
METEOROLOGICAL SITE	DIR (DEG)	240	150	210	200	220	30	220	250	180	270
NEWARK N. J.	VEL (MPH)	6.2	6.9	9.0	6.6	8.4	6.6	9.8	4.4	5.4	7.4
	SPD (MPH)	7.0	8.3	9.8	7.8	8.9	7.8	10.5	9.9	8.9	11.2
	RATIO	0.881	0.828	0.924	0.851	0.939	0.847	0.938	0.440	0.610	0.662
METEOROLOGICAL SITE	DIR (DEG)	90	190	220	230	240	10	230	180	190	280
BRIDGEPORT CONN.	VEL (MPH)	4.2	8.0	10.0	5.4	11.1	6.9	6.5	3.1	4.2	12.5
	SPD (MPH)	9.9	10.8	10.6	8.0	11.6	8.3	10.8	8.3	11.8	16.2
	RATIO	0.427	0.744	0.936	0.671	0.950	0.824	0.606	0.370	0.360	0.770
METEOROLOGICAL SITE	DIR (DEG)	20	170	210	200	190	360	210	170	170	310
BRADLEY FIELD CONN.	VEL (MPH)	3.3	8.7	5.5	4.6	6.9	4.6	6.1	2.1	6.7	3.6
	SPD (MPH)	5.0	8.8	6.3	5.3	7.6	5.9	7.3	4.3	7.0	8.2
	RATIO	0.665	0.992	0.872	0.870	0.902	0.788	0.826	0.494	0.954	0.444
METEOROLOGICAL SITE	DIR (DEG)	60	210	270	250	240	340	240	260	210	300
WORCESTER MASS.	VEL (MPH)	5.5	8.2	7.4	5.7	7.7	4.3	5.0	2.1	10.2	11.2
	SPD (MPH)	6.2	8.9	8.3	5.9	7.9	5.7	5.5	6.0	10.5	12.9
	RATIO	0.888	0.921	0.889	0.968	0.969	0.754	0.917	0.346	0.975	0.866

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
GREENWICH	8	57	159	124	123	119	115	111	108	108	103	94
		DATE	7/13/78	7/ 7/78	5/20/78	6/19/78	7/19/78	10/23/78	12/16/78	8/24/78	3/21/78	5/ 8/78
METEOROLOGICAL SITE		DIR (DEG)	220	220	210	250	200	270	210	240	180	150
NEWARK N. J.		VEL (MPH)	9.8	8.4	9.0	4.4	6.6	7.4	7.6	6.2	5.4	7.0
		SPD (MPH)	10.5	8.9	9.8	9.9	7.8	11.2	8.0	7.0	8.9	7.9
		RATIO	0.938	0.939	0.924	0.440	0.851	0.662	0.938	0.881	0.610	0.887
METEOROLOGICAL SITE		DIR (DEG)	230	240	220	180	230	280	240	90	190	170
BRIDGEPORT CONN.		VEL (MPH)	6.5	11.1	10.0	3.1	5.4	12.5	8.5	4.2	4.2	2.8
		SPD (MPH)	10.8	11.6	10.6	8.3	8.0	16.2	10.9	9.9	11.8	7.2
		RATIO	0.606	0.950	0.936	0.370	0.671	0.770	0.778	0.427	0.360	0.396
METEOROLOGICAL SITE		DIR (DEG)	210	190	210	170	200	310	190	20	170	180
BRADLEY FIELD CONN.		VEL (MPH)	6.1	6.9	5.5	2.1	4.6	3.6	3.1	3.3	6.7	8.1
		SPD (MPH)	7.3	7.6	6.3	4.3	5.3	8.2	3.4	5.0	7.0	8.8
		RATIO	0.826	0.902	0.872	0.494	0.870	0.444	0.888	0.665	0.954	0.929
METEOROLOGICAL SITE		DIR (DEG)	240	240	270	260	250	300	260	60	210	210
WORCESTER MASS.		VEL (MPH)	5.0	7.7	7.4	2.1	5.7	11.2	5.7	5.5	10.2	7.0
		SPD (MPH)	5.5	7.9	8.3	6.0	5.9	12.9	6.2	6.2	10.5	9.1
		RATIO	0.917	0.969	0.889	0.346	0.968	0.866	0.927	0.888	0.975	0.778
GROTON	123	61	129	84	79	73	68	64	64	63	60	59
		DATE	8/30/78	5/20/78	6/ 1/78	10/23/78	6/19/78	6/ 7/78	8/24/78	7/13/78	7/ 7/78	11/10/78
METEOROLOGICAL SITE		DIR (DEG)	70	210	310	270	250	150	240	220	220	90
NEWARK N. J.		VEL (MPH)	1.1	9.0	7.4	7.4	4.4	6.9	6.2	9.8	8.4	2.3
		SPD (MPH)	4.5	9.8	9.1	11.2	9.9	8.3	7.0	10.5	8.9	5.5
		RATIO	0.254	0.924	0.820	0.662	0.440	0.828	0.881	0.938	0.939	0.421
METEOROLOGICAL SITE		DIR (DEG)	360	220	270	280	180	190	90	230	240	80
BRIDGEPORT CONN.		VEL (MPH)	1.6	10.0	3.8	12.5	3.1	8.0	4.2	6.5	11.1	10.6
		SPD (MPH)	7.5	10.6	8.2	16.2	8.3	10.8	9.9	10.8	11.6	12.1
		RATIO	0.221	0.936	0.467	0.770	0.370	0.744	0.427	0.606	0.950	0.874
METEOROLOGICAL SITE		DIR (DEG)	290	210	360	310	170	170	20	210	190	50
BRADLEY FIELD CONN.		VEL (MPH)	1.1	5.5	3.9	3.6	2.1	8.7	3.3	6.1	6.9	1.6
		SPD (MPH)	3.2	6.3	5.2	8.2	4.3	8.8	5.0	7.3	7.6	3.3
		RATIO	0.338	0.872	0.754	0.444	0.494	0.992	0.665	0.826	0.902	0.481
METEOROLOGICAL SITE		DIR (DEG)	270	270	340	300	260	210	60	240	240	70
WORCESTER MASS.		VEL (MPH)	6.4	7.4	3.9	11.2	2.1	8.2	5.5	5.0	7.7	4.1
		SPD (MPH)	6.6	8.3	6.8	12.9	6.0	8.9	6.2	5.5	7.9	5.2
		RATIO	0.966	0.889	0.572	0.866	0.346	0.921	0.888	0.917	0.969	0.791
HADDAM	2	52	93	92	74	69	68	66	62	59	57	55
		DATE	4/ 2/78	5/20/78	3/15/78	6/ 1/78	12/16/78	6/19/78	7/19/78	10/23/78	3/21/78	7/ 7/78
METEOROLOGICAL SITE		DIR (DEG)	320	210	260	310	210	250	200	270	180	220
NEWARK N. J.		VEL (MPH)	18.7	9.0	11.2	7.4	7.6	4.4	6.6	7.4	5.4	8.4
		SPD (MPH)	19.3	9.8	12.6	9.1	8.0	9.9	7.8	11.2	8.9	8.9
		RATIO	0.973	0.924	0.888	0.820	0.938	0.440	0.851	0.662	0.610	0.939

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	310	220	280	270	240	180	230	280	190	240
			VEL (MPH)	22.0	10.0	15.0	3.8	8.5	3.1	5.4	12.5	4.2	11.1
			SPD (MPH)	22.1	10.6	16.0	8.2	10.9	8.3	8.0	16.2	11.8	11.6
			RATIO	0.993	0.936	0.941	0.467	0.778	0.370	0.671	0.770	0.360	0.950
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	300	210	280	360	190	170	200	310	170	190
			VEL (MPH)	17.0	5.5	6.5	3.9	3.1	2.1	4.6	3.6	6.7	6.9
			SPD (MPH)	18.5	6.3	8.5	5.2	3.4	4.3	5.3	8.2	7.0	7.6
			RATIO	0.918	0.872	0.772	0.754	0.888	0.494	0.870	0.444	0.954	0.902
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	310	270	280	340	260	260	250	300	210	240
			VEL (MPH)	20.5	7.4	15.6	3.9	5.7	2.1	5.7	11.2	10.2	7.7
			SPD (MPH)	22.9	8.3	15.8	6.8	6.2	6.0	5.9	12.9	10.5	7.9
			RATIO	0.897	0.889	0.988	0.572	0.927	0.346	0.968	0.866	0.975	0.969
HARTFORD	2	44		152	117	105	98	94	86	85	83	83	79
			DATE	8/24/78	5/20/78	8/30/78	7/19/78	3/ 9/78	6/ 1/78	7/ 7/78	3/21/78	7/13/78	6/19/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	240	210	70	200	180	310	220	180	220	250
			VEL (MPH)	6.2	9.0	1.1	6.6	1.0	7.4	8.4	5.4	9.8	4.4
			SPD (MPH)	7.0	9.8	4.5	7.8	5.0	9.1	8.9	8.9	10.5	9.9
			RATIO	0.881	0.924	0.254	0.851	0.195	0.820	0.939	0.610	0.938	0.440
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	90	220	360	230	200	270	240	190	230	180
			VEL (MPH)	4.2	10.0	1.6	5.4	4.0	3.8	11.1	4.2	6.5	3.1
			SPD (MPH)	9.9	10.6	7.5	8.0	7.3	8.2	11.6	11.8	10.8	8.3
			RATIO	0.427	0.936	0.221	0.671	0.550	0.467	0.950	0.360	0.606	0.370
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	20	210	290	200	160	360	190	170	210	170
			VEL (MPH)	3.3	5.5	1.1	4.6	3.4	3.9	6.9	6.7	6.1	2.1
			SPD (MPH)	5.0	6.3	3.2	5.3	5.7	5.2	7.6	7.0	7.3	4.3
			RATIO	0.665	0.872	0.338	0.870	0.586	0.754	0.902	0.954	0.826	0.494
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	60	270	270	250	230	340	240	210	240	260
			VEL (MPH)	5.5	7.4	6.4	5.7	1.9	3.9	7.7	10.2	5.0	2.1
			SPD (MPH)	6.2	8.3	6.6	5.9	5.3	6.8	7.9	10.5	5.5	6.0
			RATIO	0.888	0.889	0.966	0.968	0.365	0.572	0.969	0.975	0.917	0.346
HARTFORD	3	119		209	160	151	149	147	138	136	130	130	127
			DATE	12/ 7/78	1/11/78	3/ 9/78	8/ 3/78	2/16/78	1/ 5/78	12/ 1/78	3/15/78	12/16/78	3/18/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	70	270	180	200	100	200	30	260	210	280
			VEL (MPH)	2.9	14.0	1.0	8.7	1.3	5.2	1.4	11.2	7.6	7.4
			SPD (MPH)	5.6	15.4	5.0	9.1	5.2	5.5	8.0	12.6	8.0	10.1
			RATIO	0.521	0.911	0.195	0.960	0.250	0.950	0.177	0.888	0.938	0.737
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	80	280	200	190	260	260	250	280	240	300
			VEL (MPH)	4.8	14.7	4.0	9.8	4.1	9.5	3.5	15.0	8.5	10.6
			SPD (MPH)	6.5	15.4	7.3	11.6	6.3	10.2	8.6	16.0	10.9	12.2
			RATIO	0.743	0.959	0.550	0.839	0.652	0.928	0.405	0.941	0.778	0.865
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	20	270	160	180	140	170	180	280	190	290
			VEL (MPH)	0.3	7.5	3.4	8.5	1.1	5.9	1.9	6.5	3.1	7.7
			SPD (MPH)	2.9	9.6	5.7	9.1	3.7	6.0	5.3	8.5	3.4	9.2
			RATIO	0.108	0.784	0.586	0.933	0.283	0.983	0.351	0.772	0.888	0.835

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION — AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE			DIR (DEG)	290	280	230	210	280	250	270	280	260	280
WORCESTER MASS.			VEL (MPH)	2.9	15.5	1.9	7.3	3.7	5.8	4.7	15.6	5.7	9.1
			SPD (MPH)	3.7	15.8	5.3	7.5	4.2	6.2	5.6	15.8	6.2	9.8
			RATIO	0.784	0.980	0.365	0.982	0.889	0.943	0.833	0.988	0.927	0.929
HARTFORD	123	61		157	148	135	131	127	127	114	110	107	104
			DATE	3/21/78	5/20/78	6/ 1/78	12/16/78	3/15/78	12/22/78	5/14/78	5/ 8/78	7/19/78	11/10/78
METEOROLOGICAL SITE			DIR (DEG)	180	210	310	210	260	250	90	150	200	90
NEWARK N. J.			VEL (MPH)	5.4	9.0	7.4	7.6	11.2	10.1	13.2	7.0	6.6	2.3
			SPD (MPH)	8.9	9.8	9.1	8.0	12.6	11.1	15.7	7.9	7.8	5.5
			RATIO	0.610	0.924	0.820	0.938	0.888	0.916	0.840	0.887	0.851	0.421
METEOROLOGICAL SITE			DIR (DEG)	190	220	270	240	280	260	80	170	230	80
BRIDGEPORT CONN.			VEL (MPH)	4.2	10.0	3.8	8.5	15.0	13.2	29.5	2.8	5.4	10.6
			SPD (MPH)	11.8	10.6	8.2	10.9	16.0	13.5	29.8	7.2	8.0	12.1
			RATIO	0.360	0.936	0.467	0.778	0.941	0.979	0.990	0.396	0.671	0.874
METEOROLOGICAL SITE			DIR (DEG)	170	210	360	190	280	210	80	180	200	50
BRADLEY FIELD CONN.			VEL (MPH)	6.7	5.5	3.9	3.1	6.5	3.0	14.9	8.1	4.6	1.6
			SPD (MPH)	7.0	6.3	5.2	3.4	8.5	4.5	15.8	8.8	5.3	3.3
			RATIO	0.954	0.872	0.754	0.888	0.772	0.666	0.941	0.929	0.870	0.481
METEOROLOGICAL SITE			DIR (DEG)	210	270	340	260	280	280	90	210	250	70
WORCESTER MASS.			VEL (MPH)	10.2	7.4	3.9	5.7	15.6	12.0	13.3	7.0	5.7	4.1
			SPD (MPH)	10.5	8.3	6.8	6.2	15.8	12.8	13.7	9.1	5.9	5.2
			RATIO	0.975	0.889	0.572	0.927	0.988	0.937	0.975	0.778	0.968	0.791
LTCH CTY(MORRIS DAM)	1	120		121	79	66	64	63	62	61	60	59	58
			DATE	7/22/78	8/ 9/78	8/15/78	5/20/78	3/12/78	6/ 7/78	1/ 5/78	7/10/78	4/11/78	6/ 1/78
METEOROLOGICAL SITE			DIR (DEG)	280	220	180	210	320	150	200	240	120	310
NEWARK N. J.			VEL (MPH)	7.0	9.3	5.7	9.0	2.9	6.9	5.2	9.0	3.5	7.4
			SPD (MPH)	9.1	9.6	6.0	9.8	6.3	8.3	5.5	10.1	6.8	9.1
			RATIO	0.778	0.965	0.940	0.924	0.452	0.828	0.950	0.894	0.515	0.820
METEOROLOGICAL SITE			DIR (DEG)	250	250	170	220	350	190	260	220	70	270
BRIDGEPORT CONN.			VEL (MPH)	9.4	10.8	3.2	10.0	0.7	8.0	9.5	6.9	12.1	3.8
			SPD (MPH)	10.2	11.1	8.0	10.6	7.2	10.8	10.2	9.1	14.1	8.2
			RATIO	0.922	0.975	0.396	0.936	0.093	0.744	0.928	0.759	0.857	0.467
METEOROLOGICAL SITE			DIR (DEG)	260	210	180	210	30	170	170	230	150	360
BRADLEY FIELD CONN.			VEL (MPH)	3.7	7.3	2.7	5.5	0.7	8.7	5.9	3.8	4.1	3.9
			SPD (MPH)	6.0	8.0	4.5	6.3	4.5	8.8	6.0	6.9	5.9	5.2
			RATIO	0.617	0.901	0.604	0.872	0.165	0.992	0.983	0.554	0.697	0.754
METEOROLOGICAL SITE			DIR (DEG)	280	250	190	270	300	210	250	270	130	340
WORCESTER MASS.			VEL (MPH)	8.5	9.8	2.4	7.4	1.5	8.2	5.8	9.2	3.6	3.9
			SPD (MPH)	8.8	10.1	3.9	8.3	6.5	8.9	6.2	9.8	6.9	6.8
			RATIO	0.969	0.972	0.612	0.889	0.236	0.921	0.943	0.945	0.519	0.572

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
MANCHESTER	1	56	113	92	80	77	73	73	72	67	66	65
		DATE	5/20/78	3/ 9/78	4/14/78	7/ 7/78	11/ 4/78	3/21/78	7/19/78	8/24/78	11/10/78	2/25/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	180	310	220	20	180	200	240	90	240
		VEL (MPH)	9.0	1.0	19.1	8.4	8.0	5.4	6.6	6.2	2.3	9.0
		SPD (MPH)	9.8	5.0	19.8	8.9	8.2	8.9	7.8	7.0	5.5	10.3
		RATIO	0.924	0.195	0.964	0.939	0.973	0.610	0.851	0.881	0.421	0.874
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	220	200	300	240	40	190	230	90	80	250
		VEL (MPH)	10.0	4.0	19.5	11.1	6.9	4.2	5.4	4.2	10.6	9.8
		SPD (MPH)	10.6	7.3	19.8	11.6	8.0	11.8	8.0	9.9	12.1	11.2
		RATIO	0.936	0.550	0.983	0.950	0.854	0.360	0.671	0.427	0.874	0.874
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	210	160	300	190	350	170	200	20	50	230
		VEL (MPH)	5.5	3.4	16.5	6.9	1.2	6.7	4.6	3.3	1.6	2.8
		SPD (MPH)	6.3	5.7	16.7	7.6	1.3	7.0	5.3	5.0	3.3	4.6
		RATIO	0.872	0.586	0.990	0.902	0.904	0.954	0.870	0.665	0.481	0.613
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	270	230	290	240	150	210	250	60	70	270
		VEL (MPH)	7.4	1.9	19.8	7.7	1.6	10.2	5.7	5.5	4.1	7.9
		SPD (MPH)	8.3	5.3	20.4	7.9	2.2	10.5	5.9	6.2	5.2	8.0
		RATIO	0.889	0.365	0.968	0.969	0.756	0.975	0.968	0.888	0.791	0.982
MERIDEN	2	60	177	122	118	116	115	104	103	103	101	99
		DATE	12/16/78	3/ 9/78	4/14/78	5/20/78	4/ 2/78	6/ 1/78	5/14/78	11/10/78	8/24/78	3/21/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	180	310	210	320	310	90	90	240	180
		VEL (MPH)	7.6	1.0	19.1	9.0	18.7	7.4	13.2	2.3	6.2	5.4
		SPD (MPH)	8.0	5.0	19.8	9.8	19.3	9.1	15.7	5.5	7.0	8.9
		RATIO	0.938	0.195	0.964	0.924	0.973	0.820	0.840	0.421	0.881	0.610
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	240	200	300	220	310	270	80	80	90	190
		VEL (MPH)	8.5	4.0	19.5	10.0	22.0	3.8	29.5	10.6	4.2	4.2
		SPD (MPH)	10.9	7.3	19.8	10.6	22.1	8.2	29.8	12.1	9.9	11.8
		RATIO	0.778	0.550	0.983	0.936	0.993	0.467	0.990	0.874	0.427	0.360
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	190	160	300	210	300	360	80	50	20	170
		VEL (MPH)	3.1	3.4	16.5	5.5	17.0	3.9	14.9	1.6	3.3	6.7
		SPD (MPH)	3.4	5.7	16.7	6.3	18.5	5.2	15.8	3.3	5.0	7.0
		RATIO	0.888	0.586	0.990	0.872	0.918	0.754	0.941	0.481	0.665	0.954
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	260	230	290	270	310	340	90	70	60	210
		VEL (MPH)	5.7	1.9	19.8	7.4	20.5	3.9	13.3	4.1	5.5	10.2
		SPD (MPH)	6.2	5.3	20.4	8.3	22.9	6.8	13.7	5.2	6.2	10.5
		RATIO	0.927	0.365	0.968	0.889	0.897	0.572	0.975	0.791	0.888	0.975
MERIDEN	5	58	134	131	131	123	116	108	97	96	91	84
		DATE	7/19/78	12/16/78	3/21/78	9/11/78	5/20/78	3/ 9/78	6/ 7/78	1/20/78	10/23/78	12/22/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	200	210	180	220	210	180	150	40	270	250
		VEL (MPH)	6.6	7.6	5.4	10.4	9.0	1.0	6.9	18.1	7.4	10.1
		SPD (MPH)	7.8	8.0	8.9	10.6	9.8	5.0	8.3	19.5	11.2	11.1
		RATIO	0.851	0.938	0.610	0.977	0.924	0.195	0.828	0.925	0.662	0.916

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	230	240	190	220	220	200	190	40	280	260
		VEL (MPH)	5.4	8.5	4.2	15.8	10.0	4.0	8.0	24.0	12.5	13.2
		SPD (MPH)	8.0	10.9	11.8	16.1	10.6	7.3	10.8	24.9	16.2	13.5
		RATIO	0.671	0.778	0.360	0.981	0.936	0.550	0.744	0.965	0.770	0.979
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	200	190	170	190	210	160	170	10	310	210
		VEL (MPH)	4.6	3.1	6.7	9.8	5.5	3.4	8.7	10.7	3.6	3.0
		SPD (MPH)	5.3	3.4	7.0	10.6	6.3	5.7	8.8	10.9	8.2	4.5
		RATIO	0.870	0.888	0.954	0.925	0.872	0.586	0.992	0.984	0.444	0.666
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	250	260	210	230	270	230	210	50	300	280
		VEL (MPH)	5.7	5.7	10.2	9.3	7.4	1.9	8.2	18.3	11.2	12.0
		SPD (MPH)	5.9	6.2	10.5	9.8	8.3	5.3	8.9	18.4	12.9	12.8
		RATIO	0.968	0.927	0.975	0.955	0.889	0.365	0.921	0.996	0.866	0.937
MIDDLETOWN	3	56	195	135	132	127	115	112	109	108	100	99
		DATE	8/24/78	7/19/78	12/16/78	3/ 9/78	3/21/78	5/20/78	4/14/78	6/ 1/78	5/14/78	7/13/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	240	200	210	180	180	210	310	310	90	220
		VEL (MPH)	6.2	6.6	7.6	1.0	5.4	9.0	19.1	7.4	13.2	9.8
		SPD (MPH)	7.0	7.8	8.0	5.0	8.9	9.8	19.8	9.1	15.7	10.5
		RATIO	0.881	0.851	0.938	0.195	0.610	0.924	0.964	0.820	0.840	0.938
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	90	230	240	200	190	220	300	270	80	230
		VEL (MPH)	4.2	5.4	8.5	4.0	4.2	10.0	19.5	3.8	29.5	6.5
		SPD (MPH)	9.9	8.0	10.9	7.3	11.8	10.6	19.8	8.2	29.8	10.8
		RATIO	0.427	0.671	0.778	0.550	0.360	0.936	0.983	0.467	0.990	0.606
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	20	200	190	160	170	210	300	360	80	210
		VEL (MPH)	3.3	4.6	3.1	3.4	6.7	5.5	16.5	3.9	14.9	6.1
		SPD (MPH)	5.0	5.3	3.4	5.7	7.0	6.3	16.7	5.2	15.8	7.3
		RATIO	0.665	0.870	0.888	0.586	0.954	0.872	0.990	0.754	0.941	0.826
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	60	250	260	230	210	270	290	340	90	240
		VEL (MPH)	5.5	5.7	5.7	1.9	10.2	7.4	19.8	3.9	13.3	5.0
		SPD (MPH)	6.2	5.9	6.2	5.3	10.5	8.3	20.4	6.8	13.7	5.5
		RATIO	0.888	0.968	0.927	0.365	0.975	0.889	0.968	0.572	0.975	0.917
MILFORD	1	32	124	98	93	86	70	69	67	66	64	63
		DATE	5/20/78	6/19/78	7/ 7/78	7/13/78	6/ 7/78	6/13/78	1/26/78	4/14/78	3/ 9/78	3/21/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	250	220	220	150	270	220	310	180	180
		VEL (MPH)	9.0	4.4	8.4	9.8	6.9	7.9	16.9	19.1	1.0	5.4
		SPD (MPH)	9.8	9.9	8.9	10.5	8.3	12.4	20.6	19.8	5.0	8.9
		RATIO	0.924	0.440	0.939	0.938	0.828	0.637	0.821	0.964	0.195	0.610
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	220	180	240	230	190	260	220	300	200	190
		VEL (MPH)	10.0	3.1	11.1	6.5	8.0	9.8	14.8	19.5	4.0	4.2
		SPD (MPH)	10.6	8.3	11.6	10.8	10.8	12.9	26.2	19.8	7.3	11.8
		RATIO	0.936	0.370	0.950	0.606	0.744	0.754	0.567	0.983	0.550	0.360
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	210	170	190	210	170	240	200	300	160	170
		VEL (MPH)	5.5	2.1	6.9	6.1	8.7	5.3	15.2	16.5	3.4	6.7
		SPD (MPH)	6.3	4.3	7.6	7.3	8.8	8.5	19.3	16.7	5.7	7.0
		RATIO	0.872	0.494	0.902	0.826	0.992	0.621	0.788	0.990	0.586	0.954

TABLE 12 (Continued)

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE	DIR (DEG)		270	260	240	240	210	250	220	290	230	210
WORCESTER MASS.	VEL (MPH)		7.4	2.1	7.7	5.0	8.2	9.0	9.4	19.8	1.9	10.2
	SPD (MPH)		8.3	6.0	7.9	5.5	8.9	10.3	15.5	20.4	5.3	10.5
	RATIO		0.889	0.346	0.969	0.917	0.921	0.866	0.602	0.968	0.365	0.975
MILFORD	2	54	105	105	104	101	98	92	87	83	79	79
		DATE	10/23/78	5/20/78	12/16/78	8/24/78	3/ 9/78	7/19/78	7/ 7/78	2/25/78	6/ 1/78	1/26/78
METEOROLOGICAL SITE	DIR (DEG)		270	210	210	240	180	200	220	240	310	220
NEWARK N. J.	VEL (MPH)		7.4	9.0	7.6	6.2	1.0	6.6	8.4	9.0	7.4	16.9
	SPD (MPH)		11.2	9.8	8.0	7.0	5.0	7.8	8.9	10.3	9.1	20.6
	RATIO		0.662	0.924	0.938	0.881	0.195	0.851	0.939	0.874	0.820	0.821
METEOROLOGICAL SITE	DIR (DEG)		280	220	240	90	200	230	240	250	270	220
BRIDGEPORT CONN.	VEL (MPH)		12.5	10.0	8.5	4.2	4.0	5.4	11.1	9.8	3.8	14.8
	SPD (MPH)		16.2	10.6	10.9	9.9	7.3	8.0	11.6	11.2	8.2	26.2
	RATIO		0.770	0.936	0.778	0.427	0.550	0.671	0.950	0.874	0.467	0.567
METEOROLOGICAL SITE	DIR (DEG)		310	210	190	20	160	200	190	230	360	200
BRADLEY FIELD CONN.	VEL (MPH)		3.6	5.5	3.1	3.3	3.4	4.6	6.9	2.8	3.9	15.2
	SPD (MPH)		8.2	6.3	3.4	5.0	5.7	5.3	7.6	4.6	5.2	19.3
	RATIO		0.444	0.872	0.888	0.665	0.586	0.870	0.902	0.613	0.754	0.788
METEOROLOGICAL SITE	DIR (DEG)		300	270	260	60	230	250	240	270	340	220
WORCESTER MASS.	VEL (MPH)		11.2	7.4	5.7	5.5	1.9	5.7	7.7	7.9	3.9	9.4
	SPD (MPH)		12.9	8.3	6.2	6.2	5.3	5.9	7.9	8.0	6.8	15.5
	RATIO		0.866	0.889	0.927	0.888	0.365	0.968	0.969	0.982	0.572	0.602
NAUGATUCK	1	58	148	116	110	109	102	98	90	87	87	86
		DATE	12/16/78	3/ 9/78	5/20/78	2/19/78	5/26/78	7/13/78	2/ 1/78	8/24/78	12/22/78	11/10/78
METEOROLOGICAL SITE	DIR (DEG)		210	180	210	330	30	220	300	240	250	90
NEWARK N. J.	VEL (MPH)		7.6	1.0	9.0	11.0	10.8	9.8	9.7	6.2	10.1	2.3
	SPD (MPH)		8.0	5.0	9.8	11.4	11.2	10.5	10.9	7.0	11.1	5.5
	RATIO		0.938	0.195	0.924	0.967	0.963	0.938	0.889	0.881	0.916	0.421
METEOROLOGICAL SITE	DIR (DEG)		240	200	220	330	60	230	300	90	260	80
BRIDGEPORT CONN.	VEL (MPH)		8.5	4.0	10.0	14.9	15.2	6.5	11.9	4.2	13.2	10.6
	SPD (MPH)		10.9	7.3	10.6	15.2	16.5	10.8	12.1	9.9	13.5	12.1
	RATIO		0.778	0.550	0.936	0.978	0.919	0.606	0.983	0.427	0.979	0.874
METEOROLOGICAL SITE	DIR (DEG)		190	160	210	320	20	210	270	20	210	50
BRADLEY FIELD CONN.	VEL (MPH)		3.1	3.4	5.5	9.5	7.5	6.1	6.7	3.3	3.0	1.6
	SPD (MPH)		3.4	5.7	6.3	10.1	8.3	7.3	7.6	5.0	4.5	3.3
	RATIO		0.888	0.586	0.872	0.941	0.904	0.826	0.882	0.665	0.666	0.481
METEOROLOGICAL SITE	DIR (DEG)		260	230	270	320	60	240	290	60	280	70
WORCESTER MASS.	VEL (MPH)		5.7	1.9	7.4	13.3	7.3	5.0	11.3	5.5	12.0	4.1
	SPD (MPH)		6.2	5.3	8.3	13.7	7.8	5.5	11.5	6.2	12.8	5.2
	RATIO		0.927	0.365	0.889	0.972	0.936	0.917	0.984	0.888	0.937	0.791

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
NEW BRITAIN	123	121	220	164	158	142	122	117	116	115	113	111
		DATE	12/ 7/78	1/ 5/78	12/ 1/78	12/16/78	3/12/78	11/ 7/78	5/23/78	2/16/78	4/ 2/78	2/22/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	70	200	30	210	320	30	170	100	320	310
		VEL (MPH)	2.9	5.2	1.4	7.6	2.9	4.5	5.3	1.3	18.7	15.2
		SPD (MPH)	5.6	5.5	8.0	8.0	6.3	8.0	7.0	5.2	19.3	15.5
		RATIO	0.521	0.950	0.177	0.938	0.452	0.561	0.752	0.250	0.973	0.980
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	80	260	250	240	350	360	230	260	310	300
		VEL (MPH)	4.8	9.5	3.5	8.5	0.7	6.6	4.6	4.1	22.0	14.7
		SPD (MPH)	6.5	10.2	8.6	10.9	7.2	9.5	8.6	6.3	22.1	15.2
		RATIO	0.743	0.928	0.405	0.778	0.093	0.694	0.537	0.652	0.993	0.965
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	20	170	180	190	30	360	210	140	300	310
		VEL (MPH)	0.3	5.9	1.9	3.1	0.7	3.8	5.6	1.1	17.0	13.1
		SPD (MPH)	2.9	6.0	5.3	3.4	4.5	5.9	6.6	3.7	18.5	13.4
		RATIO	0.108	0.983	0.351	0.888	0.165	0.652	0.848	0.283	0.918	0.982
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	290	250	270	260	300	330	280	280	310	290
		VEL (MPH)	2.9	5.8	4.7	5.7	1.5	1.0	6.5	3.7	20.5	15.5
		SPD (MPH)	3.7	6.2	5.6	6.2	6.5	5.7	7.3	4.2	22.9	16.0
		RATIO	0.784	0.943	0.833	0.927	0.236	0.172	0.889	0.889	0.897	0.971
NEW HAVEN	2	59	132	124	105	103	103	101	98	98	95	95
		DATE	5/20/78	8/24/78	6/ 1/78	12/16/78	3/ 9/78	7/13/78	3/15/78	7/19/78	10/23/78	11/10/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	240	310	210	180	220	260	200	270	90
		VEL (MPH)	9.0	6.2	7.4	7.6	1.0	9.8	11.2	6.6	7.4	2.3
		SPD (MPH)	9.8	7.0	9.1	8.0	5.0	10.5	12.6	7.8	11.2	5.5
		RATIO	0.924	0.881	0.820	0.938	0.195	0.938	0.888	0.851	0.662	0.421
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	220	90	270	240	200	230	280	230	280	80
		VEL (MPH)	10.0	4.2	3.8	8.5	4.0	6.5	15.0	5.4	12.5	10.6
		SPD (MPH)	10.6	9.9	8.2	10.9	7.3	10.8	16.0	8.0	16.2	12.1
		RATIO	0.936	0.427	0.467	0.778	0.550	0.606	0.941	0.671	0.770	0.874
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	210	20	360	190	160	210	280	200	310	50
		VEL (MPH)	5.5	3.3	3.9	3.1	3.4	6.1	6.5	4.6	3.6	1.6
		SPD (MPH)	6.3	5.0	5.2	3.4	5.7	7.3	8.5	5.3	8.2	3.3
		RATIO	0.872	0.665	0.754	0.888	0.586	0.826	0.772	0.870	0.444	0.481
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	270	60	340	260	230	240	280	250	300	70
		VEL (MPH)	7.4	5.5	3.9	5.7	1.9	5.0	15.6	5.7	11.2	4.1
		SPD (MPH)	8.3	6.2	6.8	6.2	5.3	5.5	15.8	5.9	12.9	5.2
		RATIO	0.889	0.888	0.572	0.927	0.365	0.917	0.988	0.968	0.866	0.791
NEW HAVEN	123	122	229	212	197	144	143	138	136	133	132	131
		DATE	12/ 7/78	1/ 5/78	12/ 1/78	1/11/78	2/28/78	5/20/78	12/13/78	3/12/78	7/10/78	3/15/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	70	200	30	270	280	210	230	320	240	260
		VEL (MPH)	2.9	5.2	1.4	14.0	6.8	9.0	10.6	2.9	9.0	11.2
		SPD (MPH)	5.6	5.5	8.0	15.4	7.3	9.8	12.8	6.3	10.1	12.6
		RATIO	0.521	0.950	0.177	0.911	0.926	0.924	0.826	0.452	0.894	0.888

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	80	260	250	280	280	220	240	350	220	280
		VEL (MPH)	4.8	9.5	3.5	14.7	7.2	10.0	12.4	0.7	6.9	15.0
		SPD (MPH)	6.5	10.2	8.6	15.4	9.3	10.6	13.7	7.2	9.1	16.0
		RATIO	0.743	0.928	0.405	0.959	0.770	0.936	0.907	0.093	0.759	0.941
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	20	170	180	270	310	210	180	30	230	280
		VEL (MPH)	0.3	5.9	1.9	7.5	5.2	5.5	6.1	0.7	3.8	6.5
		SPD (MPH)	2.9	6.0	5.3	9.6	5.7	6.3	7.0	4.5	6.9	8.5
		RATIO	0.108	0.983	0.351	0.784	0.911	0.872	0.871	0.165	0.554	0.772
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	290	250	270	280	300	270	230	300	270	280
		VEL (MPH)	2.9	5.8	4.7	15.5	10.3	7.4	8.3	1.5	9.2	15.6
		SPD (MPH)	3.7	6.2	5.6	15.8	10.5	8.3	8.6	6.5	9.8	15.8
		RATIO	0.784	0.943	0.833	0.980	0.985	0.889	0.958	0.236	0.945	0.988
NORWALK	5	84	260	162	129	127	122	121	115	114	113	110
		DATE	5/14/78	7/13/78	12/16/78	3/21/78	8/ 9/78	12/ 1/78	5/20/78	11/ 7/78	10/23/78	8/24/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	90	220	210	180	220	30	210	30	270	240
		VEL (MPH)	13.2	9.8	7.6	5.4	9.3	1.4	9.0	4.5	7.4	6.2
		SPD (MPH)	15.7	10.5	8.0	8.9	9.6	8.0	9.8	8.0	11.2	7.0
		RATIO	0.840	0.938	0.938	0.610	0.965	0.177	0.924	0.561	0.662	0.881
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	80	230	240	190	250	250	220	360	280	90
		VEL (MPH)	29.5	6.5	8.5	4.2	10.8	3.5	10.0	6.6	12.5	4.2
		SPD (MPH)	29.8	10.8	10.9	11.8	11.1	8.6	10.6	9.5	16.2	9.9
		RATIO	0.990	0.606	0.778	0.360	0.975	0.405	0.936	0.694	0.770	0.427
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	80	210	190	170	210	180	210	360	310	20
		VEL (MPH)	14.9	6.1	3.1	6.7	7.3	1.9	5.5	3.8	3.6	3.3
		SPD (MPH)	15.8	7.3	3.4	7.0	8.0	5.3	6.3	5.9	8.2	5.0
		RATIO	0.941	0.826	0.888	0.954	0.901	0.351	0.872	0.652	0.444	0.665
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	90	240	260	210	250	270	270	330	300	60
		VEL (MPH)	13.3	5.0	5.7	10.2	9.8	4.7	7.4	1.0	11.2	5.5
		SPD (MPH)	13.7	5.5	6.2	10.5	10.1	5.6	8.3	5.7	12.9	6.2
		RATIO	0.975	0.917	0.927	0.975	0.972	0.833	0.889	0.172	0.866	0.888
NORWICH	1	6C	91	91	77	76	72	71	71	68	67	65
		DATE	12/16/78	5/20/78	3/ 9/78	3/15/78	1/26/78	10/23/78	7/19/78	2/25/78	6/ 1/78	2/19/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	210	180	260	220	270	200	240	310	330
		VEL (MPH)	7.6	9.0	1.0	11.2	16.9	7.4	6.6	9.0	7.4	11.0
		SPD (MPH)	8.0	9.8	5.0	12.6	20.6	11.2	7.8	10.3	9.1	11.4
		RATIO	0.938	0.924	0.195	0.888	0.821	0.662	0.851	0.874	0.820	0.967
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	240	220	200	280	220	280	230	250	270	330
		VEL (MPH)	8.5	10.0	4.0	15.0	14.8	12.5	5.4	9.8	3.8	14.9
		SPD (MPH)	10.9	10.6	7.3	16.0	26.2	16.2	8.0	11.2	8.2	15.2
		RATIO	0.778	0.936	0.550	0.941	0.567	0.770	0.671	0.874	0.467	0.978
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	190	210	160	280	200	310	200	230	360	320
		VEL (MPH)	3.1	5.5	3.4	6.5	15.2	3.6	4.6	2.8	3.9	9.5
		SPD (MPH)	3.4	6.3	5.7	8.5	19.3	8.2	5.3	4.6	5.2	10.1
		RATIO	0.888	0.872	0.586	0.772	0.788	0.444	0.870	0.613	0.754	0.941

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)		260	270	230	280	220	300	250	270	340	320
	VEL (MPH)		5.7	7.4	1.9	15.6	9.4	11.2	5.7	7.9	3.9	13.3
	SPD (MPH)		6.2	8.3	5.3	15.8	15.5	12.9	5.9	8.0	6.8	13.7
	RATIO		0.927	0.889	0.365	0.988	0.602	0.866	0.968	0.982	0.572	0.972
OLD SAYBROOK	1	61	150	105	103	102	94	92	85	84	84	83
		DATE	1/26/78	3/15/78	5/20/78	3/ 9/78	6/ 1/78	7/19/78	2/19/78	7/ 7/78	10/23/78	2/13/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)		220	260	210	180	310	200	330	220	270	240
	VEL (MPH)		16.9	11.2	9.0	1.0	7.4	6.6	11.0	8.4	7.4	2.5
	SPD (MPH)		20.6	12.6	9.8	5.0	9.1	7.8	11.4	8.9	11.2	5.3
	RATIO		0.821	0.888	0.924	0.195	0.820	0.851	0.967	0.939	0.662	0.465
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)		220	280	220	200	270	230	330	240	280	230
	VEL (MPH)		14.8	15.0	10.0	4.0	3.8	5.4	14.9	11.1	12.5	3.1
	SPD (MPH)		26.2	16.0	10.6	7.3	8.2	8.0	15.2	11.6	16.2	7.6
	RATIO		0.567	0.941	0.936	0.550	0.467	0.671	0.978	0.950	0.770	0.411
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)		200	280	210	160	360	200	320	190	310	310
	VEL (MPH)		15.2	6.5	5.5	3.4	3.9	4.6	9.5	6.9	3.6	4.4
	SPD (MPH)		19.3	8.5	6.3	5.7	5.2	5.3	10.1	7.6	8.2	5.5
	RATIO		0.788	0.772	0.872	0.586	0.754	0.870	0.941	0.902	0.444	0.803
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)		220	280	270	230	340	250	320	240	300	300
	VEL (MPH)		9.4	15.6	7.4	1.9	3.9	5.7	13.3	7.7	11.2	6.1
	SPD (MPH)		15.5	15.8	8.3	5.3	6.8	5.9	13.7	7.9	12.9	7.5
	RATIO		0.602	0.988	0.889	0.365	0.572	0.968	0.972	0.969	0.866	0.812
STAMFORD	7	55	150	145	138	130	127	124	105	104	103	102
		DATE	8/24/78	5/20/78	10/23/78	9/29/78	7/19/78	6/19/78	3/21/78	12/16/78	7/ 7/78	4/14/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)		240	210	270	30	200	250	180	210	220	310
	VEL (MPH)		6.2	9.0	7.4	2.1	6.6	4.4	5.4	7.6	8.4	19.1
	SPD (MPH)		7.0	9.8	11.2	6.5	7.8	9.9	8.9	8.0	8.9	19.8
	RATIO		0.881	0.924	0.662	0.318	0.851	0.440	0.610	0.938	0.939	0.964
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)		90	220	280	230	230	180	190	240	240	300
	VEL (MPH)		4.2	10.0	12.5	3.2	5.4	3.1	4.2	8.5	11.1	19.5
	SPD (MPH)		9.9	10.6	16.2	7.8	8.0	8.3	11.8	10.9	11.6	19.8
	RATIO		0.427	0.936	0.770	0.408	0.671	0.370	0.360	0.778	0.950	0.983
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)		20	210	310	330	200	170	170	190	190	300
	VEL (MPH)		3.3	5.5	3.6	1.6	4.6	2.1	6.7	3.1	6.9	16.5
	SPD (MPH)		5.0	6.3	8.2	3.9	5.3	4.3	7.0	3.4	7.6	16.7
	RATIO		0.665	0.872	0.444	0.413	0.870	0.494	0.954	0.888	0.902	0.990
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)		60	270	300	310	250	260	210	260	240	290
	VEL (MPH)		5.5	7.4	11.2	6.9	5.7	2.1	10.2	5.7	7.7	19.8
	SPD (MPH)		6.2	8.3	12.9	7.8	5.9	6.0	10.5	6.2	7.9	20.4
	RATIO		0.888	0.889	0.866	0.891	0.968	0.346	0.975	0.927	0.969	0.968

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
STAMFORD	123	60		152	130	128	109	109	104	103	97	90	90
			DATE	5/20/78	3/21/78	12/16/78	10/23/78	4/14/78	7/ 7/78	8/24/78	3/ 9/78	6/19/78	5/14/78
METEOROLOGICAL SITE			DIR (DEG)	210	180	210	270	310	220	240	180	250	90
NEWARK N. J.			VEL (MPH)	9.0	5.4	7.6	7.4	19.1	8.4	6.2	1.0	4.4	13.2
			SPD (MPH)	9.8	8.9	8.0	11.2	19.8	8.9	7.0	5.0	9.9	15.7
			RATIO	0.924	0.610	0.938	0.662	0.964	0.939	0.881	0.195	0.440	0.840
METEOROLOGICAL SITE			DIR (DEG)	220	190	240	280	300	240	90	200	180	80
BRIDGEPORT CONN.			VEL (MPH)	10.0	4.2	8.5	12.5	19.5	11.1	4.2	4.0	3.1	29.5
			SPD (MPH)	10.6	11.8	10.9	16.2	19.8	11.6	9.9	7.3	8.3	29.8
			RATIO	0.936	0.360	0.778	0.770	0.983	0.950	0.427	0.550	0.370	0.990
METEOROLOGICAL SITE			DIR (DEG)	210	170	190	310	300	190	20	160	170	80
BRADLEY FIELD CONN.			VEL (MPH)	5.5	6.7	3.1	3.6	16.5	6.9	3.3	3.4	2.1	14.9
			SPD (MPH)	6.3	7.0	3.4	8.2	16.7	7.6	5.0	5.7	4.3	15.8
			RATIO	0.872	0.954	0.888	0.444	0.990	0.902	0.665	0.586	0.494	0.941
METEOROLOGICAL SITE			DIR (DEG)	270	210	260	300	290	240	60	230	260	90
WORCESTER MASS.			VEL (MPH)	7.4	10.2	5.7	11.2	19.8	7.7	5.5	1.9	2.1	13.3
			SPD (MPH)	8.3	10.5	6.2	12.9	20.4	7.9	6.2	5.3	6.0	13.7
			RATIO	0.889	0.975	0.927	0.866	0.968	0.969	0.888	0.365	0.346	0.975
STRATFORD	1	21		181	135	133	103	101	84	82	74	70	61
			DATE	5/26/78	6/ 7/78	1/ 8/78	5/20/78	1/ 2/78	3/ 9/78	5/ 2/78	2/25/78	6/13/78	4/ 8/78
METEOROLOGICAL SITE			DIR (DEG)	30	150	130	210	280	180	310	240	270	310
NEWARK N. J.			VEL (MPH)	10.8	6.9	8.4	9.0	10.7	1.0	13.5	9.0	7.9	18.3
			SPD (MPH)	11.2	8.3	10.2	9.8	12.6	5.0	14.1	10.3	12.4	18.8
			RATIO	0.963	0.828	0.822	0.924	0.846	0.195	0.958	0.874	0.637	0.973
METEOROLOGICAL SITE			DIR (DEG)	60	190	100	220	310	200	330	250	260	300
BRIDGEPORT CONN.			VEL (MPH)	15.2	8.0	14.7	10.0	10.2	4.0	12.2	9.8	9.8	16.3
			SPD (MPH)	16.5	10.8	18.1	10.6	13.5	7.3	12.6	11.2	12.9	17.4
			RATIO	0.919	0.744	0.812	0.936	0.757	0.550	0.961	0.874	0.754	0.936
METEOROLOGICAL SITE			DIR (DEG)	20	170	320	210	310	160	300	230	240	310
BRADLEY FIELD CONN.			VEL (MPH)	7.5	8.7	1.7	5.5	4.9	3.4	11.1	2.8	5.3	13.5
			SPD (MPH)	8.3	8.8	3.4	6.3	6.9	5.7	11.5	4.6	8.5	13.8
			RATIO	0.904	0.992	0.499	0.872	0.703	0.586	0.961	0.613	0.621	0.977
METEOROLOGICAL SITE			DIR (DEG)	60	210	110	270	300	230	300	270	250	300
WORCESTER MASS.			VEL (MPH)	7.3	8.2	4.1	7.4	7.0	1.9	11.5	7.9	9.0	15.2
			SPD (MPH)	7.8	8.9	5.6	8.3	10.3	5.3	13.1	8.0	10.3	16.0
			RATIO	0.936	0.921	0.732	0.889	0.676	0.365	0.881	0.982	0.866	0.950
STRATFORD	5	61		122	119	119	111	104	101	95	92	91	91
			DATE	5/20/78	12/16/78	3/15/78	3/ 9/78	3/21/78	10/23/78	2/25/78	1/26/78	2/19/78	7/19/78
METEOROLOGICAL SITE			DIR (DEG)	210	210	260	180	180	270	240	220	330	200
NEWARK N. J.			VEL (MPH)	9.0	7.6	11.2	1.0	5.4	7.4	9.0	16.9	11.0	6.6
			SPD (MPH)	9.8	8.0	12.6	5.0	8.9	11.2	10.3	20.6	11.4	7.8
			RATIO	0.924	0.938	0.888	0.195	0.610	0.662	0.874	0.821	0.967	0.851

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	220	240	280	200	190	280	250	220	330	230
		VEL (MPH)	10.0	8.5	15.0	4.0	4.2	12.5	9.8	14.8	14.9	5.4
		SPD (MPH)	10.6	10.9	16.0	7.3	11.8	16.2	11.2	26.2	15.2	8.0
		RATIO	0.936	0.778	0.941	0.550	0.360	0.770	0.874	0.567	0.978	0.671
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	210	190	280	160	170	310	230	200	320	200
		VEL (MPH)	5.5	3.1	6.5	3.4	6.7	3.6	2.8	15.2	9.5	4.6
		SPD (MPH)	6.3	3.4	8.5	5.7	7.0	8.2	4.6	19.3	10.1	5.3
		RATIO	0.872	0.888	0.772	0.586	0.954	0.444	0.613	0.788	0.941	0.870
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	270	260	280	230	210	300	270	220	320	250
		VEL (MPH)	7.4	5.7	15.6	1.9	10.2	11.2	7.9	9.4	13.3	5.7
		SPD (MPH)	8.3	6.2	15.8	5.3	10.5	12.9	8.0	15.5	13.7	5.9
		RATIO	0.889	0.927	0.988	0.365	0.975	0.866	0.982	0.602	0.972	0.968
TORRINGTON	123	120	220	217	200	174	171	161	160	141	138	136
		DATE	4/ 2/78	3/18/78	4/14/78	12/ 7/78	12/ 1/78	3/30/78	12/16/78	3/24/78	4/11/78	12/22/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	320	280	310	70	30	330	210	360	120	250
		VEL (MPH)	18.7	7.4	19.1	2.9	1.4	12.4	7.6	12.5	3.5	10.1
		SPD (MPH)	19.3	10.1	19.8	5.6	8.0	12.6	8.0	12.9	6.8	11.1
		RATIO	0.973	0.737	0.964	0.521	0.177	0.978	0.938	0.969	0.515	0.916
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	310	300	300	80	250	320	240	340	70	260
		VEL (MPH)	22.0	10.6	19.5	4.8	3.5	10.0	8.5	11.5	12.1	13.2
		SPD (MPH)	22.1	12.2	19.8	6.5	8.6	10.8	10.9	12.5	14.1	13.5
		RATIO	0.993	0.865	0.983	0.743	0.405	0.928	0.778	0.917	0.857	0.979
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	300	290	300	20	180	310	190	310	150	210
		VEL (MPH)	17.0	7.7	16.5	0.3	1.9	6.3	3.1	7.2	4.1	3.0
		SPD (MPH)	18.5	9.2	16.7	2.9	5.3	6.5	3.4	7.8	5.9	4.5
		RATIO	0.918	0.835	0.990	0.108	0.351	0.977	0.888	0.922	0.697	0.666
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	310	280	290	290	270	310	260	320	130	280
		VEL (MPH)	20.5	9.1	19.8	2.9	4.7	7.7	5.7	8.1	3.6	12.0
		SPD (MPH)	22.9	9.8	20.4	3.7	5.6	8.2	6.2	9.1	6.9	12.8
		RATIO	0.897	0.929	0.968	0.784	0.833	0.943	0.927	0.897	0.519	0.937
VOLUNTOWN	1	119	73	71	69	68	64	58	57	55	55	54
		DATE	6/ 1/78	5/20/78	7/22/78	8/ 9/78	6/10/78	9/ 2/78	5/26/78	11/ 7/78	6/28/78	3/12/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	310	210	280	220	280	150	30	30	300	320
		VEL (MPH)	7.4	9.0	7.0	9.3	5.7	2.8	10.8	4.5	11.0	2.9
		SPD (MPH)	9.1	9.8	9.1	9.6	8.0	5.5	11.2	8.0	12.9	6.3
		RATIO	0.820	0.924	0.778	0.965	0.703	0.520	0.963	0.561	0.848	0.452
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	270	220	250	250	270	220	60	360	300	350
		VEL (MPH)	3.8	10.0	9.4	10.8	5.1	3.5	15.2	6.6	9.2	0.7
		SPD (MPH)	8.2	10.6	10.2	11.1	9.3	9.1	16.5	9.5	10.9	7.2
		RATIO	0.467	0.936	0.922	0.975	0.542	0.390	0.919	0.694	0.845	0.093
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	360	210	260	210	280	210	20	360	300	30
		VEL (MPH)	3.9	5.5	3.7	7.3	3.7	1.9	7.5	3.8	7.0	0.7
		SPD (MPH)	5.2	6.3	6.0	8.0	4.6	5.7	8.3	5.9	10.1	4.5
		RATIO	0.754	0.872	0.617	0.901	0.802	0.334	0.904	0.652	0.699	0.165

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

POLLUTANT--TOTAL SUSPENDED PARTICULATES UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE	DIR (DEG)		340	270	280	250	310	250	60	330	290	300
WORCESTER MASS.	VEL (MPH)		3.9	7.4	8.5	9.8	6.4	3.6	7.3	1.0	11.2	1.5
	SPD (MPH)		6.8	8.3	8.8	10.1	6.9	5.5	7.8	5.7	12.1	6.5
	RATIO		0.572	0.889	0.969	0.972	0.934	0.667	0.936	0.172	0.927	0.236
WALLINGFORD	1	61	178	136	136	128	127	119	118	115	106	104
		DATE	12/16/78	12/10/78	3/ 9/78	12/22/78	2/25/78	3/21/78	3/15/78	5/20/78	8/24/78	7/19/78
METEOROLOGICAL SITE	DIR (DEG)		210	290	180	250	240	180	260	210	240	200
NEWARK N. J.	VEL (MPH)		7.6	17.0	1.0	10.1	9.0	5.4	11.2	9.0	6.2	6.6
	SPD (MPH)		8.0	17.7	5.0	11.1	10.3	8.9	12.6	9.8	7.0	7.8
	RATIO		0.938	0.960	0.195	0.916	0.874	0.610	0.888	0.924	0.881	0.851
METEOROLOGICAL SITE	DIR (DEG)		240	300	200	260	250	190	280	220	90	230
BRIDGEPORT CONN.	VEL (MPH)		8.5	19.6	4.0	13.2	9.8	4.2	15.0	10.0	4.2	5.4
	SPD (MPH)		10.9	20.1	7.3	13.5	11.2	11.8	16.0	10.6	9.9	8.0
	RATIO		0.778	0.973	0.550	0.979	0.874	0.360	0.941	0.936	0.427	0.671
METEOROLOGICAL SITE	DIR (DEG)		190	290	160	210	230	170	280	210	20	200
BRADLEY FIELD CONN.	VEL (MPH)		3.1	7.7	3.4	3.0	2.8	6.7	6.5	5.5	3.3	4.6
	SPD (MPH)		3.4	8.6	5.7	4.5	4.6	7.0	8.5	6.3	5.0	5.3
	RATIO		0.888	0.887	0.586	0.666	0.613	0.954	0.772	0.872	0.665	0.870
METEOROLOGICAL SITE	DIR (DEG)		260	290	230	280	270	210	280	270	60	250
WORCESTER MASS.	VEL (MPH)		5.7	12.6	1.9	12.0	7.9	10.2	15.6	7.4	5.5	5.7
	SPD (MPH)		6.2	13.2	5.3	12.8	8.0	10.5	15.8	8.3	6.2	5.9
	RATIO		0.927	0.955	0.365	0.937	0.982	0.975	0.988	0.889	0.888	0.968
WATERBURY	2	60	416	237	170	150	145	130	130	103	100	100
		DATE	11/10/78	11/ 4/78	10/23/78	12/16/78	8/24/78	10/17/78	6/ 1/78	5/20/78	6/ 7/78	3/ 9/78
METEOROLOGICAL SITE	DIR (DEG)		90	20	270	210	240	30	310	210	150	180
NEWARK N. J.	VEL (MPH)		2.3	8.0	7.4	7.6	6.2	10.3	7.4	9.0	6.9	1.0
	SPD (MPH)		5.5	8.2	11.2	8.0	7.0	10.3	9.1	9.8	8.3	5.0
	RATIO		0.421	0.973	0.662	0.938	0.881	0.993	0.820	0.924	0.828	0.195
METEOROLOGICAL SITE	DIR (DEG)		80	40	280	240	90	20	270	220	190	200
BRIDGEPORT CONN.	VEL (MPH)		10.6	6.9	12.5	8.5	4.2	12.4	3.8	10.0	8.0	4.0
	SPD (MPH)		12.1	8.0	16.2	10.9	9.9	14.1	8.2	10.6	10.8	7.3
	RATIO		0.874	0.854	0.770	0.778	0.427	0.883	0.467	0.936	0.744	0.550
METEOROLOGICAL SITE	DIR (DEG)		50	350	310	190	20	10	360	210	170	160
BRADLEY FIELD CONN.	VEL (MPH)		1.6	1.2	3.6	3.1	3.3	5.2	3.9	5.5	8.7	3.4
	SPD (MPH)		3.3	1.3	8.2	3.4	5.0	5.5	5.2	6.3	8.8	5.7
	RATIO		0.481	0.904	0.444	0.888	0.665	0.947	0.754	0.872	0.992	0.586
METEOROLOGICAL SITE	DIR (DEG)		70	150	300	260	60	20	340	270	210	230
WORCESTER MASS.	VEL (MPH)		4.1	1.6	11.2	5.7	5.5	4.4	3.9	7.4	8.2	1.9
	SPD (MPH)		5.2	2.2	12.9	6.2	6.2	4.7	6.8	8.3	8.9	5.3
	RATIO		0.791	0.756	0.866	0.927	0.888	0.931	0.572	0.889	0.921	0.365

TABLE 12 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES

TEN HIGHEST 24 HR AVG TSP DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
WATERBURY	123	122	259	249	245	244	219	206	201	197	197	188
		DATE	1/ 5/78	12/16/78	3/18/78	12/ 1/78	12/ 4/78	1/11/78	2/22/78	4/ 2/78	12/ 7/78	12/13/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	200	210	280	30	220	270	310	320	70	230
		VEL (MPH)	5.2	7.6	7.4	1.4	12.8	14.0	15.2	18.7	2.9	10.6
		SPD (MPH)	5.5	8.0	10.1	8.0	14.4	15.4	15.5	19.3	5.6	12.8
		RATIO	0.950	0.938	0.737	0.177	0.889	0.911	0.980	0.973	0.521	0.826
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	260	240	300	250	230	280	300	310	80	240
		VEL (MPH)	9.5	8.5	10.6	3.5	8.6	14.7	14.7	22.0	4.8	12.4
		SPD (MPH)	10.2	10.9	12.2	8.6	11.4	15.4	15.2	22.1	6.5	13.7
		RATIO	0.928	0.778	0.865	0.405	0.761	0.959	0.965	0.993	0.743	0.907
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	170	190	290	180	260	270	310	300	20	180
		VEL (MPH)	5.9	3.1	7.7	1.9	2.6	7.5	13.1	17.0	0.3	6.1
		SPD (MPH)	6.0	3.4	9.2	5.3	4.7	9.6	13.4	18.5	2.9	7.0
		RATIO	0.983	0.888	0.835	0.351	0.541	0.784	0.982	0.918	0.108	0.871
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	250	260	280	270	260	280	290	310	290	230
		VEL (MPH)	5.8	5.7	9.1	4.7	6.6	15.5	15.5	20.5	2.9	8.3
		SPD (MPH)	6.2	6.2	9.8	5.6	9.2	15.8	16.0	22.9	3.7	8.6
		RATIO	0.943	0.927	0.929	0.833	0.722	0.980	0.971	0.897	0.784	0.958
WATERFORD	1	61	81	74	71	67	66	62	60	58	58	54
		DATE	5/20/78	7/19/78	10/23/78	6/ 1/78	6/19/78	6/13/78	7/ 7/78	7/13/78	7/ 1/78	2/ 7/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	200	270	310	250	270	220	220	320	340
		VEL (MPH)	9.0	6.6	7.4	7.4	4.4	7.9	8.4	9.8	11.6	18.0
		SPD (MPH)	9.8	7.8	11.2	9.1	9.9	12.4	8.9	10.5	12.1	19.5
		RATIO	0.924	0.851	0.662	0.820	0.440	0.637	0.939	0.938	0.961	0.920
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	220	230	280	270	180	260	240	230	320	350
		VEL (MPH)	10.0	5.4	12.5	3.8	3.1	9.8	11.1	6.5	11.4	24.1
		SPD (MPH)	10.6	8.0	16.2	8.2	8.3	12.9	11.6	10.8	12.6	26.6
		RATIO	0.936	0.671	0.770	0.467	0.370	0.754	0.950	0.606	0.905	0.905
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	210	200	310	360	170	240	190	210	310	350
		VEL (MPH)	5.5	4.6	3.6	3.9	2.1	5.3	6.9	6.1	6.9	18.1
		SPD (MPH)	6.3	5.3	8.2	5.2	4.3	8.5	7.6	7.3	7.5	18.7
		RATIO	0.872	0.870	0.444	0.754	0.494	0.621	0.902	0.826	0.922	0.966
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	270	250	300	340	260	250	240	240	310	20
		VEL (MPH)	7.4	5.7	11.2	3.9	2.1	9.0	7.7	5.0	9.5	19.3
		SPD (MPH)	8.3	5.9	12.9	6.8	6.0	10.3	7.9	5.5	9.8	20.0
		RATIO	0.889	0.968	0.866	0.572	0.346	0.866	0.969	0.917	0.976	0.967

III. SULFUR DIOXIDE

Conclusions:

None of the air quality standards for sulfur dioxide (SO_2) were exceeded in Connecticut in 1978. Measured concentrations were substantially below the 80 $\mu g/m^3$ primary annual standard, the 365 $\mu g/m^3$ primary 24-hour standard, and the 1300 $\mu g/m^3$ secondary 3-hour standard. Measured concentrations were closer to, but also below, the 60 $\mu g/m^3$ secondary annual standard and the 260 $\mu g/m^3$ secondary 24-hour standard.

According to the results from the Wilcoxon Test (which made use of sulfation rate data) there was a significant improvement in SO_2 levels from 1977 to 1978 (see Table 3). This improvement was not evident in the data from DEP's monitors that measure SO_2 directly, but this is probably due to the fact that there was insufficient data available in 1977 to compare with 1978. As with TSP, the general improvement in SO_2 levels (shown by the Wilcoxon Test) was probably caused by the decreased frequency of southwest winds from 1977 to 1978 and the associated reduction in the transport of SO_2 from the southwest.

The continued attainment of the SO_2 standards is primarily attributable to Connecticut's regulation which restricts the sulfur content in fuel to .5%.

Method of Measurement:

The DEP Air Monitoring Unit uses several types of instruments to continuously measure sulfur dioxide levels. The coulometric method is employed by Philips instruments; the flame photometric method is used by Bendix instruments; and the pulsed fluorescence method is used by Teco instruments.

Philips monitoring instruments were used at the following sites in 1978:

Bridgeport 001
Greenwich 004
Hartford 123 (1 month)
Meriden 001
Milford 002
Stamford 123

Bendix monitoring instruments were used at the following sites in 1978:

Bridgeport 123 (2 months)
Danbury 123 (3 months)
Derby 123 (2 months)
Groton 123 (2 months)
Hartford 123 (2 months)
New Britain 123 (4 months)
New Haven 123 (4 months)
Waterbury 123 (2 months)

Teco instruments were used at the following sites in 1978:

Bridgeport 123 (10 months)
Danbury 123 (9 months)
Derby 123 (7 months)
Enfield 123
Groton 123 (10 months)
Hartford 123 (9 months)
Middletown 123
New Britain 123 (8 months)
New Haven 123 (8 months)
Waterbury 123 (10 months)

Discussion of Data:

Monitoring Network - A total of 15 continuous SO_2 monitors recorded data in 14 towns in 1978 (see Figure 5). Ten of these sites telemetered the data to the central computer in Hartford on a real-time basis. Table 13 shows that sufficient data for valid annual means (at least 75% of the possible sampling hours) were recorded at 10 sites. The averages for the remainder of the sites represent 50-75% of the possible sampling hours.

Annual Averages - SO_2 levels were below the annual standards at all sites in 1978 (see Table 13). The annual average SO_2 levels decreased from 1977 to 1978 at 6 of the 15 SO_2 monitoring sites. The decrease at two of these sites exceeded 5 $\mu g/m^3$. On the other hand, annual average SO_2 levels increased from 1977 to 1978 at 8 monitoring sites with two of the increases exceeding 5 $\mu g/m^3$. The annual average SO_2 level remained the same at one site (Greenwich, site 004). These changes do not indicate any significant upward or downward trend since many of the annual averages (especially in 1977) were based on incomplete data.

Statistical Projections - A statistical analysis of the sulfur dioxide data is presented in Table 14. This analysis provides information to compensate for the loss of data caused by instrumentation problems. The format of Table 14 is the same as that used to present the total suspended particulate annual averages. However, Table 14 gives the annual arithmetic mean of the valid 24-hour SO_2 averages to allow direct comparison to the annual SO_2 standards. The 95% limits and standard deviations are also arithmetic calculations. Since the distribution of SO_2 data tends to be lognormal, the geometric means and standard deviations were used to predict the number of days the 24-hour standards of 260 $\mu g/m^3$ and 365 $\mu g/m^3$ would be exceeded at each site if sampling had been conducted every day.

It is important to note that these statistical tests require random data to be valid. This means that an equal number of samples must be collected in each season of the year and on each day of the week. The distribution and quantity of SO_2 data were far better in 1978 than in 1977 although there were some sites with gaps in the data during the winter months. Nonetheless, the data indicate, with reasonable assurance, that there were no violations of the secondary or primary SO_2 standards in Connecticut. The statistical prediction of one day exceeding the secondary 24-hour SO_2 standard (260 $\mu g/m^3$) at Hartford site 123 indicates that an increase in SO_2 emissions there might jeopardize the attainment of this standard. (Two days over the standard are required for the standard to be violated.)

24-Hour Averages - In 1978, no sites recorded SO_2 levels in excess of the 24-hour standards (see Table 15). The second high 24-hour concentrations increased from 1977 to 1978 at 14 of the 15 SO_2 monitoring sites. The increase exceeded 25 $\mu g/m^3$ at 9 of these sites. The second high 24-hour concentration decreased at only 1 site and that decrease was less than 25 $\mu g/m^3$. The increases noted above are largely attributable to the additional amount of data available in 1978 compared to 1977.

Although there has been some ambiguity in the past, the current EPA policy bases compliance with the primary 24-hour SO_2 standard on non-overlapping running averages. Running averages are averages computed for the 24-hour periods ending at every hour. Assessment of compliance is based on the value of the 2nd highest of the two highest non-overlapping 24-hour periods in the year. (Note that the highest 24-hour period in the year may overlap both of these two periods.) Thus, compliance assessment is based on the magnitude of the exposure encountered within any two distinct 24-hour periods and not on a calendar day exposure basis. However, there is some contention that compliance assessment for 24-hour SO_2 standards should be based on calendar day averages only. Table 16 contains the maximum 24-hour SO_2 readings from both the running averages and the calendar day averages for comparison. The maximum calendar day readings are roughly 10% lower than the maximum readings from the running averages.

3-Hour Averages - Measured SO_2 concentrations were far below the 3-hour SO_2 standard at all DEP monitoring sites in Connecticut in 1978 (see Table 17).

10-High Days with Wind Data - Table 18 lists the 10 highest 24-hour calendar day SO_2 averages (with the dates of occurrence) for each SO_2 site in Connecticut for 1978. This table also shows the average wind conditions which occurred on each of these dates. (The origin and use of these wind data are described in the discussion of Table 12 in the TSP section.)

Once again, as with TSP, most of the highest SO_2 days occur with southwesterly winds and most of those days have persistent winds. This relationship could be caused, at least in part, by SO_2 transport; but this transport is limited by the chemical instability of SO_2. In the atmosphere, SO_2 reacts with other gases to produce, among other things, sulfate particulates; so SO_2 is not likely to be transported long distances. Previous studies conducted by the DEP have shown that, during periods of southwest winds, levels of SO_2 in Connecticut decrease with distance from the New York City Metropolitan area. This relationship tends to support the transport hypothesis. On the other hand, these studies also revealed that certain meteorological parameters (most notably mixing height and wind speed) are more adverse on days with southwest winds than on other days.

Using the data in Table 18, a tally was made, by date, of the frequency of occurrence of high levels. If a given date recurred at 5 or more sites in this tally, the SO_2 levels and associated meteorological conditions were investigated further (there were 12 such days). A close look at these 12 days revealed three important points. First, all 12 days occurred during the winter months. This can be attributed to more fuel being burned during the cold weather. Second, 5 of the 12 days had persistent southwest winds for that calendar day. Third, the other 7 days had persistent southwest winds for at least the 24 hours prior to the highest *running* 24-hour average on that date.

In summary, high levels of SO_2 in Connecticut seem to be caused by a number of interrelated factors. First, Connecticut experiences its highest SO_2 levels during the winter months, when there is increased fuel combustion. Second, the New York City Metropolitan area, a large emission source, is located to the southwest of Connecticut. Third, southwest winds occur relatively often in comparison to other wind directions. Fourth, adverse meteorological conditions are associated with southwest winds. The net effect is that during the winter months when a persistent southwest wind occurs, the air will pick up increased amounts of SO_2 over the New York City area and transport this SO_2 into Connecticut, where the SO_2 levels will remain high because the relatively low mixing heights associated with the southwest wind will not allow for much dilution. The levels of transported SO_2 eventually decline with increasing distance from New York City as the SO_2 is dispersed and as it slowly reacts to produce sulfate particulates.

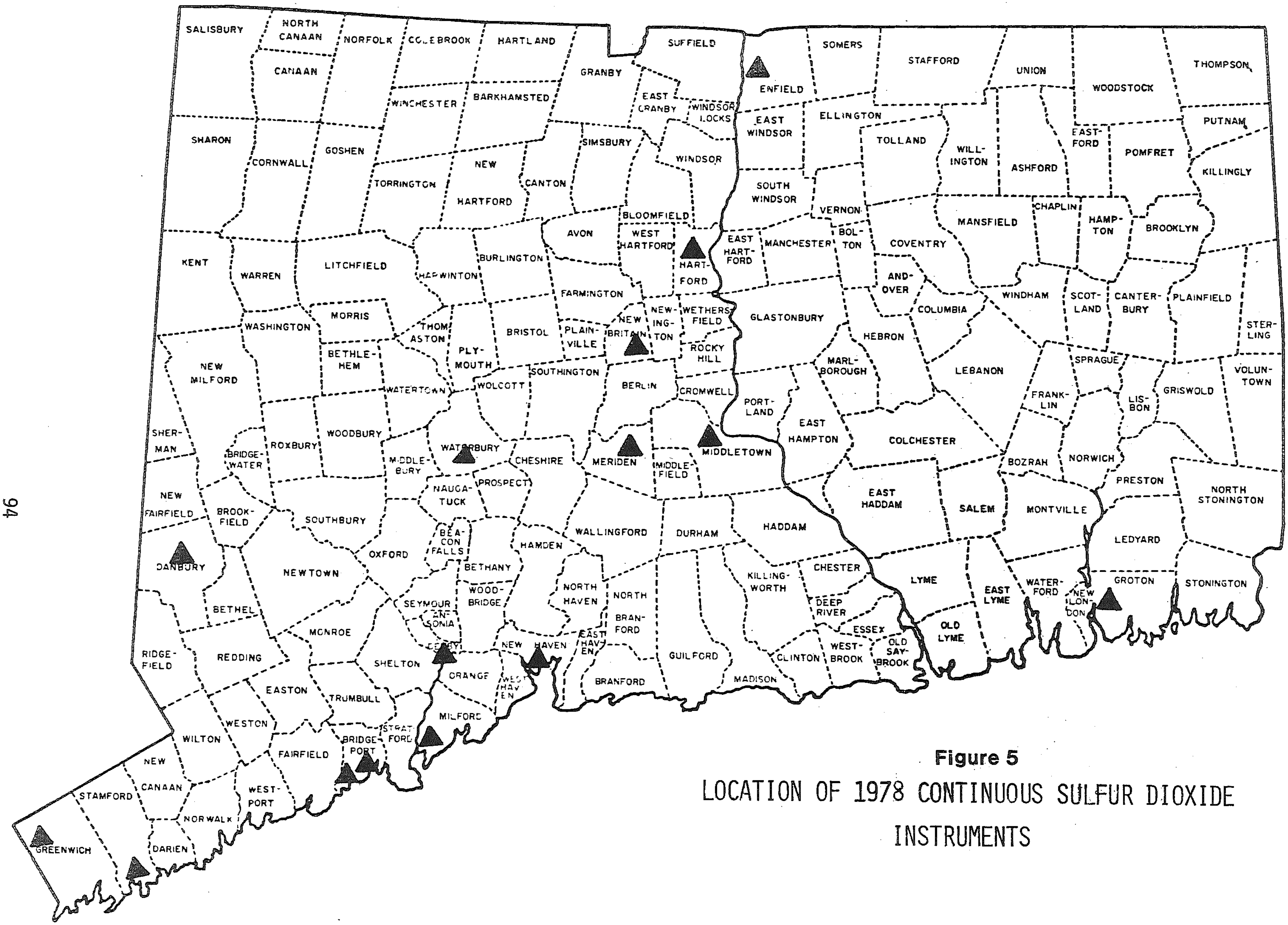


Figure 5

LOCATION OF 1978 CONTINUOUS SULFUR DIOXIDE INSTRUMENTS

TABLE 13

1978
ANNUAL ARITHMETIC AVERAGES OF SULFUR DIOXIDE AT SITES WITH CONTINUOUS MONITORS

PRIMARY NAAQS 80 μg/m^3
SECONDARY SAAQS 60 μg/m^3 (a)

TOWN	SITE NAME	1978 ANNUAL AVERAGE
Bridgeport-001	City Hall	26
Bridgeport-123	Hallett Street	46
Danbury-123	Western Conn. State College	34
Derby-123	Dziadiz Street	(34)[1]
Enfield-123	Kosciuszko Junior High School	29
Greenwich-004	Bruce Golf Course	(34)[1]
Groton-123	Fort Griswold State Park	23
Hartford-123	State Office Building	35
Meriden-002	Stoddard Building	(24)[1]
Middletown-003	City Hall	(34)[1]
Milford-002	Devon Community Center	31
New Britain-123	Lake Street	23
New Haven-123	State Street	41
Stamford-123	Health Department	(29)[1]
Waterbury-123	Bank Street	31

(a) State of Connecticut Air Quality Standard

[1] Estimate based on partial data (50-75%)

TABLE 14 1978 SO_2, ANNUAL AVERAGES AND STATISTICAL PROJECTIONS

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 1 AIR COMPLIANCE MONITORING

POLLUTANT--SULFUR DIOXIDE

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 260 UG/M3	PREDICTED DAYS OVER 365 UG/M3
BRIDGEPORT	001	1978	279	24.0	23	25	15.720		
BRIDGEPORT	123	1978	305	46.6	45	48	26.200		
DANBURY	123	1978	288	33.5	32	35	20.960		
DERBY	123	1978	172	33.8	32	36	15.720		
ENFIELD	123	1978	327	29.6	29	30	20.960		
GREENWICH	004	1978	255	33.3	32	35	20.960		
GROTON	123	1978	264	21.2	20	22	15.720		
HARTFORD	123	1978	333	34.3	33	35	31.440		
MERIDEN	002	1978	226	24.1	22	26	20.960		
MIDDLETOWN	003	1978	252	32.8	31	34	23.580		
MILFORD	002	1978	282	32.8	31	34	23.580		
NEW BRITAIN	123	1978	276	21.7	21	23	20.960		
NEW HAVEN	123	1978	289	41.1	39	43	34.060		
STAMFORD	123	1978	247	23.6	22	26	28.820		
WATERBURY	123	1978	321	31.2	30	32	20.960		

The annual averages in Table 14 vary slightly from those in Table 13 because of the manner in which they were derived. Table 13 contains the annual averages of all the available hourly readings. Table 14 contains the annual averages of all the valid 24-hour averages. (At least 18 hours of valid data are required to produce a valid 24-hour average.)

TABLE 15

1978 MAXIMUM 24-HOUR SULFUR DIOXIDE CONCENTRATIONS

SITE	DATE* 1ST HIGH	DATE 2ND HIGH	Concentration ($\mu g/m^3$)
Bridgeport-001	12/16/11		142
		01/24/18	130
Bridgeport-123	01/06/10		237
		12/13/10	196
Danbury-123	12/13/01		154
		12/16/23	133
Derby-123	01/13/06[a]		149
		01/12/14	139
Enfield-123	01/06/18		146
		02/17/24	141
Greenwich-004	02/18/20		151
		09/16/11	151
Groton-123	01/10/18		131
		02/18/07	122
Hartford-123	01/24/23		176
		02/18/09	173
Meriden-002	01/24/23		166
		01/06/11	164
Middletown-003	02/18/15[b]		207
		02/18/05	170
Milford-002	12/13/08		141
		01/05/16	124
New Britain-123	01/06/12		150
		01/24/18	149
New Haven-123	01/06/10		239
		12/07/09	214
Stamford-123	02/18/11		230
		12/13/01	195
Waterbury-123	02/18/05[c]		156
		02/18/23	155

260 Secondary

365 Primary

* Date is month/day/ending hour of occurrence

[a] Non-overlapping maximum on 01/13/14 = 140 $\mu g/m^3$

[b] Non-overlapping maximum on 02/19/05 = 173 $\mu g/m^3$

[c] Non-overlapping maximum on 02/17/23 = 156 $\mu g/m^3$

TABLE 16

COMPARISONS OF 1978 FIRST AND SECOND HIGH RUNNING AND CALENDAR DAY 24-HOUR SO_2 AVERAGES

units = $\mu g/m^3$

Site	1st High Running Avg.	1st High Calendar Day	2nd High Running Avg.	2nd High Calendar Day
Bridgeport 001	142	122	130	106
Bridgeport 123	237	184	196	170
Danbury 123	154	153	133	133
Derby 123	149	145	139	130
Enfield 123	146	141	141	140
Greenwich 004	151	142	151	138
Groton 123	131	124	122	105
Hartford 123	176	176	173	157
Meriden 002	166	166	164	144
Middletown 003	207	195	170	144
Milford 002	141	136	124	118
New Britain 123	150	139	149	113
New Haven 123	239	196	214	189
Stamford 123	230	201	195	192
Waterbury 123	180	165	155	143

TABLE 17

1978 MAXIMUM 3-HOUR SULFUR DIOXIDE CONCENTRATIONS

SITE	DATE* 1st HIGH	DATE* 2ND HIGH	CONCENTRATION ($\mu g/m^3$) 0 100 200 300 400 1300
Bridgeport-001	07/26/14		240
		01/24/09	210
Bridgeport-123	01/06/06		315
		01/05/24	301
Danbury-123	12/12/21		194
		12/16/02	191
Derby-123	01/13/05[a]		159
		01/13/07	155
Enfield-123	03/10/13		244
		01/06/16	205
Greenwich-004	12/13/10		273
		12/07/16	228
Groton-123	02/17/24[b]		189
		02/17/22	173
Hartford-123	12/07/10		274
		01/24/19	244
Meriden-002	01/24/17[c]		218
		01/24/19	210
Middletown-003	02/18/11		258
		02/18/08	236
Milford-002	02/27/17		245
		03/04/10	197
New Britain-123	01/24/08[d]		256
		01/24/06	203
New Haven-123	01/06/09[e]		333
		01/06/07	306
Stamford-123	02/18/07[f]		257
		02/18/09	244
Waterbury-123	02/03/24		393
		02/17/24	295

Secondary Standard

* Date is month/day/ending hour of occurrence

[a] non-overlapping maximum on 01/13/04 = 157 $\mu g/m^3$

[b] non-overlapping maximum on 02/18/01 = 182 $\mu g/m^3$

[c] non-overlapping maximum on 01/24/16 = 214 $\mu g/m^3$

[d] non-overlapping maximum on 01/24/09 = 237 $\mu g/m^3$

[e] non-overlapping maximum on 01/06/10 = 315 $\mu g/m^3$

[f] non-overlapping maximum on 02/18/06 = 245 $\mu g/m^3$

TABLE 18

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--SULFUR DIOXIDE

TEN HIGHEST 24 HR AVG SO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	1	279	122	106	91	89	87	82	82	76	76	72
		DATE	12/16/78	12/15/78	4/17/78	12/20/78	12/23/78	12/24/78	11/29/78	1/ 2/78	12/30/78	11/10/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	220	180	210	260	50	200	280	50	90
		VEL (MPH)	7.6	11.6	5.1	1.0	7.9	8.9	2.1	10.7	2.1	2.3
		SPD (MPH)	8.0	11.6	7.2	6.8	10.1	9.2	6.3	12.6	6.6	5.5
		RATIO	0.938	0.992	0.716	0.141	0.787	0.963	0.325	0.846	0.314	0.421
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	240	250	210	160	290	60	270	310	20	80
		VEL (MPH)	8.5	17.8	6.6	2.4	10.8	11.2	4.1	10.2	1.5	10.6
		SPD (MPH)	10.9	18.4	8.2	7.8	11.9	12.5	7.2	13.5	4.2	12.1
		RATIO	0.778	0.966	0.802	0.303	0.904	0.892	0.576	0.757	0.348	0.874
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	190	190	220	270	240	50	180	310	350	50
		VEL (MPH)	3.1	6.9	3.2	0.9	4.4	2.6	3.0	4.9	2.3	1.6
		SPD (MPH)	3.4	7.5	4.7	3.7	6.8	2.9	3.6	6.9	2.6	3.3
		RATIO	0.888	0.922	0.680	0.253	0.647	0.913	0.846	0.703	0.890	0.481
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	260	250	240	270	250	360	220	300	280	70
		VEL (MPH)	5.7	8.2	3.6	5.7	7.3	1.6	3.3	7.0	1.2	4.1
		SPD (MPH)	6.2	8.2	3.9	6.6	8.0	6.8	4.3	10.3	3.6	5.2
		RATIO	0.927	0.996	0.920	0.855	0.910	0.240	0.771	0.676	0.343	0.791
BRIDGEPORT	123	306	184	170	167	164	160	154	152	125	111	108
		DATE	1/ 5/78	12/12/78	1/ 6/78	12/ 6/78	2/17/78	12/16/78	2/18/78	12/13/78	12/23/78	12/15/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	200	250	110	240	230	210	290	230	260	220
		VEL (MPH)	5.2	7.3	1.6	7.6	4.0	7.6	1.7	10.6	7.9	11.6
		SPD (MPH)	5.5	7.8	4.9	8.0	4.9	8.0	3.7	12.8	10.1	11.6
		RATIO	0.950	0.936	0.330	0.939	0.819	0.938	0.458	0.826	0.787	0.992
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	260	280	70	250	230	240	360	240	290	250
		VEL (MPH)	9.5	6.9	5.6	9.6	2.8	8.5	1.2	12.4	10.8	17.8
		SPD (MPH)	10.2	7.3	9.6	10.2	5.3	10.9	3.4	13.7	11.9	18.4
		RATIO	0.928	0.942	0.584	0.939	0.520	0.778	0.359	0.907	0.904	0.966
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	170	190	20	210	170	190	210	180	240	190
		VEL (MPH)	5.9	1.1	3.4	0.4	1.9	3.1	0.8	6.1	4.4	6.9
		SPD (MPH)	6.0	2.3	4.2	4.7	2.3	3.4	2.3	7.0	6.8	7.5
		RATIO	0.983	0.488	0.808	0.079	0.840	0.888	0.365	0.871	0.647	0.922
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	250	270	40	270	270	260	250	230	250	250
		VEL (MPH)	5.8	5.2	2.4	5.9	4.2	5.7	2.2	8.3	7.3	8.2
		SPD (MPH)	6.2	5.3	5.6	6.3	4.7	6.2	5.0	8.6	8.0	8.2
		RATIO	0.943	0.975	0.430	0.940	0.895	0.927	0.435	0.958	0.910	0.996
DANBURY	123	288	153	133	128	106	98	92	91	89	88	88
		DATE	12/12/78	12/16/78	12/ 6/78	12/ 7/78	11/ 6/78	12/13/78	1/ 6/78	12/23/78	12/31/78	12/15/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	250	210	240	70	210	230	110	260	160	220
		VEL (MPH)	7.3	7.6	7.6	2.9	5.5	10.6	1.6	7.9	3.3	11.6
		SPD (MPH)	7.8	8.0	8.0	5.6	5.7	12.8	4.9	10.1	4.3	11.6
		RATIO	0.936	0.938	0.939	0.521	0.948	0.826	0.330	0.787	0.776	0.992

TABLE 18 (Continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--SULFUR DIOXIDE

TEN HIGHEST 24 HR AVG SO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	280	240	250	80	250	240	70	290	90	250
			VEL (MPH)	6.9	8.5	9.6	4.8	4.4	12.4	5.6	10.8	4.5	17.8
			SPD (MPH)	7.3	10.9	10.2	6.5	6.3	13.7	9.6	11.9	5.9	18.4
			RATIO	0.942	0.778	0.939	0.743	0.700	0.907	0.584	0.904	0.760	0.966
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	190	190	210	20	180	180	20	240	160	190
			VEL (MPH)	1.1	3.1	0.4	0.3	3.7	6.1	3.4	4.4	0.3	6.9
			SPD (MPH)	2.3	3.4	4.7	2.9	4.7	7.0	4.2	6.8	0.3	7.5
			RATIO	0.488	0.888	0.079	0.108	0.771	0.871	0.808	0.647	1.000	0.922
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	270	260	270	290	250	230	40	250	190	250
			VEL (MPH)	5.2	5.7	5.9	2.9	4.3	8.3	2.4	7.3	4.4	8.2
			SPD (MPH)	5.3	6.2	6.3	3.7	5.5	8.6	5.6	8.0	4.6	8.2
			RATIO	0.975	0.927	0.940	0.784	0.780	0.958	0.430	0.910	0.953	0.996
DERBY	123	172		145	130	95	83	71	59	58	56	54	54
			DATE	1/12/78	1/11/78	1/13/78	1/ 5/78	9/21/78	1/ 6/78	9/16/78	1/16/78	3/21/78	4/ 7/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	260	270	40	200	220	110	230	240	180	250
			VEL (MPH)	9.3	14.0	10.8	5.2	8.8	1.6	5.8	12.1	5.4	3.0
			SPD (MPH)	9.9	15.4	11.1	5.5	8.9	4.9	6.0	12.5	8.9	8.2
			RATIO	0.938	0.911	0.975	0.950	0.983	0.330	0.955	0.969	0.610	0.362
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	290	280	50	260	250	70	250	260	190	120
			VEL (MPH)	11.6	14.7	14.4	9.5	11.8	5.6	11.1	10.8	4.2	3.1
			SPD (MPH)	12.2	15.4	14.8	10.2	12.8	9.6	11.6	10.9	11.8	6.0
			RATIO	0.951	0.959	0.973	0.928	0.924	0.584	0.950	0.989	0.360	0.509
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	230	270	10	170	170	20	230	240	170	350
			VEL (MPH)	8.3	7.5	7.3	5.9	8.6	3.4	4.7	5.4	6.7	2.3
			SPD (MPH)	9.2	9.6	7.3	6.0	8.8	4.2	6.3	6.9	7.0	2.4
			RATIO	0.907	0.784	0.992	0.983	0.985	0.808	0.751	0.775	0.954	0.931
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	260	280	40	250	260	40	260	270	210	290
			VEL (MPH)	8.2	15.5	7.4	5.8	9.2	2.4	7.7	11.0	10.2	2.2
			SPD (MPH)	8.3	15.8	7.9	6.2	9.5	5.6	7.9	11.2	10.5	6.5
			RATIO	0.984	0.980	0.938	0.943	0.974	0.430	0.977	0.980	0.975	0.333
ENFIELD	123	327		141	140	120	116	115	112	107	102	82	80
			DATE	2/17/78	1/ 6/78	2/18/78	12/30/78	1/ 5/78	1/24/78	3/10/78	12/31/78	2/16/78	3/11/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	230	110	290	50	200	200	20	160	100	210
			VEL (MPH)	4.0	1.6	1.7	2.1	5.2	6.6	6.6	3.3	1.3	5.2
			SPD (MPH)	4.9	4.9	3.7	6.6	5.5	7.2	8.3	4.3	5.2	7.3
			RATIO	0.819	0.330	0.458	0.314	0.950	0.918	0.795	0.776	0.250	0.712
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	230	70	360	20	260	240	30	90	260	250
			VEL (MPH)	2.8	5.6	1.2	1.5	9.5	7.1	6.4	4.5	4.1	6.0
			SPD (MPH)	5.3	9.6	3.4	4.2	10.2	8.5	10.2	5.9	6.3	10.6
			RATIO	0.520	0.584	0.359	0.348	0.928	0.838	0.622	0.760	0.652	0.566
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	170	20	210	350	170	160	10	160	140	210
			VEL (MPH)	1.9	3.4	0.8	2.3	5.9	4.4	3.8	0.3	1.1	3.4
			SPD (MPH)	2.3	4.2	2.3	2.6	6.0	4.7	5.3	0.3	3.7	6.0
			RATIO	0.840	0.808	0.365	0.890	0.983	0.938	0.715	1.000	0.283	0.565

TABLE 18 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG SO2 DAYS 1978 WITH MET. DATA

POLLUTANT--SULFUR DIOXIDE

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	270	40	250	280	250	260	10	190	280	310
	VEL (MPH)	4.2	2.4	2.2	1.2	5.8	9.6	3.4	4.4	3.7	2.5
	SPD (MPH)	4.7	5.6	5.0	3.6	6.2	10.1	8.8	4.6	4.2	6.6
	RATIO	0.895	0.430	0.435	0.343	0.943	0.954	0.393	0.953	0.889	0.373
GREENWICH	4 255	142	138	129	124	111	108	107	90	86	84
	DATE	2/18/78	9/15/78	9/16/78	2/17/78	9/18/78	12/12/78	12/13/78	2/21/78	12/ 7/78	9/17/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)	290	210	230	230	70	250	230	290	70	150
	VEL (MPH)	1.7	7.3	5.8	4.0	3.2	7.3	10.6	5.6	2.9	2.3
	SPD (MPH)	3.7	7.8	6.0	4.9	4.6	7.8	12.8	7.5	5.6	7.5
	RATIO	0.458	0.945	0.955	0.819	0.690	0.936	0.826	0.745	0.521	0.301
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)	360	220	250	230	80	280	240	300	80	240
	VEL (MPH)	1.2	11.8	11.1	2.8	6.0	6.9	12.4	6.2	4.8	4.6
	SPD (MPH)	3.4	14.9	11.6	5.3	13.7	7.3	13.7	8.3	6.5	11.8
	RATIO	0.359	0.790	0.950	0.520	0.442	0.942	0.907	0.743	0.743	0.392
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)	210	200	230	170	10	190	180	300	20	320
	VEL (MPH)	0.8	6.8	4.7	1.9	3.4	1.1	6.1	3.0	0.3	2.4
	SPD (MPH)	2.3	7.2	6.3	2.3	3.9	2.3	7.0	4.5	2.9	3.2
	RATIO	0.365	0.952	0.751	0.840	0.874	0.488	0.871	0.667	0.108	0.762
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	250	230	260	270	70	270	230	290	290	310
	VEL (MPH)	2.2	8.1	7.7	4.2	3.5	5.2	8.3	9.4	2.9	4.0
	SPD (MPH)	5.0	8.5	7.9	4.7	4.0	5.3	8.6	9.5	3.7	4.7
	RATIO	0.435	0.951	0.977	0.895	0.871	0.975	0.958	0.993	0.784	0.853
GROTON	123 264	124	105	92	77	73	72	66	64	53	53
	DATE	1/10/78	12/12/78	12/ 6/78	2/18/78	12/16/78	1/11/78	12/13/78	1/ 4/78	12/ 7/78	2/21/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)	240	250	240	290	210	270	230	220	70	290
	VEL (MPH)	23.3	7.3	7.6	1.7	7.6	14.0	10.6	9.4	2.9	5.6
	SPD (MPH)	23.4	7.8	8.0	3.7	8.0	15.4	12.8	9.6	5.6	7.5
	RATIO	0.994	0.936	0.939	0.458	0.938	0.911	0.826	0.972	0.521	0.745
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)	270	280	250	360	240	280	240	250	80	300
	VEL (MPH)	31.1	6.9	9.6	1.2	8.5	14.7	12.4	12.3	4.8	6.2
	SPD (MPH)	31.3	7.3	10.2	3.4	10.9	15.4	13.7	13.7	6.5	8.3
	RATIO	0.993	0.942	0.939	0.359	0.778	0.959	0.907	0.902	0.743	0.743
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)	240	190	210	210	190	270	180	200	20	300
	VEL (MPH)	14.5	1.1	0.4	0.8	3.1	7.5	6.1	5.2	0.3	3.0
	SPD (MPH)	16.5	2.3	4.7	2.3	3.4	9.6	7.0	6.3	2.9	4.5
	RATIO	0.861	0.488	0.079	0.365	0.888	0.784	0.871	0.818	0.108	0.667
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	260	270	270	250	260	280	230	260	290	290
	VEL (MPH)	17.9	5.2	5.9	2.2	5.7	15.5	8.3	8.4	2.9	9.4
	SPD (MPH)	19.0	5.3	6.3	5.0	6.2	15.6	8.6	9.3	3.7	9.5
	RATIO	0.942	0.975	0.940	0.435	0.927	0.980	0.958	0.900	0.784	0.993

TABLE 18 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--SULFUR DIOXIDE

TEN HIGHEST 24 HR AVG SO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
HARTFORD	123	333		176	157	156	156	142	137	137	131	128	123
			DATE	1/24/78	12/ 7/78	2/17/78	12/12/78	12/16/78	2/18/78	1/ 6/78	12/31/78	12/ 6/78	11/29/78
METEOROLOGICAL SITE			DIR (DEG)	200	70	230	250	210	290	110	160	240	200
NEWARK N. J.			VEL (MPH)	6.6	2.9	4.0	7.3	7.6	1.7	1.6	3.3	7.6	2.1
			SPD (MPH)	7.2	5.6	4.9	7.8	8.0	3.7	4.9	4.3	8.0	6.3
			RATIO	0.918	0.521	0.819	0.936	0.938	0.458	0.330	0.776	0.939	0.325
METEOROLOGICAL SITE			DIR (DEG)	240	80	230	280	240	360	70	90	250	270
BRIDGEPORT CONN.			VEL (MPH)	7.1	4.8	2.8	6.9	8.5	1.2	5.6	4.5	9.6	4.1
			SPD (MPH)	8.5	6.5	5.3	7.3	10.9	3.4	9.6	5.9	10.2	7.2
			RATIO	0.838	0.743	0.520	0.942	0.778	0.359	0.584	0.760	0.939	0.576
METEOROLOGICAL SITE			DIR (DEG)	160	20	170	190	190	210	20	160	210	180
BRADLEY FIELD CONN.			VEL (MPH)	4.4	0.3	1.9	1.1	3.1	0.8	3.4	0.3	0.4	3.0
			SPD (MPH)	4.7	2.9	2.3	2.3	3.4	2.3	4.2	0.3	4.7	3.6
			RATIO	0.938	0.108	0.840	0.488	0.888	0.365	0.808	1.000	0.079	0.846
METEOROLOGICAL SITE			DIR (DEG)	260	290	270	270	260	250	40	190	270	220
WORCESTER MASS.			VEL (MPH)	9.6	2.9	4.2	5.2	5.7	2.2	2.4	4.4	5.9	3.3
			SPD (MPH)	10.1	3.7	4.7	5.3	6.2	5.0	5.6	4.6	6.3	4.3
			RATIO	0.954	0.784	0.895	0.975	0.927	0.435	0.430	0.953	0.940	0.771
MERIDEN	2	226		166	144	143	88	85	85	76	69	67	63
			DATE	1/24/78	1/ 6/78	1/ 5/78	1/25/78	3/10/78	1/23/78	1/17/78	1/ 4/78	3/ 9/78	1/16/78
METEOROLOGICAL SITE			DIR (DEG)	200	110	200	30	20	260	40	220	180	240
NEWARK N. J.			VEL (MPH)	6.6	1.6	5.2	3.0	6.6	7.5	6.0	9.4	1.0	12.1
			SPD (MPH)	7.2	4.9	5.5	3.2	8.3	8.6	7.0	9.6	5.0	12.5
			RATIO	0.918	0.330	0.950	0.963	0.795	0.867	0.854	0.972	0.195	0.969
METEOROLOGICAL SITE			DIR (DEG)	240	70	260	50	30	300	40	250	200	260
BRIDGEPORT CONN.			VEL (MPH)	7.1	5.6	9.5	9.1	6.4	7.3	7.2	12.3	4.0	10.8
			SPD (MPH)	8.5	9.6	10.2	9.9	10.2	7.5	9.2	13.7	7.3	10.9
			RATIO	0.838	0.584	0.928	0.914	0.622	0.974	0.786	0.902	0.550	0.989
METEOROLOGICAL SITE			DIR (DEG)	160	20	170	50	10	280	10	200	160	240
BRADLEY FIELD CONN.			VEL (MPH)	4.4	3.4	5.9	0.8	3.8	4.7	4.2	5.2	3.4	5.4
			SPD (MPH)	4.7	4.2	6.0	4.9	5.3	5.6	4.6	6.3	5.7	6.9
			RATIO	0.938	0.808	0.983	0.167	0.715	0.830	0.919	0.818	0.586	0.775
METEOROLOGICAL SITE			DIR (DEG)	260	40	250	230	10	280	50	260	230	270
WORCESTER MASS.			VEL (MPH)	9.6	2.4	5.8	1.9	3.4	9.9	3.7	8.4	1.9	11.0
			SPD (MPH)	10.1	5.6	6.2	6.6	8.8	9.9	5.9	9.3	5.3	11.2
			RATIO	0.954	0.430	0.943	0.287	0.393	0.993	0.634	0.900	0.365	0.980
MIDDLETOWN	3	252		195	144	125	112	109	103	91	91	89	88
			DATE	2/18/78	2/17/78	1/ 6/78	2/16/78	2/21/78	3/ 3/78	2/ 3/78	4/19/78	6/29/78	2/ 5/78
METEOROLOGICAL SITE			DIR (DEG)	290	230	110	100	290	20	340	80	300	40
NEWARK N. J.			VEL (MPH)	1.7	4.0	1.6	1.3	5.6	7.9	9.3	11.4	12.1	6.4
			SPD (MPH)	3.7	4.9	4.9	5.2	7.5	9.6	9.9	13.7	12.8	7.3
			RATIO	0.458	0.819	0.330	0.250	0.745	0.824	0.937	0.831	0.949	0.873

TABLE 18 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION   AIR COMPLIANCE ENGINEERING

POLLUTANT--SULFUR DIOXIDE

TEN HIGHEST 24 HR AVG SO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)		360	230	70	260	300	50	320	70	270	50
	VEL (MPH)		1.2	2.8	5.6	4.1	6.2	12.7	12.5	21.3	8.9	5.5
	SPD (MPH)		3.4	5.3	9.6	6.3	8.3	15.1	13.1	21.6	10.3	7.0
	RATIO		0.359	0.520	0.584	0.652	0.743	0.842	0.955	0.990	0.858	0.781
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)		210	170	20	140	300	10	330	50	310	10
	VEL (MPH)		0.8	1.9	3.4	1.1	3.0	4.6	6.0	6.0	6.9	2.1
	SPD (MPH)		2.3	2.3	4.2	3.7	4.5	4.7	6.6	8.8	7.9	2.6
	RATIO		0.365	0.840	0.808	0.283	0.667	0.960	0.907	0.684	0.868	0.794
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)		250	270	40	280	290	40	320	90	290	20
	VEL (MPH)		2.2	4.2	2.4	3.7	9.4	2.6	13.2	6.4	10.1	1.4
	SPD (MPH)		5.0	4.7	5.6	4.2	9.5	6.8	13.4	8.5	10.9	3.9
	RATIO		0.435	0.895	0.430	0.889	0.993	0.385	0.986	0.754	0.923	0.354
MILFORD	2	282	136	118	113	101	97	97	95	94	90	89
		DATE	12/12/78	12/16/78	12/ 6/78	2/27/78	12/23/78	11/29/78	1/ 5/78	12/13/78	2/17/78	3/ 7/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)		250	210	240	300	260	200	200	230	230	310
	VEL (MPH)		7.3	7.6	7.6	16.9	7.9	2.1	5.2	10.6	4.0	12.0
	SPD (MPH)		7.8	8.0	8.0	17.2	10.1	6.3	5.5	12.8	4.9	12.9
	RATIO		0.936	0.938	0.939	0.979	0.787	0.325	0.950	0.826	0.819	0.927
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)		280	240	250	300	290	270	260	240	230	300
	VEL (MPH)		6.9	8.5	9.6	14.4	10.8	4.1	9.5	12.4	2.8	15.4
	SPD (MPH)		7.3	10.9	10.2	14.7	11.9	7.2	10.2	13.7	5.3	16.0
	RATIO		0.942	0.778	0.939	0.981	0.904	0.576	0.928	0.907	0.520	0.964
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)		190	190	210	300	240	180	170	180	170	300
	VEL (MPH)		1.1	3.1	0.4	13.0	4.4	3.0	5.9	6.1	1.9	14.4
	SPD (MPH)		2.3	3.4	4.7	13.1	6.8	3.6	6.0	7.0	2.3	14.5
	RATIO		0.488	0.888	0.079	0.995	0.647	0.846	0.983	0.871	0.840	0.994
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)		270	260	270	300	250	220	250	230	270	300
	VEL (MPH)		5.2	5.7	5.9	14.3	7.3	3.3	5.8	8.3	4.2	16.6
	SPD (MPH)		5.3	6.2	6.3	14.5	8.0	4.3	6.2	8.6	4.7	17.4
	RATIO		0.975	0.927	0.940	0.986	0.910	0.771	0.943	0.958	0.895	0.952
NEW BRITAIN	123	275	139	113	109	109	95	91	90	87	84	74
		DATE	1/ 6/78	1/ 5/78	12/12/78	12/16/78	1/17/78	12/31/78	1/23/78	12/ 6/78	12/13/78	11/29/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)		110	200	250	210	40	160	260	240	230	200
	VEL (MPH)		1.6	5.2	7.3	7.6	6.0	3.3	7.5	7.6	10.6	2.1
	SPD (MPH)		4.9	5.5	7.8	8.0	7.0	4.3	8.6	8.0	12.8	6.3
	RATIO		0.330	0.950	0.936	0.938	0.854	0.776	0.867	0.939	0.826	0.325
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)		70	260	280	240	40	90	300	250	240	270
	VEL (MPH)		5.6	9.5	6.9	8.5	7.2	4.5	7.3	9.6	12.4	4.1
	SPD (MPH)		9.6	10.2	7.3	10.9	9.2	5.9	7.5	10.2	13.7	7.2
	RATIO		0.584	0.928	0.942	0.778	0.786	0.760	0.974	0.939	0.907	0.576
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)		20	170	190	190	10	160	280	210	180	180
	VEL (MPH)		3.4	5.9	1.1	3.1	4.2	0.3	4.7	0.4	6.1	3.0
	SPD (MPH)		4.2	6.0	2.3	3.4	4.6	0.3	5.6	4.7	7.0	3.6
	RATIO		0.808	0.983	0.488	0.888	0.919	1.000	0.830	0.079	0.871	0.846

TABLE 18 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--SULFUR DIOXIDE

TEN HIGHEST 24 HR AVG SO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	40	250	270	260	50	190	280	270	230	220
			VEL (MPH)	2.4	5.8	5.2	5.7	3.7	4.4	9.9	5.9	8.3	3.3
			SPD (MPH)	5.6	6.2	5.3	6.2	5.9	4.6	9.9	6.3	8.6	4.3
			RATIO	0.430	0.943	0.975	0.927	0.634	0.953	0.993	0.940	0.958	0.771
NEW HAVEN	123	289		196	189	172	160	150	144	141	132	128	127
			DATE	12/ 6/78	1/ 6/78	12/12/78	12/16/78	12/ 7/78	11/ 2/78	11/29/78	12/15/78	11/ 6/78	12/23/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	240	110	250	210	70	240	200	220	210	260
			VEL (MPH)	7.6	1.6	7.3	7.6	2.9	6.2	2.1	11.6	5.5	7.9
			SPD (MPH)	8.0	4.9	7.8	8.0	5.6	6.6	6.3	11.6	5.7	10.1
			RATIO	0.939	0.330	0.936	0.938	0.521	0.939	0.325	0.992	0.948	0.787
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	250	70	280	240	80	250	270	250	250	290
			VEL (MPH)	9.6	5.6	6.9	8.5	4.8	8.7	4.1	17.8	4.4	10.8
			SPD (MPH)	10.2	9.6	7.3	10.9	6.5	10.3	7.2	18.4	6.3	11.9
			RATIO	0.939	0.584	0.942	0.778	0.743	0.843	0.576	0.966	0.700	0.904
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	210	20	190	190	20	220	180	190	180	240
			VEL (MPH)	0.4	3.4	1.1	3.1	0.3	2.5	3.0	6.9	3.7	4.4
			SPD (MPH)	4.7	4.2	2.3	3.4	2.9	4.5	3.6	7.5	4.7	6.8
			RATIO	0.079	0.808	0.488	0.888	0.108	0.566	0.846	0.922	0.771	0.647
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	270	40	270	260	290	280	220	250	250	250
			VEL (MPH)	5.9	2.4	5.2	5.7	2.9	10.7	3.3	8.2	4.3	7.3
			SPD (MPH)	6.3	5.6	5.3	6.2	3.7	11.2	4.3	8.2	5.5	8.0
			RATIO	0.940	0.430	0.975	0.927	0.784	0.958	0.771	0.996	0.780	0.910
STAMFORD	123	247		201	192	185	132	123	116	100	100	96	85
			DATE	2/17/78	12/12/78	2/18/78	12/ 7/78	2/21/78	12/13/78	12/23/78	12/ 8/78	11/ 9/78	11/ 6/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	230	250	290	70	290	230	260	210	240	210
			VEL (MPH)	4.0	7.3	1.7	2.9	5.6	10.6	7.9	1.4	6.8	5.5
			SPD (MPH)	4.9	7.8	3.7	5.6	7.5	12.8	10.1	6.3	7.3	5.7
			RATIO	0.819	0.936	0.458	0.521	0.745	0.826	0.787	0.220	0.923	0.948
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	230	280	360	80	300	240	290	190	260	250
			VEL (MPH)	2.8	6.9	1.2	4.8	6.2	12.4	10.8	1.7	9.5	4.4
			SPD (MPH)	5.3	7.3	3.4	6.5	8.3	13.7	11.9	7.6	10.9	6.3
			RATIO	0.520	0.942	0.359	0.743	0.743	0.907	0.904	0.226	0.868	0.700
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	170	190	210	20	300	180	240	170	240	180
			VEL (MPH)	1.9	1.1	0.8	0.3	3.0	6.1	4.4	4.0	2.4	3.7
			SPD (MPH)	2.3	2.3	2.3	2.9	4.5	7.0	6.8	4.5	3.7	4.7
			RATIO	0.840	0.488	0.365	0.108	0.667	0.871	0.647	0.906	0.648	0.771
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	270	270	250	290	290	230	250	230	270	250
			VEL (MPH)	4.2	5.2	2.2	2.9	9.4	8.3	7.3	5.5	8.0	4.3
			SPD (MPH)	4.7	5.3	5.0	3.7	9.5	8.6	8.0	5.9	8.2	5.5
			RATIO	0.895	0.975	0.435	0.784	0.993	0.958	0.910	0.926	0.976	0.780

TABLE 18 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG SO2 DAYS 1978 WITH MET. DATA

POLLUTANT--SULFUR DIOXIDE

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
WATERBURY	123	321	165	143	115	111	109	105	103	102	90	89
		DATE	2/17/78	2/18/78	2/ 3/78	12/12/78	12/16/78	12/13/78	11/29/78	12/15/78	12/ 6/78	1/ 5/78
METEOROLOGICAL SITE		DIR (DEG)	230	290	340	250	210	230	200	220	240	200
NEWARK N. J.		VEL (MPH)	4.0	1.7	9.3	7.3	7.6	10.6	2.1	11.6	7.6	5.2
		SPD (MPH)	4.9	3.7	9.9	7.8	8.0	12.8	6.3	11.6	8.0	5.5
		RATIO	0.819	0.458	0.937	0.936	0.938	0.826	0.325	0.992	0.939	0.950
METEOROLOGICAL SITE		DIR (DEG)	230	360	320	280	240	240	270	250	250	260
BRIDGEPORT CONN.		VEL (MPH)	2.8	1.2	12.5	6.9	8.5	12.4	4.1	17.8	9.6	9.5
		SPD (MPH)	5.3	3.4	13.1	7.3	10.9	13.7	7.2	18.4	10.2	10.2
		RATIO	0.520	0.359	0.955	0.942	0.778	0.907	0.576	0.966	0.939	0.928
METEOROLOGICAL SITE		DIR (DEG)	170	210	330	190	190	180	180	190	210	170
BRADLEY FIELD CONN.		VEL (MPH)	1.9	0.8	6.0	1.1	3.1	6.1	3.0	6.9	0.4	5.9
		SPD (MPH)	2.3	2.3	6.6	2.3	3.4	7.0	3.6	7.5	4.7	6.0
		RATIO	0.840	0.365	0.907	0.488	0.888	0.871	0.846	0.922	0.079	0.983
METEOROLOGICAL SITE		DIR (DEG)	270	250	320	270	260	230	220	250	270	250
WORCESTER MASS.		VEL (MPH)	4.2	2.2	13.2	5.2	5.7	8.3	3.3	8.2	5.9	5.8
		SPD (MPH)	4.7	5.0	13.4	5.3	6.2	8.6	4.3	8.2	6.3	6.2
		RATIO	0.895	0.435	0.986	0.975	0.927	0.958	0.771	0.996	0.940	0.943

IV. OZONE

Conclusions:

As in past years, Connecticut experienced very high concentrations of ozone in the summer months of 1978. At each of the twelve monitored sites, levels in excess of the new one-hour NAAQS of 0.12 ppm were frequently recorded, with one-hour average concentrations occasionally exceeding 0.20 ppm.

The frequency and magnitude of levels in excess of the 0.12 ppm ozone standard decreased from 1977 to 1978. Some of this difference is attributable to the loss of a large amount of data during July of 1978 due to instrument problems. The remainder of this apparent improvement in air quality may be real, but only temporary, because it can be attributed to year-to-year variations in weather conditions. Although the Federal emission controls on motor vehicles should be bringing about a yearly reduction in ozone precursor emissions, these emission reductions are not large enough to account for the improvement in ozone levels.

As noted in the TSP section, there was a significant reduction in the frequency of southwesterly winds between 1977 and 1978. The larger portion of the peak ozone concentrations in Connecticut is caused by the transport of ozone and/or precursors (e.g., hydrocarbons and nitrogen oxides) from the southwest. The decreased frequency of levels in excess of the ozone standard is at least partially attributable to the decreased frequency of the southwesterly transport winds. Likewise, the decreased magnitude of the high ozone levels can be associated with changes in meteorology. Ozone production is greatest at high temperatures. In 1978, temperatures averaged between 1.5°F and 2.7°F less than in 1977. More importantly, the daily high temperatures in the summertime were much lower in 1978 than in 1977, as exemplified by a drop in the number of days exceeding 90°F from 26 (in 1977) to 12 (in 1978) at the Bradley Airport National Weather Service station.

Method of Measurement:

The DEP Air Monitoring Unit uses chemiluminescent instruments to measure levels of ozone. These instruments measure and record instantaneous concentrations of ozone continuously by means of a fluorescent technique. Properly calibrated, these instruments are shown to be remarkably reliable and stable.

Discussion of Data:

Monitoring Network - In order to gather information which will further the understanding of ozone production and transport, as well as to provide real-time data for the daily Pollutant Standards Index, DEP operated in 1978 a state-wide ozone monitoring network consisting of four types of sites (see Figure 6):

Urban - Bridgeport, Derby, Hartford, Middletown, New Haven
Advection from Southwest - Danbury, Greenwich
Suburban - Enfield, Groton
Rural - Eastford, Hamden, Morris.

New NAAQS - On February 8, 1979 the EPA established a new ambient air quality standard for ozone of 0.12 ppm. This standard replaces the old photochemical oxidant standard of 0.08 ppm. The definition of the pollutant was changed along with the numerical value partly because the instruments used to measure photochemical oxidants in the air really measure only ozone. Ozone is only one of a group of chemicals which are formed photochemically in the air and are called photochemical oxidants. In the past the two terms have often been used interchangeably. This 1978 Annual Summary uses the term "ozone" in conjunction with the new NAAQS to reflect the changes in both the numerical value of the NAAQS and its definition.

1-Hour Averages - The new 1-hour ozone standard was exceeded at all the DEP monitoring sites in 1978. The 2nd highest 1-hour average ozone concentrations were lower in 1978 than in 1977 at 11 of the 12 DEP ozone sites in Connecticut. Eight of these decreases exceeded 0.04 ppm. The 2nd highest hourly average increased at the 1 other site from 1977 to 1978, but this increase was less than 0.04 ppm. As stated earlier, this general decrease in measured ozone levels appears to have been primarily caused by the loss of much of the July, 1978 ozone data (see Table 19) and the drops in maximum temperature and the frequency of southwest winds from 1977 to 1978.

Table 19 shows a comparison between the number of days in 1978 with a maximum hourly ozone reading of greater than the old 0.08 ppm standard and the new 0.12 ppm standard. This table shows that in 1978 there were only 1/3 as many days exceeding the new 0.12 ppm standard as there were exceeding the old 0.08 ppm standard.

The monthly high ozone concentrations for the summertime "ozone season", and a tally of the number of times the hourly standard was exceeded, are presented in Table 20 for each site.

Table 21 shows the year's high and second high concentrations at each site.

10 High Days With Wind Data - Table 22 lists the maximum 1-hour ozone averages (and date of occurrence) from the 10-highest days for each ozone site in Connecticut for 1978. The wind data associated with these high readings are also presented. (See the discussion of Table 12 in the TSP section for a description of the origin and use of these wind data.)

Even more of the high O_3 levels occurred on days with southwest winds than was the case with TSP and SO_2. This is expected because there are no local sources of ozone; it is all produced by photochemical reactions in the atmosphere. Since the urban areas to the southwest of Connecticut produce more ozone precursor emissions than all of Connecticut, it is not surprising that ozone levels are higher on southwest wind days than on all other days. However, it should be noted that bright sunshine and high temperatures are also needed to produce ozone. These conditions occur most often on southwest wind days, so it is the combination of pollutant transport and adverse meteorological conditions that produce the maximum ozone levels in Connecticut.

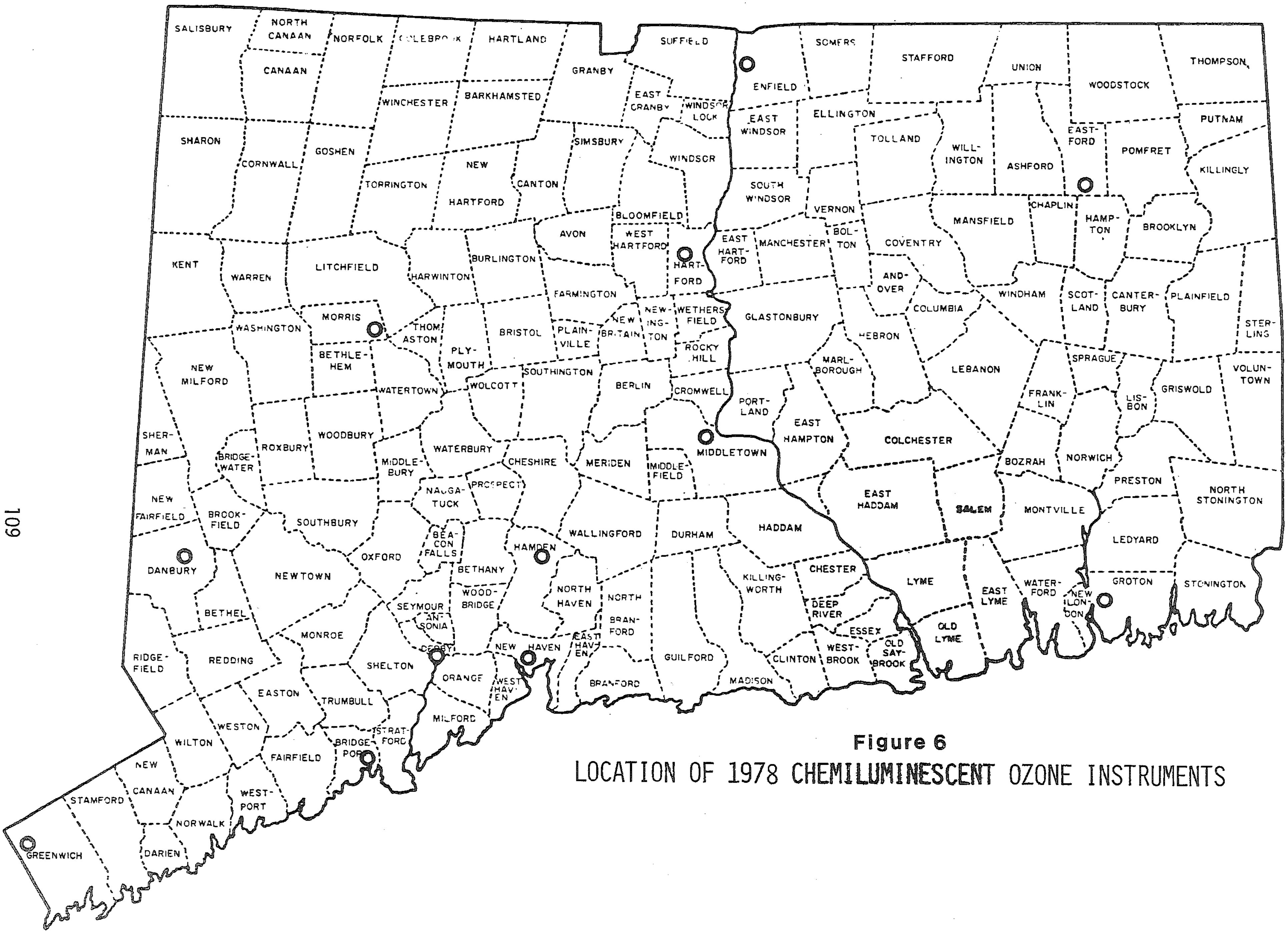


Figure 6

LOCATION OF 1978 CHEMILUMINESCENT OZONE INSTRUMENTS

TABLE 19

NUMBER OF DAYS WITH 1 HOUR WHICH EXCEEDED THE OZONE STANDARDS
(> 0.08 ppm/> 0.12 ppm)

1978

SITE	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	TOTAL
Bridgeport-123	0/0	10/2	3/1*	4/3*	12/1	4/2	33/9*
Danbury-123	-/-	12/5*	4/1*	0/0*	10/3	5/1	31/10*
Derby-123	0/0	5/2	14/8	1/0*	9/1*	5/2	34/13*
Eastford-001	13/2*	17/4	15/2	4/2*	1/0*	4/1	54/11*
Enfield-123	2/0	18/4	10/6	-/-	3/2	2/1	35/13
Greenwich-004	2/0	9/3	9/5*	8/6*	11/3*	3/1*	42/18*
Groton-123	0/0*	0/0*	-/-	3/1*	8/4	8/1	19/6*
Hamden-001	0/0*	1/1*	15/7	-/-	0/0*	3/1*	19/9*
Hartford-123	1/0	8/2*	9/3	11/8	5/2	3/2	37/17
Morris-001	0/0*	7/2*	0/0*	-/-	3/2*	4/0	14/4*
Middletown-003	0/0*	6/2	6/2*	-/-	5/1	5/3	22/8*
New Haven-123	0/0*	8/3	12/5*	7/4*	7.0	3/1	37/13

* < 75% of the data available

\- No data available

TABLE 20

1978 HIGHEST 1-HOUR OZONE VALUES BY MONTH, PPM

SITE	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	# OF TIMES STANDARD EXCEEDED
Bridgeport-123	.079	.201	.125*	.203*	.123	.137	28*
Danbury-123	**	.233*	.171*	.069*	.159	.150	36*
Derby-123	.070	.143	.253	.087*	.125	.173	41*
Eastford-001	.155*	.209	.130	.150*	.115*	.188	28*
Enfield-123	.105	.162	.177	**	.133	.144	48
Greenwich-004	.120	.200	.250*	.200*	.235*	.130*	76*
Groton-123	.054*	.074*	**	.149*	.190	.135	27*
Hamden-001	.065*	.170*	.245	**	.070*	.230*	37*
Hartford-123	.110	.145*	.139	.215	.144	.154	51
Morris-001	.065*	.186*	.070*	**	.150*	.110	10*
Middletown-003	.075*	.162	.147*	**	.138	.180	26*
New Haven-123	.064	.183	.230*	.225*	.118	.132	45

* < 75% of the data available

** No data available

TABLE 21

1978 MAXIMUM 1-HOUR OZONE CONCENTRATIONS

SITE	DATE* 1ST HIGH	DATE* 2ND HIGH	CONCENTRATION (parts per million) 0 .100 (.12) .200 .300 .400
Bridgeport-123	7/21/15		.203
		5/20/16	.201
Danbury-123	5/31/14		.233
		5/31/15	.211
Derby-123	6/27/17		.253
		6/27/16	.200
Eastford-001	5/20/20		.209
		5/20/19	.193
Enfield-134	6/27/17		.177
		6/27/18	.167
Greenwich-004	6/19/15		.250
		6/19/14	.240
Groton-123	8/15/17		.190
		8/15/16	.174
Hamden-001	6/27/17		.245
		9/21/16	.230
Hartford-123	7/21/17		.215
		7/21/18	.202
Morris-001	5/31/15		.186
		5/31/16	.184
Middletown-003	9/21/16		.180
		5/20/18	.162
New Haven-123	6/19/14		.230
		7/21/15	.225

Primary Standard (.12)

* Date is read as month/day/hour of occurrence

TABLE 22

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--OZONE

TEN HIGHEST 1 HR AVG O3 DAYS 1978 WITH MET. DATA

UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	123	162		0.203	0.201	0.196	0.145	0.144	0.137	0.130	0.129	0.125	0.123
			DATE	7/21/78	5/20/78	5/31/78	7/19/78	5/30/78	9/21/78	7/23/78	9/ 3/78	6/ 3/78	8/15/78
METEOROLOGICAL SITE			DIR (DEG)	240	210	270	200	160	220	260	240	30	180
NEWARK N. J.			VEL (MPH)	7.4	9.0	1.3	6.6	3.1	8.8	8.9	4.2	4.4	5.7
			SPD (MPH)	7.8	9.8	8.6	7.8	5.3	8.9	9.9	5.6	8.6	6.0
			RATIO	0.947	0.924	0.147	0.851	0.578	0.983	0.896	0.750	0.514	0.940
METEOROLOGICAL SITE			DIR (DEG)	230	220	140	230	200	250	250	240	260	170
BRIDGEPORT CONN.			VEL (MPH)	9.5	10.0	1.9	5.4	5.1	11.8	10.5	9.9	3.6	3.2
			SPD (MPH)	10.8	10.6	9.2	8.0	8.3	12.8	11.2	11.8	6.9	8.0
			RATIO	0.881	0.936	0.205	0.671	0.608	0.924	0.939	0.840	0.516	0.396
METEOROLOGICAL SITE			DIR (DEG)	170	210	200	200	200	170	220	210	150	180
BRADLEY FIELD CONN.			VEL (MPH)	6.0	5.5	3.2	4.6	2.8	8.6	6.7	4.4	2.4	2.7
			SPD (MPH)	6.5	6.3	4.5	5.3	3.0	8.8	8.5	5.0	5.7	4.5
			RATIO	0.925	0.872	0.718	0.870	0.915	0.985	0.790	0.874	0.416	0.604
METEOROLOGICAL SITE			DIR (DEG)	250	270	90	250	250	260	260	260	270	190
WORCESTER MASS.			VEL (MPH)	7.4	7.4	2.8	5.7	4.0	9.2	8.5	6.3	6.5	2.4
			SPD (MPH)	7.8	8.3	4.6	5.9	5.7	9.5	8.6	6.6	7.6	3.9
			RATIO	0.954	0.889	0.610	0.968	0.698	0.974	0.981	0.947	0.848	0.612
DANBURY	123	108		0.233	0.180	0.171	0.159	0.154	0.150	0.145	0.125	0.123	0.122
			DATE	5/31/78	5/20/78	6/ 2/78	8/15/78	5/30/78	9/21/78	8/16/78	5/12/78	5/23/78	8/24/78
METEOROLOGICAL SITE			DIR (DEG)	270	210	100	180	160	220	190	150	170	240
NEWARK N. J.			VEL (MPH)	1.3	9.0	5.0	5.7	3.1	8.8	9.2	6.0	5.3	6.2
			SPD (MPH)	8.6	9.8	7.5	6.0	5.3	8.9	10.1	7.2	7.0	7.0
			RATIO	0.147	0.924	0.665	0.940	0.578	0.983	0.917	0.835	0.752	0.881
METEOROLOGICAL SITE			DIR (DEG)	140	220	70	170	200	250	200	180	230	90
BRIDGEPORT CONN.			VEL (MPH)	1.9	10.0	15.5	3.2	5.1	11.8	10.4	4.7	4.6	4.2
			SPD (MPH)	9.2	10.6	15.7	8.0	8.3	12.8	11.2	7.5	8.6	9.9
			RATIO	0.205	0.936	0.990	0.396	0.608	0.924	0.928	0.635	0.537	0.427
METEOROLOGICAL SITE			DIR (DEG)	200	210	170	180	200	170	170	180	210	20
BRADLEY FIELD CONN.			VEL (MPH)	3.2	5.5	6.5	2.7	2.8	8.6	8.8	9.0	5.6	3.3
			SPD (MPH)	4.5	6.3	6.9	4.5	3.0	8.8	8.9	9.2	6.6	5.0
			RATIO	0.718	0.872	0.936	0.604	0.915	0.985	0.988	0.981	0.848	0.665
METEOROLOGICAL SITE			DIR (DEG)	90	270	160	190	250	260	230	230	280	60
WORCESTER MASS.			VEL (MPH)	2.8	7.4	3.6	2.4	4.0	9.2	7.2	6.2	6.5	5.5
			SPD (MPH)	4.6	8.3	7.0	3.9	5.7	9.5	7.5	7.2	7.3	6.2
			RATIO	0.610	0.889	0.504	0.612	0.698	0.974	0.962	0.868	0.889	0.889
DERBY	123	224		0.253	0.183	0.173	0.163	0.163	0.147	0.146	0.143	0.130	0.128
			DATE	6/27/78	6/19/78	9/21/78	6/20/78	6/21/78	6/11/78	6/12/78	5/20/78	6/23/78	5/31/78
METEOROLOGICAL SITE			DIR (DEG)	180	250	220	250	190	170	180	210	300	270
NEWARK N. J.			VEL (MPH)	4.6	4.4	8.8	4.6	6.5	8.0	9.6	9.0	3.3	1.3
			SPD (MPH)	5.7	9.9	8.9	8.5	7.9	9.8	11.2	9.8	7.0	8.6
			RATIO	0.803	0.440	0.983	0.548	0.818	0.818	0.853	0.924	0.475	0.147

TABLE 22 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--OZONE

TEN HIGHEST 1 HR AVG O3 DAYS 1978 WITH MET. DATA

UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	220	180	250	240	190	210	210	220	220	140
			VEL (MPH)	4.3	3.1	11.8	8.6	5.1	6.7	11.0	10.0	4.2	1.9
			SPD (MPH)	7.0	8.3	12.8	10.5	8.2	10.1	11.6	10.6	10.1	9.2
			RATIO	0.606	0.370	0.924	0.822	0.621	0.669	0.946	0.936	0.415	0.205
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	170	170	170	290	170	180	180	210	270	200
			VEL (MPH)	6.1	2.1	8.6	4.6	6.8	8.2	11.0	5.5	4.6	3.2
			SPD (MPH)	6.2	4.3	8.8	5.7	7.0	8.5	11.1	6.3	6.8	4.5
			RATIO	0.992	0.494	0.985	0.803	0.962	0.964	0.992	0.872	0.684	0.718
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	230	260	260	300	270	230	230	270	280	90
			VEL (MPH)	5.3	2.1	9.2	5.7	2.7	9.9	9.7	7.4	7.5	2.8
			SPD (MPH)	5.7	6.0	9.5	6.5	6.2	10.5	10.1	8.3	8.0	4.6
			RATIO	0.924	0.346	0.974	0.888	0.440	0.945	0.962	0.889	0.936	0.610
EASTFORD	1	138		0.209	0.188	0.157	0.155	0.150	0.135	0.130	0.130	0.130	0.125
			DATE	5/20/78	9/21/78	5/19/78	4/13/78	7/20/78	5/28/78	6/19/78	6/12/78	5/31/78	7/21/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	210	220	340	250	210	160	250	180	270	240
			VEL (MPH)	9.0	8.8	5.9	10.7	11.3	3.7	4.4	9.6	1.3	7.4
			SPD (MPH)	9.8	8.9	7.2	14.4	11.8	5.3	9.9	11.2	8.6	7.8
			RATIO	0.924	0.983	0.822	0.741	0.962	0.688	0.440	0.853	0.147	0.947
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	220	250	230	240	230	130	180	210	140	230
			VEL (MPH)	10.0	11.8	5.4	9.0	11.2	1.6	3.1	11.0	1.9	9.5
			SPD (MPH)	10.6	12.8	8.9	13.1	11.6	7.0	8.3	11.6	9.2	10.8
			RATIO	0.936	0.924	0.604	0.692	0.961	0.227	0.370	0.946	0.205	0.881
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	210	170	100	230	200	180	170	180	200	170
			VEL (MPH)	5.5	8.6	1.1	5.9	7.9	4.6	2.1	11.0	3.2	6.0
			SPD (MPH)	6.3	8.8	4.0	11.8	8.5	4.7	4.3	11.1	4.5	6.5
			RATIO	0.872	0.985	0.267	0.500	0.930	0.975	0.494	0.992	0.718	0.925
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	270	260	310	260	250	240	260	230	90	250
			VEL (MPH)	7.4	9.2	5.0	9.6	7.7	6.5	2.1	9.7	2.8	7.4
			SPD (MPH)	8.3	9.5	6.2	11.8	7.8	7.3	6.0	10.1	4.6	7.8
			RATIO	0.889	0.974	0.805	0.816	0.989	0.884	0.346	0.962	0.610	0.954
ENFIELD	123	165		0.177	0.162	0.152	0.149	0.146	0.144	0.140	0.133	0.132	0.128
			DATE	6/27/78	5/20/78	6/12/78	5/31/78	6/21/78	9/21/78	5/12/78	8/16/78	6/11/78	6/26/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	180	210	180	270	190	220	150	190	170	170
			VEL (MPH)	4.6	9.0	9.6	1.3	6.5	8.8	6.0	9.2	8.0	6.9
			SPD (MPH)	5.7	9.8	11.2	8.6	7.9	8.9	7.2	10.1	9.8	8.0
			RATIO	0.803	0.924	0.853	0.147	0.818	0.983	0.835	0.917	0.818	0.858
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	220	220	210	140	190	250	180	200	210	210
			VEL (MPH)	4.3	10.0	11.0	1.9	5.1	11.8	4.7	10.4	6.7	6.3
			SPD (MPH)	7.0	10.6	11.6	9.2	8.2	12.8	7.5	11.2	10.1	8.2
			RATIO	0.606	0.936	0.946	0.205	0.621	0.924	0.635	0.928	0.669	0.769
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	170	210	180	200	170	170	180	170	180	180
			VEL (MPH)	6.1	5.5	11.0	3.2	6.8	8.6	9.0	8.8	8.2	6.8
			SPD (MPH)	6.2	6.3	11.1	4.5	7.0	8.8	9.2	8.9	8.5	7.3
			RATIO	0.992	0.872	0.992	0.718	0.962	0.985	0.981	0.988	0.964	0.925

TABLE 22 (Continued)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION — AIR COMPLIANCE ENGINEERING

POLLUTANT--OZONE

TEN HIGHEST 1 HR AVG O3 DAYS 1978 WITH MET. DATA

UNITS : PARTS PER MILLION

TOWN NAME	SITE SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	230	270	230	90	270	260	230	230	230	220
	VEL (MPH)	5.3	7.4	9.7	2.6	2.7	9.2	6.2	7.2	9.9	6.6
	SPD (MPH)	5.7	8.3	10.1	4.6	6.2	9.5	7.2	7.5	10.5	7.2
	RATIO	0.924	0.889	0.962	0.610	0.440	0.974	0.868	0.962	0.945	0.918
GREENWICH	4 264	0.250	0.235	0.200	0.200	0.195	0.165	0.160	0.160	0.155	0.155
	DATE	6/19/78	8/15/78	5/31/78	7/21/78	5/30/78	7/19/78	6/ 2/78	8/24/78	7/ 7/78	6/18/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)	250	180	270	240	160	200	100	240	220	150
	VEL (MPH)	4.4	5.7	1.3	7.4	3.1	6.6	5.0	6.2	8.4	6.1
	SPD (MPH)	9.9	6.0	8.6	7.8	5.3	7.8	7.5	7.0	8.9	6.5
	RATIO	0.440	0.940	0.147	0.947	0.578	0.851	0.665	0.881	0.939	0.936
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)	180	170	140	230	200	230	70	90	240	160
	VEL (MPH)	3.1	3.2	1.9	9.5	5.1	5.4	15.5	4.2	11.1	6.6
	SPD (MPH)	8.3	8.0	9.2	10.8	8.3	8.0	15.7	9.9	11.6	8.0
	RATIO	0.370	0.396	0.205	0.881	0.608	0.671	0.990	0.427	0.950	0.825
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)	170	180	200	170	200	200	170	20	190	160
	VEL (MPH)	2.1	2.7	3.2	6.0	2.8	4.6	6.5	3.3	6.9	8.3
	SPD (MPH)	4.3	4.5	4.5	6.5	3.0	5.3	6.9	5.0	7.6	8.5
	RATIO	0.494	0.604	0.718	0.925	0.915	0.870	0.936	0.665	0.902	0.978
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	260	190	90	250	250	250	160	60	240	210
	VEL (MPH)	2.1	2.4	2.8	7.4	4.0	5.7	3.6	5.5	7.7	7.4
	SPD (MPH)	6.0	3.9	4.6	7.8	5.7	5.9	7.0	6.2	7.9	7.6
	RATIO	0.346	0.612	0.610	0.954	0.698	0.968	0.504	0.888	0.969	0.976
GROTON	123 134	0.190	0.156	0.151	0.149	0.135	0.132	0.115	0.113	0.113	0.110
	DATE	8/15/78	8/14/78	8/17/78	7/19/78	9/21/78	8/29/78	9/ 6/78	9/ 2/78	8/23/78	9/ 3/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)	180	230	240	200	220	240	240	150	260	240
	VEL (MPH)	5.7	1.2	9.8	6.6	8.8	9.1	6.4	2.8	4.9	4.2
	SPD (MPH)	6.0	4.3	10.3	7.8	8.9	9.8	7.9	5.5	6.3	5.6
	RATIO	0.940	0.268	0.951	0.851	0.983	0.928	0.803	0.520	0.780	0.750
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)	170	240	240	230	250	260	200	220	270	240
	VEL (MPH)	3.2	8.6	8.7	5.4	11.8	9.2	2.6	3.5	6.7	9.9
	SPD (MPH)	8.0	9.2	10.3	8.0	12.8	11.5	8.9	9.1	8.8	11.8
	RATIO	0.396	0.937	0.845	0.671	0.924	0.803	0.288	0.390	0.759	0.840
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)	180	260	230	200	170	230	210	210	290	210
	VEL (MPH)	2.7	2.5	4.7	4.6	8.6	5.2	4.6	1.9	3.2	4.4
	SPD (MPH)	4.5	3.6	7.9	5.3	8.8	8.0	7.0	5.7	3.7	5.0
	RATIO	0.604	0.703	0.600	0.870	0.985	0.650	0.647	0.334	0.869	0.874
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	190	280	260	250	260	270	240	250	310	260
	VEL (MPH)	2.4	6.1	6.4	5.7	9.2	9.6	4.6	3.6	8.5	6.3
	SPD (MPH)	3.9	6.3	7.3	5.9	9.5	10.1	6.9	5.5	8.9	6.6
	RATIO	0.612	0.966	0.875	0.968	0.974	0.949	0.672	0.667	0.956	0.947

TABLE 22 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--OZONE

TEN HIGHEST 1 HR AVG O3 DAYS 1978 WITH MET. DATA

UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
HAMDEN	1	79	0.245	0.230	0.205	0.170	0.160	0.160	0.155	0.137	0.132	0.118
		DATE	6/27/78	9/21/78	6/19/78	5/31/78	6/12/78	6/21/78	6/20/78	6/ 2/78	6/11/78	6/22/78
METEOROLOGICAL SITE		DIR (DEG)	180	220	250	270	180	190	250	100	170	270
NEWARK N. J.		VEL (MPH)	4.6	8.8	4.4	1.3	9.6	6.5	4.6	5.0	8.0	7.1
		SPD (MPH)	5.7	8.9	9.9	8.6	11.2	7.9	8.5	7.5	9.8	9.3
		RATIO	0.803	0.983	0.440	0.147	0.853	0.818	0.548	0.665	0.818	0.757
METEOROLOGICAL SITE		DIR (DEG)	220	250	180	140	210	190	240	70	210	240
BRIDGEPORT CONN.		VEL (MPH)	4.3	11.8	3.1	1.9	11.0	5.1	8.6	15.5	6.7	9.1
		SPD (MPH)	7.0	12.8	8.3	9.2	11.6	8.2	10.5	15.7	10.1	10.1
		RATIO	0.606	0.924	0.370	0.205	0.946	0.621	0.822	0.990	0.669	0.908
METEOROLOGICAL SITE		DIR (DEG)	170	170	170	200	180	170	290	170	180	270
BRADLEY FIELD CONN.		VEL (MPH)	6.1	8.6	2.1	3.2	11.0	6.8	4.6	6.5	8.2	3.9
		SPD (MPH)	6.2	8.8	4.3	4.5	11.1	7.0	5.7	6.9	8.5	7.2
		RATIO	0.992	0.985	0.494	0.718	0.992	0.962	0.803	0.936	0.964	0.549
METEOROLOGICAL SITE		DIR (DEG)	230	260	260	90	230	270	300	160	230	270
WORCESTER MASS.		VEL (MPH)	5.3	9.2	2.1	2.8	9.7	2.7	5.7	3.6	9.9	5.4
		SPD (MPH)	5.7	9.5	6.0	4.6	10.1	6.2	6.5	7.0	10.5	6.0
		RATIO	0.924	0.974	0.346	0.610	0.962	0.440	0.888	0.504	0.945	0.891
HARTFORD	123	346	0.215	0.175	0.165	0.156	0.154	0.145	0.145	0.144	0.139	0.139
		DATE	7/21/78	7/ 7/78	7/20/78	7/ 8/78	9/21/78	7/13/78	5/30/78	8/15/78	5/31/78	6/12/78
METEOROLOGICAL SITE		DIR (DEG)	240	220	210	210	220	220	160	180	270	180
NEWARK N. J.		VEL (MPH)	7.4	8.4	11.3	9.6	8.8	9.8	3.1	5.7	1.3	9.6
		SPD (MPH)	7.8	8.9	11.8	9.9	8.9	10.5	5.3	6.0	8.6	11.2
		RATIO	0.947	0.939	0.962	0.972	0.983	0.938	0.578	0.940	0.147	0.853
METEOROLOGICAL SITE		DIR (DEG)	230	240	230	220	250	230	200	170	140	210
BRIDGEPORT CONN.		VEL (MPH)	9.5	11.1	11.2	12.3	11.8	6.5	5.1	3.2	1.9	11.0
		SPD (MPH)	10.8	11.6	11.6	13.1	12.8	10.8	8.3	8.0	9.2	11.6
		RATIO	0.881	0.950	0.961	0.944	0.924	0.606	0.608	0.396	0.205	0.946
METEOROLOGICAL SITE		DIR (DEG)	170	190	200	180	170	210	200	180	200	180
BRADLEY FIELD CONN.		VEL (MPH)	6.0	6.9	7.9	8.7	8.6	6.1	2.8	2.7	3.2	11.0
		SPD (MPH)	6.5	7.6	8.5	9.2	8.8	7.3	3.0	4.5	4.5	11.1
		RATIO	0.925	0.902	0.930	0.947	0.985	0.826	0.915	0.604	0.718	0.992
METEOROLOGICAL SITE		DIR (DEG)	250	240	250	240	260	240	250	190	90	230
WORCESTER MASS.		VEL (MPH)	7.4	7.7	7.7	8.8	9.2	5.0	4.0	2.4	2.8	9.7
		SPD (MPH)	7.8	7.9	7.8	9.1	9.5	5.5	5.7	3.9	4.6	10.1
		RATIO	0.954	0.969	0.989	0.971	0.974	0.917	0.698	0.612	0.610	0.962
LTCH CTY(MORRIS DAM)	1	118	0.186	0.150	0.140	0.135	0.111	0.110	0.105	0.104	0.099	0.092
		DATE	5/31/78	8/16/78	5/30/78	8/15/78	5/20/78	9/21/78	5/12/78	9/ 3/78	5/23/78	9/ 6/78
METEOROLOGICAL SITE		DIR (DEG)	270	190	160	180	210	220	150	240	170	240
NEWARK N. J.		VEL (MPH)	1.3	9.2	3.1	5.7	9.0	8.8	6.0	4.2	5.3	6.4
		SPD (MPH)	8.6	10.1	5.3	6.0	9.8	8.9	7.2	5.6	7.0	7.9
		RATIO	0.147	0.917	0.578	0.940	0.924	0.983	0.835	0.750	0.752	0.803

TABLE 22 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--OZONE

TEN HIGHEST 1 HR AVG O3 DAYS 1978 WITH MET. DATA

UNITS : PARTS PER MILLION

TOWN NAME	SITE SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)	140	200	200	170	220	250	180	240	230	200
	VEL (MPH)	1.9	10.4	5.1	3.2	10.0	11.8	4.7	9.9	4.6	2.6
	SPD (MPH)	9.2	11.2	8.3	8.0	10.6	12.8	7.5	11.8	8.6	8.9
	RATIO	0.205	0.928	0.608	0.396	0.936	0.924	0.635	0.840	0.537	0.288
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)	200	170	200	180	210	170	180	210	210	210
	VEL (MPH)	3.2	8.8	2.8	2.7	5.5	8.6	9.0	4.4	5.6	4.6
	SPD (MPH)	4.5	8.9	3.0	4.5	6.3	8.8	9.2	5.0	6.6	7.0
	RATIO	0.718	0.988	0.915	0.604	0.872	0.985	0.981	0.874	0.848	0.647
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	90	230	250	190	270	260	230	260	280	240
	VEL (MPH)	2.8	7.2	4.0	2.4	7.4	9.2	6.2	6.3	6.5	4.6
	SPD (MPH)	4.6	7.5	5.7	3.9	8.3	9.5	7.2	6.6	7.3	6.9
	RATIO	0.610	0.962	0.698	0.612	0.889	0.974	0.868	0.947	0.889	0.672
MIDDLETOWN	3 127	0.180	0.162	0.147	0.143	0.141	0.138	0.126	0.121	0.120	0.110
	DATE	9/21/78	5/20/78	6/12/78	5/31/78	9/ 3/78	8/15/78	6/ 2/78	9/ 6/78	6/11/78	5/30/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)	220	210	180	270	240	180	100	240	170	160
	VEL (MPH)	8.8	9.0	9.6	1.3	4.2	5.7	5.0	6.4	8.0	3.1
	SPD (MPH)	8.9	9.8	11.2	8.6	5.6	6.0	7.5	7.9	9.8	5.3
	RATIO	0.983	0.924	0.853	0.147	0.750	0.940	0.665	0.803	0.818	0.578
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)	250	220	210	140	240	170	70	200	210	200
	VEL (MPH)	11.8	10.0	11.0	1.9	9.9	3.2	15.5	2.6	6.7	5.1
	SPD (MPH)	12.8	10.6	11.6	9.2	11.8	8.0	15.7	8.9	10.1	8.3
	RATIO	0.924	0.936	0.946	0.205	0.840	0.396	0.990	0.288	0.669	0.608
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)	170	210	180	200	210	180	170	210	180	200
	VEL (MPH)	8.6	5.5	11.0	3.2	4.4	2.7	6.5	4.6	8.2	2.8
	SPD (MPH)	8.8	6.3	11.1	4.5	5.0	4.5	6.9	7.0	8.5	3.0
	RATIO	0.985	0.872	0.992	0.718	0.874	0.604	0.936	0.647	0.964	0.915
METEOROLOGICAL SITE WORCESTER MASS.	DIR (DEG)	260	270	230	90	260	190	160	240	230	250
	VEL (MPH)	9.2	7.4	9.7	2.8	6.3	2.4	3.6	4.6	9.9	4.0
	SPD (MPH)	9.5	8.3	10.1	4.6	6.6	3.9	7.0	6.9	10.5	5.7
	RATIO	0.974	0.889	0.962	0.610	0.947	0.612	0.504	0.672	0.945	0.698
NEW HAVEN	123 171	0.230	0.225	0.207	0.187	0.183	0.175	0.170	0.165	0.155	0.149
	DATE	6/19/78	7/21/78	6/21/78	6/12/78	5/30/78	5/31/78	5/20/78	6/20/78	7/23/78	7/20/78
METEOROLOGICAL SITE NEWARK N. J.	DIR (DEG)	250	240	190	180	160	270	210	250	260	210
	VEL (MPH)	4.4	7.4	6.5	9.6	3.1	1.3	9.0	4.6	8.9	11.3
	SPD (MPH)	9.9	7.8	7.9	11.2	5.3	8.6	9.8	8.5	9.9	11.8
	RATIO	0.440	0.947	0.818	0.853	0.578	0.147	0.924	0.548	0.896	0.962
METEOROLOGICAL SITE BRIDGEPORT CONN.	DIR (DEG)	180	230	190	210	200	140	220	240	250	230
	VEL (MPH)	3.1	9.5	5.1	11.0	5.1	1.9	10.0	8.6	10.5	11.2
	SPD (MPH)	8.3	10.8	8.2	11.6	8.3	9.2	10.6	10.5	11.2	11.6
	RATIO	0.370	0.881	0.621	0.946	0.608	0.205	0.936	0.822	0.939	0.961
METEOROLOGICAL SITE BRADLEY FIELD CONN.	DIR (DEG)	170	170	170	180	200	200	210	290	220	200
	VEL (MPH)	2.1	6.0	6.8	11.0	2.8	3.2	5.5	4.6	6.7	7.9
	SPD (MPH)	4.3	6.5	7.0	11.1	3.0	4.5	6.3	5.7	8.5	8.5
	RATIO	0.494	0.925	0.962	0.992	0.915	0.718	0.872	0.803	0.790	0.930

TABLE 22 (Continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION — AIR COMPLIANCE ENGINEERING

TEN HIGHEST 1 HR AVG O3 DAYS 1978 WITH MET. DATA

POLLUTANT--OZONE — UNITS : PARTS PER MILLION

TOWN NAME	SITE SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE	DIR (DEG)	260	250	270	230	250	90	270	300	260	250
WORCESTER MASS.	VEL (MPH)	2.1	7.4	2.7	9.7	4.0	2.8	7.4	5.7	8.5	7.7
	SPD (MPH)	6.0	7.8	6.2	10.1	5.7	4.6	8.3	6.5	8.6	7.8
	RATIO	0.346	0.954	0.440	0.962	0.698	0.610	0.889	0.888	0.981	0.989

V. NITROGEN DIOXIDE

Conclusions:

Measured nitrogen dioxide levels at all sampling sites in Connecticut were lower than the National Ambient Air Quality Standard of 100 $\mu g/m^3$, annual arithmetic mean. A statistical analysis of the data also demonstrates, with 95% confidence, that every site achieved the annual NAAQS for NO_2.

A small improvement in NO_2 levels took place between 1977 and 1978 (see Table 4). Since 60% of the NO_2 emissions in Connecticut come from motor vehicles, some of this improvement could be attributable to the Federal emission control program for motor vehicles, but most of the improvement is probably due to the meteorological changes noted in the discussions of the other pollutants.

Sample Collection and Analysis:

The DEP Air Monitoring Unit uses gas bubblers employing the NASN Sodium Arsenite method. These instruments sample for twenty-four hours every sixth day, the same schedule as the suspended particulate instruments. The samples are later chemically analyzed in the laboratory.

Discussion of Data:

Monitoring Network - There were 23 nitrogen dioxide sites in 1978 as compared to 24 in 1977. The sites were distributed in a network which covers urban, residential and suburban locations (see Figure 7).

Historical Data - The DEP's historical file of annual average nitrogen dioxide data for 1973-1978 is presented in Table 23. The complete historical file is presented because some minor corrections have been made to some of the data published in earlier Annual Summaries. The data presented in this 1978 Annual Summary replace all previous compilations. Also, if minimum EPA sampling requirements were not met in a given year at a given site, an asterisk now appears next to the number of samples taken at that site.

Annual Averages - The annual average NO_2 standard was not exceeded in 1978 at any site in Connecticut. In 1978, of the sites that had sufficient data to compute valid arithmetic means, 5 sites showed higher annual means than in 1977, with 2 of these increases being greater than 5 $\mu g/m^3$. In 1978, 14 sites showed lower annual means than in 1977, with 7 of these decreases being greater than 5 $\mu g/m^3$. Thus, these results indicate that there has been a general statewide decrease in NO_2 levels. A continuation of this trend would enhance efforts to maintain the NAAQS for Nitrogen Dioxide.

Statistical Projections - The format of Table 23 is the same as that used to list the total suspended particulate data. Note that although the distribution of NO_2 data tends to be lognormal, the annual arithmetic mean is shown for direct comparison to the NAAQS for nitrogen dioxide. The 95 percent limits and standard deviations are also arithmetic calculations, but the geometric means and standard deviations were used to give accurate predictions of the number of days the levels of 100 $\mu g/m^3$ and 282 $\mu g/m^3$ would be exceeded at each site if sampling had been conducted on a daily basis. Although there is no 24-hour NAAQS for NO_2 the 282 $\mu g/m^3$ level was selected for this presentation because at this level a 1st stage air pollution alert is to be declared according to the State of Connecticut's Administrative Regulations for the Abatement of Air Pollution. The 100 $\mu g/m^3$ level was selected to provide an indication of how many days per year the annual NAAQS may have been exceeded if sampling was performed daily.

10 High Days With Wind Data - Table 24 contains the 10 highest daily NO_2 readings for each site in 1978 along with the associated wind conditions. (See the discussion of Table 12 in the TSP section for a description of the origin and use of these wind data.)

As with the other pollutants, NO_2 levels were high most often when the winds were southwesterly. But, more so than the other pollutants, NO_2 levels were high on non-persistent southwest wind days. Although some NO_2 is emitted directly by fuel burning sources, much NO_2 is formed in the atmosphere. Once again, it appears that a combination of pollutant transport and otherwise adverse meteorological conditions tend to produce high NO_2 levels on southwest wind days.

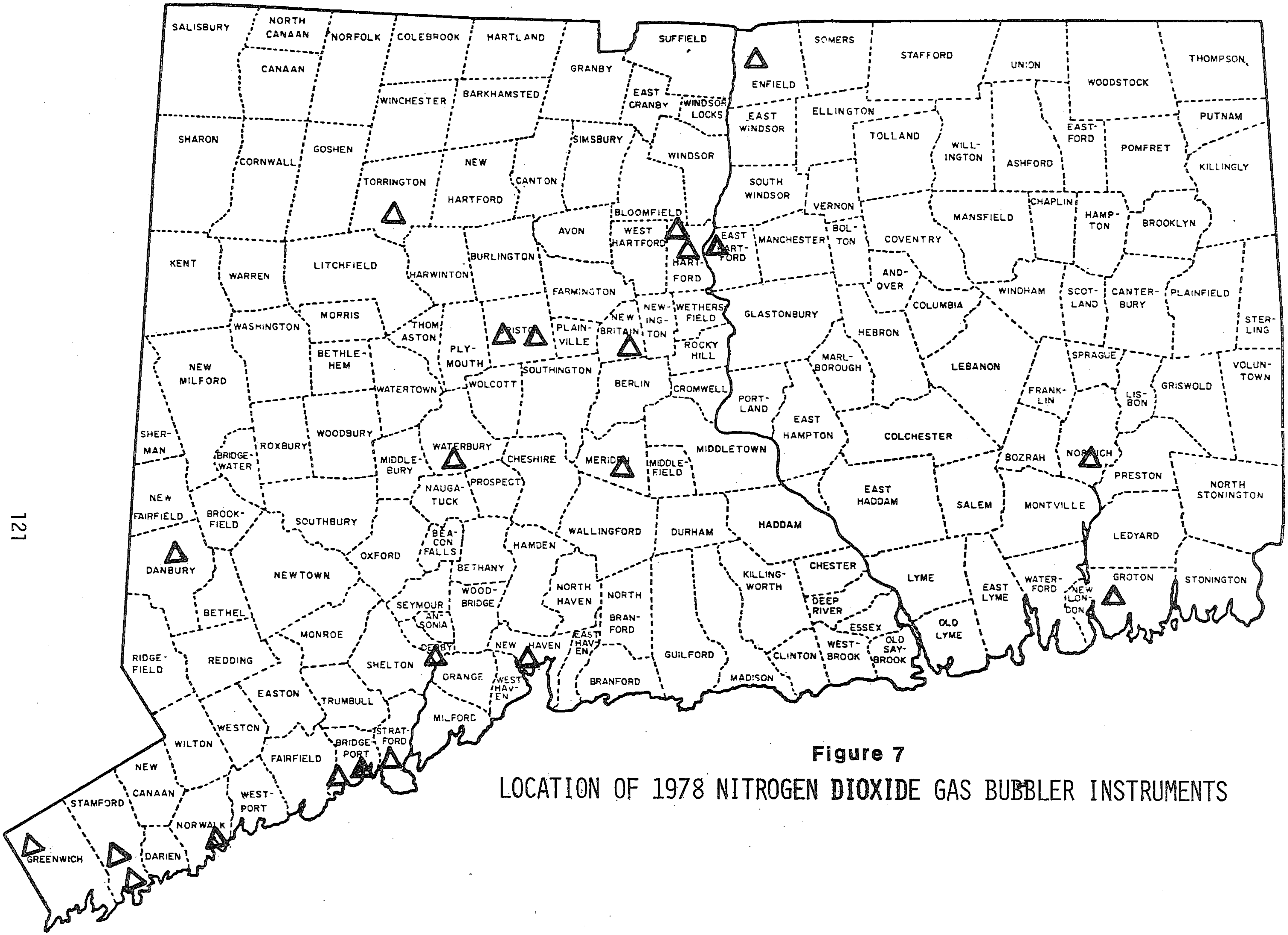


Figure 7

LOCATION OF 1978 NITROGEN DIOXIDE GAS BUBBLER INSTRUMENTS

TABLE 23 1973-1978 NO_2, ANNUAL AVERAGES AND STATISTICAL PROJECTIONS

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 1 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
BERLIN	01	1973	58	42.4	42	42	33.266	29	2
BERLIN	01	1974	55	17.3	17	17	15.498	4	
BERLIN	01	1975	51	39.9	40	40	28.066	20	
BERLIN	01	1976	13*	49.7	50	50	24.304	24	
BRIDGEPORT	01	1973	26*	64.8	65	65	23.676	29	
BRIDGEPORT	01	1974	60	57.1	57	57	22.824	20	
BRIDGEPORT	01	1975	56	58.0	58	58	25.255	29	
BRIDGEPORT	01	1976	57	69.1	69	69	31.261	77	2
BRIDGEPORT	01	1977	57	84.7	85	85	36.274	100	
BRIDGEPORT	01	1978	61	74.7	75	75	31.824	67	
BRIDGEPORT	03	1973	29*	104.0	104	104	54.953	154	8
BRIDGEPORT	03	1975	45*	71.8	72	72	27.710	67	
BRIDGEPORT	03	1976	13*	62.9	63	63	20.216	29	
BRIDGEPORT	123	1975	30*	72.0	72	72	33.054	67	
BRIDGEPORT	123	1976	59	70.3	70	70	29.970	67	
BRIDGEPORT	123	1977	58	72.5	72	72	26.607	58	
BRIDGEPORT	123	1978	59	66.1	66	66	28.084	50	
BRISTOL	01	1973	20*	51.9	52	52	19.450	35	
BRISTOL	01	1974	59	33.3	33	33	23.633	29	2
BRISTOL	01	1975	47	47.1	47	47	21.087	16	
BRISTOL	01	1976	52	53.1	53	53	31.396	29	
BRISTOL	01	1977	59	49.7	50	50	19.605	29	
BRISTOL	01	1978	58	48.0	48	48	22.045	16	
BRISTOL	02	1973	19*	36.7	37	37	14.094		
BRISTOL	02	1974	56	26.8	27	27	20.149	13	1
BRISTOL	03	1973	19*	43.2	43	43	22.402	24	
BRISTOL	03	1974	59	28.6	29	29	19.652	13	1

TABLE 23 (CONTINUED)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 2 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
BRISTOL	04	1973	19*	54.0	43	65	22.757	50	2
BRISTOL	04	1974	59	45.1	40	50	21.223	24	
BRISTOL	04	1975	47	52.1	44	60	27.905	35	1
BRISTOL	04	1976	14*	11.1	7	16	7.770		
BURLINGTON	01	1973	46*	12.8	10	16	11.466		
BURLINGTON	01	1974	58	12.3	9	15	13.214	2	
BURLINGTON	01	1975	51	18.0	14	22	14.770	2	
BURLINGTON	01	1976	9*	9.8	3	17	8.832		
COLCHESTER	01	1973	60	44.4	38	51	26.167	29	1
COLCHESTER	01	1974	60	31.6	28	35	15.937	1	
COLCHESTER	01	1975	56	37.0	34	40	14.121	2	
COLCHESTER	01	1976	10*	33.6	22	45	16.076	3	
DANBURY	01	1973	25*	35.2	25	45	25.331	29	2
DANBURY	01	1974	55	45.0	38	52	26.845	29	1
DANBURY	01	1975	9*	65.9	31	100	45.405	67	3
DANBURY	123	1975	48*	44.0	39	49	17.294	4	
DANBURY	123	1976	57	41.1	35	47	23.155	24	
DANBURY	123	1977	61	55.0	51	59	17.784	8	
DANBURY	123	1978	57	55.8	51	61	21.274	20	
DANBURY 01/	123	1975	57	47.5	41	54	25.326	10	
DERBY	123	1976	56	52.1	46	58	23.071	24	
DERBY	123	1977	60	58.4	53	64	21.760	24	
DERBY	123	1978	44*	53.7	48	59	18.992	13	
EAST HARTFORD	01	1974	43*	57.7	52	63	19.828	16	
EAST HARTFORD	01	1975	56	63.2	57	69	24.617	35	
EAST HARTFORD	01	1976	13*	40.6	26	56	25.370	29	1
EAST HARTFORD	02	1973	20*	61.3	50	72	24.460	29	

TABLE 23 (CONTINUED)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 3 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
EAST HARTFORD	02	1974	61	52.3	48	57	19.256	10	
EAST HARTFORD	02	1975	52	54.6	48	61	23.877	13	
EAST HARTFORD	02	1976	55	41.2	34	48	27.462	20	
EAST HARTFORD	02	1977	60	59.9	55	65	21.159	29	
EAST HARTFORD	02	1978	58	57.0	52	62	22.460	20	
EAST WINDSOR	01	1975	33*	64.2	55	74	28.132	42	
EAST WINDSOR	01	1976	13*	60.2	44	76	26.740	29	
ENFIELD	123	1975	42*	46.6	41	53	20.271	8	
ENFIELD	123	1976	61	44.6	40	50	21.365	7	
ENFIELD	123	1977	59	55.0	50	60	21.909	16	
ENFIELD	123	1978	60	52.2	47	58	22.779	20	
GREENWICH	01	1973	53	104.2	84	125	81.016	139	8
GREENWICH	01	1974	58	55.7	46	65	38.562	67	10
GREENWICH	01	1975	54	36.5	29	44	29.931	10	
GREENWICH	01	1976	54	73.3	64	82	36.327	77	2
GREENWICH	01	1977	42*	85.3	73	97	40.323	100	1
GREENWICH	04	1973	49*	72.2	56	89	61.286	77	4
GREENWICH	04	1974	59	39.9	34	46	23.535	35	3
GREENWICH	04	1975	57	53.4	47	60	25.233	35	
GREENWICH	04	1976	57	53.9	48	60	26.323	35	
GREENWICH	04	1977	59	48.8	43	54	22.671	20	
GREENWICH	04	1978	60	39.4	35	44	18.012	8	
GREENWICH	08	1976	54	35.9	32	40	15.819	2	
GREENWICH	08	1977	14*	30.9	24	38	11.799		
GROTON	01	1973	57	44.5	37	52	29.516	35	2
GROTON	01	1974	61	37.9	35	41	13.644	1	
GROTON	01	1975	24*	38.4	31	46	17.545	5	
GROTON	123	1975	34*	44.8	40	50	15.738	3	

TABLE 23 (CONTINUED)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 4 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
GROTON	123	1976	58	41.6	38	45	14.171	4	
GROTON	123	1977	60	49.7	45	54	18.152	10	
GROTON	123	1978	61	46.2	41	51	21.707	16	
GROTON 01/	123	1975	58	42.1	38	46	16.808	5	
HARTFORD	02	1973	35*	63.1	59	67	13.293	4	
HARTFORD	02	1974	60	53.4	46	60	29.797	50	2
HARTFORD	02	1975	56	60.2	54	67	25.485	29	
HARTFORD	02	1976	58	58.5	53	64	22.128	35	
HARTFORD	02	1977	54	56.1	50	62	23.461	29	
HARTFORD	02	1978	45*	49.1	41	58	30.404	50	5
HARTFORD	03	1978	9*	81.6	55	108	35.261	88	
HARTFORD	123	1975	34*	76.5	67	85	27.038	58	
HARTFORD	123	1976	62	65.6	59	72	27.472	58	
HARTFORD	123	1977	60	85.1	69	101	69.245	100	1
HARTFORD	123	1978	61	76.3	69	84	31.671	67	
KENT	01	1973	27*	16.1	12	21	12.018		
KENT	01	1974	57	14.5	12	17	10.471	1	
KENT	01	1975	41	19.4	16	23	12.016		
LITCHFIELD	01	1973	49*	42.3	34	50	30.297	24	1
LITCHFIELD	01	1974	59	30.3	26	35	18.140	13	
LITCHFIELD	01	1975	55	35.3	30	41	23.057	4	
LITCHFIELD	01	1976	13*	38.8	30	48	15.094	4	
MANSFIELD	01	1974	32*	28.7	24	34	13.947	4	
MANSFIELD	01	1975	57	31.6	28	35	15.138	2	
MANSFIELD	01	1976	11*	35.1	24	47	17.433	2	
MANSFIELD	02	1973	47*	32.2	26	38	21.894	10	
MANSFIELD	02	1974	20*	19.5	14	25	11.626	1	

TABLE 23 (CONTINUED)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 5 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
MERIDEN	02	1974	41*	42.7	34	51	28.853	42	5
MERIDEN	02	1975	43	46.6	39	54	27.237	29	1
MERIDEN	02	1976	54	51.7	44	60	31.479	42	2
MERIDEN	02	1977	60	47.8	42	53	24.230	24	
MERIDEN	02	1978	57	49.8	44	56	24.061	35	1
MIDDLETOWN	03	1973	24*	56.2	45	67	27.091	35	
MIDDLETOWN	03	1974	59	56.3	50	62	25.363	24	
MIDDLETOWN	03	1975	55	56.9	52	62	21.615	20	
MIDDLETOWN	03	1976	13*	61.3	47	75	23.869	35	
MILFORD	01	1973	11*	51.5	28	75	35.931	50	5
MILFORD	01	1974	60	49.0	42	56	31.439	42	2
MILFORD	01	1975	58	58.7	52	65	27.813	35	
MILFORD	01	1976	13*	56.6	37	77	33.575	67	8
MILFORD	06	1973	46	47.5	39	56	31.636	42	3
NAUGATUCK	01	1973	47*	69.2	56	83	48.488	77	4
NAUGATUCK	01	1974	60	46.3	41	52	24.147	50	7
NAUGATUCK	01	1975	55	54.5	49	60	22.220	20	
NAUGATUCK	01	1976	13*	43.0	30	56	21.828	42	3
NEW BRITAIN	02	1974	60	48.9	41	57	32.639	58	8
NEW BRITAIN	02	1975	55	63.5	53	74	42.461	67	3
NEW BRITAIN	02	1976	16*	59.6	46	73	25.908	35	
NEW BRITAIN	123	1976	43*	39.1	34	44	16.941	4	
NEW BRITAIN	123	1977	61	54.7	50	59	19.524	29	
NEW BRITAIN	123	1978	61	60.3	53	68	31.589	35	
NEW HAVEN	01	1973	28*	68.0	58	79	28.196	88	7
NEW HAVEN	01	1974	61	66.6	61	73	25.360	29	
NEW HAVEN	01	1975	57	74.8	67	82	31.110	88	4
NEW HAVEN	01	1976	55	67.9	61	75	28.160	58	

TABLE 23 (CONTINUED)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 6 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
NEW HAVEN	01	1977	39*	75.3	68	83	24.377	58	
NEW HAVEN	123	1976	57	78.6	71	86	30.813	67	
NEW HAVEN	123	1977	58	78.6	71	86	29.706	77	
NEW HAVEN	123	1978	61	82.1	74	90	35.306	88	
NORWALK	05	1973	54	110.0	94	126	64.647	168	7
NORWALK	05	1974	60	72.1	65	80	31.491	67	
NORWALK	05	1975	57	83.1	74	92	36.901	113	5
NORWALK	05	1976	57	74.4	66	83	35.956	77	1
NORWALK	05	1977	55	74.1	66	82	31.159	67	
NORWALK	05	1978	61	66.1	59	73	29.445	50	
NORWICH	01	1973	54	62.9	54	72	35.295	58	2
NORWICH	01	1974	61	45.7	41	50	18.562	10	
NORWICH	01	1975	58	43.9	40	48	17.119	7	
NORWICH	01	1976	59	43.9	40	48	18.365	8	
NORWICH	01	1977	61	51.5	48	55	15.395	3	
NORWICH	01	1978	59	48.8	44	54	20.092	13	
OLD SAYBROOK	01	1973	19*	60.7	46	75	30.497	67	4
OLD SAYBROOK	01	1974	61	62.0	55	69	30.650	67	4
OLD SAYBROOK	01	1975	59	69.4	63	76	27.097	58	
OLD SAYBROOK	01	1976	11*	50.9	38	64	19.934	8	
PUTNAM	02	1973	44*	42.8	35	51	28.029	35	2
PUTNAM	02	1974	61	28.3	25	31	12.870	3	
PUTNAM	02	1975	55	39.1	34	44	21.028	7	
PUTNAM	02	1976	13*	34.2	22	46	19.858	2	
STAMFORD	03	1973	51	83.1	65	101	67.849	100	10
STAMFORD	03	1974	10*	60.1	48	73	17.835	7	
STAMFORD	07	1974	49*	29.0	20	38	33.094	20	2
STAMFORD	07	1975	50	52.3	45	60	28.173	35	

TABLE 23 (CONTINUED)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
STAMFORD	07	1976	56	53.3	47	59	24.870	42	1
STAMFORD	07	1977	57	64.9	58	72	29.736	58	1
STAMFORD	07	1978	61	60.3	53	68	31.198	50	1
STAMFORD	123	1974	48*	63.6	55	72	30.799	35	
STAMFORD	123	1975	57	71.6	64	79	31.400	67	
STAMFORD	123	1976	56	62.6	57	68	23.375	42	
STAMFORD	123	1977	61	71.4	64	79	32.223	77	1
STAMFORD	123	1978	61	65.4	59	72	28.536	50	
STRATFORD	05	1973	52*	76.4	66	87	41.360	77	
STRATFORD	05	1974	60	67.0	61	73	26.728	35	
STRATFORD	05	1975	60	72.0	65	78	27.511	58	
STRATFORD	05	1976	58	69.1	62	76	27.554	58	
STRATFORD	05	1977	56	53.6	47	60	27.490	42	1
STRATFORD	05	1978	61	58.7	51	66	33.257	50	1
TORRINGTON	01	1973	50*	51.9	42	62	37.723	42	1
TORRINGTON	01	1974	61	37.0	33	41	18.664	13	
TORRINGTON	01	1975	29*	49.0	41	57	21.674	13	
TORRINGTON	123	1975	28*	46.5	40	53	18.413	8	
TORRINGTON	123	1976	57	47.7	43	52	18.254	5	
TORRINGTON	123	1977	60	54.5	50	59	18.473	13	
TORRINGTON	123	1978	58	48.4	44	53	18.304	10	
TORRINGTON 1/	123	1975	57	47.8	43	53	20.180	10	
VOLUNTOWN	01	1973	54	25.4	19	31	23.477	5	
VOLUNTOWN	01	1974	58	17.7	15	20	11.103		
VOLUNTOWN	01	1975	42	20.7	16	26	16.769	1	
VOLUNTOWN	01	1976	12*	22.8	17	28	8.899		
WATERBURY	01	1973	28*	64.0	55	73	23.192	58	
WATERBURY	01	1974	58	63.7	57	70	25.709	67	2

TABLE 23 (CONTINUED)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 8 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
WATERBURY	01	1975	18*	46.8	36	57	21.562	20	
WATERBURY	02	1974	20*	30.4	24	37	14.789	20	1
WATERBURY	02	1975	58	47.1	42	52	21.138	20	
WATERBURY	02	1976	13*	57.7	44	72	23.545	24	
WATERBURY	03	1975	50	56.3	49	64	29.337	42	
WATERBURY	03	1976	13*	61.4	37	86	41.355	50	1
WATERBURY	123	1975	40*	68.1	63	73	17.784	20	
WATERBURY	123	1976	60	65.6	60	71	24.352	50	
WATERBURY	123	1977	61	71.9	67	77	21.077	42	
WATERBURY	123	1978	60	69.6	64	75	23.687	50	
WILLIMANTIC	01	1973	50*	54.2	47	61	26.978	29	
WILLIMANTIC	01	1974	61	42.0	37	47	19.570	13	
WILLIMANTIC	01	1975	59	43.3	40	47	15.860	2	
WILLIMANTIC	01	1976	10*	41.9	30	53	16.208	8	

* SAMPLING NOT RANDOM OR OF INSUFFICIENT SIZE FOR REPRESENTATIVE ANNUAL STATISTICS.

TABLE 24

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE

TEN HIGHEST 24 HR AVG NO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	1	61		148	148	145	145	132	127	125	114	112	110
			DATE	12/16/78	5/20/78	10/23/78	7/19/78	8/24/78	7/13/78	7/ 7/78	11/ 4/78	6/19/78	3/ 3/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	210	210	270	200	240	220	220	20	250	20
			VEL (MPH)	7.6	9.0	7.4	6.6	6.2	9.8	8.4	8.0	4.4	7.9
			SPD (MPH)	8.0	9.8	11.2	7.8	7.0	10.5	8.9	8.2	9.9	9.6
			RATIO	0.938	0.924	0.662	0.851	0.881	0.938	0.939	0.973	0.440	0.824
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	240	220	280	230	90	230	240	40	180	50
			VEL (MPH)	8.5	10.0	12.5	5.4	4.2	6.5	11.1	6.9	3.1	12.7
			SPD (MPH)	10.9	10.6	16.2	8.0	9.9	10.8	11.6	8.0	8.3	15.1
			RATIO	0.778	0.936	0.770	0.671	0.427	0.606	0.950	0.854	0.370	0.842
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	190	210	310	200	20	210	190	350	170	10
			VEL (MPH)	3.1	5.5	3.6	4.6	3.3	6.1	6.9	1.2	2.1	4.6
			SPD (MPH)	3.4	6.3	8.2	5.3	5.0	7.3	7.6	1.3	4.3	4.7
			RATIO	0.888	0.872	0.444	0.870	0.665	0.826	0.902	0.904	0.494	0.960
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	260	270	300	250	60	240	240	150	260	40
			VEL (MPH)	5.7	7.4	11.2	5.7	5.5	5.0	7.7	1.6	2.1	2.6
			SPD (MPH)	6.2	8.3	12.9	5.9	6.2	5.5	7.9	2.2	6.0	6.8
			RATIO	0.927	0.889	0.866	0.968	0.888	0.917	0.969	0.756	0.346	0.385
BRIDGEPORT	123	59		134	130	121	116	110	108	106	104	96	94
			DATE	7/19/78	12/16/78	7/ 7/78	7/13/78	2/13/78	3/21/78	5/ 8/78	11/ 4/78	8/24/78	11/28/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	200	210	220	220	240	180	150	20	240	270
			VEL (MPH)	6.6	7.6	8.4	9.8	2.5	5.4	7.0	8.0	6.2	5.0
			SPD (MPH)	7.8	8.0	8.9	10.5	5.3	8.9	7.9	8.2	7.0	8.6
			RATIO	0.851	0.938	0.939	0.938	0.465	0.610	0.887	0.973	0.881	0.574
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	230	240	240	230	230	190	170	40	90	310
			VEL (MPH)	5.4	8.5	11.1	6.5	3.1	4.2	2.8	6.9	4.2	5.8
			SPD (MPH)	8.0	10.9	11.6	10.8	7.6	11.8	7.2	8.0	9.9	11.4
			RATIO	0.671	0.778	0.950	0.606	0.411	0.360	0.396	0.854	0.427	0.508
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	200	190	190	210	310	170	180	350	20	320
			VEL (MPH)	4.6	3.1	6.9	6.1	4.4	6.7	8.1	1.2	3.3	3.1
			SPD (MPH)	5.3	3.4	7.6	7.3	5.5	7.0	8.8	1.3	5.0	7.2
			RATIO	0.870	0.888	0.902	0.826	0.803	0.954	0.929	0.904	0.665	0.435
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	250	260	240	240	300	210	210	150	60	300
			VEL (MPH)	5.7	5.7	7.7	5.0	6.1	10.2	7.0	1.6	5.5	4.4
			SPD (MPH)	5.9	6.2	7.9	5.5	7.5	10.5	9.1	2.2	6.2	8.0
			RATIO	0.968	0.927	0.969	0.917	0.812	0.975	0.778	0.756	0.888	0.540
BRISTOL	1	58		115	93	89	88	83	82	79	79	79	69
			DATE	3/ 9/78	12/16/78	11/10/78	7/ 7/78	11/ 4/78	3/21/78	8/ 6/78	10/11/78	2/13/78	9/11/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	180	210	90	220	20	180	330	110	240	220
			VEL (MPH)	1.0	7.6	2.3	8.4	8.0	5.4	1.3	3.5	2.5	10.4
			SPD (MPH)	5.0	8.0	5.5	8.9	8.2	8.9	3.6	5.3	5.3	10.6
			RATIO	0.195	0.938	0.421	0.939	0.973	0.610	0.371	0.649	0.465	0.977

TABLE 24 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG NO2 DAYS 1978 WITH MET. DATA

POLLUTANT--NITROGEN DIOXIDE

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	200	240	80	240	40	190	220	80	230	220
		VEL (MPH)	4.0	8.5	10.6	11.1	6.9	4.2	4.5	10.0	3.1	15.8
		SPD (MPH)	7.3	10.9	12.1	11.6	8.0	11.8	7.5	11.5	7.6	16.1
		RATIO	0.550	0.778	0.874	0.950	0.854	0.360	0.603	0.870	0.411	0.981
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	160	190	50	190	350	170	210	140	310	190
		VEL (MPH)	3.4	3.1	1.6	6.9	1.2	6.7	3.8	1.3	4.4	9.8
		SPD (MPH)	5.7	3.4	3.3	7.6	1.3	7.0	4.6	3.7	5.5	10.6
		RATIO	0.586	0.888	0.481	0.902	0.904	0.954	0.835	0.337	0.803	0.925
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	230	260	70	240	150	210	250	90	300	230
		VEL (MPH)	1.9	5.7	4.1	7.7	1.6	10.2	6.0	2.0	6.1	9.3
		SPD (MPH)	5.3	6.2	5.2	7.9	2.2	10.5	6.2	3.6	7.5	9.8
		RATIO	0.365	0.927	0.791	0.969	0.756	0.975	0.972	0.548	0.812	0.955
DANBURY	123	57	118	108	96	92	87	87	81	80	79	75
		DATE	3/ 9/78	11/10/78	12/16/78	3/21/78	2/13/78	11/ 4/78	8/24/78	7/ 7/78	3/ 3/78	11/28/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	180	90	210	180	240	20	240	220	20	270
		VEL (MPH)	1.0	2.3	7.6	5.4	2.5	8.0	6.2	8.4	7.9	5.0
		SPD (MPH)	5.0	5.5	8.0	8.9	5.3	8.2	7.0	8.9	9.6	8.6
		RATIO	0.195	0.421	0.938	0.610	0.465	0.973	0.881	0.939	0.824	0.574
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	200	80	240	190	230	40	90	240	50	310
		VEL (MPH)	4.0	10.6	8.5	4.2	3.1	6.9	4.2	11.1	12.7	5.8
		SPD (MPH)	7.3	12.1	10.9	11.8	7.6	8.0	9.9	11.6	15.1	11.4
		RATIO	0.550	0.874	0.778	0.360	0.411	0.854	0.427	0.950	0.842	0.508
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	160	50	190	170	310	350	20	190	10	320
		VEL (MPH)	3.4	1.6	3.1	6.7	4.4	1.2	3.3	6.9	4.6	3.1
		SPD (MPH)	5.7	3.3	3.4	7.0	5.5	1.3	5.0	7.6	4.7	7.2
		RATIO	0.586	0.481	0.888	0.954	0.803	0.904	0.665	0.902	0.960	0.435
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	230	70	260	210	300	150	60	240	40	300
		VEL (MPH)	1.9	4.1	5.7	10.2	6.1	1.6	5.5	7.7	2.6	4.4
		SPD (MPH)	5.3	5.2	6.2	10.5	7.5	2.2	6.2	7.9	6.8	8.0
		RATIO	0.365	0.791	0.927	0.975	0.812	0.756	0.888	0.969	0.385	0.540
DERBY	123	44	100	91	84	82	79	77	77	73	73	71
		DATE	3/ 9/78	8/24/78	3/21/78	3/ 3/78	7/19/78	5/20/78	7/ 7/78	2/25/78	6/ 7/78	7/13/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	180	240	180	20	200	210	220	240	150	220
		VEL (MPH)	1.0	6.2	5.4	7.9	6.6	9.0	8.4	9.0	6.9	9.8
		SPD (MPH)	5.0	7.0	8.9	9.6	7.8	9.8	8.9	10.3	8.3	10.5
		RATIO	0.195	0.881	0.610	0.824	0.851	0.924	0.939	0.874	0.828	0.938
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	200	90	190	50	230	220	240	250	190	230
		VEL (MPH)	4.0	4.2	4.2	12.7	5.4	10.0	11.1	9.8	8.0	6.5
		SPD (MPH)	7.3	9.9	11.8	15.1	8.0	10.6	11.6	11.2	10.8	10.8
		RATIO	0.550	0.427	0.360	0.842	0.671	0.936	0.950	0.874	0.744	0.606
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	160	20	170	10	200	210	190	230	170	210
		VEL (MPH)	3.4	3.3	6.7	4.6	4.6	5.5	6.9	2.8	8.7	6.1
		SPD (MPH)	5.7	5.0	7.0	4.7	5.3	6.3	7.6	4.6	8.8	7.3
		RATIO	0.586	0.665	0.954	0.960	0.870	0.872	0.902	0.613	0.992	0.826

TABLE 24 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE

TEN HIGHEST 24 HR AVG NO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	230	60	210	40	250	270	240	270	210	240
			VEL (MPH)	1.9	5.5	10.2	2.6	5.7	7.4	7.7	7.9	8.2	5.0
			SPD (MPH)	5.3	6.2	10.5	6.8	5.9	8.3	7.9	8.0	8.9	5.5
			RATIO	0.365	0.888	0.975	0.385	0.968	0.889	0.969	0.982	0.921	0.917
EAST HARTFORD	2	58		114	114	113	100	96	96	92	84	80	78
			DATE	12/16/78	11/10/78	11/ 4/78	11/16/78	3/ 9/78	4/20/78	3/15/78	12/22/78	8/18/78	12/28/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	210	90	20	20	180	270	260	250	330	310
			VEL (MPH)	7.6	2.3	8.0	10.9	1.0	5.0	11.2	10.1	8.4	18.4
			SPD (MPH)	8.0	5.5	8.2	11.1	5.0	12.1	12.6	11.1	8.9	18.8
			RATIO	0.938	0.421	0.973	0.987	0.195	0.414	0.888	0.916	0.947	0.978
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	240	80	40	20	200	260	280	260	340	310
			VEL (MPH)	8.5	10.6	6.9	8.9	4.0	2.8	15.0	13.2	8.8	17.4
			SPD (MPH)	10.9	12.1	8.0	9.6	7.3	13.2	16.0	13.5	9.6	17.7
			RATIO	0.778	0.874	0.854	0.922	0.550	0.215	0.941	0.979	0.910	0.986
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	190	50	350	10	160	360	280	210	320	320
			VEL (MPH)	3.1	1.6	1.2	2.5	3.4	2.8	6.5	3.0	3.8	12.9
			SPD (MPH)	3.4	3.3	1.3	2.6	5.7	8.9	8.5	4.5	4.0	13.7
			RATIO	0.888	0.481	0.904	0.961	0.586	0.316	0.772	0.666	0.936	0.942
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	260	70	150	360	230	60	280	280	310	300
			VEL (MPH)	5.7	4.1	1.6	2.2	1.9	2.9	15.6	12.0	6.4	20.3
			SPD (MPH)	6.2	5.2	2.2	2.7	5.3	7.9	15.8	12.8	6.8	20.6
			RATIO	0.927	0.791	0.756	0.822	0.365	0.372	0.988	0.937	0.944	0.987
ENFIELD	123	60		131	102	98	98	84	83	81	81	77	73
			DATE	11/ 4/78	3/ 9/78	12/16/78	2/25/78	12/ 4/78	10/23/78	3/ 3/78	11/28/78	10/11/78	3/15/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	20	180	210	240	220	270	20	270	110	260
			VEL (MPH)	8.0	1.0	7.6	9.0	12.8	7.4	7.9	5.0	3.5	11.2
			SPD (MPH)	8.2	5.0	8.0	10.3	14.4	11.2	9.6	8.6	5.3	12.6
			RATIO	0.973	0.195	0.938	0.874	0.889	0.662	0.824	0.574	0.649	0.888
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	40	200	240	250	230	280	50	310	80	280
			VEL (MPH)	6.9	4.0	8.5	9.8	8.6	12.5	12.7	5.8	10.0	15.0
			SPD (MPH)	8.0	7.3	10.9	11.2	11.4	16.2	15.1	11.4	11.5	16.0
			RATIO	0.854	0.550	0.778	0.874	0.761	0.770	0.842	0.508	0.870	0.941
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	350	160	190	230	260	310	10	320	140	280
			VEL (MPH)	1.2	3.4	3.1	2.8	2.6	3.6	4.6	3.1	1.3	6.5
			SPD (MPH)	1.3	5.7	3.4	4.6	4.7	8.2	4.7	7.2	3.7	8.5
			RATIO	0.904	0.586	0.888	0.613	0.541	0.444	0.960	0.435	0.337	0.772
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	150	230	260	270	260	300	40	300	90	280
			VEL (MPH)	1.6	1.9	5.7	7.9	6.6	11.2	2.6	4.4	2.0	15.6
			SPD (MPH)	2.2	5.3	6.2	8.0	9.2	12.9	6.8	8.0	3.6	15.8
			RATIO	0.756	0.365	0.927	0.982	0.722	0.866	0.385	0.540	0.548	0.988

TABLE 24 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE

TEN HIGHEST 24 HR AVG NO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
GREENWICH	4	60	93	80	70	68	66	66	65	62	62	61
		DATE	12/16/78	10/23/78	4/20/78	3/ 9/78	7/19/78	11/10/78	8/24/78	5/20/78	5/ 8/78	7/13/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	270	270	180	200	90	240	210	150	220
		VEL (MPH)	7.6	7.4	5.0	1.0	6.6	2.3	6.2	9.0	7.0	9.8
		SPD (MPH)	8.0	11.2	12.1	5.0	7.8	5.5	7.0	9.8	7.9	10.5
		RATIO	0.938	0.662	0.414	0.195	0.851	0.421	0.881	0.924	0.887	0.938
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	240	280	260	200	230	80	90	220	170	230
		VEL (MPH)	8.5	12.5	2.8	4.0	5.4	10.6	4.2	10.0	2.8	6.5
		SPD (MPH)	10.9	16.2	13.2	7.3	8.0	12.1	9.9	10.6	7.2	10.8
		RATIO	0.778	0.770	0.215	0.550	0.671	0.874	0.427	0.936	0.396	0.606
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	190	310	360	160	200	50	20	210	180	210
		VEL (MPH)	3.1	3.6	2.8	3.4	4.6	1.6	3.3	5.5	8.1	6.1
		SPD (MPH)	3.4	8.2	8.9	5.7	5.3	3.3	5.0	6.3	8.8	7.3
		RATIO	0.888	0.444	0.316	0.586	0.870	0.481	0.665	0.872	0.929	0.826
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	260	300	60	230	250	70	60	270	210	240
		VEL (MPH)	5.7	11.2	2.9	1.9	5.7	4.1	5.5	7.4	7.0	5.0
		SPD (MPH)	6.2	12.9	7.9	5.3	5.9	5.2	6.2	8.3	9.1	5.5
		RATIO	0.927	0.866	0.372	0.365	0.968	0.791	0.888	0.889	0.778	0.917
GROTON	123	61	118	102	89	86	78	73	73	73	71	69
		DATE	12/16/78	11/ 4/78	10/23/78	11/10/78	3/15/78	11/16/78	8/24/78	3/ 9/78	11/28/78	2/13/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	20	270	90	260	20	240	180	270	240
		VEL (MPH)	7.6	8.0	7.4	2.3	11.2	10.9	6.2	1.0	5.0	2.5
		SPD (MPH)	8.0	8.2	11.2	5.5	12.6	11.1	7.0	5.0	8.6	5.3
		RATIO	0.938	0.973	0.662	0.421	0.888	0.987	0.881	0.195	0.574	0.465
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	240	40	280	80	280	20	90	200	310	230
		VEL (MPH)	8.5	6.9	12.5	10.6	15.0	8.9	4.2	4.0	5.8	3.1
		SPD (MPH)	10.9	8.0	16.2	12.1	16.0	9.6	9.9	7.3	11.4	7.6
		RATIO	0.778	0.854	0.770	0.874	0.941	0.922	0.427	0.550	0.508	0.411
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	190	350	310	50	280	10	20	160	320	310
		VEL (MPH)	3.1	1.2	3.6	1.6	6.5	2.5	3.3	3.4	3.1	4.4
		SPD (MPH)	3.4	1.3	8.2	3.3	8.5	2.6	5.0	5.7	7.2	5.5
		RATIO	0.888	0.904	0.444	0.481	0.772	0.961	0.665	0.586	0.435	0.803
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DFG)	260	150	300	70	280	360	60	230	300	300
		VEL (MPH)	5.7	1.6	11.2	4.1	15.6	2.2	5.5	1.9	4.4	6.1
		SPD (MPH)	6.2	2.2	12.9	5.2	15.8	2.7	6.2	5.3	8.0	7.5
		RATIO	0.927	0.756	0.866	0.791	0.988	0.822	0.888	0.365	0.540	0.812
HARTFORD	2	45	128	100	94	92	92	90	86	79	76	73
		DATE	5/20/78	6/19/78	2/13/78	3/15/78	7/19/78	3/27/78	3/ 3/78	2/25/78	3/21/78	8/12/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	210	250	240	260	200	350	20	240	180	80
		VEL (MPH)	9.0	4.4	2.5	11.2	6.6	7.2	7.9	9.0	5.4	4.9
		SPD (MPH)	9.8	9.9	5.3	12.6	7.8	10.5	9.6	10.3	8.9	6.2
		RATIO	0.924	0.440	0.465	0.888	0.851	0.687	0.824	0.874	0.610	0.794

TABLE 24 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG NO2 DAYS 1978 WITH MET. DATA

POLLUTANT--NITROGEN DIOXIDE

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	220	180	230	280	230	50	50	250	190	70
		VEL (MPH)	10.0	3.1	3.1	15.0	5.4	10.2	12.7	9.8	4.2	15.6
		SPD (MPH)	10.6	8.3	7.6	16.0	8.0	16.0	15.1	11.2	11.8	15.8
		RATIO	0.936	0.370	0.411	0.941	0.671	0.639	0.842	0.874	0.360	0.989
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	210	170	310	280	200	340	10	230	170	20
		VEL (MPH)	5.5	2.1	4.4	6.5	4.6	6.6	4.6	2.8	6.7	4.1
		SPD (MPH)	6.3	4.3	5.5	8.5	5.3	7.8	4.7	4.6	7.0	4.9
		RATIO	0.872	0.494	0.803	0.772	0.870	0.844	0.960	0.613	0.954	0.835
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	270	260	300	280	250	30	40	270	210	120
		VEL (MPH)	7.4	2.1	6.1	15.6	5.7	4.1	2.6	7.9	10.2	2.4
		SPD (MPH)	8.3	6.0	7.5	15.8	5.9	9.3	6.8	8.0	10.5	4.7
		RATIO	0.889	0.346	0.812	0.988	0.968	0.438	0.385	0.982	0.975	0.500
HARTFORD	123	61	226	143	142	133	108	108	105	100	98	97
		DATE	7/19/78	3/ 9/78	11/10/78	11/ 4/78	12/16/78	10/11/78	10/23/78	3/15/78	8/24/78	5/20/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	200	180	90	20	210	110	270	260	240	210
		VEL (MPH)	6.6	1.0	2.3	8.0	7.6	3.5	7.4	11.2	6.2	9.0
		SPD (MPH)	7.8	5.0	5.5	8.2	8.0	5.3	11.2	12.6	7.0	9.8
		RATIO	0.851	0.195	0.421	0.973	0.938	0.649	0.662	0.888	0.881	0.924
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	230	200	80	40	240	80	280	280	90	220
		VEL (MPH)	5.4	4.0	10.6	6.9	8.5	10.0	12.5	15.0	4.2	10.0
		SPD (MPH)	8.0	7.3	12.1	8.0	10.9	11.5	16.2	16.0	9.9	10.6
		RATIO	0.671	0.550	0.874	0.854	0.778	0.870	0.770	0.941	0.427	0.936
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	200	160	50	350	190	140	310	280	20	210
		VEL (MPH)	4.6	3.4	1.6	1.2	3.1	1.3	3.6	6.5	3.3	5.5
		SPD (MPH)	5.3	5.7	3.3	1.3	3.4	3.7	8.2	8.5	5.0	6.3
		RATIO	0.870	0.586	0.481	0.904	0.888	0.337	0.444	0.772	0.665	0.872
METEOROLOGICAL SITE WORCESTER MASS.		DIR (DEG)	250	230	70	150	260	90	300	280	60	270
		VEL (MPH)	5.7	1.9	4.1	1.6	5.7	2.0	11.2	15.6	5.5	7.4
		SPD (MPH)	5.9	5.3	5.2	2.2	6.2	3.6	12.9	15.8	6.2	8.3
		RATIO	0.968	0.365	0.791	0.756	0.927	0.548	0.866	0.988	0.888	0.889
MERIDEN	2	57	104	104	92	90	89	85	80	79	73	70
		DATE	10/23/78	11/ 4/78	10/11/78	11/10/78	12/ 4/78	8/24/78	11/28/78	11/16/78	9/11/78	6/19/78
METEOROLOGICAL SITE NEWARK N. J.		DIR (DEG)	270	20	110	90	220	240	270	20	220	250
		VEL (MPH)	7.4	8.0	3.5	2.3	12.8	6.2	5.0	10.9	10.4	4.4
		SPD (MPH)	11.2	8.2	5.3	5.5	14.4	7.0	8.6	11.1	10.6	9.9
		RATIO	0.662	0.973	0.649	0.421	0.889	0.881	0.574	0.987	0.977	0.440
METEOROLOGICAL SITE BRIDGEPORT CONN.		DIR (DEG)	280	40	80	80	230	90	310	20	220	180
		VEL (MPH)	12.5	6.9	10.0	10.6	8.6	4.2	5.8	8.9	15.8	3.1
		SPD (MPH)	16.2	8.0	11.5	12.1	11.4	9.9	11.4	9.6	16.1	8.3
		RATIO	0.770	0.854	0.870	0.874	0.761	0.427	0.508	0.922	0.981	0.370
METEOROLOGICAL SITE BRADLEY FIELD CONN.		DIR (DEG)	310	350	140	50	260	20	320	10	190	170
		VEL (MPH)	3.6	1.2	1.3	1.6	2.6	3.3	3.1	2.5	9.8	2.1
		SPD (MPH)	8.2	1.3	3.7	3.3	4.7	5.0	7.2	2.6	10.6	4.3
		RATIO	0.444	0.904	0.337	0.481	0.541	0.665	0.435	0.961	0.925	0.494

TABLE 24 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG NO2 DAYS 1978 WITH MET. DATA

POLLUTANT--NITROGEN DIOXIDE

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	300	150	90	70	260	60	300	360	230	260
			VEL (MPH)	11.2	1.6	2.0	4.1	6.6	5.5	4.4	2.2	9.3	2.1
			SPD (MPH)	12.9	2.2	3.6	5.2	9.2	6.2	8.0	2.7	9.8	6.0
			RATIO	0.866	0.756	0.548	0.791	0.722	0.888	0.540	0.822	0.955	0.346
NEW BRITAIN	123	61		215	141	120	118	112	102	81	78	75	74
			DATE	6/13/78	12/16/78	11/ 4/78	6/ 1/78	3/ 9/78	11/10/78	10/23/78	8/ 6/78	3/15/78	4/26/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	270	210	20	310	180	90	270	330	260	70
			VEL (MPH)	7.9	7.6	8.0	7.4	1.0	2.3	7.4	1.3	11.2	7.8
			SPD (MPH)	12.4	8.0	8.2	9.1	5.0	5.5	11.2	3.6	12.6	9.1
			RATIO	0.637	0.938	0.973	0.820	0.195	0.421	0.662	0.371	0.888	0.864
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	260	240	40	270	200	80	280	220	280	70
			VEL (MPH)	9.8	8.5	6.9	3.8	4.0	10.6	12.5	4.5	15.0	8.1
			SPD (MPH)	12.9	10.9	8.0	8.2	7.3	12.1	16.2	7.5	16.0	11.2
			RATIO	0.754	0.778	0.854	0.467	0.550	0.874	0.770	0.603	0.941	0.726
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	240	190	350	360	160	50	310	210	280	50
			VEL (MPH)	5.3	3.1	1.2	3.9	3.4	1.6	3.6	3.8	6.5	1.7
			SPD (MPH)	8.5	3.4	1.3	5.2	5.7	3.3	8.2	4.6	8.5	4.2
			RATIO	0.621	0.888	0.904	0.754	0.586	0.481	0.444	0.835	0.772	0.413
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	250	260	150	340	230	70	300	250	280	40
			VEL (MPH)	9.0	5.7	1.6	3.9	1.9	4.1	11.2	6.0	15.6	3.5
			SPD (MPH)	10.3	6.2	2.2	6.8	5.3	5.2	12.9	6.2	15.8	4.7
			RATIO	0.866	0.927	0.756	0.572	0.365	0.791	0.866	0.972	0.988	0.735
NEW HAVEN	123	61		189	184	147	145	142	138	133	124	118	115
			DATE	5/20/78	10/23/78	11/10/78	11/ 4/78	8/24/78	7/19/78	7/13/78	7/ 7/78	5/ 8/78	10/11/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	210	270	90	20	240	200	220	220	150	110
			VEL (MPH)	9.0	7.4	2.3	8.0	6.2	6.6	9.8	8.4	7.0	3.5
			SPD (MPH)	9.8	11.2	5.5	8.2	7.0	7.8	10.5	8.9	7.9	5.3
			RATIO	0.924	0.662	0.421	0.973	0.881	0.851	0.938	0.939	0.887	0.649
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	220	280	80	40	90	230	230	240	170	80
			VEL (MPH)	10.0	12.5	10.6	6.9	4.2	5.4	6.5	11.1	2.8	10.0
			SPD (MPH)	10.6	16.2	12.1	8.0	9.9	8.0	10.8	11.6	7.2	11.5
			RATIO	0.936	0.770	0.874	0.854	0.427	0.671	0.606	0.950	0.396	0.870
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	210	310	50	350	20	200	210	190	180	140
			VEL (MPH)	5.5	3.6	1.6	1.2	3.3	4.6	6.1	6.9	8.1	1.3
			SPD (MPH)	6.3	8.2	3.3	1.3	5.0	5.3	7.3	7.6	8.8	3.7
			RATIO	0.872	0.444	0.481	0.904	0.665	0.870	0.826	0.902	0.929	0.337
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	270	300	70	150	60	250	240	240	210	90
			VEL (MPH)	7.4	11.2	4.1	1.6	5.5	5.7	5.0	7.7	7.0	2.0
			SPD (MPH)	8.3	12.9	5.2	2.2	6.2	5.9	5.5	7.9	9.1	3.6
			RATIO	0.889	0.866	0.791	0.756	0.888	0.968	0.917	0.969	0.778	0.548

TABLE 24 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE

TEN HIGHEST 24 HR AVG NO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
NORWALK	5	61	144	141	138	123	118	106	95	94	93	92
		DATE	5/20/78	12/16/78	10/23/78	7/ 7/78	7/19/78	9/11/78	8/ 6/78	3/ 9/78	2/13/78	11/ 4/78
METEOROLOGICAL SITE		DIR (DEG)	210	210	270	220	200	220	330	180	240	20
NEWARK N. J.		VEL (MPH)	9.0	7.6	7.4	8.4	6.6	10.4	1.3	1.0	2.5	8.0
		SPD (MPH)	9.8	8.0	11.2	8.9	7.8	10.6	3.6	5.0	5.3	8.2
		RATIO	0.924	0.938	0.662	0.939	0.851	0.977	0.371	0.195	0.465	0.973
METEOROLOGICAL SITE		DIR (DEG)	220	240	280	240	230	220	220	200	230	40
BRIDGEPORT CONN.		VEL (MPH)	10.0	8.5	12.5	11.1	5.4	15.8	4.5	4.0	3.1	6.9
		SPD (MPH)	10.6	10.9	16.2	11.6	8.0	16.1	7.5	7.3	7.6	8.0
		RATIO	0.936	0.778	0.770	0.950	0.671	0.981	0.603	0.550	0.411	0.854
METEOROLOGICAL SITE		DIR (DEG)	210	190	310	190	200	190	210	160	310	350
BRADLEY FIELD CONN.		VEL (MPH)	5.5	3.1	3.6	6.9	4.6	9.8	3.8	3.4	4.4	1.2
		SPD (MPH)	6.3	3.4	8.2	7.6	5.3	10.6	4.6	5.7	5.5	1.3
		RATIO	0.872	0.888	0.444	0.902	0.870	0.925	0.835	0.586	0.803	0.904
METEOROLOGICAL SITE		DIR (DEG)	270	260	300	240	250	230	250	230	300	150
WORCESTER MASS.		VEL (MPH)	7.4	5.7	11.2	7.7	5.7	9.3	6.0	1.9	6.1	1.6
		SPD (MPH)	8.3	6.2	12.9	7.9	5.9	9.8	6.2	5.3	7.5	2.2
		RATIO	0.889	0.927	0.866	0.969	0.968	0.955	0.972	0.365	0.812	0.756
NORWICH	1	59	101	96	94	80	78	78	75	75	71	70
		DATE	12/16/78	11/ 4/78	9/ 5/78	2/13/78	2/25/78	11/22/78	10/23/78	3/15/78	11/10/78	3/ 9/78
METEOROLOGICAL SITE		DIR (DEG)	210	20	310	240	240	20	270	260	90	180
NEWARK N. J.		VEL (MPH)	7.6	8.0	6.2	2.5	9.0	11.6	7.4	11.2	2.3	1.0
		SPD (MPH)	8.0	8.2	8.2	5.3	10.3	11.6	11.2	12.6	5.5	5.0
		RATIO	0.938	0.973	0.756	0.465	0.874	0.992	0.662	0.888	0.421	0.195
METEOROLOGICAL SITE		DIR (DEG)	240	40	290	230	250	20	280	280	80	200
BRIDGEPORT CONN.		VEL (MPH)	8.5	6.9	8.7	3.1	9.8	11.5	12.5	15.0	10.6	4.0
		SPD (MPH)	10.9	8.0	11.1	7.6	11.2	11.9	16.2	16.0	12.1	7.3
		RATIO	0.778	0.854	0.790	0.411	0.874	0.964	0.770	0.941	0.874	0.550
METEOROLOGICAL SITE		DIR (DEG)	190	350	280	310	230	360	310	280	50	160
BRADLEY FIELD CONN.		VEL (MPH)	3.1	1.2	4.6	4.4	2.8	7.4	3.6	6.5	1.6	3.4
		SPD (MPH)	3.4	1.3	5.9	5.5	4.6	7.5	8.2	8.5	3.3	5.7
		RATIO	0.888	0.904	0.779	0.803	0.613	0.989	0.444	0.772	0.481	0.586
METEOROLOGICAL SITE		DIR (DEG)	260	150	290	300	270	40	300	280	70	230
WORCESTER MASS.		VEL (MPH)	5.7	1.6	7.3	6.1	7.9	7.3	11.2	15.6	4.1	1.9
		SPD (MPH)	6.2	2.2	8.0	7.5	8.0	7.3	12.9	15.8	5.2	5.3
		RATIO	0.927	0.756	0.908	0.812	0.982	0.990	0.866	0.988	0.791	0.365
STAMFORD	7	61	172	136	130	109	108	98	94	90	88	83
		DATE	5/20/78	12/16/78	10/23/78	9/ 5/78	7/19/78	6/~~1~~9/78	2/13/78	8/24/78	11/10/78	8/30/78
METEOROLOGICAL SITE		DIR (DEG)	210	210	270	310	200	250	240	240	90	70
NEWARK N. J.		VEL (MPH)	9.0	7.6	7.4	6.2	6.6	4.4	2.5	6.2	2.3	1.1
		SPD (MPH)	9.8	8.0	11.2	8.2	7.8	9.9	5.3	7.0	5.5	4.5
		RATIO	0.924	0.938	0.662	0.756	0.851	0.440	0.465	0.881	0.421	0.254

TABLE 24 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 24 HR AVG NO2 DAYS 1978 WITH MET. DATA

POLLUTANT--NITROGEN DIOXIDE

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE			DIR (DEG)	220	240	280	290	230	180	230	90	80	360
BRIDGEPORT CONN.			VEL (MPH)	10.0	8.5	12.5	8.7	5.4	3.1	3.1	4.2	10.6	1.6
			SPD (MPH)	10.6	10.9	16.2	11.1	8.0	8.3	7.6	9.9	12.1	7.5
			RATIO	0.936	0.778	0.770	0.790	0.671	0.370	0.411	0.427	0.874	0.221
METEOROLOGICAL SITE			DIR (DEG)	210	190	310	280	200	170	310	20	50	290
BRADLEY FIELD CONN.			VEL (MPH)	5.5	3.1	3.6	4.6	4.6	2.1	4.4	3.3	1.6	1.1
			SPD (MPH)	6.3	3.4	8.2	5.9	5.3	4.3	5.5	5.0	3.3	3.2
			RATIO	0.872	0.888	0.444	0.779	0.870	0.494	0.803	0.665	0.481	0.338
METEOROLOGICAL SITE			DIR (DEG)	270	260	300	290	250	260	300	60	70	270
WORCESTER MASS.			VEL (MPH)	7.4	5.7	11.2	7.3	5.7	2.1	6.1	5.5	4.1	6.4
			SPD (MPH)	8.3	6.2	12.9	8.0	5.9	6.0	7.5	6.2	5.2	6.6
			RATIO	0.889	0.927	0.866	0.908	0.968	0.346	0.812	0.888	0.791	0.966
STAMFORD	123	61		134	126	123	114	111	111	105	103	103	96
			DATE	10/23/78	12/16/78	3/21/78	2/13/78	5/20/78	11/10/78	9/11/78	7/19/78	8/24/78	6/13/78
METEOROLOGICAL SITE			DIR (DEG)	270	210	180	240	210	90	220	200	240	270
NEWARK N. J.			VEL (MPH)	7.4	7.6	5.4	2.5	9.0	2.3	10.4	6.6	6.2	7.9
			SPD (MPH)	11.2	8.0	8.9	5.3	9.8	5.5	10.6	7.8	7.0	12.4
			RATIO	0.662	0.938	0.610	0.465	0.924	0.421	0.977	0.851	0.881	0.637
METEOROLOGICAL SITE			DIR (DEG)	280	240	190	230	220	80	220	230	90	260
BRIDGEPORT CONN.			VEL (MPH)	12.5	8.5	4.2	3.1	10.0	10.6	15.8	5.4	4.2	9.8
			SPD (MPH)	16.2	10.9	11.8	7.6	10.6	12.1	16.1	8.0	9.9	12.9
			RATIO	0.770	0.778	0.360	0.411	0.936	0.874	0.981	0.671	0.427	0.754
METEOROLOGICAL SITE			DIR (DEG)	310	190	170	310	210	50	190	200	20	240
BRADLEY FIELD CONN.			VEL (MPH)	3.6	3.1	6.7	4.4	5.5	1.6	9.8	4.6	3.3	5.3
			SPD (MPH)	8.2	3.4	7.0	5.5	6.3	3.3	10.6	5.3	5.0	8.5
			RATIO	0.444	0.888	0.954	0.803	0.872	0.481	0.925	0.870	0.665	0.621
METEOROLOGICAL SITE			DIR (DEG)	300	260	210	300	270	70	230	250	60	250
WORCESTER MASS.			VEL (MPH)	11.2	5.7	10.2	6.1	7.4	4.1	9.3	5.7	5.5	9.0
			SPD (MPH)	12.9	6.2	10.5	7.5	8.3	5.2	9.8	5.9	6.2	10.3
			RATIO	0.866	0.927	0.975	0.812	0.889	0.791	0.955	0.968	0.888	0.866
STRATFORD	5	61		152	133	127	127	114	106	104	104	104	94
			DATE	12/16/78	5/20/78	10/23/78	7/ 7/78	6/19/78	6/13/78	6/25/78	8/24/78	7/13/78	4/20/78
METEOROLOGICAL SITE			DIR (DEG)	210	210	270	220	250	270	170	240	220	270
NEWARK N. J.			VEL (MPH)	7.6	9.0	7.4	8.4	4.4	7.9	3.3	6.2	9.8	5.0
			SPD (MPH)	8.0	9.8	11.2	8.9	9.9	12.4	6.6	7.0	10.5	12.1
			RATIO	0.938	0.924	0.662	0.939	0.440	0.637	0.493	0.881	0.938	0.414
METEOROLOGICAL SITE			DIR (DEG)	240	220	280	240	180	260	200	90	230	260
BRIDGEPORT CONN.			VEL (MPH)	8.5	10.0	12.5	11.1	3.1	9.8	2.2	4.2	6.5	2.8
			SPD (MPH)	10.9	10.6	16.2	11.6	8.3	12.9	7.0	9.9	10.8	13.2
			RATIO	0.778	0.936	0.770	0.950	0.370	0.754	0.318	0.427	0.606	0.215
METEOROLOGICAL SITE			DIR (DEG)	190	210	310	190	170	240	180	20	210	360
BRADLEY FIELD CONN.			VEL (MPH)	3.1	5.5	3.6	6.9	2.1	5.3	3.8	3.3	6.1	2.8
			SPD (MPH)	3.4	6.3	8.2	7.6	4.3	8.5	4.6	5.0	7.3	8.9
			RATIO	0.888	0.872	0.444	0.902	0.494	0.621	0.835	0.665	0.826	0.316

TABLE 24 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE

TEN HIGHEST 24 HR AVG NO2 DAYS 1978 WITH MET. DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	260	270	300	240	260	250	270	60	240	60
			VEL (MPH)	5.7	7.4	11.2	7.7	2.1	9.0	4.4	5.5	5.0	2.9
			SPD (MPH)	6.2	8.3	12.9	7.9	6.0	10.3	5.0	6.2	5.5	7.9
			RATIO	0.927	0.889	0.866	0.969	0.346	0.866	0.868	0.888	0.917	0.372
TORRINGTON	123	58		104	83	81	81	79	76	71	71	67	64
			DATE	12/16/78	11/10/78	2/25/78	11/ 4/78	3/ 9/78	3/21/78	3/ 3/78	12/ 4/78	10/17/78	9/11/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	210	90	240	20	180	180	20	220	30	220
			VEL (MPH)	7.6	2.3	9.0	8.0	1.0	5.4	7.9	12.8	10.3	10.4
			SPD (MPH)	8.0	5.5	10.3	8.2	5.0	8.9	9.6	14.4	10.3	10.6
			RATIO	0.938	0.421	0.874	0.973	0.195	0.610	0.824	0.889	0.993	0.977
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	240	80	250	40	200	190	50	230	20	220
			VEL (MPH)	8.5	10.6	9.8	6.9	4.0	4.2	12.7	8.6	12.4	15.8
			SPD (MPH)	10.9	12.1	11.2	8.0	7.3	11.8	15.1	11.4	14.1	16.1
			RATIO	0.778	0.874	0.874	0.854	0.550	0.360	0.842	0.761	0.883	0.981
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	190	50	230	350	160	170	10	260	10	190
			VEL (MPH)	3.1	1.6	2.8	1.2	3.4	6.7	4.6	2.6	5.2	9.8
			SPD (MPH)	3.4	3.3	4.6	1.3	5.7	7.0	4.7	4.7	5.5	10.6
			RATIO	0.888	0.481	0.613	0.904	0.586	0.954	0.960	0.541	0.947	0.925
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	260	70	270	150	230	210	40	260	20	230
			VEL (MPH)	5.7	4.1	7.9	1.6	1.9	10.2	2.6	6.6	4.4	9.3
			SPD (MPH)	6.2	5.2	8.0	2.2	5.3	10.5	6.8	9.2	4.7	9.8
			RATIO	0.927	0.791	0.982	0.756	0.365	0.975	0.385	0.722	0.931	0.955
WATERBURY	123	60		129	125	123	112	112	106	102	99	92	92
			DATE	11/ 4/78	12/16/78	10/23/78	3/ 9/78	11/10/78	7/ 7/78	2/13/78	2/25/78	8/24/78	10/11/78
METEOROLOGICAL SITE NEWARK N. J.			DIR (DEG)	20	210	270	180	90	220	240	240	240	110
			VEL (MPH)	8.0	7.6	7.4	1.0	2.3	8.4	2.5	9.0	6.2	3.5
			SPD (MPH)	8.2	8.0	11.2	5.0	5.5	8.9	5.3	10.3	7.0	5.3
			RATIO	0.973	0.938	0.662	0.195	0.421	0.939	0.465	0.874	0.881	0.649
METEOROLOGICAL SITE BRIDGEPORT CONN.			DIR (DEG)	40	240	280	200	80	240	230	250	90	80
			VEL (MPH)	6.9	8.5	12.5	4.0	10.6	11.1	3.1	9.8	4.2	10.0
			SPD (MPH)	8.0	10.9	16.2	7.3	12.1	11.6	7.6	11.2	9.9	11.5
			RATIO	0.854	0.778	0.770	0.550	0.874	0.950	0.411	0.874	0.427	0.870
METEOROLOGICAL SITE BRADLEY FIELD CONN.			DIR (DEG)	350	190	310	160	50	190	310	230	20	140
			VEL (MPH)	1.2	3.1	3.6	3.4	1.6	6.9	4.4	2.8	3.3	1.3
			SPD (MPH)	1.3	3.4	8.2	5.7	3.3	7.6	5.5	4.6	5.0	3.7
			RATIO	0.904	0.888	0.444	0.586	0.481	0.902	0.803	0.613	0.665	0.337
METEOROLOGICAL SITE WORCESTER MASS.			DIR (DEG)	150	260	300	230	70	240	300	270	60	90
			VEL (MPH)	1.6	5.7	11.2	1.9	4.1	7.7	6.1	7.9	5.5	2.0
			SPD (MPH)	2.2	6.2	12.9	5.3	5.2	7.9	7.5	8.0	6.2	3.6
			RATIO	0.756	0.927	0.866	0.365	0.791	0.969	0.812	0.982	0.888	0.548

VI. CARBON MONOXIDE

Conclusions:

The eight-hour NAAQS of 9 ppm was exceeded at eight of the nine carbon monoxide monitoring sites in Connecticut (Bridgeport 004, Greenwich 001, Hartford 012, New Britain 002, New Haven 007, Norwalk 005, Stamford 020, and Waterbury 004) in 1978. The number of times the 8-hour standard was exceeded ranged from twice each at the Greenwich 001 site and the New Haven 007 site up to 104 times at the New Britain 002 site and 366 times at the Stamford 020 site. Hartford 009 was the only site that did not exceed this standard. No site, except Stamford 020, violated the one-hour standard of 35 ppm. The one-hour standard was exceeded seven times at the Stamford 020 site in 1978.

No significant change in carbon monoxide levels took place between 1977 and 1978.

In order to put the monitoring data into proper perspective, it must be realized that carbon monoxide concentrations vary greatly from place-to-place. More than 95% of the CO emissions in Connecticut come from motor vehicles, so concentrations are greatest in areas of traffic congestion. The magnitude and frequency of high concentrations observed at any monitoring site are not necessarily indicative of widespread CO levels. Thus, most locations in New Britain, Norwalk and Stamford are probably not experiencing CO levels as high as those observed at the monitoring sites in those towns. On the other hand, there are probably locations in Bridgeport, Greenwich, Hartford, New Haven, and Waterbury where CO levels are higher than those observed at the monitoring sites in those towns. The CO standards are likely to be exceeded in any city in the State where there are areas of traffic congestion. As Federally-mandated controls reduce emissions from new motor vehicles (and as Connecticut's SIP control strategies are implemented) there should be a decrease in the number of such areas; and the remaining areas should be shrinking in territory and have levels which are less in excess of the standards.

Method of Measurement:

The DEP Air Monitoring Unit uses instruments employing a non-dispersive infrared technique to continuously measure carbon monoxide levels. The instantaneous concentrations are recorded on strip charts from which hourly averages are extracted. The instruments are fairly insensitive to sampling line length. Concentrations vary dramatically with inlet exposure and proximity to traffic lanes.

Discussion of Data:

Monitoring Network - The network in 1978 consisted of 9 carbon monoxide monitors (see Figure 8). The Hartford 009 site was replaced by the Hartford 012 site in November and two other sites were discontinued in 1978 (Greenwich 001 and Waterbury 004).

8-Hour and 1-Hour Averages - In general, CO levels recorded in 1978 were not significantly different from those recorded in 1977. Most sites recorded CO levels which exceeded the 8-hour standard while only 1 site (Stamford 020) recorded CO levels higher than the 1-hour standard. Table 25 gives the high and 2nd high 8-hour and 1-hour CO readings (and time of occurrence) for each site. Four sites recorded higher second high 8-hour average concentrations, while 3 sites recorded lower second highs, in 1978 compared to 1977. The second high 8-hour average at one site (New Britain 002) didn't change. The second high 1-hour average concentration increased at 3 sites and decreased at 5 sites between 1977 and 1978.

Table 26 presents monthly first highs and a tally of the number of times the standards were exceeded at each site. Seasonal variations in CO levels can be observed using this table.

10-High Days With Wind Data - Table 27 lists the maximum 1-hour CO averages (and dates of occurrence) from the 10-highest days for each CO site in Connecticut for 1978. The wind data associated with these high readings are also presented. (See the discussion of Table 12 in the TSP section for a description of the origin and use of these wind data.)

At the 9 CO sites in Connecticut, the high CO levels tend to occur on southwest wind days. Adverse atmospheric mixing or other meteorological conditions may be part of the reason CO levels are high on southwest wind days, but, in this case, another explanation appears more viable. A noteworthy feature of the high CO days is that the winds tend to be more persistent from all directions than on the high days for the other pollutants. Since 95% of the CO emissions in Connecticut come from motor vehicles, it is likely that the high CO levels are caused when persistent winds are blowing CO emissions from the direction of nearby roads toward the monitors. Such appears to be the case especially with the Norwalk 005, Stamford 020, and Waterbury 004 sites, where the most heavily traveled roads are to the southwest of the monitors.

Another feature of the high CO days is that rarely does more than one site record a high level on the same day. There were no days in 1978 where CO levels were high across the state. This is the opposite of the behavior exhibited by all the other pollutants and demonstrates that high levels of CO are much more dependent on local effects than the other pollutants.

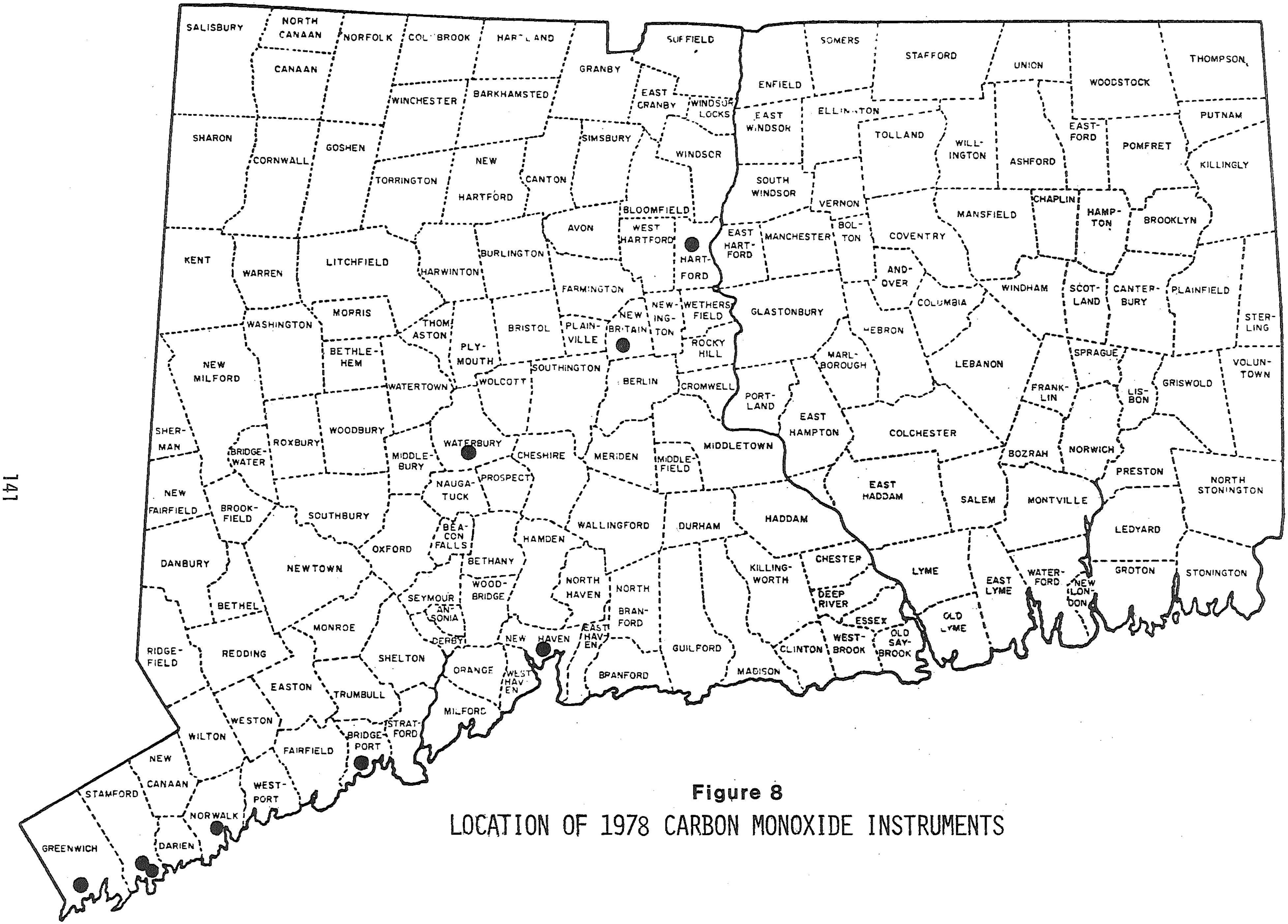


Figure 8

LOCATION OF 1978 CARBON MONOXIDE INSTRUMENTS

TABLE 25

1978 CARBON MONOXIDE STANDARDS ASSESSMENT SUMMARY, UNITS = PPM

TOWN-SITE	MAXIMUM 8-HOUR AVERAGE	TIME[1] OF MAXIMUM 8-HOUR	2ND HIGH 8-HOUR AVERAGE	TIME[1] OF 2ND HIGH 8-HOUR	MAXIMUM 1-HOUR AVERAGE	TIME[2] OF MAXIMUM 1-HOUR	2ND HIGH 1-HOUR AVERAGE	TIME[2] OF 2ND HIGH 1-HOUR
Bridgeport-004	17.8	1/6/01	13.5	2/4/14	27.5	1/5/22	25.0	2/3/18
Greenwich-001*	16.6[a]	1/6/01	10.1	1/6/04	32.5	1/5/19	26.0	1/24/08
Hartford-009*	9.6	3/9/12	8.9	3/8/18	17.0	2/9/09	14.0	3/8/05
Hartford-012*	12.6	12/8/24	12.1	11/28/20	25.0	11/28/14	21.0	12/04/18
New Britain-002	16.8	7/17/14	15.4	12/16/24	29.0	7/17/08	24.0	1/19/20
New Haven-007*	15.8[b]	11/4/03	12.3	11/3/22	21.5	11/3/24	17.5	11/3/23
Norwalk-005*	16.2	12/16/4	15.3	5/20/02	25.5	10/23/08	23.5	12/6/09
Stamford-020	27.9	11/30/18	27.5	1/5/20	40.0	10/18/08	39.0	11/9/09
Waterbury-004*	11.7	8/4/21	11.4	8/3/17	21.5	8/4/15	20.0	1/24/18

[1] time of 8-hour averages is reported as follows: month/day/hour (EST), specifying the end of the 8-hour average period

[2] time of 1-hour averages is reported as follows: month/day/hour (EST), specifying the end of the 1-hour average period

* partial year

[a] non-overlapping maximum on 01/05/20 of 12.1 ppm

[b] non-overlapping maximum on 11/04/06 of 13.4 ppm

TABLE 26

1978 CARBON MONOXIDE SEASONAL FEATURES, UNITS = PPM

TOWN-SITE		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	NUMBER OF TIMES STANDARD EXCEEDED
Bridgeport-004	Max-1 hr.	27.5	25.0	14.0	13.0	19.0	9.0	9.0	9.0	13.0	10.0*	14.1	19.0*	0
	Max-8 hr.	17.8	13.5	8.6	10.6	8.3	6.2	6.2	7.1	8.2	7.6*	10.3	8.3*	27
Greenwich-001	Max-1 hr.	32.5	8.0	5.5	3.8	3.5*	---	---	---	---	---	---	---	0
	Max-8 hr.	16.6	5.3	3.1	2.8	2.8*	---	---	---	---	---	---	---	2
Hartford-009	Max-1 hr.	13.0	17.0	14.0	9.0	11.0	14.0	10.0	12.0	9.0*	---	---	---	0
	Max-8 hr.	7.2	8.7	9.6	5.8	6.4	8.0	6.6	7.2	6.3*	---	---	---	1
Hartford-012	Max-1 hr.	---	---	---	---	---	---	---	---	---	---	25.0*	21.0	0
	Max-8 hr.	---	---	---	---	---	---	---	---	---	---	12.1*	12.6	11
New Britain-002	Max-1 hr.	24.0	16.2	18.5	13.5	11.5*	18.0	29.0	17.2	18.0	14.0	---	23.0	0
	Max-8 hr.	13.4	11.7	10.9	8.8	9.7*	14.2	16.8	14.6	12.7	11.4	14.9	15.4	104
New Haven-007	Max-1 hr.	7.0*	7.0*	11.0*	13.0	16.1	9.0	13.0	10.0*	---	---	21.5*	10.0*	0
	Max-8 hr.	4.7*	3.9*	7.6*	6.9	6.9	4.6	5.4	4.6*	---	---	15.8*	6.1*	2
Norwalk-005	Max-1 hr.	21.0	19.2	---	14.0	18.0*	14.0*	11.5*	17.0	14.2*	25.5*	16.0	23.5	0
	Max-8 hr.	14.9	14.4	---	10.2	15.3*	9.9*	9.8*	13.4	11.5*	12.3*	11.1	16.2	85
Stamford-020	Max-1 hr.	36.0*	34.0	30.0*	33.0	28.0	28.5*	27.0	29.0	34.0	40.0	39.0	38.0	7
	Max-8 hr.	27.5*	23.4	20.3*	21.8	18.7	19.0*	21.9	20.6	19.0	22.6	27.9	26.1	366
Waterbury-004	Max-1 hr.	20.0	4.0*	15.0*	11.0	14.0	15.5	11.8*	21.5	12.0*	---	---	---	0
	Max-8 hr.	10.8	2.5*	7.9*	8.4	8.0	10.2	7.7*	11.7	7.0*	---	---	---	11

* < 75% of Data Available

TABLE 27

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--CARBON MONOXIDE

TEN HIGHEST 1 HR AVG CO DAYS 1978 WITH MET. DATA

UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	4	337	27.5	25.0	19.5	19.0	19.0	17.0	17.0	17.0	17.0	16.0
		DATE	1/ 5/78	2/ 3/78	2/21/78	5/ 9/78	12/16/78	2/ 1/78	2/17/78	1/ 7/78	1/19/78	1/ 4/78
METEOROLOGICAL SITE	DIR (DEG)		200	340	290	190	210	300	230	60	20	220
NEWARK N. J.	VEL (MPH)		5.2	9.3	5.6	8.1	7.6	9.7	4.0	8.9	10.1	9.4
	SPD (MPH)		5.5	9.9	7.5	9.3	8.0	10.9	4.9	9.3	10.9	9.6
	RATIO		0.950	0.937	0.745	0.866	0.938	0.889	0.819	0.950	0.929	0.972
METEOROLOGICAL SITE	DIR (DEG)		260	320	300	190	240	300	230	70	20	250
BRIDGEPORT CONN.	VEL (MPH)		9.5	12.5	6.2	7.0	8.5	11.9	2.8	15.6	5.5	12.3
	SPD (MPH)		10.2	13.1	8.3	10.8	10.9	12.1	5.3	15.8	9.5	13.7
	RATIO		0.928	0.955	0.743	0.654	0.778	0.983	0.520	0.987	0.577	0.902
METEOROLOGICAL SITE	DIR (DEG)		170	330	300	170	190	270	170	360	340	200
BRADLEY FIELD CONN.	VEL (MPH)		5.9	6.0	3.0	10.7	3.1	6.7	1.9	7.1	2.3	5.2
	SPD (MPH)		6.0	6.6	4.5	11.4	3.4	7.6	2.3	7.5	2.4	6.3
	RATIO		0.983	0.907	0.667	0.938	0.888	0.882	0.840	0.950	0.942	0.818
METEOROLOGICAL SITE	DIR (DEG)		250	320	290	200	260	290	270	60	330	260
WORCESTER MASS.	VEL (MPH)		5.8	13.2	9.4	9.1	5.7	11.3	4.2	7.3	4.7	8.4
	SPD (MPH)		6.2	13.4	9.5	9.8	6.2	11.5	4.7	7.6	7.9	9.3
	RATIO		0.943	0.986	0.993	0.932	0.927	0.984	0.895	0.958	0.591	0.900
GREENWICH	1	130	32.5	26.0	14.0	11.0	8.0	8.0	7.5	7.5	7.5	7.0
		DATE	1/ 5/78	1/24/78	1/31/78	1/ 6/78	2/10/78	2/ 9/78	2/16/78	1/23/78	1/ 4/78	2/13/78
METEOROLOGICAL SITE	DIR (DEG)		200	200	300	110	330	340	100	260	220	240
NEWARK N. J.	VEL (MPH)		5.2	6.6	10.9	1.6	8.9	4.8	1.3	7.5	9.4	2.5
	SPD (MPH)		5.5	7.2	11.8	4.9	9.8	6.0	5.2	8.6	9.6	5.3
	RATIO		0.950	0.918	0.926	0.330	0.911	0.795	0.250	0.867	0.972	0.465
METEOROLOGICAL SITE	DIR (DEG)		260	240	300	70	340	320	260	300	250	230
BRIDGEPORT CONN.	VEL (MPH)		9.5	7.1	11.0	5.6	9.1	7.7	4.1	7.3	12.3	3.1
	SPD (MPH)		10.2	8.5	11.4	9.6	9.8	7.9	6.3	7.5	13.7	7.6
	RATIO		0.928	0.838	0.972	0.584	0.932	0.975	0.652	0.974	0.902	0.411
METEOROLOGICAL SITE	DIR (DEG)		170	160	320	20	330	320	140	280	200	310
BRADLEY FIELD CONN.	VEL (MPH)		5.9	4.4	5.4	3.4	4.2	3.6	1.1	4.7	5.2	4.4
	SPD (MPH)		6.0	4.7	6.0	4.2	5.3	4.9	3.7	5.6	6.3	5.5
	RATIO		0.983	0.938	0.891	0.808	0.793	0.728	0.283	0.830	0.818	0.803
METEOROLOGICAL SITE	DIR (DEG)		250	260	310	40	320	300	280	280	260	300
WORCESTER MASS.	VEL (MPH)		5.8	9.6	10.3	2.4	6.6	7.8	3.7	9.9	8.4	6.1
	SPD (MPH)		6.2	10.1	10.3	5.6	6.9	8.2	4.2	9.9	9.3	7.5
	RATIO		0.943	0.954	0.992	0.430	0.953	0.953	0.889	0.993	0.900	0.812
HARTFORD	9	256	17.0	14.0	14.0	14.0	13.0	13.0	12.0	12.0	12.0	12.0
		DATE	2/ 9/78	3/ 8/78	6/ 8/78	6/ 3/78	3/ 9/78	1/ 6/78	8/10/78	2/ 6/78	6/21/78	2/ 2/78
METEOROLOGICAL SITE	DIR (DEG)		340	10	210	30	180	110	260	20	190	360
NEWARK N. J.	VEL (MPH)		4.8	3.8	11.3	4.4	1.0	1.6	6.3	20.8	6.5	3.7
	SPD (MPH)		6.0	7.9	11.5	8.6	5.0	4.9	7.9	21.1	7.9	4.5
	RATIO		0.795	0.478	0.983	0.514	0.195	0.330	0.803	0.986	0.818	0.837

TABLE 27 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 1 HR AVG CO DAYS 1978 WITH MET. DATA

POLLUTANT--CARBON MONOXIDE

UNITS : PARTS PER MILLION

TOWN NAME	SITE SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE	DIR (DEG)	320	340	210	260	200	70	260	40	190	340
BRIDGEPORT CONN.	VEL (MPH)	7.7	2.5	13.8	3.6	4.0	5.6	6.4	23.5	5.1	3.8
	SPD (MPH)	7.9	8.0	14.8	6.9	7.3	9.6	8.5	23.9	8.2	6.0
	RATIO	0.975	0.315	0.933	0.516	0.550	0.584	0.755	0.986	0.621	0.621
METEOROLOGICAL SITE	DIR (DEG)	320	110	170	150	160	20	260	10	170	200
BRADLEY FIELD CONN.	VEL (MPH)	3.6	0.8	10.2	2.4	3.4	3.4	3.2	17.4	6.8	1.2
	SPD (MPH)	4.9	4.5	10.3	5.7	5.7	4.2	4.6	17.5	7.0	2.7
	RATIO	0.728	0.186	0.983	0.416	0.586	0.808	0.687	0.992	0.962	0.434
METEOROLOGICAL SITE	DIR (DEG)	300	320	220	270	230	40	280	50	270	290
WORCESTER MASS.	VEL (MPH)	7.8	5.4	7.3	6.5	1.9	2.4	7.9	18.3	2.7	6.6
	SPD (MPH)	8.2	7.9	7.5	7.6	5.3	5.6	8.3	18.4	6.2	7.2
	RATIO	0.953	0.679	0.973	0.848	0.365	0.430	0.945	0.996	0.440	0.924
HARTFORD	12 40	25.0	21.0	18.0	16.0	15.0	14.0	14.0	13.0	13.0	13.0
	DATE	11/28/78	12/ 4/78	12/ 1/78	11/29/78	12/ 8/78	12/ 6/78	12/12/78	12/16/78	12/22/78	12/ 7/78
METEOROLOGICAL SITE	DIR (DEG)	270	220	30	200	210	240	250	210	250	70
NEWARK N. J.	VEL (MPH)	5.0	12.8	1.4	2.1	1.4	7.6	7.3	7.6	10.1	2.9
	SPD (MPH)	8.6	14.4	8.0	6.3	6.3	8.0	7.8	8.0	11.1	5.6
	RATIO	0.574	0.889	0.177	0.325	0.220	0.939	0.936	0.938	0.916	0.521
METEOROLOGICAL SITE	DIR (DEG)	310	230	250	270	190	250	280	240	260	80
BRIDGEPORT CONN.	VEL (MPH)	5.8	8.6	3.5	4.1	1.7	9.6	6.9	8.5	13.2	4.8
	SPD (MPH)	11.4	11.4	8.6	7.2	7.6	10.2	7.3	10.9	13.5	6.5
	RATIO	0.508	0.761	0.405	0.576	0.226	0.939	0.942	0.778	0.979	0.743
METEOROLOGICAL SITE	DIR (DEG)	320	260	180	180	170	210	190	190	210	20
BRADLEY FIELD CONN.	VEL (MPH)	3.1	2.6	1.9	3.0	4.0	0.4	1.1	3.1	3.0	0.3
	SPD (MPH)	7.2	4.7	5.3	3.6	4.5	4.7	2.3	3.4	4.5	2.9
	RATIO	0.435	0.541	0.351	0.846	0.906	0.079	0.488	0.888	0.666	0.108
METEOROLOGICAL SITE	DIR (DEG)	300	260	270	220	230	270	270	260	280	290
WORCESTER MASS.	VEL (MPH)	4.4	6.6	4.7	3.3	5.5	5.9	5.2	5.7	12.0	2.9
	SPD (MPH)	8.0	9.2	5.6	4.3	5.9	6.3	5.3	6.2	12.8	3.7
	RATIO	0.540	0.722	0.833	0.771	0.926	0.940	0.975	0.927	0.937	0.784
NEW BRITAIN	2 338	29.0	24.0	23.0	22.0	22.0	20.5	20.5	19.5	18.5	18.5
	DATE	7/17/78	1/19/78	12/16/78	1/ 6/78	1/23/78	12/ 6/78	1/25/78	12/ 7/78	7/11/78	3/23/78
METEOROLOGICAL SITE	DIR (DEG)	310	20	210	110	260	240	30	70	340	240
NEWARK N. J.	VEL (MPH)	2.9	10.1	7.6	1.6	7.5	7.6	3.0	2.9	10.8	7.3
	SPD (MPH)	8.2	10.9	8.0	4.9	8.6	8.0	3.2	5.6	11.2	12.5
	RATIO	0.356	0.929	0.938	0.330	0.867	0.939	0.963	0.521	0.963	0.585
METEOROLOGICAL SITE	DIR (DEG)	360	20	240	70	300	250	50	80	320	250
BRIDGEPORT CONN.	VEL (MPH)	6.2	5.5	8.5	5.6	7.3	9.6	9.1	4.8	12.4	7.5
	SPD (MPH)	10.5	9.5	10.9	9.6	7.5	10.2	9.9	6.5	13.1	10.5
	RATIO	0.594	0.577	0.778	0.584	0.974	0.939	0.914	0.743	0.950	0.718
METEOROLOGICAL SITE	DIR (DEG)	320	340	190	20	280	210	50	20	310	250
BRADLEY FIELD CONN.	VEL (MPH)	3.2	2.3	3.1	3.4	4.7	0.4	0.8	0.3	8.1	1.9
	SPD (MPH)	3.6	2.4	3.4	4.2	5.6	4.7	4.9	2.9	8.6	6.9
	RATIO	0.891	0.942	0.888	0.808	0.830	0.079	0.167	0.108	0.944	0.280

TABLE 27 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 1 HR AVG CO DAYS 1978 WITH MET. DATA

POLLUTANT--CARBON MONOXIDE

UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE			DIR (DEG)	320	330	260	40	280	270	230	290	310	270
WORCESTER MASS.			VEL (MPH)	2.2	4.7	5.7	2.4	9.9	5.9	1.9	2.9	9.8	8.1
			SPD (MPH)	4.5	7.9	6.2	5.6	9.9	6.3	6.6	3.7	10.5	10.1
			RATIO	0.500	0.591	0.927	0.430	0.993	0.940	0.287	0.784	0.932	0.806
NEW HAVEN	7	162		21.5	16.1	16.0	14.0	14.0	13.0	13.0	12.0	12.0	11.0
			DATE	11/ 3/78	5/17/78	11/ 4/78	11/ 5/78	11/ 2/78	4/19/78	7/25/78	7/21/78	11/ 6/78	3/16/78
METEOROLOGICAL SITE			DIR (DEG)	20	130	20	70	240	80	140	240	210	10
NEWARK N. J.			VEL (MPH)	2.1	5.2	8.0	3.0	6.2	11.4	8.3	7.4	5.5	5.1
			SPD (MPH)	4.3	7.0	8.2	5.5	6.6	13.7	8.5	7.8	5.7	5.7
			RATIO	0.488	0.735	0.973	0.557	0.939	0.831	0.984	0.947	0.948	0.889
METEOROLOGICAL SITE			DIR (DEG)	60	100	40	40	250	70	140	230	250	30
BRIDGEPORT CONN.			VEL (MPH)	6.2	7.7	6.9	4.3	8.7	21.3	8.0	9.5	4.4	5.0
			SPD (MPH)	10.1	9.6	8.0	6.8	10.3	21.6	8.6	10.8	6.3	7.5
			RATIO	0.619	0.796	0.854	0.634	0.843	0.990	0.928	0.881	0.700	0.663
METEOROLOGICAL SITE			DIR (DEG)	290	150	350	360	220	50	190	170	180	350
BRADLEY FIELD CONN.			VEL (MPH)	1.4	1.0	1.2	3.3	2.5	6.0	5.5	6.0	3.7	4.8
			SPD (MPH)	2.6	4.9	1.3	3.7	4.5	8.8	6.8	6.5	4.7	5.6
			RATIO	0.527	0.201	0.904	0.880	0.566	0.684	0.815	0.925	0.771	0.853
METEOROLOGICAL SITE			DIR (DEG)	360	90	150	50	280	90	240	250	250	330
WORCESTER MASS.			VEL (MPH)	2.0	1.9	1.6	3.8	10.7	6.4	5.8	7.4	4.3	1.0
			SPD (MPH)	5.3	5.2	2.2	4.0	11.2	8.5	6.9	7.8	5.5	4.9
			RATIO	0.378	0.369	0.756	0.946	0.958	0.754	0.845	0.954	0.780	0.201
NORWALK	5	257		25.5	23.5	21.6	21.0	20.5	19.2	18.0	17.6	17.5	17.0
			DATE	10/23/78	12/ 6/78	12/16/78	1/ 5/78	12/15/78	2/17/78	5/19/78	1/ 6/78	1/24/78	1/23/78
METEOROLOGICAL SITE			DIR (DEG)	270	240	210	200	220	230	340	110	200	260
NEWARK N. J.			VEL (MPH)	7.4	7.6	7.6	5.2	11.6	4.0	5.9	1.6	6.6	7.5
			SPD (MPH)	11.2	8.0	8.0	5.5	11.6	4.9	7.2	4.9	7.2	8.6
			RATIO	0.662	0.939	0.938	0.950	0.992	0.819	0.822	0.330	0.918	0.867
METEOROLOGICAL SITE			DIR (DEG)	280	250	240	260	250	230	230	70	240	300
BRIDGEPORT CONN.			VEL (MPH)	12.5	9.6	8.5	9.5	17.8	2.8	5.4	5.6	7.1	7.3
			SPD (MPH)	16.2	10.2	10.9	10.2	18.4	5.3	8.9	9.6	8.5	7.5
			RATIO	0.770	0.939	0.778	0.928	0.966	0.520	0.604	0.584	0.838	0.974
METEOROLOGICAL SITE			DIR (DEG)	310	210	190	170	190	170	100	20	160	280
BRADLEY FIELD CONN.			VEL (MPH)	3.6	0.4	3.1	5.9	6.9	1.9	1.1	3.4	4.4	4.7
			SPD (MPH)	8.2	4.7	3.4	6.0	7.5	2.3	4.0	4.2	4.7	5.6
			RATIO	0.444	0.079	0.888	0.983	0.922	0.840	0.267	0.808	0.938	0.830
METEOROLOGICAL SITE			DIR (DEG)	300	270	260	250	250	270	310	40	260	280
WORCESTER MASS.			VEL (MPH)	11.2	5.9	5.7	5.8	8.2	4.2	5.0	2.4	9.6	9.9
			SPD (MPH)	12.9	6.3	6.2	6.2	8.2	4.7	6.2	5.6	10.1	9.9
			RATIO	0.866	0.940	0.927	0.943	0.996	0.895	0.805	0.430	0.954	0.993

TABLE 27 (continued)

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

TEN HIGHEST 1 HR AVG CO DAYS 1978 WITH MET. DATA

POLLUTANT--CARBON MONOXIDE

UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
STAMFORD	20	339		40.0	39.0	38.0	37.0	37.0	36.0	36.0	35.0	34.0	34.0
			DATE	10/18/78	11/ 9/78	12/21/78	10/19/78	11/ 2/78	1/12/78	11/30/78	12/ 5/78	2/21/78	1/16/78
METEOROLOGICAL SITE			DIR (DEG)	250	240	260	240	240	260	260	240	290	240
NEWARK N. J.			VEL (MPH)	2.6	6.8	12.1	8.5	6.2	9.3	7.0	7.9	5.6	12.1
			SPD (MPH)	6.9	7.3	13.7	11.2	6.6	9.9	9.1	8.8	7.5	12.5
			RATIO	0.370	0.923	0.888	0.762	0.939	0.938	0.769	0.898	0.745	0.969
METEOROLOGICAL SITE			DIR (DEG)	250	260	280	260	250	290	300	260	300	260
BRIDGEPORT CONN.			VEL (MPH)	7.0	9.5	13.5	12.9	8.7	11.6	11.4	13.0	6.2	10.8
			SPD (MPH)	11.8	10.9	17.7	14.5	10.3	12.2	12.6	13.2	8.3	10.9
			RATIO	0.591	0.868	0.762	0.889	0.843	0.951	0.898	0.982	0.743	0.989
METEOROLOGICAL SITE			DIR (DEG)	190	240	300	240	220	230	250	230	300	240
BRADLEY FIELD CONN.			VEL (MPH)	2.8	2.4	7.2	4.6	2.5	8.3	4.1	3.3	3.0	5.4
			SPD (MPH)	3.9	3.7	9.6	6.0	4.5	9.2	6.6	5.0	4.5	6.9
			RATIO	0.721	0.648	0.744	0.756	0.566	0.907	0.624	0.663	0.667	0.775
METEOROLOGICAL SITE			DIR (DEG)	260	270	290	270	280	260	280	260	290	270
WORCESTER MASS.			VEL (MPH)	5.0	8.0	9.5	6.0	10.7	8.2	10.7	6.0	9.4	11.0
			SPD (MPH)	5.5	8.2	13.2	6.5	11.2	8.3	10.8	6.3	9.5	11.2
			RATIO	0.924	0.976	0.718	0.929	0.958	0.984	0.989	0.955	0.993	0.980
WATERBURY	4	179		21.5	20.0	19.0	18.0	16.4	16.0	16.0	15.5	15.0	15.0
			DATE	8/ 4/78	1/24/78	8/24/78	1/ 6/78	1/19/78	8/28/78	8/ 3/78	6/ 8/78	1/ 7/78	1/ 5/78
METEOROLOGICAL SITE			DIR (DEG)	200	200	240	110	20	210	200	210	60	200
NEWARK N. J.			VEL (MPH)	3.0	6.6	6.2	1.6	10.1	8.1	8.7	11.3	8.9	5.2
			SPD (MPH)	6.2	7.2	7.0	4.9	10.9	10.3	9.1	11.5	9.3	5.5
			RATIO	0.480	0.918	0.881	0.330	0.929	0.779	0.960	0.983	0.950	0.950
METEOROLOGICAL SITE			DIR (DEG)	250	240	90	70	20	160	190	210	70	260
BRIDGEPORT CONN.			VEL (MPH)	3.0	7.1	4.2	5.6	5.5	9.0	9.8	13.8	15.6	9.5
			SPD (MPH)	10.1	8.5	9.9	9.6	9.5	12.4	11.6	14.8	15.8	10.2
			RATIO	0.298	0.838	0.427	0.584	0.577	0.727	0.839	0.933	0.987	0.928
METEOROLOGICAL SITE			DIR (DEG)	210	160	20	20	340	80	180	170	360	170
BRADLEY FIELD CONN.			VEL (MPH)	2.9	4.4	3.3	3.4	2.3	0.8	8.5	10.2	7.1	5.9
			SPD (MPH)	6.9	4.7	5.0	4.2	2.4	5.0	9.1	10.3	7.5	6.0
			RATIO	0.427	0.938	0.665	0.808	0.942	0.154	0.933	0.983	0.950	0.983
METEOROLOGICAL SITE			DIR (DEG)	240	260	60	40	330	150	210	220	60	250
WORCESTER MASS.			VEL (MPH)	5.3	9.6	5.5	2.4	4.7	2.2	7.3	7.3	7.3	5.8
			SPD (MPH)	5.9	10.1	6.2	5.6	7.9	6.3	7.5	7.5	7.6	6.2
			RATIO	0.902	0.954	0.888	0.430	0.591	0.351	0.982	0.973	0.958	0.943

VII. LEAD

Conclusions:

The newly promulgated NAAQS for lead (1.5 $\mu g/m^3$, calendar quarter average) was exceeded at 16 sites in 1978.

No significant change in measured concentrations of lead occurred between 1977 and 1978.

The monitoring sites where the lead standard was exceeded were generally in urban locations in areas of moderate to heavy traffic. In Connecticut, the primary source of lead concentrations in the atmosphere is emissions from the combustion of leaded gasoline in motor vehicles. Atmospheric concentrations of lead should decline as the combustion of leaded gasoline decreases because more new cars require unleaded gasoline.

Sample Collection And Analysis:

The Air Monitoring Unit uses hi-vol and lo-vol samplers to obtain ambient concentrations of lead. These samplers are used to collect particulate matter onto fiberglass filters. The particulate matter collected on the filters is subsequently analyzed for its chemical composition. Wet chemistry techniques are used to separate the particulate matter into various components. The lead content of the TSP is determined using an atomic absorption spectrophotometer. (The use of these sampling devices and the chemical analysis techniques were fully described in the TSP section.)

Discussion of Data:

Monitoring Network - In 1978, both hi-vol and lo-vol samplers were operated in Connecticut (see Figure 4). Because the Federal EPA does not recognize the lo-vol instrument as an equivalent to the reference (hi-vol) method of sampling for lead, only hi-vol data are analyzed for compliance with NAAQS.

New NAAQS - On October 5, 1978, the EPA established a new ambient air quality standard for lead of 1.5 $\mu g/m^3$ for a calendar quarter-year average. The standard is attained only if the quarterly averages of all four calendar quarters in a year do not exceed 1.5 $\mu g/m^3$.

Quarterly Averages - The calendar quarter lead standard was exceeded at 16 sites in 1978, 4 less than in 1977. The quarterly averages (and the annual averages) for lead in 1978 are presented in Table 28. The maximum quarterly lead level was higher in 1978 than in 1977 at 21 of the 32 hi-vol sites where the minimum EPA sampling criteria were met. At 5 of these sites the increase exceeded 0.5 $\mu g/m^3$. The maximum quarterly lead level decreased at 10 sites from 1977 to 1978, while 2 of those decreases exceeded 0.5 $\mu g/m^3$. The maximum quarterly level at one site (Stratford 005) was unchanged. (Annual average lead concentrations decreased at 29 sites and increased at only 3 sites from 1977 to 1978. The annual average lead levels for 1970-1978 can be found in Table 10.)

TABLE 28

1978 QUARTERLY AND ANNUAL AVERAGE LEAD (Pb) LEVELS BY SITE, $\mu g/m^3$

		QUARTERLY AVERAGES				
TOWN	SITE	1ST	2ND	3RD	4TH	ANNUAL AVERAGE*
Ansonia	003	1.23	0.82	0.92	2.24	1.32
Berlin	001	0.27	0.19	0.31	0.62	0.36
Bridgeport	001	0.88	1.02	1.26	1.41	1.15
Bridgeport	123	1.03	0.98	1.21	1.82	1.27
Bristol	001	0.71	0.37	0.59	1.15	0.72
Bristol	004	1.10	0.64	1.26	-	1.02
Burlington	001	-	0.15	0.20	0.32	0.23
Danbury	123	0.60	0.40	1.02	1.51	0.90
Derby	123	0.52	0.48	0.69	-	0.57
East Hartford	002	0.57	0.41	0.75	1.78	0.90
Enfield	123	0.63	0.32	0.60	1.24	0.74
Greenwich	001	0.48	0.42	0.96	-	0.64
Greenwich	003	0.67	0.53	0.56	-	0.59
Greenwich	004	1.21	0.27	0.65	0.65	0.69
Greenwich	008	0.61	0.43	0.74	1.25	0.77
Groton	123	0.31	0.29	0.64	0.66	0.48
Haddam	002	0.58	0.23	0.39	0.57	0.43
Hartford	002	0.62	0.72	1.20	-	0.87
Hartford	003	0.84	0.70	1.15	1.79	1.11
Hartford	123	0.79	0.94	1.27	1.74	1.19
Morris	001	0.29	0.29	0.29	0.45	0.33
Manchester	001	0.55	0.37	0.71	0.77	0.60
Meriden	002	0.74	0.43	1.37	1.97	1.14
Meriden	005	0.84	0.40	0.61	1.09	0.74
Middletown	003	0.90	0.68	0.93	1.70	1.07
Milford	001	0.53	0.79	-	-	0.66
Milford	002	0.73	0.50	0.85	1.14	0.80
Naugatuck	001	0.71	0.50	0.99	1.68	1.00
New Britain	123	0.65	0.51	1.04	1.58	0.96
New Haven	002	0.95	1.04	1.59	1.85	1.37
New Haven	123	1.02	1.24	1.45	2.48	1.53
Norwalk	005	0.62	0.56	1.16	1.33	0.94
Norwich	001	0.54	0.36	0.58	0.80	0.58
Old Saybrook	001	0.54	0.77	1.23	1.09	0.91
Stamford	007	0.41	0.54	0.83	0.86	0.67
Stamford	123	0.53	0.83	0.83	1.25	0.86
Stratford	001	0.52	0.75	-	-	0.63
Stratford	005	0.71	0.83	1.01	1.37	0.98
Torrington	123	0.73	0.53	0.67	1.95	0.98
Voluntown	001	1.04	0.09	0.14	0.27	0.37
Wallingford	001	0.79	0.51	0.99	1.41	0.94
Waterbury	002	0.91	0.60	0.98	1.69	1.07
Waterbury	123	2.03	1.22	1.65	2.52	1.85
Waterford	001	1.55	0.13	0.32	0.34	0.60

* Weighted average based on number of filters analyzed in each quarter

VIII. CLIMATOLOGICAL DATA

Weather is often the most significant factor influencing short term changes in air quality and may also have an affect on long-term trends. In Tables 29 and 30 monthly and annual averages of the 1978 climatological data from National Weather Service Stations located at Bradley International Airport in Windsor Locks and at Sikorsky Memorial Airport near Bridgeport are compared to "normal" or "mean" values. These comparisons show that 1978 was considerably colder than a "normal" year, but that wind speed and precipitation were slightly above average in Bridgeport and below average in Windsor Locks. Tables 31 and 32 contain climatological data from Windsor Locks and Bridgeport, respectively, for 1977. More discussion of the meteorological data is included in the discussions of each pollutant in the earlier sections of this 1978 Annual Summary.

Wind roses for Bradley Airport, Sikorsky Airport, and Newark Airport have been developed from 1978 National Weather Service surface observations and are shown in Figures 9, 10 and 11. Wind roses from these stations for 1977 are shown in Figures 12, 13, and 14. The differences between 1977 and 1978 wind roses were discussed earlier in the trend analysis section.

TABLE 29
1978 CLIMATOLOGICAL DATA
BRADLEY INTERNATIONAL AIRPORT
WINDSOR LOCKS

	AVERAGE TEMPERATURES °F		NUMBER OF DAYS ON WHICH MAX. TEMP. EXCEEDED 90 °F		DEGREE DAYS		PRECIPITATION IN INCHES WATER EQUIVALENT		NUMBER OF DAYS WITH MORE THAN .01 INCHES OF PRECIPITATION		AVERAGE WIND SPEED (MPH)		
	1978	Normal[a]	1978	Mean[b]	1978	Normal[a]	1978	Normal[a]	1978	Mean[c]	1978	Mean[d]	
January	23.6	24.8	0	0	1276	1246	9.61	3.28	15	11	8.6	9.4	Jan.
February	22.1	26.8	0	0	1192	1070	1.42	3.17	4	11	7.4	9.7	Feb.
March	35.1	35.6	0	0	920	911	3.63	3.82	7	11	8.0	10.3	Mar.
April	48.1	47.7	0	*	500	519	1.51	3.75	7	11	9.0	10.5	Apr.
May	59.9	58.3	1	1	220	226	4.61	3.50	12	12	8.0	9.3	May
June	69.2	67.8	3	4	25	24	2.94	3.53	13	12	7.5	8.4	June
July	71.9	72.7	7	8	9	0	2.51	3.41	9	10	6.9	7.8	July
August	70.0	70.4	1	5	15	12	3.61	3.94	11	10	5.2	7.5	Aug.
September	58.6	62.8	0	1	209	106	2.67	3.55	5	10	6.1	7.6	Sept.
October	49.0	52.6	0	*	489	384	1.75	3.03	7	8	6.3	8.1	Oct.
November	38.6	41.3	0	0	790	711	2.12	4.33	13	11	6.2	8.6	Nov.
December	29.3	28.2	0	0	1102	1141	4.23	4.06	11	12	7.5	8.9	Dec.
YEAR	47.9	49.1	12	20	6747	6350	40.61	43.37	114	128	7.2	8.8	YEAR

* Less than 1/2

a 1941-1970
b 1960-1978
c 1955-1978
d 1955-1978

Extracted From: Local Climatological Data Charts
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Data Service

TABLE 30
1978 CLIMATOLOGICAL DATA
SIKORSKY MEMORIAL AIRPORT
BRIDGEPORT

	AVERAGE TEMPERATURES °F		NUMBER OF DAYS ON WHICH MAX. TEMP. EXCEEDED 90 °F		DEGREE DAYS		PRECIPITATION IN INCHES WATER EQUIVALENT		NUMBER OF DAYS WITH MORE THAN .01 INCHES OF PRECIPITATION		AVERAGE WIND SPEED (MPH)		
	1978	Normal[a]	1978	Mean[b]	1978	Normal[a]	1978	Normal[a]	1978	Mean[c]	1978	Mean[d]	
January	26.6	30.2	0	0	1181	1079	7.91	2.71	13	11	15.1	13.0	Jan.
February	24.1	30.9	0	0	1136	955	1.34	2.71	4	10	11.7	13.5	Feb.
March	35.6	37.9	0	0	904	840	3.95	3.49	7	11	12.8	13.5	Mar.
April	46.9	48.4	0	0	536	498	1.97	3.39	7	11	13.9	13.0	Apr.
May	56.8	58.3	0	*	265	225	5.12	3.57	10	11	12.6	11.7	May
June	66.4	67.9	0	1	43	24	1.59	2.56	11	9	10.6	10.5	June
July	73.2	73.8	2	3	4	0	2.59	3.44	7	8	11.4	10.0	July
August	75.0	72.7	2	2	0	0	5.90	3.80	13	10	10.3	10.0	Aug.
September	64.2	66.5	0	*	92	42	3.75	2.88	10	9	11.4	11.1	Sept.
October	55.4	56.8	0	0	290	261	2.54	2.79	8	7	12.3	11.8	Oct.
November	47.2	46.0	0	0	524	570	1.74	3.83	11	10	11.7	12.7	Nov.
December	36.2	33.8	0	0	889	967	4.76	3.44	11	11	14.3	13.0	Dec.
YEAR	50.7	51.9	4	6	5864	5461	43.16	38.61	112	118	12.3	12.0	YEAR

* Less than 1/2

[a] 1941-1970
[b] 1966-1978
[c] 1949-1978
[d] 1958-1978

Extracted From: Local Climatological Data Charts
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Data Service

TABLE 31
1977 CLIMATOLOGICAL DATA
BRADLEY INTERNATIONAL AIRPORT
WINDSOR LOCKS

	AVERAGE TEMPERATURES °F		NUMBER OF DAYS ON WHICH MAX. TEMP. EXCEEDED 90 °F		DEGREE DAYS		PRECIPITATION IN INCHES WATER EQUIVALENT		NUMBER OF DAYS WITH MORE THAN .01 INCHES OF PRECIPITATION		AVERAGE WIND SPEED (MPH)		
	1977	Normal[a]	1977	Mean[b]	1977	Normal[a]	1977	Normal[a]	1977	Mean[c]	1977	Mean[d]	
January	18.7	24.8	0	0	1429	1246	2.41	3.28	10	11	8.3	9.4	Jan.
February	27.6	26.8	0	0	1038	1070	2.81	3.17	10	11	8.6	9.8	Feb.
March	42.9	35.6	0	0	684	911	6.57	3.82	12	11	9.2	10.4	Mar.
April	51.2	47.7	1	*	419	519	4.89	3.75	11	11	8.8	10.6	Apr.
May	63.6	58.3	4	1	130	226	3.70	3.50	9	12	8.1	9.3	May
June	68.0	67.8	0	4	45	24	3.99	3.53	14	12	7.4	8.4	June
July	74.5	72.7	14	8	1	0	3.37	3.41	10	10	6.3	7.8	July
August	72.8	70.4	6	5	8	12	2.44	3.94	10	10	5.6	7.6	Aug.
September	64.0	62.8	1	1	112	106	8.17	3.55	17	10	6.1	7.6	Sept.
October	52.0	52.6	0	*	399	384	5.45	3.03	13	8	6.8	8.1	Oct.
November	44.4	41.3	0	0	610	711	4.38	4.33	13	11	7.2	8.7	Nov.
December	28.0	28.2	0	0	1141	1141	5.68	4.06	13	13	7.4	8.9	Dec.
YEAR	50.6	49.1	26	21	6016	6350	53.86	43.37	142	129	7.5	8.9	YEAR

* Less than 1/2

[a] 1941-1970
[b] 1960-1977
[c] 1955-1977
[d] 1955-1977

Extracted From: Local Climatological Data Charts
U.S. Dept. of Commerce
National Oceanic and Atmospheric Administration
Environmental Data Service

TABLE 32
1977 CLIMATOLOGICAL DATA
SIKORSKY MEMORIAL AIRPORT
BRIDGEPORT

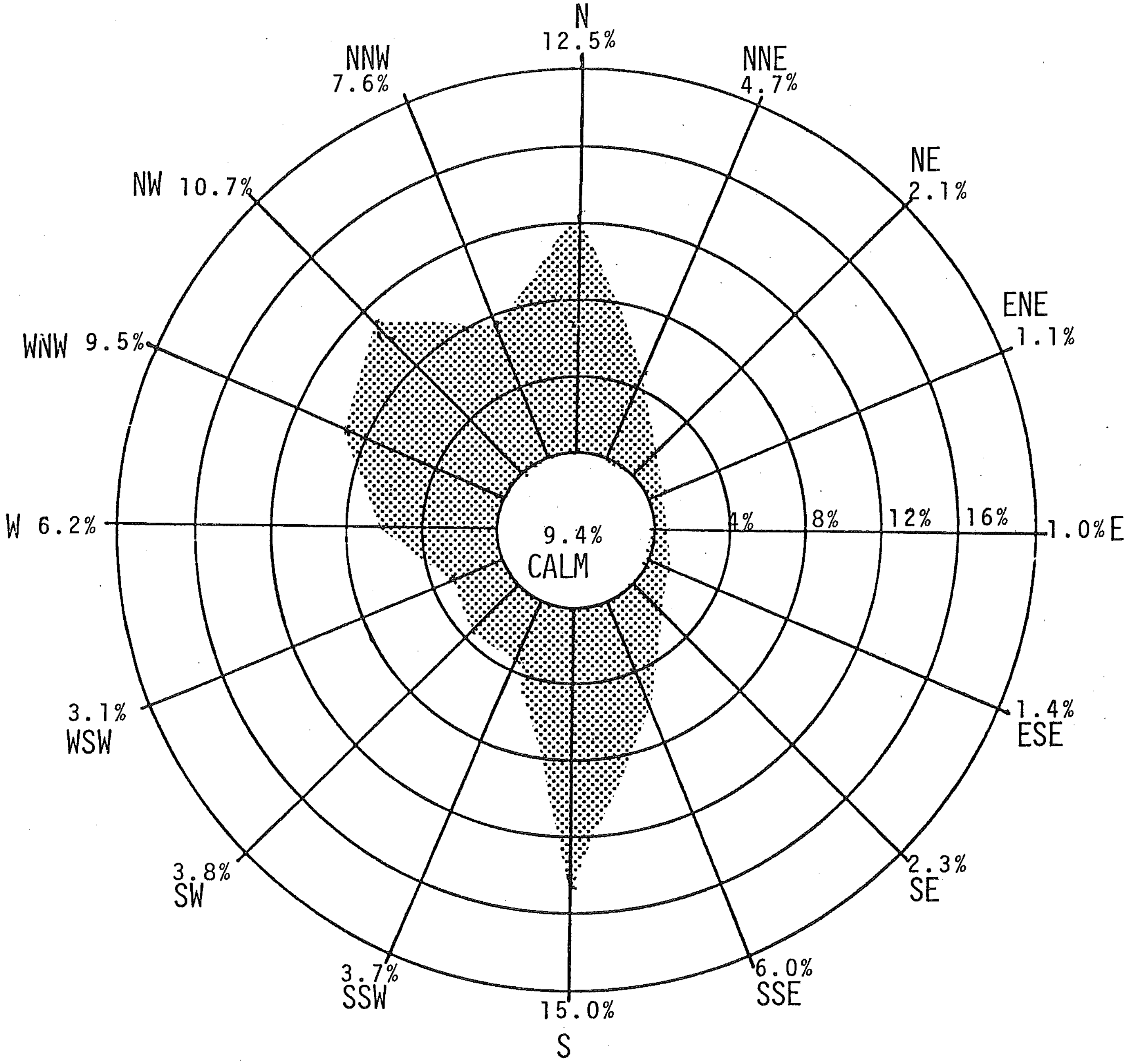
	AVERAGE TEMPERATURES °F		NUMBER OF DAYS ON WHICH MAX. TEMP. EXCEEDED 90 °F		DEGREE DAYS		PRECIPITATION IN INCHES WATER EQUIVALENT		NUMBER OF DAYS WITH MORE THAN .01 INCHES OF PRECIPITATION		AVERAGE WIND SPEED (MPH)		
	1977	Normal[a]	1977	Mean[b]	1977	Normal[a]	1977	Normal[a]	1977	Mean[c]	1977	Mean[d]	
January	23.7	30.2	0	0	1274	1079	2.43	2.71	10	11	15.0	12.9	Jan.
February	31.2	30.9	0	0	940	955	1.74	2.71	10	10	13.7	13.6	Feb.
March	41.9	37.9	0	0	710	840	7.74	3.49	10	11	14.7	13.5	Mar.
April	49.1	48.4	0	0	470	498	3.60	3.39	8	11	13.1	12.9	Apr.
May	60.4	58.3	0	*	160	225	2.07	3.57	7	11	12.1	11.6	May
June	65.1	67.9	0	1	62	24	2.75	2.56	10	9	11.9	10.5	June
July	72.6	73.8	4	3	4	0	1.03	3.44	7	8	10.5	9.9	July
August	74.1	72.7	1	2	3	0	4.69	3.80	13	9	10.1	10.0	Aug.
September	67.8	66.5	0	*	52	42	7.26	2.88	12	9	12.1	11.1	Sept.
October	56.9	56.8	0	0	248	261	3.94	2.79	12	7	12.6	11.8	Oct.
November	50.0	46.0	0	0	442	570	4.93	3.83	15	10	14.3	12.7	Nov.
December	33.5	33.8	0	0	970	967	5.17	3.44	12	11	---	12.9	Dec.
YEAR	52.2	51.9	5	6	5335	5461	47.35	38.61	126	118	12.7	12.0	YEAR

* Less than 1/2

[a] 1941-1970
[b] 1966-1977
[c] 1949-1977
[d] 1958-1977

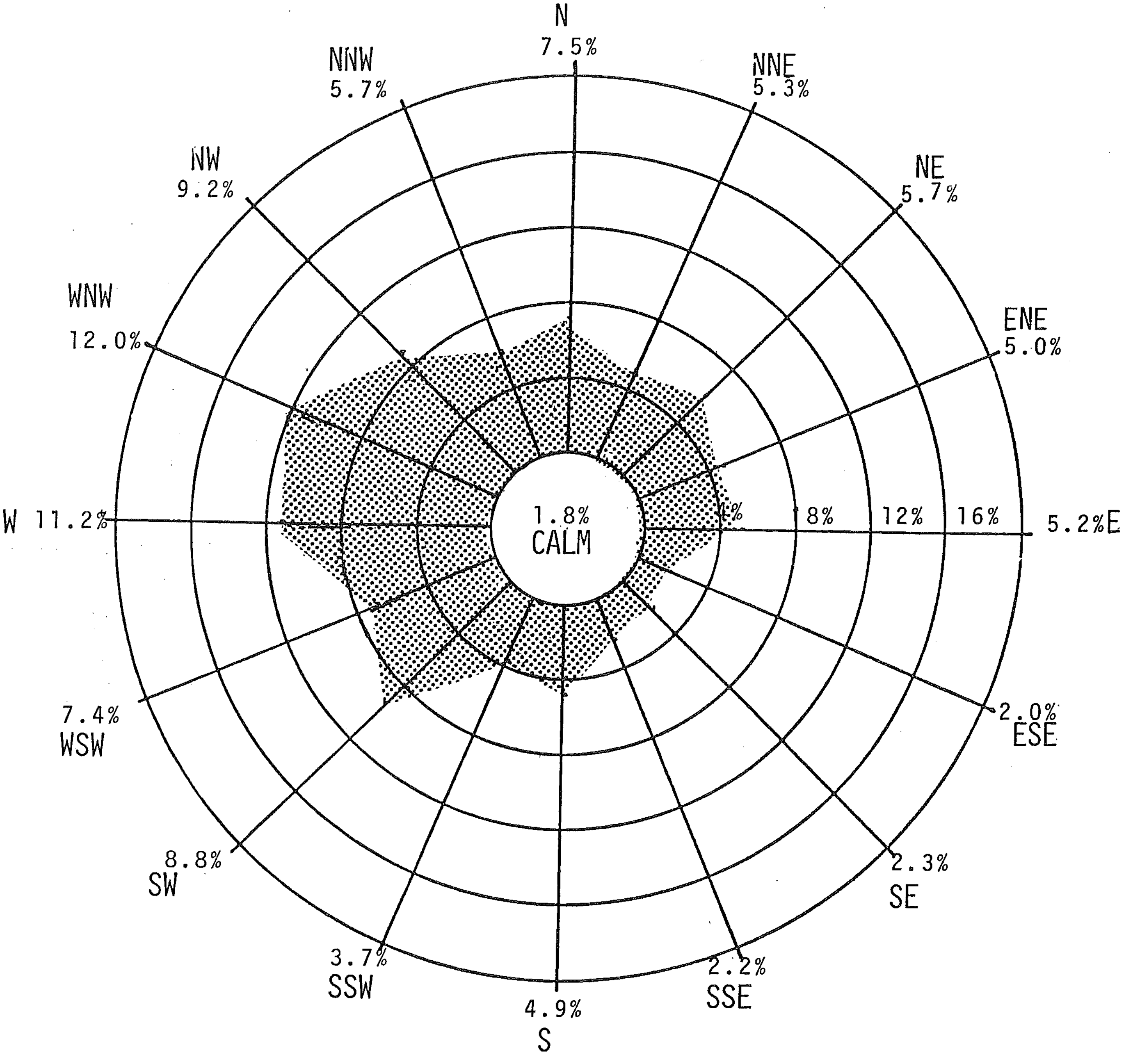
Extracted From: Local Climatological Data Charts
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Data Service

FIGURE 9



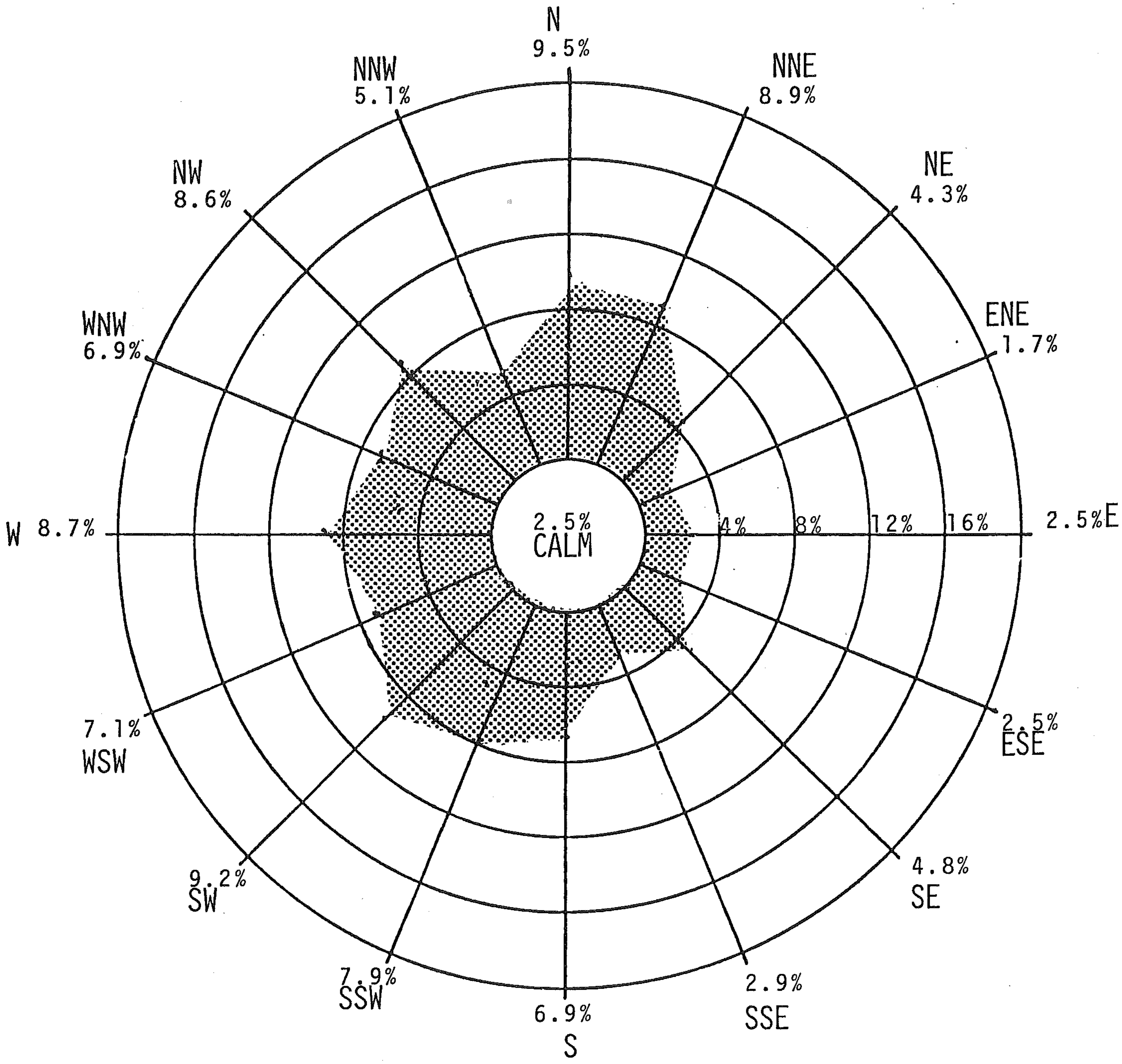
ANNUAL WIND ROSE 1978
BRADLEY INTERNATIONAL AIRPORT
WINDSOR LOCKS, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABBREVIATION

FIGURE 10



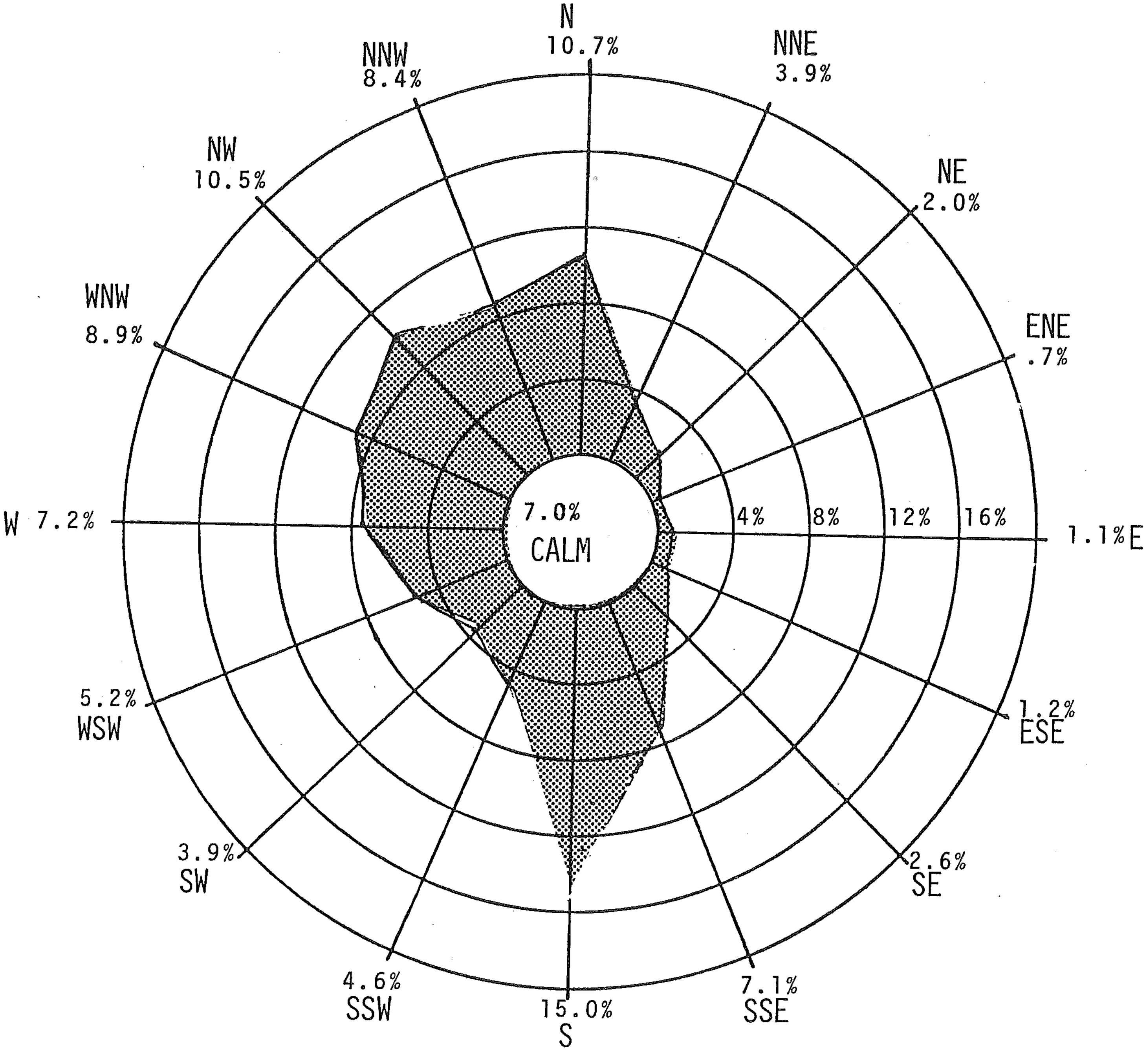
ANNUAL WIND ROSE 1978
SIKORSKY MEMORIAL AIRPORT
STRATFORD/BRIDGEPORT, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABBREVIATION

FIGURE 11



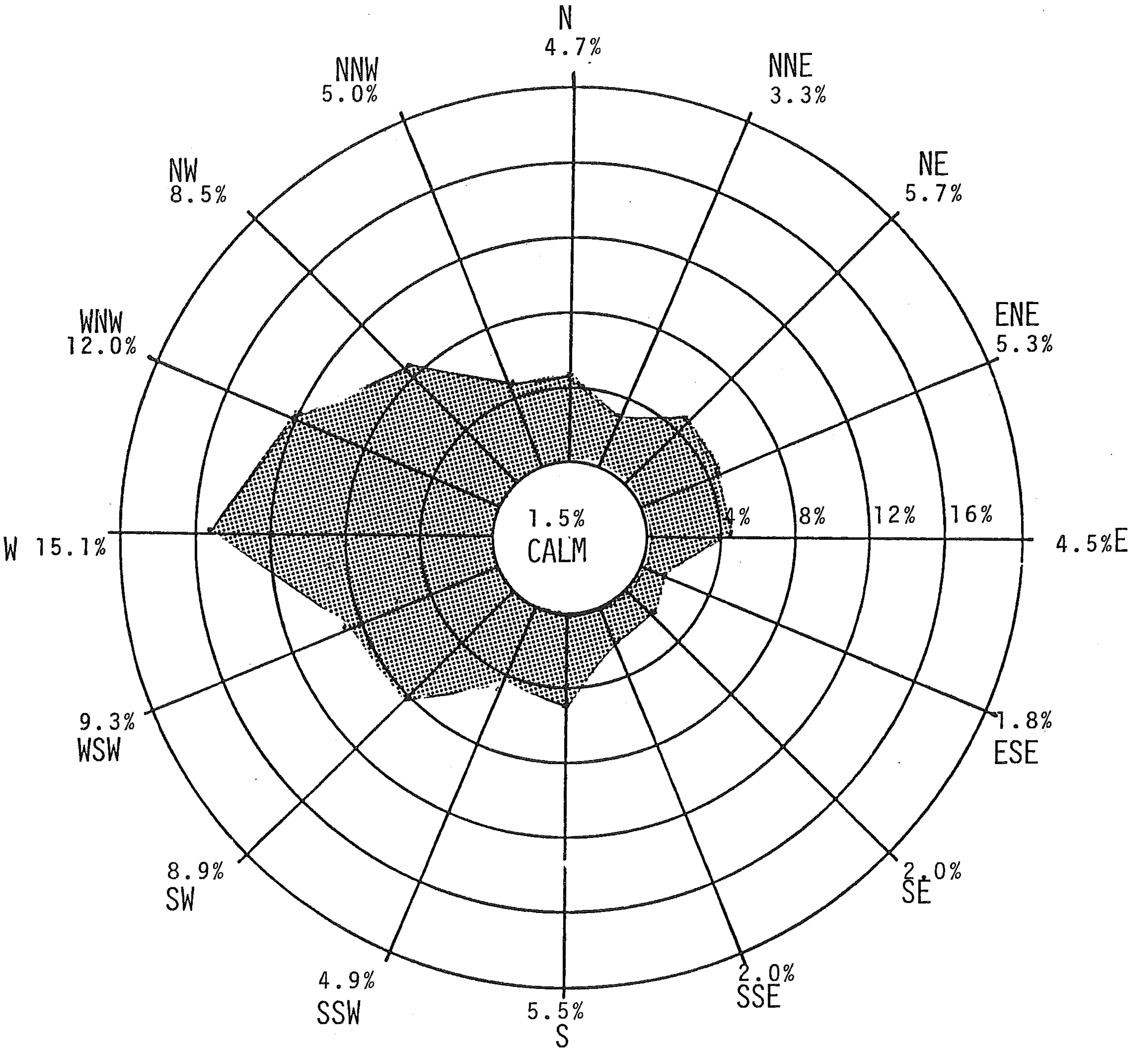
ANNUAL WIND ROSE 1978
NEWARK INTERNATIONAL AIRPORT
NEWARK, NEW JERSEY
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABBREVIATION

FIGURE 12



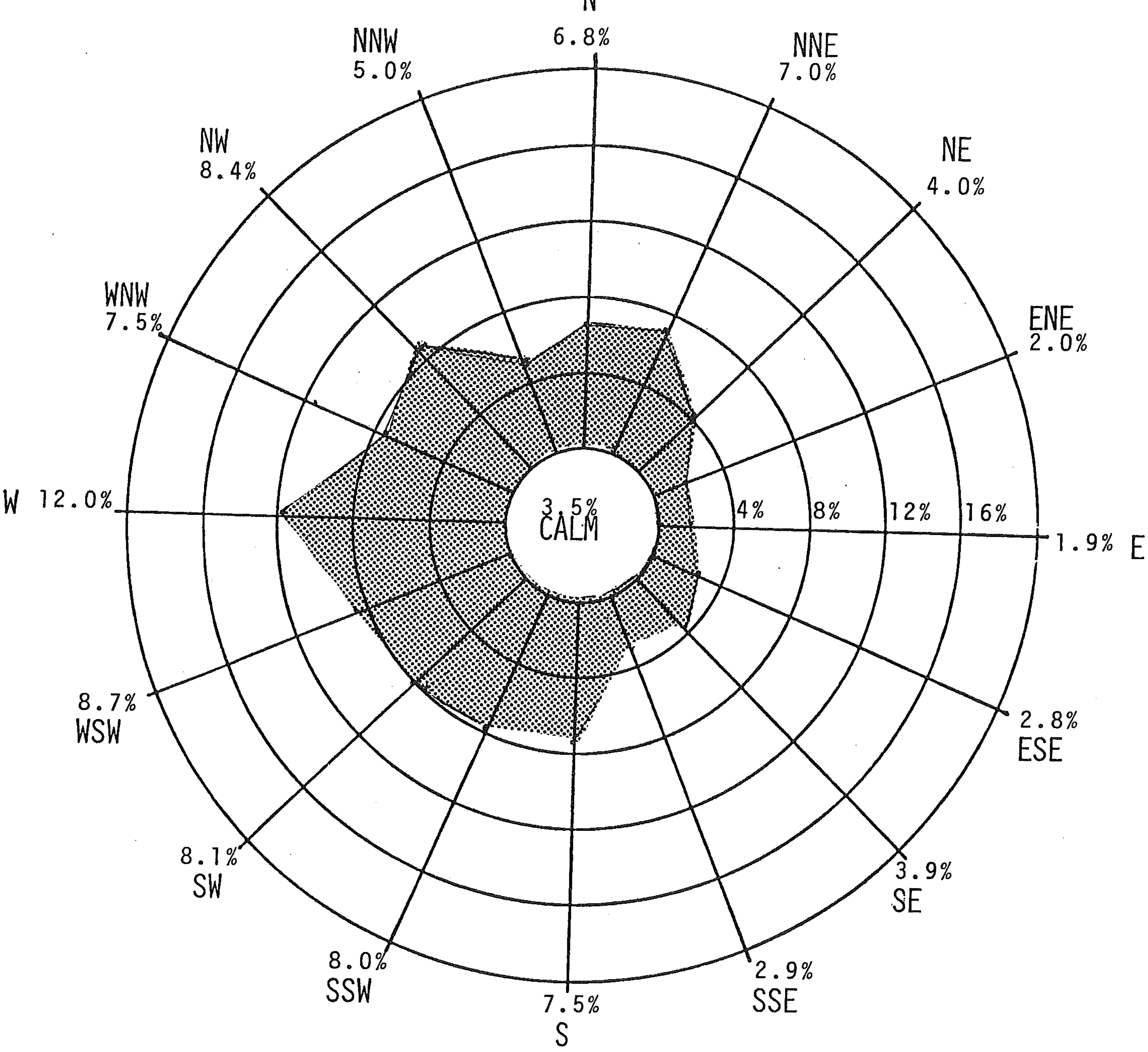
ANNUAL WIND ROSE 1977
BRADLEY INTERNATIONAL AIRPORT
WINDSOR LOCKS, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABBREVIATION

FIGURE 13



ANNUAL WIND ROSE 1977
SIKORSKY MEMORIAL AIRPORT
STRATFORD/BRIDGEPORT, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABBREVIATION

FIGURE 14



ANNUAL WIND ROSE 1977
NEWARK INTERNATIONAL AIRPORT
NEWARK, NEW JERSEY
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABBREVIATION

IX. ATTAINMENT AND NON-ATTAINMENT OF NAAQS IN CONNECTICUT'S AQCR'S

Connecticut's four Air Quality Control Regions (AQCR's, see Figure 15) have been analyzed for attainment status of National Ambient Air Quality Standards (NAAQS) for the following pollutants: 1) Total Suspended Particulates (TSP); 2) Sulfur Dioxide (SO_2); 3) Ozone (O_3); 4) Nitrogen Dioxide (NO_2); 5) Carbon Monoxide (CO); and 6) Lead (Pb). Table 33 shows the attainment/non-attainment status for the NAAQS's for each pollutant in each AQCR. The regions are classified as attainment, non-attainment or unclassifiable. Regions are non-attainment if the region, or any portion thereof, was in violation of any NAAQS at any time during 1976, 1977, or 1978. Unclassifiable regions are ones in which there were no monitors with which to determine attainment or non-attainment.

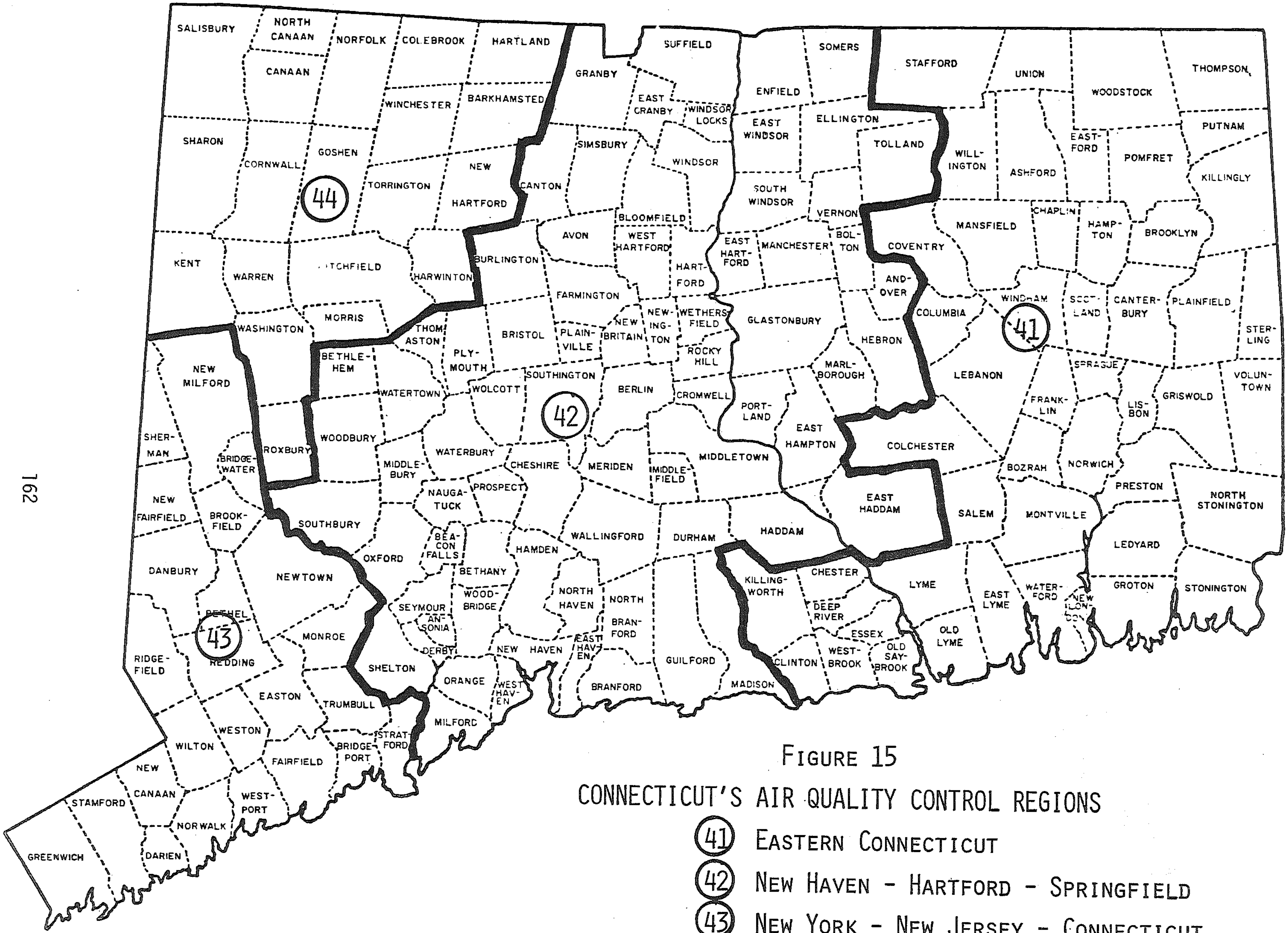


FIGURE 15

CONNECTICUT'S AIR QUALITY CONTROL REGIONS

㊶ EASTERN CONNECTICUT
㊷ NEW HAVEN - HARTFORD - SPRINGFIELD
㊸ NEW YORK - NEW JERSEY - CONNECTICUT
㊹ NORTHWESTERN CONNECTICUT

TABLE 33

CONNECTICUT'S COMPLIANCE WITH THE NAAQS (BY AQCR)

	PRIMARY OR SECONDARY	NAAQS	AQCR 41	AQCR 42	AQCR 43	AQCR 44
TSP	Primary	Annual	A	X*	A	A
		24-Hour	A	X*	X**	A
	Secondary	Annual	X	X	X	X
		24-Hour	X	X	X	X
SO_2	Primary	Annual	A	A	A	A
		24-Hour	A	A	A	A
	Secondary	Annual	A	A	A	A
		24-Hour	A	A	A	A
		3-Hour	A	A	A	A
O_3	Primary	1-Hour	X	X	X	X
	Secondary	1-Hour	X	X	X	X
NO_2	Primary	Annual	A	A	A	A
	Secondary	Annual	A	A	A	A
CO	Primary	1-Hour	U	A	X	U
		8-Hour	U	X	X	U
	Secondary	1-Hour	U	A	X	U
		8-Hour	U	X	X	U
Pb	Primary	Calendar Quarter	X	X	X	X
	Secondary	Calendar Quarter	X	X	X	X

X = Non-Attainment
U = Unclassifiable
A = Attainment

* Town of Waterbury only
** Town of Greenwich only (based on additional monitoring conducted by EPA)

X. SPECIAL STUDIES

A. STATIONARY SOURCE STACK HEIGHT GUIDELINE

This document presents a simple technique through which one can calculate the appropriate stack height for a source of pollution in order to avoid an adverse ambient impact. A reasonable worst case meteorology is assumed and dispersion calculations are presented in graphical form.

The Stationary Source Stack Height Guideline has been incorporated into Connecticut's new source review procedure and is being used in determining the minimum stack height required for a new source of pollution to enable it to meet certain air quality criteria. The operation of a new source must not prevent or interfere with the attainment and/or maintenance of any applicable ambient air quality standards, including "Prevention of Significant Deterioration" (PSD) limitations. The guideline was developed with the smaller sources in mind. It applies to pollution sources which require a State of Connecticut permit to construct and/or operate (Section 19-508-3 of the Connecticut Regulations for the Abatement of Air Pollution) and have actual emissions after control equipment of either sulfur dioxide (SO_2) or total suspended particulates (TSP) of 15 tons per year or less. Larger sources will be subjected to a more intensive ambient impact analysis. This guideline also applies only to sources with SO_2 or TSP emissions.

The guideline is designed so that the minimum stack height can be determined prior to the construction of a new point source. This will allow for consideration of ambient air quality impacts in the economic analysis of a proposed source or modification (i.e., which is the least expensive - control equipment, cleaner fuel, or a higher stack). In most cases, the stack height derived by following this guideline should be sufficient to enable a source to avoid becoming the cause of local air quality violations. Copies of the guideline are available from this Department.

B. AMBIENT IMPACT ANALYSIS GUIDELINE

The Ambient Impact Analysis Guideline describes the method employed by the Connecticut Department of Environmental Protection to analyze the ambient air quality impact (i.e., the increase in pollutant concentration) of a new source of pollution. It is possible for a permit applicant to follow this procedure and perform his own analysis. However, the document is intended to be a description rather than an instruction book. Most permit applicants do not have the computer facilities or staff to perform the analysis. The primary purpose of this document is to eliminate the prevalent concept that our ambient impact analysis is an unreliable incomprehensible "black box" procedure. In this guideline, we explain the input to the analysis, how it operates, and the meaning and significance of the results.

The Ambient Impact Analysis Guideline makes it possible to conduct New Source Review under the provisions of the Clean Air Act Amendments of 1977 without having to use a computer resource-intensive model and one year of actual hourly meteorological data.

The Guideline employs a modified version of the atmospheric dispersion model PTMTP. This version allows direct input of x, y and z coordinates of up to 25 point sources and 30 receptors and automatically handles the effects of topography independently for each source-receptor alignment by making specified adjustments to the plume flow (i.e., the distance from the plume centerline to the ground). These adjustments depend upon the magnitude of the terrain differences and the atmospheric stability conditions.

Since directionally persistent winds often produce the greatest impacts from a single source or group of sources, the PTMTP revisions include an automated technique developed to account for reasonably expected wind persistency for use when actual historical meteorological data are not available.

Historical ambient data are used to quantify the ambient levels caused by existing area sources and transport. The average of annual second high monitored levels (sites were grouped by source influence - sites significantly impacted by existing local point sources were excluded) are used to create a catalog of existing "bad-day" ambient levels for each town in the State.

The modeled "bad-day" ambient impact(s) of the new source(s) and existing local point sources are added to the existing "bad-day" ambient level in the town to determine if the new source will cause the NAAQS to be exceeded.

C. LEAD (Pb) AND SULFATE (SO_4) STUDY

The purpose of this study was to examine Total Suspended Particulates (TSP), lead (Pb), and sulfate (SO_4) concentrations at several sites in Connecticut for trends from 1970 to 1978. All data were obtained from the monitoring network operated by the Connecticut Department of Environmental Protection. The lead and sulfate data were from quarterly composites, in which pieces of several hi-vol filters from a given quarter are chemically analyzed for constituents. In order to ensure representativeness of the quarterly averages, a minimum of five samples per quarter were required.

The sites examined in this study were selected to include a range of geographical, meteorological, and local emission source diversity. These sites represent the various conditions encountered throughout the State, allowing conclusions concerning statewide trends to be drawn. The sites also have a sufficiently lengthy historical record to allow the examination of trends with time.

The examination of data in this study involved linear regression analysis for time trends and relationships between TSP and lead or sulfate, and analysis of variance for quarterly and site-to-site variation. The three categories of interest (TSP, Pb, and SO_4) were analyzed individually. Each site was examined for the above trends as well as the combination of all sites for statewide trends.

The analysis of TSP data revealed that statewide levels have dropped significantly since 1970. This is most likely due to the application of various air pollution control measures over that time span, both in Connecticut and elsewhere. Changes in TSP levels with calendar quarter were quite significant, with the first and second quarters (January through June) exhibiting the highest concentrations. The high levels observed in the first two calendar quarters could be due to a reduction in ventilation (reduced mixing height) and increased emissions. Ten sites showed a decrease in levels with time, while the change in levels was indeterminate at the remaining twenty eight sites. The overall site-to-site variation was significant, explaining 39% of the total variation in TSP levels. This indicates that the geographic location of a site is important.

Concentrations of lead also showed a marked decline since 1970. The concurrent decline in lead and TSP levels indicates that the control of particulate emissions may have, directly or indirectly, helped reduce lead levels. However, contrary to the TSP trend, the fourth quarter shows the highest Pb concentrations, while the second quarter has the lowest. Site-to-site variation was less pronounced than with the TSP data, indicating that lead concentrations are more widespread in nature. Lead levels have decreased with time at eight sites, and have not changed at the other thirty.

Analysis of the sulfate data indicate that levels have changed very little since 1970. Connecticut's sulfur-in-fuel regulation has been successful in reducing SO_2 concentrations, but has had little effect on sulfate. This is probably due to the fact that most sulfates are generated by photochemical reactions in the atmosphere, and are transported long distances into Connecticut. (This is similar to the ozone scenario.) The importance of the transport phenomena is demonstrated by the fact that the highest levels of sulfate measured occurred in 1976, coincident with an abnormally high incidence of winds from the southwest. Sulfates are a widespread problem, indicated by the fact that, over the 9 year period studied, only 8% of the variation in levels can be attributed to changes in site. Quarterly variation shows the fourth quarter to be the cleanest with respect to SO_4, but there is no difference among the other three quarters.

The results of this study are preliminary, and indicate the general trends of the three subject pollutants. More extensive analysis is currently underway, and hopefully, those results will be published in the 1979 Air Quality Summary.

D. PASSIVE SAMPLING ERROR

The current Federal EPA reference method for the determination of Total Suspended Particulate matter (TSP) in the atmosphere is the high volume method (hi-vol). The hi-vol sampler is normally operated for a 24-hour period by drawing air through an 8 x 10 in. glass fiber filter at an air sampling flow rate of between 40-60 cfm (cubic feet per minute). Normally, an expended collection filter is picked-up and replaced with a clean filter some time after each 24-hour sampling interval. Most TSP samples are presently collected in this manner every 6th day (61 samples per year). This sampling schedule allows the filter to remain in the hi-vol for up to 5 days prior to the intended sampling date (the only day when the hi-vol motor is operating) and for up to 5 more days after sampling is completed. Although sheltered from above, these filters are exposed to the air and are therefore able to pick-up material by deposition or chemical reaction (with acid gases such as SO_2 and NO2) or lose material due to wind erosion.

In 1975, as Connecticut was developing the low volume sampling device, an investigation was begun to determine the significance of the potential errors associated with the partial sampling schedule used by the hi-vol. This study involved a simple experiment: filters were installed in a shelter and exposed to the air as in normal sampling, but no motor was used and no active sampling took place. Material was found to collect on the filters, thus demonstrating the existence of a "passive sampling error". Eight samples were collected in this manner and were compared to co-located regular hi-vol samples. The results indicated that 5% to 28% of the material found on the regular hi-vol samples was collected during the period when the regular hi-vol motor was inoperative. However, this study did not address the entire period in which passive sampling takes place. This study only involved the passive sampling error which takes place prior to the operation of the hi-vol motor; the potential for error after the hi-vol motor is again turned off was not investigated.

In 1976, the passive sampling error study was continued with the analysis of fourteen passive samples. In order to account for the entire passive sampling period, the passive sample filter was mounted in the field and collected under the same schedule as an adjacent hi-vol running under the every-sixth-day sampling schedule. Thus, passive and hi-vol samples produced matched pairs of data for analysis. The percentage of each hi-vol sample that can be attributed to the passive sampling error was determined for each sampling period by dividing the weight of the material collected on the passive filter by the total weight of material collected on the adjacent active hi-vol filter. The above percentages were normalized by multiplying by [(N-1)/N] to reflect that the hi-vol only sampled passively for (N-1) of the N sample days. The results implied that the passive sampling error was responsible for 10% to 20% of the TSP concentration measured on the active hi-vol.

The 1976 study also included an analysis of passive sample filters installed on an inverted hi-vol. These filters collected considerably less material than the filters obtained from adjacent hi-vols installed in the normal, upright manner. This study enabled the DEP to conclude that particle settling is the most important mechanism for adding material to the passive filter.

In 1977, the passive sampling error study was expanded to include a full year's worth of data (58 samples). The passive samples and active hi-vol samples were again collected on the same schedule, producing matched pairs of data for analysis. The sampling was conducted at the Hartford 003 (Hartford Library) site. Once again, a normalized passive sampling portion of each TSP sample was determined as described above. The individual sample percentages were then averaged for the year to give an annual average passive sampling error. This error was 12.4% at the Hartford 003 site in 1977 (see Table 34).

The 1977 passive sampling data were also analyzed for monthly and seasonal patterns. While the size of the passive sampling error oscillated from month to month, there was a general decline in the size of the error from the beginning to the end of the year.

In 1978, the passive sampling error study was extended to two additional monitoring sites. This was done because there was some concern that the results obtained at the Hartford 003 site would not be typical of the entire state. The additional sites used were Berlin 001 and Waterbury 123. The sampling was conducted in the same manner as before and normalized annual average passive sampling error percentages were derived. Since the passive sampling error was previously found to vary considerably by season, this 1978 Annual Summary includes data obtained in early 1979 in order to provide reliable and comparable annual averages for each of the sites studied. The passive sampling error amounted to 7.9% at Berlin 001, 12.5% at Waterbury 123 and 14.2% at Hartford 003 (see Table 34). These results indicate that the passive sampling error is smaller at a rural site than at urban sites, but even at the rural site the error is of significant size.

All the analyses conducted so far indicate that a substantial positive bias exists in the hi-vol sampling method, but, one aspect of the passive sampling problem has not been adequately addressed in these studies. The experimental method described above does not account for the possibility of wind erosion from the active hi-vol filter. The effect of wind erosion cannot be discerned from these experiments because both the active and passive samples are exposed to the air all the time. Even though both samples are susceptible to wind erosion, the active sample will have more material available to be lost. Thus, wind erosion has the potential to introduce a negative bias to the hi-vol sampling method, perhaps partially compensating for the positive bias caused by particle deposition. In any event, the standard hi-vol sampling method (and schedule) is susceptible to measurement biases which can result in incorrect data for the dates being sampled.

As a result of these passive sampling error studies, the DEP has purchased an accessory device for each DEP hi-vol which is expected to eliminate the passive sampling error. These devices consist of a retractable lid which covers the filter paper except when the hi-vol motor is operating. Actually, the lid retracts just prior to the start of the hi-vol sampling period and returns to cover the filter paper when sampling is completed. The cover, in its retracted position, is stored beneath the top plate of the hi-vol shelter and thus does not obstruct normal air flow during the scheduled hi-vol sampling period. With these devices no particle deposition can occur before sampling and no particle deposition or loss can occur after sampling. The first such device was installed early in 1979 on a hi-vol next to the regular hi-vol at the Hartford 003 site. The data obtained at this site will be included in the 1979 Annual Summary. These retractable lid devices were installed at all DEP monitoring sites by January 1, 1980.

TABLE 34 PASSIVE SAMPLING DATA

HARTFORD 003, 1977

SAMPLING PERIOD	# OF DAYS (N)	PASSIVE WEIGHT (g)	TOTAL PASSIVE $\mu g/m^3$	CORRECTION RATIO ((N-1) ÷ N)	CORRECTED PASSIVE $\mu g/m^3$	ACTIVE HI-VOL	PASSIVE ÷ HI-VOL %
12/28/76-1/5/77	8	.024	13	7/8	11.4	23	49.5
1/5-1/12	7	.014	7	6/7	6.0	62	9.7
1/12-1/18	6	.009	4	5/6	3.3	55	6.1
1/18-1/24	6	.018	9	5/6	7.5	24	31.3
1/24-1/28	4	.014	7	3/4	5.3	57	9.2
1/28-2/3	6	.030	16	5/6	13.3	122	10.9
2/3-2/9	6	.014	7	5/6	5.8	41	14.2
2/9-2/17	8	.035	18	7/8	15.8	74	21.3
2/17-2/23	6	.030	16	5/6	13.3	220	6.1
2/23-3/1	6	.022	11	5/6	9.2	58	15.8
3/1-3/7	6	.039	20	5/6	16.7	158	10.5
3/7-3/11	4	.025	13	3/4	9.8	121	8.1
3/11-3/18	7	.038	19	6/7	16.3	48	33.9
3/18-3/24	6	.019	10	5/6	8.3	64	13.0
3/24-3/31	7	.033	17	6/7	14.6	57	25.6
3/31-4/6	6	.020	10	5/6	8.3	74	11.3
4/6-4/12	6	.023	11	5/6	9.2	64	14.3
4/12-4/18	6	.040	21	5/6	17.5	178	9.8
4/18-4/21	3	.013	7	2/3	4.7	92	5.1
4/21-4/26	5	.013	7	4/5	5.6	55	10.2
4/26-5/5	9	.034	17	8/9	15.1	97	15.6
5/5-5/12	7	.022	11	6/7	9.4	72	13.1
5/12-5/16	4	.022	11	3/4	8.3	127	6.5
5/16-5/23	7	.025	13	6/7	11.1	67	16.6
5/23-5/26	3	.016	9	2/3	6.0	105	5.7
5/26-6/1	6	.033	18	5/6	15.0	88	17.0
6/1-6/10	9	.028	15	8/9	13.3	59	22.6
6/10-6/13	3	.008	4	2/3	2.7	41	6.5
6/13-6/22	9	.025	13	8/9	11.6	87	13.3
6/22-6/28	-	-	-	-	-	-	-
6/28-7/5	7	.023	14	6/7	12.0	85	14.1
7/5-7/11	6	.013	8	5/6	6.7	73	9.1
7/11-7/15	4	.014	8	3/4	6.0	32	18.8
7/15-7/22	7	.023	13	6/7	11.1	73	15.3
7/22-7/26	4	.016	9	3/4	6.8	80	8.4
7/26-8/3	8	.022	13	7/8	11.4	46	24.7
8/3-8/10	7	.018	10	6/7	8.6	80	10.7
8/10-8/15	5	.008	4	4/5	3.2	63	5.1
8/15-8/22	7	.012	7	6/7	6.0	52	11.5
8/22-8/24	2	.004	2	1/2	1.0	70	1.4
8/24-9/2	9	.020	10	8/9	8.9	92	9.7
9/2-9/21	-	-	-	-	-	-	-
9/21-9/27	6	.008	4	5/6	3.3	39	8.5
9/27-9/30	3	.012	6	2/3	4.0	69	5.8
9/30-10/6	6	.013	7	5/6	5.8	40	14.6

TABLE 34 (continued)

HARTFORD 003, 1977

SAMPLING PERIOD	# OF DAYS (N)	PASSIVE WEIGHT (g)	TOTAL PASSIVE $\mu g/m^3$	CORRECTION RATIO ((N-1) ÷ N)	CORRECTED PASSIVE $\mu g/m^3$	ACTIVE HI-VOL	PASSIVE ÷ HI-VOL %
10/6-10/12	6	.010	5	5/6	4.2	39	10.7
10/12-10/18	6	.003	2	5/6	1.7	60	2.8
10/18-10/24	6	.010	5	5/6	4.2	79	5.3
10/24-11/1	8	.013	6	7/8	5.3	62	8.5
11/1-11/8	7	.011	6	6/7	5.1	75	6.9
11/8-11/14	6	.011	6	5/6	5.0	39	12.8
11/14-11/17	3	.006	3	2/3	2.0	66	3.0
11/17-11/22	5	.006	3	4/5	2.4	59	4.1
11/22-11/29	7	.008	4	6/7	3.4	32	10.7
11/29-12/5	6	.008	4	5/6	3.3	54	6.2
12/5-12/14	9	.031	16	8/9	14.2	75	19.0
12/14-12/20	6	.012	6	5/6	5.0	52	9.6
12/20-12/23	3	.006	3	2/3	2.0	34	5.9
12/23-12/29	6	.019	10	5/6	8.3	107	7.8

12/28/76-12/29/77
Avg. N = 5.98 days   Avg. N-1 = 4.98   Avg. % Passive = 12.35

HARTFORD 003, 1978

1/18/78-1/24/78	6	.006	3	5/6	2.5	27	9.3
1/24-1/26	2	.026	14	1/2	7.0	53	13.2
1/26-2/6	11	.018	9	10/11	8.2	71	11.5
2/6-2/9	3	.017	9	2/3	6.0	20	30.0
2/9-2/14	5	.010	5	4/5	4.0	62	6.5
2/14-2/24	10	.042	22	9/10	19.8	92	21.5
2/24-3/1	5	.016	9	4/5	7.2	80	9.0
3/1-3/7	6	.026	13	5/6	10.8	75	14.4
3/7-3/13	6	.023	12	5/6	10.0	151	6.6
3/13-3/20	-	-	-	-	-	-	-
3/20-3/22	2	.012	6	1/2	3.0	100	3.0
3/22-3/28	6	.029	15	5/6	12.5	47	26.6
3/28-4/3	6	.038	19	5/6	15.8	114	13.9
4/3-4/10	7	.015	8	6/7	6.9	54	12.7
4/10-4/19	9	.040	22	8/9	19.6	103	19.0
4/19-4/24	5	.013	8	4/5	6.4	64	10.0
4/24-5/1	7	.024	14	6/7	12.0	74	16.2
5/1-5/3	2	.012	7	1/2	3.5	44	8.0
5/3-5/10	7	.015	9	6/7	7.7	81	9.5
5/10-5/16	6	.033	20	5/6	16.7	27	61.7
5/16-5/22	6	.018	9	5/6	7.5	98	7.7
5/22-5/31	9	.030	17	8/9	15.1	81	18.7
5/31-6/6	6	.023	13	5/6	10.8	107	10.1
6/6-6/12	6	.018	11	5/6	9.2	81	11.3
6/12-6/14	2	.010	6	1/2	3.0	53	5.7
6/14-6/21	7	.025	15	6/7	12.9	87	14.8
6/21-6/27	6	.019	11	5/6	9.2	42	21.8
6/27-7/6	9	.033	20	8/9	17.8	49	36.3

TABLE 34 (continued)

HARTFORD 003, 1978

SAMPLING PERIOD	# OF DAYS (N)	PASSIVE WEIGHT (g)	TOTAL PASSIVE μg/m3	CORRECTION RATIO ((N-1) ÷ N)	CORRECTED PASSIVE μg/m3	ACTIVE HI-VOL	PASSIVE ÷ HI-VOL %
7/6-7/11	5	.018	12	4/5	9.6	92	10.4
7/11-7/17	6	.015	8	5/6	6.7	76	8.8
7/17-7/21	4	.017	11	3/4	8.3	101	8.2
7/21-7/26	5	.020	11	4/5	8.8	39	22.6
7/26-8/4	9	.028	18	8/9	16.0	54	29.6
8/4-8/8	4	.010	6	3/4	4.5	45	10.0
8/8-8/14	6	.018	12	5/6	10.0	48	20.8
8/14-8/21	7	.016	16	6/7	13.7	67	20.5
8/21-8/25	4	.013	6	3/4	4.5	95	4.7
8/25-8/31	6	.021	11	5/6	9.2	75	12.2
8/31-9/7	7	.046	23	6/7	19.7	47	41.9
9/7-9/13	6	.016	8	5/6	6.7	63	10.6
9/13-9/19	6	.008	4	5/6	3.3	28	11.9
9/19-9/25	6	.007	3	5/6	2.5	35	7.1
9/25-10/3	8	.013	6	7/8	5.3	49	10.7

1/18/78-10/3/78
Avg. N = 5.98 Avg. (N-1) = 4.98 Avg. % Passive = 15.69

10/6/77-10/3/78
Avg. N = 6.02 Avg. (N-1) = 5.02 Avg. % Passive = 14.24

BERLIN 001, 1978

SAMPLING PERIOD	# OF DAYS (N)	PASSIVE WEIGHT (g)	TOTAL PASSIVE μg/m3	CORRECTION RATIO ((N-1) ÷ N)	CORRECTED PASSIVE μg/m3	ACTIVE HI-VOL	PASSIVE ÷ HI-VOL %
4/10/78-4/17/78	7	.006	3	6/7	2.6	40	6.4
4/17-4/21	4	.003	2	3/4	1.5	26	5.8
4/21-4/29	8	.006	4	7/8	3.5	40	8.8
4/29-5/3	4	.009	5	3/4	3.8	23	16.3
5/3-5/10	7	.003	3	6/7	2.6	35	7.3
5/10-5/16	6	.017	10	5/6	8.3	40	20.8
5/16-5/24	8	.020	11	7/8	9.6	90	10.7
5/24-5/31	7	.014	8	6/7	6.9	37	18.5
5/31-6/5	5	.012	7	4/5	5.6	50	11.2
6/5-6/8	3	.012	7	2/3	4.7	54	8.6
6/8-6/15	7	.013	7	6/7	6.0	29	20.7
6/15-6/22	7	.008	5	6/7	4.3	55	7.8
6/22-6/28	6	.010	6	5/6	5.0	29	17.2
6/28-7/5	7	.009	5	6/7	4.3	28	15.3
7/5-7/12	7	.005	3	6/7	2.6	57	4.5
7/12-7/17	5	.006	3	4/5	2.4	46	5.2
7/17-7/21	4	.011	6	3/4	4.5	70	6.4
7/21-7/26	5	.006	3	4/5	2.4	20	12.0
7/26-8/3	8	.010	5	7/8	4.4	24	18.2
8/3-8/7	4	.009	5	3/4	3.8	29	12.9
8/7-8/15	8	.012	6	7/8	5.3	30	17.5
8/15-8/22	7	.006	3	6/7	2.6	27	9.5
8/22-8/28	6	.006	3	5/6	2.5	60	4.2
8/28-8/31	3	.007	4	3/4	3.0	27	11.1
8/31-9/7	7	.006	3	6/7	2.6	30	8.6

TABLE 34 (continued)

BERLIN 001, 1978

SAMPLING PERIOD	# OF DAYS (N)	PASSIVE WEIGHT (g)	TOTAL PASSIVE $\mu g/m^3$	CORRECTION RATIO ((N-1) ÷ N)	CORRECTED PASSIVE $\mu g/m^3$	ACTIVE HI-VOL	PASSIVE ÷ HI-VOL %
9/7-9/13	6	.006	3	5/6	2.5	43	5.8
9/13-9/18	5	.001	<1	4/5	<0.8	20	<4.0
9/18-9/25	7	.003	1	6/7	0.9	19	4.5
9/25-10/3	8	.007	3	7/8	2.6	34	7.7
10/3-10/6	3	.002	1	2/3	0.7	26	2.6
10/6-10/12	6	.006	3	5/6	2.5	47	5.3
10/12-10/19	7	.002	1	6/7	0.9	26	3.3
10/19-10/24	5	.007	3	4/5	2.4	60	4.0
10/24-10/31	7	.004	2	6/7	1.7	18	9.5
10/31-11/7	7	.003	1	6/7	0.9	50	1.7
11/7-11/13	6	.003	1	5/6	0.8	48	1.7
11/13-11/17	4	.008	3	3/4	2.3	19	11.8
11/17-11/24	7	.002	1	6/7	0.9	25	3.4
11/24-11/30	6	.004	2	5/6	1.7	21	7.9
11/30-12/6	6	.003	1	5/6	0.8	24	3.5
12/6-12/12	6	.002	1	5/6	0.8	15	5.6
12/12-12/18	6	.003	1	5/6	0.8	59	1.4
12/18-12/27	9	.004	2	8/9	1.8	27	6.6
12/27/78-1/2/79	6	.002	1	5/6	0.8	12	6.9

4/10/78-1/2/79
Avg. N = 6.07 Avg. N-1 = 5.07 Avg. % Passive = 8.70

BERLIN 001, 1979

SAMPLING PERIOD	# OF DAYS (N)	PASSIVE WEIGHT (g)	TOTAL PASSIVE $\mu g/m^3$	CORRECTION RATIO ((N-1) ÷ N)	CORRECTED PASSIVE $\mu g/m^3$	ACTIVE HI-VOL	PASSIVE ÷ HI-VOL %
1/2/79-1/4/79	2	.000	0	1/2	0.0	23	0.0
1/4-1/10	6	.004	2	5/6	1.7	38	4.4
1/10-1/16	6	.007	3	5/6	2.5	27	9.3
1/16-1/23	7	.000	0	6/7	0.0	18	0.0
1/23-1/31	8	.002	1	7/8	0.9	13	6.7
1/31-2/7	7	.012	5	6/7	4.3	30	14.3
2/7-2/13	6	.002	1	5/6	0.8	27	3.1
2/13-2/15	2	.003	1	1/2	0.5	18	2.8
2/15-2/22	7	.005	2	6/7	1.7	60	2.9
2/22-3/1	7	.005	2	6/7	1.7	13	13.2
3/1-3/8	7	.001	<1	6/7	<0.9	24	< 3.6
3/8-3/13	5	.000	0	4/5	0.0	45	0.0
3/13-3/19	6	.008	4	5/6	3.3	37	9.0
3/19-3/26	7	.005	2	6/7	1.7	35	4.9
3/26-3/30	4	.004	2	3/4	1.5	34	4.4
3/30-4/4	5	.002	1	4/5	0.8	22	3.6
4/4-4/10	6	.006	3	5/6	2.5	17	14.7

4/10/78-4/10/79
Avg. N = 5.98 Avg. N-1 = 4.98 Avg. % Passive = 7.86

WATERBURY 123, 1978

SAMPLING PERIOD	# OF DAYS (N)	PASSIVE WEIGHT (g)	TOTAL PASSIVE $\mu g/m^3$	CORRECTION RATIO ((N-1) ÷ N)	CORRECTED PASSIVE $\mu g/m^3$	ACTIVE HI-VOL	PASSIVE ÷ HI-VOL %
4/12/78-4/17/78	5	.030	15	4/5	12.0	151	7.9
4/17-4/24	-	-	-	-	-	-	-
4/24-5/1	10	.031	16	9/10	14.4	94	15.3
5/1-5/3	2	.008	4	1/2	2.0	48	4.2
5/3-5/9	6	.021	11	5/6	9.2	72	12.7

TABLE 34 (continued)

WATERBURY 123, 1978

SAMPLING PERIOD	# OF DAYS (N)	PASSIVE WEIGHT (g)	TOTAL PASSIVE $\mu g/m^3$	CORRECTION RATIO ((N-1) ÷ N)	CORRECTED PASSIVE $\mu g/m^3$	ACTIVE HI-VOL	PASSIVE ÷ HI-VOL %
5/9-5/15	6	.032	18	5/6	15.0	93	16.1
5/15-5/22	7	.023	15	6/7	12.9	116	11.1
5/22-5/30	8	.033	18	7/8	15.8	88	17.9
5/30-6/2	3	.022	12	2/3	8.0	138	5.8
6/2-6/8	6	.037	20	5/6	16.7	49	34.0
6/8-6/14	6	.020	11	5/6	9.2	59	15.5
6/14-6/20	6	.023	13	5/6	10.8	84	12.9
6/20-6/26	6	.023	13	5/6	10.8	57	19.0
6/26-7/3	7	.023	12	6/7	10.3	82	12.5
7/3-7/10	7	.014	7	6/7	6.0	85	7.1
7/10-7/17	7	.022	12	6/7	10.3	82	12.5
7/17-7/20	3	.013	7	2/3	4.7	91	5.1
7/20-7/26	6	.018	9	5/6	7.5	64	11.7
7/26-8/2	7	.023	12	6/7	10.3	42	24.5
8/2-8/8	6	.016	8	5/6	6.7	44	15.2
8/8-8/14	6	.016	10	5/6	8.3	56	14.9
8/14-8/21	7	.017	16	6/7	13.7	57	24.1
8/21-8/29	8	.018	11	7/8	9.6	113	8.5
8/29-9/1	3	.013	8	2/3	5.3	66	8.1
9/1-9/6	5	.015	8	4/5	6.4	68	9.4
9/6-9/12	6	.019	11	5/6	9.2	83	11.0
9/12-9/18	6	.012	7	5/6	5.8	42	13.9
9/18-9/26	8	.010	4	7/8	3.5	47	7.4
9/26-10/2	6	.004	2	5/6	1.7	67	2.5
10/2-10/6	4	.007	3	3/4	2.3	54	4.2
10/6-10/12	6	.011	5	5/6	4.2	43	9.7
10/12-10/19	7	.019	9	6/7	7.7	52	14.8
10/19-10/25	6	.012	6	5/6	5.0	98	5.1
10/25-10/30	5	.007	3	4/5	2.4	34	7.1
10/30-11/6	7	.012	5	6/7	4.3	79	5.4
11/6-11/13	7	.011	6	6/7	5.1	91	5.7
11/13-11/17	4	.007	3	3/4	2.3	65	3.5
11/17-11/27	10	.017	8	9/10	7.2	81	8.9
11/27-11/29	2	.001	< 1	1/2	< .5	43	< 1.2
11/29-12/5	6	.026	11	5/6	9.2	219	4.2
12/5-12/11	6	.035	16	5/6	13.3	106	12.6
12/11-12/18	7	.058	27	6/7	23.1	249	9.3
12/18-12/26	8	.066	30	7/8	26.3	176	14.9
12/26-12/29	3	.010	4	2/3	2.7	64	4.2

4/12/78-12/29/78
Avg. N = 5.98 Avg. N-1 = 4.98 Avg. % Passive = 10.97

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12/29/78-1/4/79	6	.030	13	5/6	10.8	152	7.1
1/4-1/11	7	.055	25	6/7	21.4	174	12.3
1/11-1/16	5	.035	15	4/5	12.0	127	9.4
1/16-1/22	6	.021	9	5/6	7.5	33	22.7

TABLE 34 (continued)

WATERBURY 123, 1979

SAMPLING PERIOD	# OF DAYS (N)	PASSIVE WEIGHT (g)	TOTAL PASSIVE $\mu g/m^3$	CORRECTION RATIO ((N-1) ÷ N)	CORRECTED PASSIVE $\mu g/m^3$	ACTIVE HI-VOL	PASSIVE ÷ HI-VOL %
1/22-1/29	7	.024	11	6/7	9.4	87	10.8
1/29-2/4	6	.054	23	5/6	19.2	48	39.9
2/4-2/9	5	.029	13	4/5	10.4	78	13.3
2/9-2/15	6	.030	13	5/6	10.8	74	14.6
2/15-2/21	6	.028	12	5/6	10.0	146	6.8
2/21-3/2	9	.063	28	8/9	24.9	44	56.6
3/2-3/5	3	.003	1	2/3	0.7	35	1.9
3/5-3/12	7	.017	8	6/7	6.9	95	7.2
3/12-3/19	7	.044	20	6/7	17.1	117	14.7
3/19-3/26	-	-	-	-	-	-	-
3/26-3/29	3	.014	6	2/3	4.0	62	6.5
3/29-4/4	-	-	-	-	-	-	-
4/4-4/10	6	.017	7	5/6	5.8	28	20.8
4/10-4/16	6	.017	7	5/6	5.8	31	18.8

4/12/78-4/16/79

Avg. N = 5.97 Avg. N-1 = 4.97 Avg. % Passive = 12.46

E. PUBLICATIONS

The following is a partial listing of technical papers and study reports dealing with various aspects of Connecticut air pollutant levels and air quality data.

1. Bruckman, L., Asbestos: An Evaluation of Its Environmental Impact in Connecticut, internal report issued by the Connecticut Department of Environmental Protection, Hartford, Connecticut, March 12, 1976.
2. Lepow, M.L., L. Bruckman, R.A. Rubino, S. Markowitz, M. Gillette and J. Kapish, "Role of Airborne Lead in Increased Body Burden of Lead in Hartford Children," Environ. Health Perspect., May, 1974, pp. 99-102.
3. Bruckman, L. and R.A. Rubino, "Rationale Behind a Proposed Asbestos Air Quality Standard," paper presented at the 67th Annual Meeting of the Air Pollution Control Association, Denver, Colorado, June 9-11, 1974, J. Air Pollut. Cntr. Assoc., 25: 1207-15 (1975).
4. Rubino, R.A., L. Bruckman and J. Magyar, "Ozone Transport," paper presented at the 68th Annual Meeting of the Air Pollution Control Association, Boston, Massachusetts, June 15-20, 1975, J. Air Pollut. Cntr. Assoc., 26: 972-5 (1976).
5. Bruckman, L., R.A. Rubino and T. Helfgott, "Rationale Behind a Proposed Cadmium Air Quality Standard," paper presented at the 68th Annual Meeting of the Air Pollution Control Association, Boston, Massachusetts, June 15-20, 1975.
6. Rubino, R.A., L. Bruckman, A. Kramar, W. Keever and P. Sullivan, "Population Density and Its Relationship to Airborne Pollutant Concentrations and Lung Cancer Incidence in Connecticut," paper presented at the 68th Annual Meeting of the Air Pollution Control Association, Boston, Massachusetts, June 15-20, 1975.
7. Lepow, M.L., L. Bruckman, M. Gillette, R.A. Rubino and J. Kapish, "Investigations into Sources of Lead in the Environment of Urban Children," Environ. Res., 10: 415-26 (1975).
8. Bruckman, L., E. Hyne and P. Norton, "A Low Volume Particulate Ambient Air Sampler," paper presented at the APCA Specialty Conference entitled "Measurement Accuracy as it Relates to Regulation Compliance," New Orleans, Louisiana, October 26-28, 1975, APCA publication SP-16, Air Pollution Control Association, Pittsburgh, Pennsylvania, 1976.
9. Bruckman, L. and R.A. Rubino, "High Volume Sampling Errors Incurred During Passive Sample Exposure Periods," J. Air Pollut. Cntr. Assoc., 26: 881-3 (1976).
10. Bruckman, L., R.A. Rubino and B. Christine, "Asbestos and Mesothelioma Incidence in Connecticut," J. Air Pollut. Cntr. Assoc., 27: 121-6 (1977).

11. Bruckman, L., Suspended Particulate Transport in Connecticut: An Investigation Into the Relationship Between TSP Concentrations and Wind Direction in Connecticut, internal report issued by the Connecticut Department of Environmental Protection, Hartford, Connecticut, December 24, 1976.

12. Bruckman, L. and R.A. Rubino,"Monitored Asbestos Concentrations in Connecticut", paper presented at the 70th Annual Meeting of the Air Pollution Control Association, Toronto, Ontario, June 20-24, 1977.

13. Bruckman,L., "Suspended Particulate Transport", paper presented at the 70th Annual Meeting of the Air Pollution Control Association, Toronto, Ontario, June 20-24, 1977.

14. Bruckman, L., "A Study of Airborne Asbestos Fibers in Connecticut," paper presented at the "Workshop on Asbestos: Definitions and Measurement Methods" sponsored by the National Bureau of Standards/U.S. Department of Commerce, July 18-20, 1977.

15. Bruckman, L., "Monitored Asbestos Concentrations Indoors," paper presented at The Fourth Joint Conference of Sensing Environmental Pollutants, New Orleans, Louisiana, November 6-11, 1977.

16. Bruckman, L. "Suspended Particulate Transport: Investigation into the Causes of Elevated TSP Concentrations Prevalent Across Connecticut During Periods of SW Wind Flow," paper presented at the Joint Conference on Applications of Air Pollution Meteorology, Salt Lake City, Utah, November 28 - December 2, 1977.

17. Bruckman, L., E. Hyne, W. Keever, "A Comparison of Low Volume and High Volume Particulate Sampling," internal report issued by the Connecticut Department of Environmental Protection, Hartford, Connecticut, 1976.

18. "Data Validation and Monitoring Site Review", (part of the Air Quality Maintenance Planning Process), internal report issued by the Connecticut Department of Environmental Protection, Hartford, Connecticut, June 15, 1976.

19. "Air Quality Data Analysis", (part of the Air Quality Maintenance Planning Process), internal report issued by the Connecticut Department of Environmental Protection, Hartford, Connecticut, August 16, 1976.

20. Bruckman, L., "Investigation into the Causes of Elevated SO_2 Concentrations Prevalent Across Connecticut During Periods of SW Wind Flow," paper presented at the 71st Annual Meeting of the Air Pollution Control Association, Paper #78-16.4, Houston, Texas, June 25-29, 1978.

21. Anderson, M.K., "Power Plant Impact on Ambient Air: Coal vs. Oil Combustion," paper presented at the 68th Annual Meeting of the Air Pollution Control Association, Paper #75-33.5, Boston, MA, June 15-20, 1975.

22. Anderson, M.K., G.D. Wight, "New Source Review: An Ambient Assessment Technique," paper presented at the 71st Annual Meeting of the Air Pollution Control Association, Paper #78-2.4, Houston, TX, June 25-29, 1978.

23. Wolff, G.T., P.J. Lioy, G.D. Wight, R.E. Pasceri, "Aerial Investigation of the Ozone Plume Phenomenon," J. Air Pollut. Control Assoc., 27: 460-3 (1977).

24. Wolff, G.T., P.J. Lioy, R.E. Meyers, R.T. Cederall, G.D. Wight, R.E. Pasceri, R.S. Taylor, "Anatomy of Two Ozone Transport Episodes in the Washington, D.C., to Boston, Mass., Corridor," Environ. Sci. Technol., 11:506-10 (1977).

25. Wolff, G.T., P.J. Lioy, G.D. Wight, R.E. Meyers, and R.T. Cederwall, "Transport of ozone associated with an air mass," In: Proceed. 70 Annual Meeting APCA, Paper #77-20.3, Toronto, Canada, June, 1977.

26. Wight, G.D., G.T. Wolff, P.J. Lioy, R.E. Meyers, and R.T. Cederwall, "Formation and transport of ozone in the Northeast Quadrant of the U.S.," In: Proceed. ASTM Sym. Air Quality and Atmos. Ozone, Boulder, Colo., Aug. 1977.

27. Wolff, G.T., P.J. Lioy, and G.D. Wight, "An overview of the current ozone problem in the Northeastern and Midwestern U.S.," In: Proceed. Mid-Atlantic States APCA Conf. on Hydrocarbon Control Feasibility, p. 98, New York, N.Y., April 1977.

28. Wolff, G.T., P.J. Lioy, G.D. Wight, R.E. Meyers, and R.T. Cederwall, "An investigation of long-range transport of ozone across the Midwestern and Eastern U.S.," Atmos. Environ. 11:797 (1977).