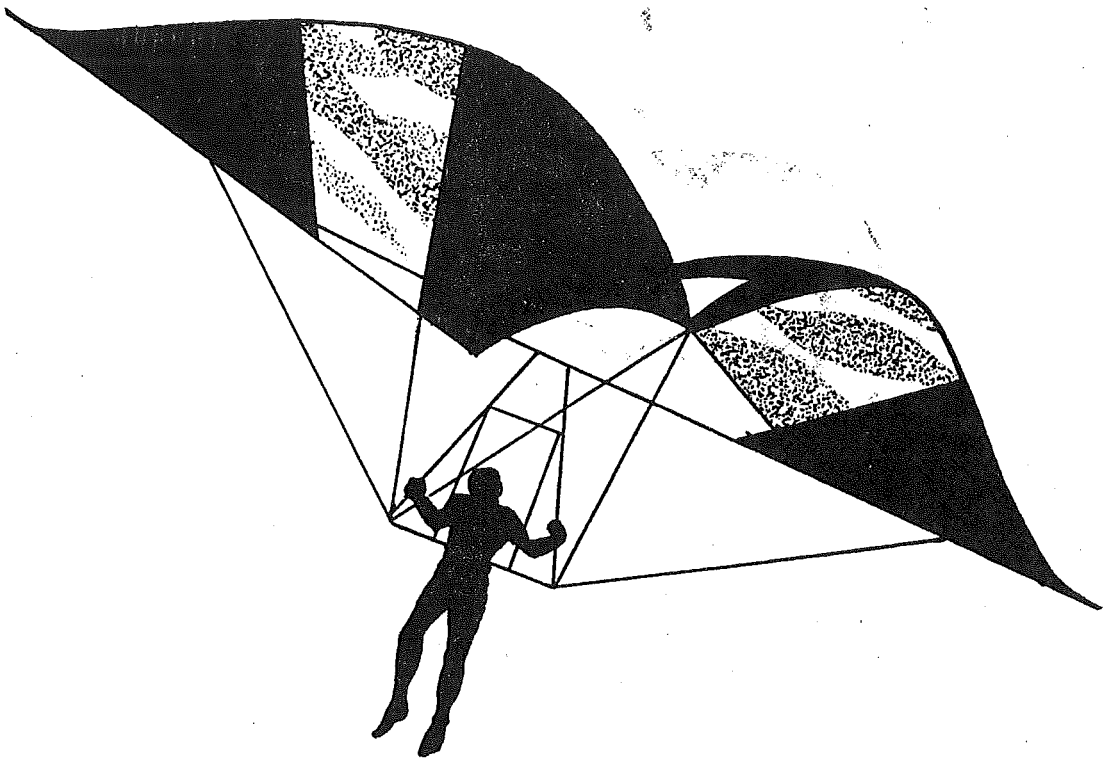
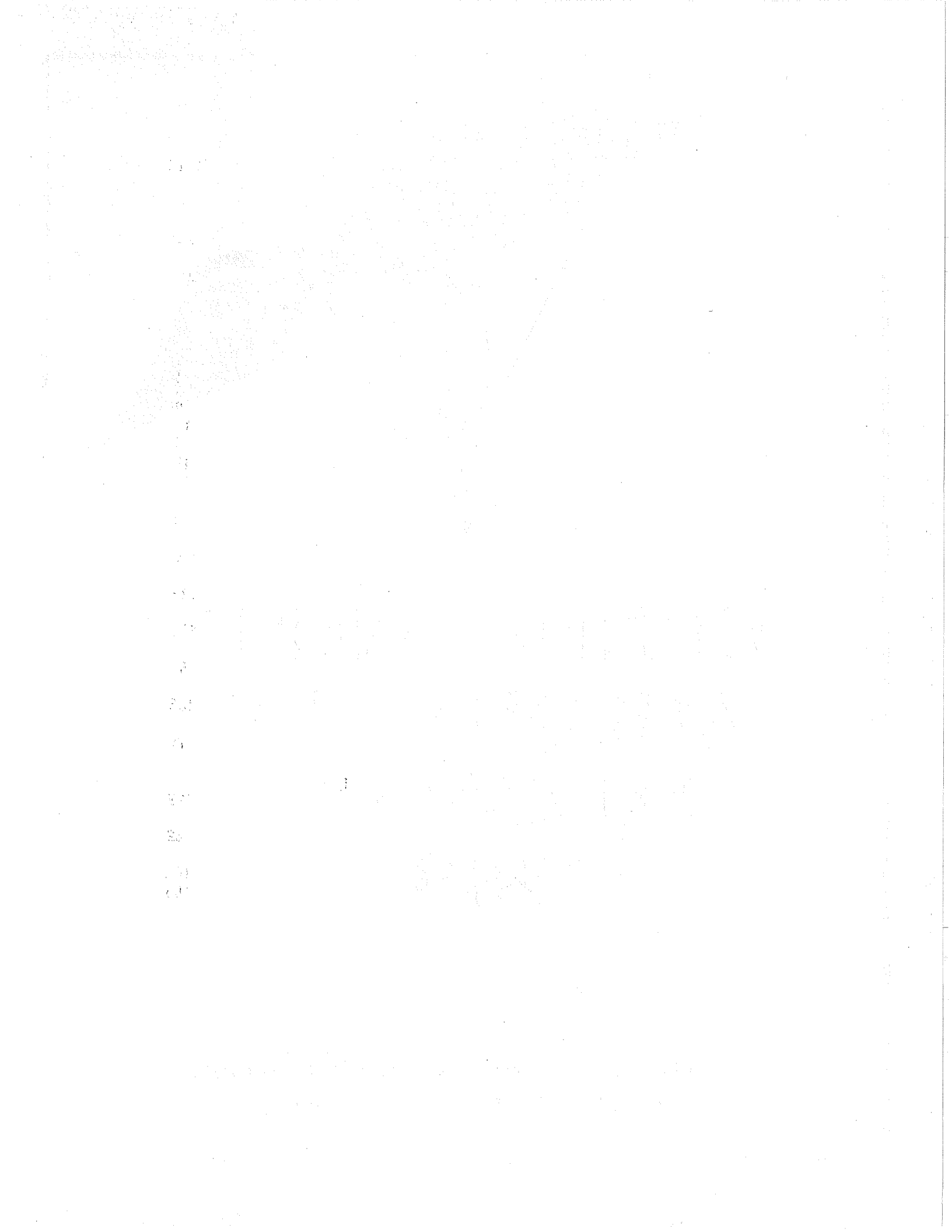


CONNECTICUT AIR QUALITY SUMMARY 1980

Department of Environmental Protection
Stanley J. Pac, Comissioner



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I. INTRODUCTION

The 1980 Air Quality Summary of Ambient Air Quality 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 for the year 1980. 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 Air Quality Summary.

1. Total Suspended Particulates (TSP)

Measured total suspended particulates (TSP) levels did not exceed the primary annual standard of 75 ug/m^3 in Connecticut during 1980 but TSP levels did exceed the secondary annual standard of 60 ug/m^3 at two sites in 1980. No sites recorded measured values exceeding the primary 24-hour standard of 260 ug/m^3 in 1980, but only five sites exceeded the secondary 24-hour standard of 150 ug/m^3. Only Waterbury 123 violated the secondary standard by exceeding the 150 ug/m^3 level two times. (see Table 1).

In general, measured Total Suspended Particulate levels in Connecticut showed a significant improvement in 1980 as compared to 1979. This improvement is believed to have been caused primarily by eliminating the passive sampling error through the use of retractable lids on the hi-vol monitors. (See the TSP section.)

2. Sulfur Dioxide (SO2)

None of the air quality standards for sulfur dioxide were exceeded in Connecticut in 1980. Measured concentrations were substantially below the 80 ug/m^3 primary annual standard, the 365 ug/m^3 primary 24-hour standard, and the 1300 ug/m^3 secondary 3-hour standard. Measured concentrations were closer to, but also below, the 60 ug/m^3 secondary annual standard and the 260 ug/m^3 secondary 24-hour standard.

The continued attainment of the SO_2 standards can be primarily attributed to Connecticut's low sulfur fuel regulations.

The results of sulfation rate monitoring show that sulfur dioxide levels rose significantly from 1979 to 1980. Temperature is an important factor in determining SO_2 emissions. The general increase in measured SO_2 levels was in large part due to the fact that the year 1980 was cooler than 1979. This can be shown by the

number of "degree days", a measure of heating requirement. The greater the number of degree days, the more fuel that is required to heat homes. At Bridgeport, there was a seven percent increase of degree days over 1979. At Bradley, the increase amounted to eight percent.

3. Ozone (O3)

NAAQS - On February 8, 1979, the EPA established an ambient air quality standard for ozone of 0.12 ppm for a one-hour average. That level is not to be exceeded more than once per year. This standard replaces the old photochemical oxidant standard of 0.08 ppm. Furthermore, in order to determine compliance with the 0.12 ppm ozone standard EPA directs the states to record the number of hourly exceedances of 0.12 ppm at a given monitoring site over a consecutive 3-year period and then calculate the average number of exceedances for this interval. If the resulting average value is less than or equal to 1.0; that is, if the fourth highest hourly value in a consecutive 3-year period is less than 0.12 ppm, the ozone standard is considered attained. The definition of the pollutant was also 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 1980 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 primary 1-hour ozone standard was exceeded at all the DEP monitoring sites in 1980 (see Table 1).

The frequency of ozone levels in excess of the 0.12 ppm ozone standard increased from 1979 to 1980. Some of this difference is attributable to the changes in meteorological factors which occur from year-to-year. An increase in average summer temperatures as well as southwesterly wind transport were important factors during 1980. High temperatures facilitate conversion of hydrocarbons and nitrogen oxides into ozone. Southwest winds transport the emissions of hydrocarbons and nitrogen oxides generated in the New York City Metropolitan Area into Connecticut. Although the Federal emission controls on motor vehicles should be bringing about a yearly reduction in ozone precursor emissions, these emission reductions have not been large enough to cause an improvement in ozone levels.

4. Nitrogen Dioxide (NO2)

Measured nitrogen dioxide levels were lower than the 100 ug/m^3 primary annual standard at all the sampling sites in Connecticut during 1980. A statistical analysis of the data also demonstrates, with 95% confidence, that every site achieved the annual standard for NO_2.

No significant improvement in NO_2 levels took place between 1979 and 1980. Since 60% of the NO_2 emissions in Connecticut come from motor vehicles, some improvement should be occurring due to the Federal emission control program for motor vehicles, as well as continued gasoline conservation. However, yearly differences of weather conditions have probably been an overriding factor in determining overall NO_2 levels.

5. Carbon Monoxide (CO)

The primary eight-hour standard of 9 ppm was exceeded at four of the five carbon monoxide sites in Connecticut during 1980. These were Hartford 011, New Britain 002, New Haven 007 and Stamford 020. The primary 8-hour standard was exceeded once at Hartford 012, eight times at New Britain 002, once at New Haven 007 and 241 times at Stamford 020. This is down from 330 times at that site last year.

No site, except Stamford 020, violated the primary one-hour standard of 35 ppm. The one-hour standard was exceeded two times at the Stamford 020 site in 1980, unchanged from last year (See Table 1).

A general decrease in carbon monoxide levels took place between 1979 and 1980.

6. Lead (Pb)

National Ambient Air Quality Standard (NAAQS) - On October 5, 1978, the EPA established a new ambient air quality standard for lead of 1.5 ug/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 ug/m^3.

The primary NAAQS for lead was not exceeded at any sites in 1980, down from seven during 1979. Overall measured concentrations of lead decreased slightly from 1979 to 1980.

TABLE 1 Air Quality Standards Exceeded in Connecticut in 1980 Based Solely Upon Measured Concentrations

TOWN	SITE	TOTAL SUSPENDED PARTICULATES: Level Exceeding Secondary Annual Standards, ug/m3 — Secondary (60 ug/m3)	TOTAL SUSPENDED PARTICULATES: Level Exceeding Secondary 24-Hour Standards, ug/m3 — Highest Observed Level (ug/m3)	TOTAL SUSPENDED PARTICULATES: Level Exceeding Secondary 24-Hour Standards, ug/m3 — Number of Times Standard Exceeded	OZONE: Level Exceeding 1-Hour Standard — Highest Observed Level (ppm)	OZONE: Level Exceeding 1-Hour Standard — Number of Times Standard Exceeded	CARBON MONOXIDE: Level Exceeding 8-Hour/1-Hour Standards — Highest Observed Level, 8-Hour/1-Hour (ppm)	CARBON MONOXIDE: Level Exceeding 8-Hour/1-Hour Standards — Number of Times Standard Exceeded
Ansonia	003	-	153	1	-	-	-	-
Berlin	001	-	-	-	-	-	-	-
Bridgeport	001	-	-	-	-	-	-	-
Bridgeport	004	-	-	-	-	-	-	-
Bridgeport	123	64	160	1	0.202	21	-	-
Bristol	001	-	-	-	-	-	-	-
Burlington	001	-	-	-	-	-	-	-
Danbury	123	-	-	-	0.169	23	-	-
Derby	123	-	-	-	0.123	-	-	-
Eastford	001	-	-	-	0.252	25	-	-
East Hartford	002	-	-	-	-	-	-	-
Enfield	123	-	-	-	-	-	-	-
Greenwich	001	-	-	-	-	-	-	-
Greenwich	004	-	-	-	0.197	29	-	-
Greenwich	008	-	-	-	-	-	-	-
Hamden	001	-	-	-	-	-	-	-
Hartford	003	-	-	-	-	-	-	-
Hartford	012	-	-	-	-	-	-	-
Hartford	123	-	-	-	0.240	20	-	-
Manchester	001	-	-	-	-	-	-	-
Meriden	002	-	-	-	-	-	-	-
Meriden	005	-	-	-	-	-	-	-
Middletown	003	-	-	-	-	-	-	-
Middletown	007	-	-	-	0.262	27	-	-
Milford	002	-	-	-	-	-	-	-
Morris	001	-	-	-	0.225	18	-	-
Naugatuck	001	-	-	-	-	-	-	-
New Britain	002	-	-	-	-	-	10.3	7
New Britain	123	-	-	-	-	-	-	-
New Haven	002	-	157	1	-	-	-	-
New Haven	007	-	-	-	-	-	-	-
New Haven	123	61	164	1	0.280	17	-	-
Norwalk	005	-	-	-	-	-	-	-

Table 1 , continued

TOWN	SITE	TOTAL SUSPENDED PARTICULATES: Level Exceeding Secondary Annual Standards, ug/m3 — Secondary (60 ug/m3)	TOTAL SUSPENDED PARTICULATES: Level Exceeding Secondary 24-Hour Standards, ug/m3 — Highest Observed Level (ug/m3)	TOTAL SUSPENDED PARTICULATES: Level Exceeding Secondary 24-Hour Standards, ug/m3 — Number of Times Standard Exceeded	OZONE: Level Exceeding 1-Hour Standard — Highest Observed Level (ppm)	OZONE: Level Exceeding 1-Hour Standard — Number of Times Standard Exceeded	CARBON MONOXIDE: Level Exceeding 8-Hour/1-Hour Standards — Highest Observed Level, 8-Hour/1-Hour (ppm)	CARBON MONOXIDE: Level Exceeding 8-Hour/1-Hour Standards — Number of Times Standard Exceeded
Stafford	001	-	-	-	0.180	13	-	-
Stamford	020	-	-	-	-	-	21.9/36.0	240/1
Stratford	007	-	-	-	0.276	39	-	-
Torrington	123	-	-	-	-	-	-	-
Voluntown	001	-	-	-	-	-	-	-
Waterbury	002	-	-	-	-	-	-	-
Waterbury	004	-	-	-	-	-	-	-
Waterbury	123	-	171	2	-	-	-	-
Waterford	001	-	-	-	-	-	-	-
Willimantic	002	-	-	-	-	-	-	-

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 1968-1980 Total Suspended Particulate (TSP) data, to 1968-1980 Sulfation rate/Sulfuir Dioxide (SO_2) data, and to 1973-1980 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.

1. TSP

The results from the Wilcoxon test (see Table 2) show that TSP levels in Connecticut decreased significantly from 1968 to 1969. From 1969 through 1971 there was no significant change. Then, from 1971 to 1974 TSP levels decreased significantly again, but from 1974 to 1975 this decreasing trend was reversed and TSP levels demonstrated a

significant increase. TSP concentrations remained relatively constant from 1975 to 1977 and then decreased significantly once again between 1977 and 1978. Between 1978 and 1979 there was a significant, but not exceedingly large reduction of measured concentrations. Between 1979 and 1980 there was a significant drop in measured TSP levels. This can be attributed to the elimination of passive sampling error through the use of retractable lids on the hi-vol monitors. The lids retract when the monitor is in operation and return to a covered position when it is not in operation. This prevents any particulates from depositing on, or being removed from, the filter during non-operating hours. (Note that these trend analyses do not account for the uncertainty associated with the individual annual means computed for each TSP site. Most TSP sampling is conducted only every-sixth-day, producing a total of 61 samples per yer. Therefore, the Wilcoxon test really compared year-to-year averages of the sampling date concentrations, not actual annual averages. However, the every-sixth-day sampling schedule is believed to be sufficient to produce representative annual averages. The every-sixth-day schedule for TSP sampling did not start until 1971. Since fewer samples were taken at each site from 1968 to 1970 than during recent years, the test results from the early years are not as conclusive as the results from the later years.)

Significant changes in annual TSP levels can also be caused simply by changes of weather. Such changes probably explain most of the decrease in TSP levels observed between 1968 and 1969, the increase observed between 1974 and 1975, and the decrease from 1977 to 1979. The persistent decrease in TSP levels observed from 1971 to 1974 (amounting to 20 ug/m^3), however, can certainly be attributed to the emission controls implemented by DEP during those years.

Figure 1 shows the long-term trend of TSP concentrations in Connecticut in a more graphical form. The trend chart is based on data obtained from both high volume and low volume sampling devices. High volume sampler data are included only if there were a sufficient number of samples taken in each year to compute valid geometric means. Low volume sampler data are included for those sites where low volume samplers replaced high volume samplers in 1976.

2. SO_2

Connecticut has been measuring sulfur dioxide in the air since prior to the inception of the SO_2 standards in 1971. Several monitoring methods have been employed over that time including bubblers, sulfation plates, and various types of continuous instruments. The bubblers became the EPA reference method, but unfortunately, the field data have turned out to be very unreliable. The sulfation plates have been in use for 10 years and the data are reliable, but they do not measure SO_2 directly. Continuous monitors presently yield reliable data, but this has not always been the case. The earliest monitors (conductometric and coulometric) were subject to interference from many chemicals other than SO_2 and also had

difficulties with quality control. As a result, these monitors produced unreliable data. Later generations of instruments (flame photometric and pulsed fluorescent) alleviated these problems, and there has been a corresponding increase in the reliability of the data.

In order to perform a valid trend analysis, the data for the period of interest must be reliable and from similar sampling methods. As indicated above, the only method which fits these criteria is the sulfation plate. However, the air quality standards are not written in terms of sulfation rate, but rather as SO_2 concentrations. There are several suggested conversions in the literature. In order to determine the "best" conversion to use in Connecticut, DEP undertook a study comparing SO_2 levels with sulfation rate. This study involved exposing three sulfation plates at the same location with a flame photometric or pulsed fluorescent continuous SO_2 monitor. Monthly averages were taken at 11 sites from November, 1975 through September, 1978, resulting in a data set of 245 matched pairs. The sulfation rates and SO_2 levels were compared using a least squares regression technique. The equation resulting from this is as follows:

$$SO_2 \text{ (ppm)} = 0.0056 + 0.0195 \text{ (sulfation rate)}_{(mg/100\ cm^2/day)}$$

The level of significance of this regression equation was found to be less than 0.001, and the associated sample correlation coefficient was 0.72.

Using the above equation, historical sulfation rate data were then converted to equivalent SO_2 levels, and these levels were used as input to the Wilcoxon test previously described.

The results of the Wilcoxon test are presented in Table 3. There was no significant change in SO_2 levels from 1968 to 1969 (when there was very little data), but SO_2 levels increased significantly from 1969 to 1970. A large, steady, and highly significant decrease in SO_2 levels took place each year from 1970 to 1973. This was followed by a small, but significant, increase from 1973 to 1974 and then by a small, but significant decrease from 1974 to 1975. There was no significant change in SO_2 levels from 1975 to 1977, but SO_2 levels decreased significantly again from 1977 to 1978 and from 1978 to 1979. From 1979-1980 measured SO_2 levels rose significantly.

As with TSP, annual changes in SO_2 levels can be caused simply by changes in weather. Such changes may explain most of the increase in SO_2 levels from 1969 to 1970 and the decrease in SO_2 levels from 1977 to 1978 and from 1978 to 1979. The dramatic step-by-step drop in SO_2 levels from 1970 to 1973 corresponds exactly to the step-by-step phase-in of Connecticut's low sulfur-in-fuel regulations. As of September 1, 1971, the oil sold and burned 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 increase from 1979 to 1980 can be attributed to the fact that the winter months of 1980 were colder than 1979. In colder winter months, more oil is required for energy to heat homes.

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, 1978 and 1979, or between 1979 and 1980.

These fluctuations must be largely attributed to year-to-year changes in weather as no corresponding changes in emissions are known to have occurred in the last five years. In the long run, the continuing Federal program to control motor vehicle emissions should help to 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.

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, Greenwich, Hartford, New Britain, New Haven, Stamford, and Waterbury.

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

The real-time capabilities of the System 7 telemetry network have enabled the Air Monitoring Unit to report the Pollutant Standards Index for 10 towns on a daily basis while keeping a close watch for high pollution levels which may occur during adverse weather conditions throughout the year.

TABLE 2

TSP TREND, 1968-1980 (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
68	17	73.6	21.6			
69	17	66.9	18.6	↓	↓	Ø.ØØ75
69	21	69.Ø	23.Ø			
7Ø	21	71.7	25.5	N.C.	N.C.	Ø.2891
7Ø	23	67.8	2Ø.6			
71	23	66.2	18.2	N.C.	N.C.	Ø.34585
71	4Ø	68.4	22.5			
72	4Ø	61.9	17.3	↓	↓	Ø.ØØ13
72	39	59.1	13.4			
73	39	51.9	1Ø.2	↓	↓	<Ø.ØØØØ5
73	41	51.9	11.6			
74	41	48.3	1Ø.3	↓	N.C.	Ø.Ø143
74	4Ø	49.9	1Ø.7			
75	4Ø	52.3	1Ø.1	↑	N.C.	Ø.Ø1Ø1
75	31	52.8	9.8			
76	31	53.Ø	9.3	N.C.	N.C.	Ø.7539
76	37	54.9	1Ø.4			
77	37	54.7	1Ø.1	N.C.	N.C.	Ø.7296
77	32	55.9	1Ø.7			
78	32	53.8	1Ø.2	↓	↓	Ø.ØØ86
78	34	52.5	12.8			
79	34	5Ø.8	12.6	↓	N.C.	Ø.Ø293
79	34	5Ø.7	12.7			
8Ø	34	46.4	9.4	↓	↓	<Ø.ØØØØ5

* 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

EQUIVALENT SO2 TREND FROM SULFATION RATE, 1968-1980 (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
68	12	75.4	29.3			
69	12	65.3	21.3	N.C.	N.C.	Ø.Ø619
69	22	56.6	18.8			
70	22	64.4	20.3	↑	↑	Ø.ØØØ6
70	34	62.4	20.9			
71	34	50.1	13.9	↓	↓	<Ø.ØØØØ5
71	40	51.6	14.9			
72	40	40.3	6.8	↓	↓	<Ø.ØØØØ5
72	38	41.3	6.9			
73	38	34.Ø	4.5	↓	↓	<Ø.ØØØØ5
73	25	35.4	5.2			
74	25	38.2	6.3	↑	↑	Ø.ØØØ4
74	25	35.9	8.2			
75	25	33.2	7.8	↓	↓	Ø.ØØØ2
75	18	33.1	7.7			
76	18	33.6	6.Ø	N.C.	N.C.	Ø.1Ø7Ø
76	29	35.2	4.7			
77	29	34.9	4.3	N.C.	N.C.	Ø.8ØØ9
77	25	35.1	4.2			
78	25	30.4	3.4	↓	↓	<Ø.ØØØØ5
78	25	30.Ø	4.1			
79	25	27.8	3.1	↓	↓	Ø.ØØØ1
79	25	27.8	3.1			
8Ø	25	29.2	3.4	↑	↑	Ø.ØØØ4

* 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

NO2 TREND, 1973-1980 (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
78	19	59.2	11.5			
79	19	60.0	10.3	N.C.	N.C.	0.8721
79	18	62.0	10.5			
80	18	62.8	11.0	N.C.	N.C.	0.1239

* 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

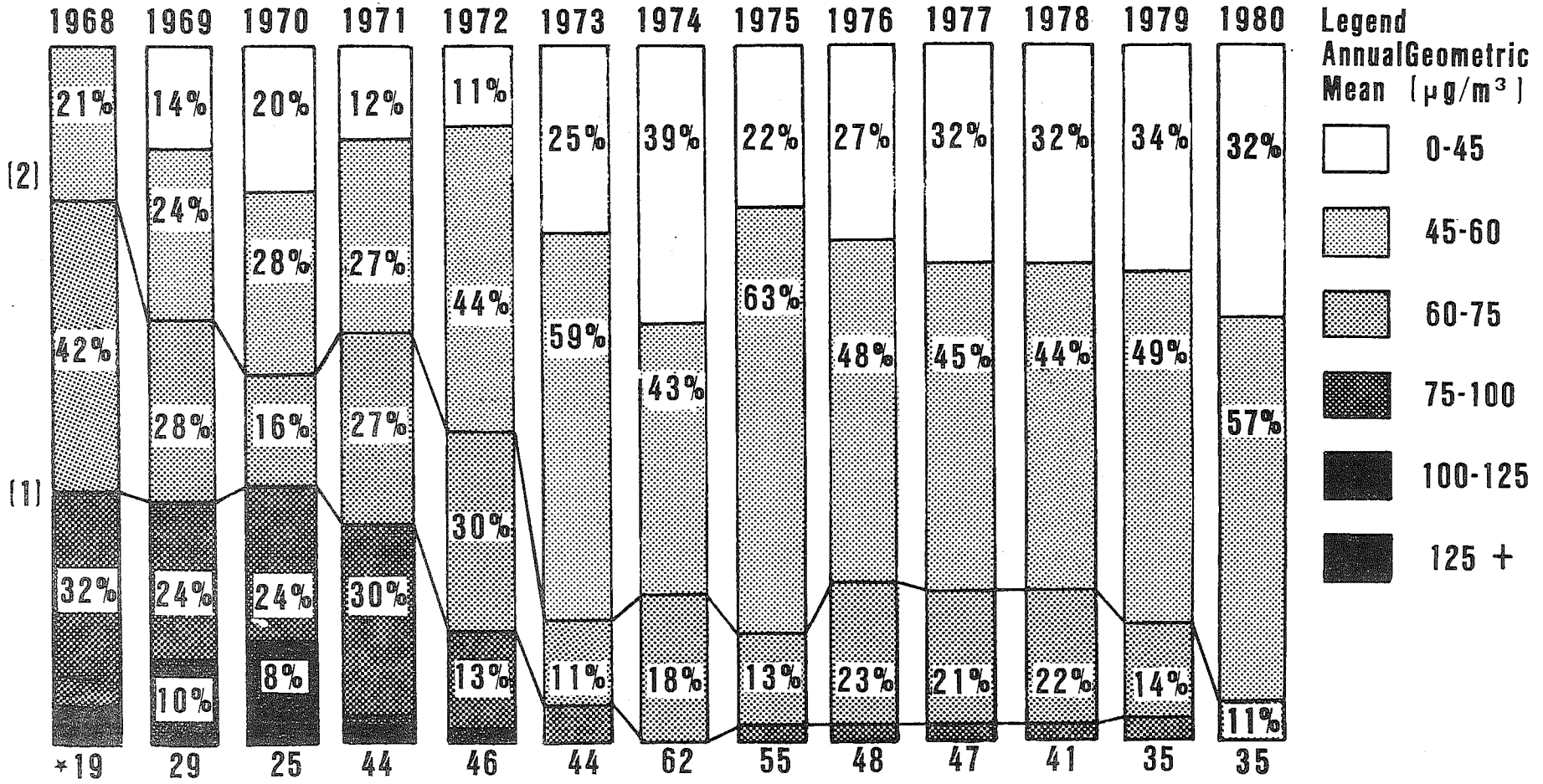
TABLE 5
ASSESSMENT OF AMBIENT AIR QUALITY

POLLUTANT	SAMPLING PERIOD	DATA REDUCTION	STATISTICAL BASE	NATIONAL AMBIENT AIR QUALITY STANDARDS PRIMARY STANDARD		SECONDARY STANDARD	
				ug/m3	ppm	ug/m3	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 Oxides)	Continuous[2]	1-Hour Average	Annual Arithmetic Mean	80	0.03	60	0.02[a]
			24-Hour Average Concentration[3]	365	0.14	260	0.10[a]
			3-Hour Average Concentration[3]			1300	0.50
Nitrogen Dioxide	24-Hours Every Sixth Day[1]	24-Hour Average	Annual Arithmetic Mean	100	0.05	Same as Primary	
Ozone	Continuous[2]	1-Hour Average	1-Hour Average[4]	235	0.12	Same as Primary	
Hydrocarbons	Continuous[2]	1-Hour Average	3-Hour Average[3] (6-9 AM)	160**	0.24	Same as Primary	
Lead	24 Hours Every Sixth Day[1]	Quarterly Composite	Calendar Quarter Average	1.5		Same as Primary	
				mg/m3	ppm	mg/m3	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.
a State secondary standards were abrogated in 1981
Units = ug/m3 = Micrograms per cubic meter; mg/m3 = Milligrams per cubic meter; ppm = Parts per million

Figure 1 Total Suspended Particulate Matter Trend

" Percent of sites within each range "

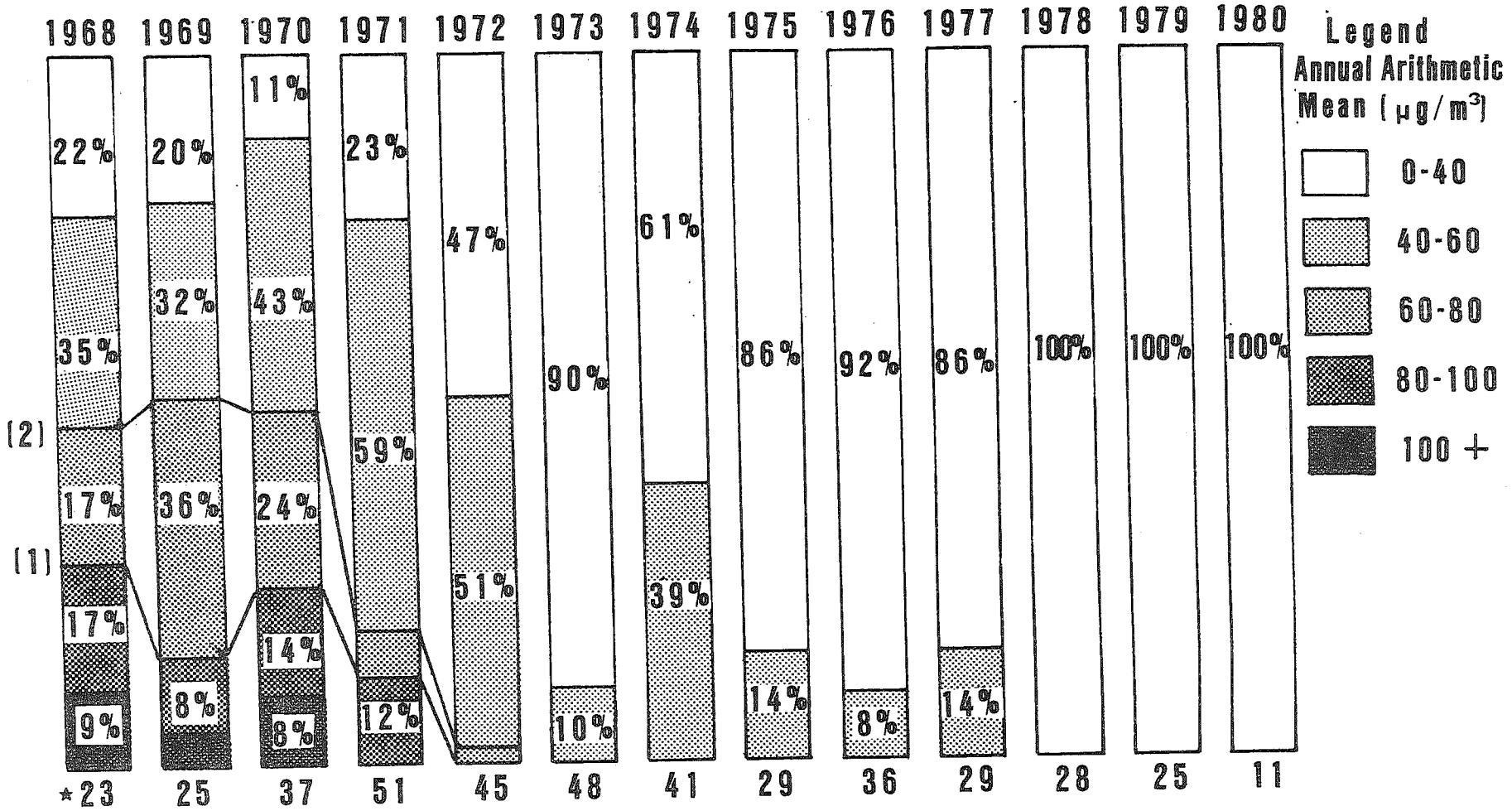


[1] Primary Annual Standard 75 μg/m³

[2] Secondary Annual Standard 60 μg/m³

* Number of Sites

Figure 2 Sulfur Dioxide Trend from Sulfation Rate Data



[1] Primary Annual Standard 80 μg/m³

[2] Secondary Annual Standard 60 μg/m³

★ Number of Sites

The complete monitoring network used in 1980 consisted of:

35 Total Suspended Particulate and Lead (Hi-Vol) sites
2 Total Suspended Particulate (Lo-Vol) sites
11 Sulfur Dioxide sites (Continuous Monitors)
10 Ozone sites
18 Nitrogen Dioxide sites (Bubblers)
5 Carbon Monoxide sites

A complete description of all permanent air monitoring sites in Connecticut operated by DEP in 1980 is available from the Department of Environmental Protection, Air Compliance, State Office Building, Hartford, Connecticut, 06106.

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.

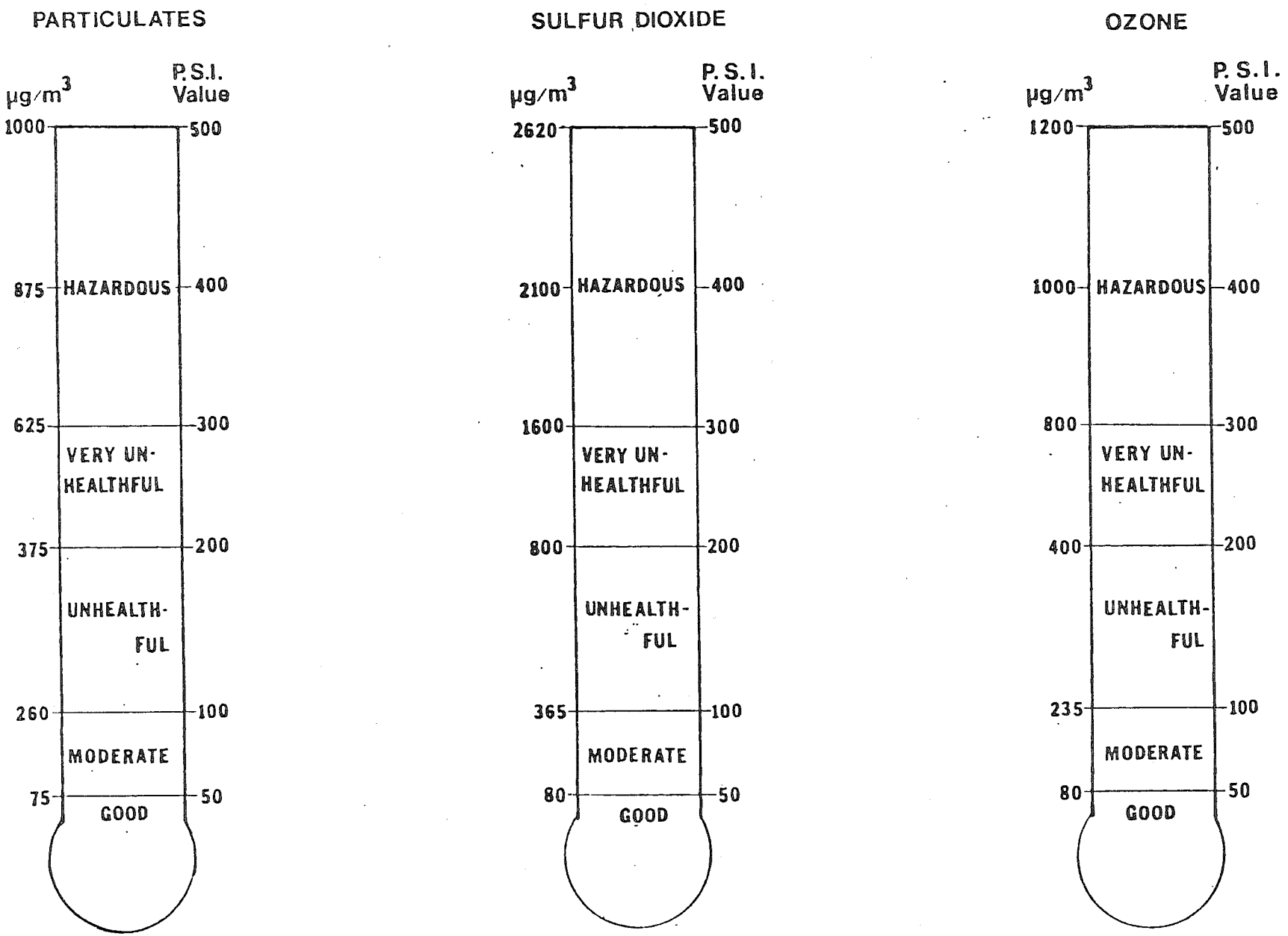
E. Pollutant Standards Index

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, CO, and O_3) in Connecticut. In 1980, the PSI was reported for the telemetered monitoring sites in Connecticut (Bridgeport, Danbury, Greenwich, 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

In the Thursday, May 10, 1979 Federal Register, Vol. 44, No. 92, EPA promulgated regulations that specify the "Quality Assurance Requirements for State and Local Air Monitoring Stations (SLAMS)." This was a uniform, comprehensive approach to obtaining quality data as well as a statistical method for assessing the quality of that data.

The above comprehensive approach consisted of planning, writing, and implementing a quality assurance program which would produce data of superior quality and adequate quantity. Each program required written procedures for each of the following activities:

Procurement of Equipment
Installation of Equipment
Calibration of Equipment
Equipment Operation
Sample Analysis
Maintenance of Equipment
Equipment Audits
Data Handling and Assessment

Completion and implementation of the Quality Assurance Plan was to take place by 1/1/81. By the end of 1980, TSP, SO_2, and O_3 procedures were completed, while NO_2 and CO were in progress. And, although it was not required, Connecticut fully implemented the TSP program in 1980. In addition, the statistical assessment of O_3 and NO_2 were also implemented in order to fulfill a requirement of an EPA sponsored "Northeast Corridor Study."

The assessment of data quality is accomplished by statistically calculating the results of "Precision" and "Accuracy" data, where precision may be defined as a measure of repeatability of the measuring instrument when measuring the same thing, and accuracy as a measure of closeness of an observed measurement value to the truth. These results are reported as "Probability Limits" of ±95%.

Precision

a) Manual Samplers (TSP)

Duplicate samplers (collocated samplers) is the technique used to assess TSP precision. It involves all parts of the total measurement process as well as using actual concentrations of pollutants in the ambient air. Samplers run for a period of 24 hours, and correlation of the results of the duplicate samples take place at intervals of the regular sampling schedule (every 6 days).

b) Automated Analyzers (SO_2, O_3, CO, and NO_2)

Periodic span checks at ambient concentrations (0.08 to 0.1 ppm for SO_2, O_3 and NO_2, and 8 to 10 ppm for CO) are performed approximately every 2 weeks. These bi-weekly results are not only used to assess precision, but are also used to flag possible instrument malfunctions.

Accuracy

a) Manual Sampling

Accuracy assessment is obtained by challenging the flow portion of the measurement system with a calibrated, fixed orifice, transfer standard at normal sampler flow operation. At least 25% of the network is to be audited every quarter.

b) Automated Analyzers

Accuracy data is obtained from performance audits which are conducted by personnel and equipment other than that used for instrument calibrations. These audits are performed at the following three levels of pollution concentration:

SO_2, O_3, NO_2 (PPM)	CO (PPM)
0.03 to 0.08	3 to 8
0.15 to 0.20	15 to 20
0.35 to 0.45	35 to 45

TSP:

There are 3 collocated sampler sites in Connecticut for assessing precision; Bridgeport 009, Hartford 003, and Waterbury 005. The network results for the ±95% probability were:

precision: -6% to +7%
accuracy: -11% to -1%

SO_2:

No precision checks were performed in 1980.

Network accuracy was derived from 2 instrument audits performed by an independent auditor (Research Triangle Institute) with the following ±95% probability results:

0.03 to 0.08 PPM	0.15 to 0.20 PPM	0.35 to 0.45 PPM
-3% to +6 %	-6% to +5%	-2% to -1%

O_3:

Precision data was obtained from 6 sites and resulted in a network precision of -12% to +14% for the ±95% probability limits.

Fourteen accuracy audits were performed with the following network results for the ±95% probability limits:

0.03 to 0.08 PPM	0.15 to 0.20 PPM	0.35 to 0.45 PPM
-18% to +10%	-13% to +12%	-10% to +10%

CO:

No precision checks were performed in 1980.

Assessing of accuracy was obtained from EPA audits which were conducted at all five CO sites. The ±95% probability limits were:

@ 6.1 PPM	@ 20.25 PPM	@ 42.4 PPM
-20% to +2%	-12% to +7%	-11% to +12%

NO_2

There were 3 NO_2 sites in 1980 with precision data performed at Greenwich 004 only (only partial data was recorded at Bridgeport and Hartford). The ±95% probability limits were -14% to +3%.

There were a total of 5 audits performed at Greenwich and Hartford with the following results for the ±95% probability limit for accuracy.

0.03 to 0.08 PPM	0.15 to 0.20 PPM	0.35 to 0.45 PPM
-26% to +3%	-11% to +4%	-10% to +5%

G. HEALTH EFFECTS

Here are brief descriptions of the air pollutants for which EPA standards have been set, and summaries of the adverse effects of each on human health.

Sulfur oxides are gases that come from the burning of sulfur-containing fuel, mainly coal and oil, and also from the smelting of metals and from certain industrial processes. They have a distinctive odor. Sulfur dioxide (SO_2) comprises about 95 percent of these gases, so scientists use a test for SO_2 alone as a measure of all sulfur oxides.

As the level of sulfur oxides in air increases, there is an obstruction of breathing, a choking effect that doctors call "pulmonary flow resistance." The amount of breathing obstruction has a direct relation to the amount of sulfur compounds in the air. The effect of sulfur pollution is enhanced by the presence of other pollutants, especially particulates and oxidants. That is, the harm from two or more pollutants is more than additive. Each augments the other, and the combined effect is greater than the sum of the parts would be.

Many types of respiratory disease are associated with sulfur oxides: coughs and colds, asthma, bronchitis, and emphysema. Some researchers believe that the harm is mainly due not to the sulfur oxide gases but to other sulfur compounds that accompany the oxides: sulfur acids and sulfate salts.

Particulates are solid particles or liquid droplets small enough to remain suspended in air. They include dust, soot, and smoke -- particles that may be irritating but are usually not poisonous -- and bits of solid or liquid substances that may be highly toxic. The smaller the particles, the more likely they are to reach the innermost parts of the lungs and work their damage.

The harm may be physical: clogging the lung sacs, as in anthracosis, or coal miners' "black lung" from inhaling coal dust; asbestosis or silicosis in people exposed to asbestos fibers or dusts from sillicate rocks; and byssinosis, or textile workers' "brown lung" from inhaling cotton fibers.

The harm may also be chemical: changes in the human body caused by chemical reactions with pollution particles that pass through the lung membranes to poison the blood or be carried by the blood to other organs. This can happen with inhaled lead, cadmium, beryllium, and other metals, and with certain complex organic compounds that can cause cancer.

Many studies indicate that particulates and sulfur oxides (they often occur together) increase the incidence and severity of respiratory disease.

Carbon monoxide (CO) is a colorless, odorless, poison gas formed when carbon-containing fuel is not burned completely. It is by far the most plentiful air pollutant. EPA estimates that more than 102 million metric tons of CO are spewed into the air each year in the United States. (A metric ton is 1,000 kilograms, or about 2,200 pounds.)

Fortunately, this deadly gas does not persist in the atmosphere. It is apparently converted by natural processes to harmless carbon dioxide, in ways not yet understood, fast enough to prevent any general buildup. But it can reach dangerous levels in local areas, as in city-street canyons with heavy auto traffic and little wind.

Clinical experience with accidental CO poisoning has shown clearly how it affects the body. When the gas is breathed, CO replaces oxygen in the red blood cells, reducing the amount of oxygen that can reach the body cells and maintain life. Lack of oxygen affects the brain, and the first symptoms are impaired perception and thinking. Reflexes are slowed, judgement weakened, and a person becomes drowsy. An auto driver breathing high levels of CO is more likely to have an accident; an athlete's performance and skill drop suddenly. Lack of oxygen then affects the heart. Death can come from heart failure or general asphyxiation, if a person is exposed to very high levels of CO.

Ozone is a poisonous form of pure oxygen and the principal component of modern smog. Until recently EPA called this type of pollution "photochemical oxidants." The name was changed because ozone was the only oxidant actually measured and by far the most plentiful.

Ozone and other oxidants -- including peroxyacetal nitrates (PAN), formaldehydes, and peroxides -- are not emitted into the air directly. They are formed by chemical reactions in the air from two other pollutants, hydrocarbons and nitrogen oxides. Energy from sunlight is needed for these chemical reactions, hence the term photochemical smog, and the daily variation in ozone levels, increasing during the day and decreasing at night.

Ozone is a pungent-smelling, faintly bluish gas. It irritates the mucuous membranes of the respiratory system, causing coughing, choking and impaired lung function. It aggravates chronic respiratory diseases like asthma and bronchitis and is believed capable of hastening the death, by pneumonia, of persons in already weakened health. PAN and the other oxidants that accompany ozone are powerful eye irritants.

Nitrogen oxides. When any fuel is burned at a high enough temperature -- above 650°C (1,200°F) -- some of the abundant nitrogen in the air will react too, forming poisonous, highly reactive gases called nitrogen oxides. Nitrogen dioxide (NO_2) is the most plentiful of these and the one measured to indicate all. It is a suffocating, brownish-colored gas and a strong oxidizing agent, quick to react with water vapor to form corrosive nitric acid.

Occupational health studies have shown that nitrogen oxides can be fatal at high concentrations. At lower levels, they can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections like influenza. However, the principal harm to people seems to come not from nitrogen oxides directly but from the oxidants they help to form by uniting in sunlit air with hydrocarbons to make ozone and other ingredients of photochemical smog.

Hydrocarbons are unburned fuels in gaseous or vapor form. Gasoline, for example, is a mixture of many kinds of hydrocarbons, each containing more than twice as many hydrogen atoms as carbon atoms linked together in molecules of many different sizes and patterns.

At the levels usually found in ambient air, hydrocarbons, as a class of compounds, may have no direct effect on human health. In a confined space, of course, they could cause asphyxiation by displacing the air, and some, like benzene, can be hazardous in themselves. A major problem with hydrocarbons stems from the oxidants they help to form by reacting with nitrogen oxides in sunlight.

Lead. Particles of this metal or its compounds enter the air from auto exhaust (tetraethyl lead, an anti-knock agent in gasoline) and from industries that smelt or process the metal.

Lead is absorbed into the body and accumulates in bone and soft tissues. Its most pronounced effects are on the blood-forming, nervous, and kidney systems, though it may also affect other body functions. Young children are especially susceptible to lead poisoning.

II. TOTAL SUSPENDED PARTICULATES

Conclusions:

Measured Total Suspended Particulate (TSP) levels did not exceed the primary annual standard of 75 ug/m^3 in Connecticut during 1980. The secondary annual standard of 60 ug/m^3 was exceeded by less than 10% at two sites, three less than in 1979. No sites had a measured value exceeding the primary 24-hour standard of 260 ug/m^3 during 1980. The highest observed 24-hour TSP level at nine (9) sites exceeded the secondary 24-hour standard of 150 ug/m^3, however, only five (5) sites violated the standard (i.e., highest second high 24-hour TSP level greater than 150 ug/m^3) down from seven (7)sites in 1979.

Overall, measured total suspended particulate (TSP) levels in Connecticut showed significant improvement in 1980 as compared to 1979 (see Table 2).

The probable cause of most of the improvement in measured TSP levels is due to the installation of retractable lids on the hi-vol monitors. All hi-vol sites have had the lids since January 1980. These lids retract when the monitor begins to sample and they return to a closed position when the sampling is finished. A more accurate sample is made possible by this method of protecting the filter from excess deposition or erosion. A "passive sampling error" study (see 'Special Studies', "Passive Sampling Error" in the 1979 Annual Air Quality Summary) was performed by DEP which showed that standard hi-vols without lids recorded a positive bias of between 10% to 20%. A comparison of a hi-vol and a "sample saver" hi-vol operating side-by-side at Hartford 123 showed a 7% reduction of measured TSP in the sample saver. This factor alone could explain a significant part of the drop of measured TSP levels in 1980.

Year-to-year changes in the weather also play a role in determining measured TSP levels. The overall northwesterly components of wind directions at area weather stations show an increase in the frequency of northwesterly winds for the year. Northwesterly winds tend to be freer of TSP than winds from the Southwest and South. Besides lower concentrations of TSP, north-westerly winds are also somewhat drier. This is reflected in the 1980 rainfall amounts, which were far below normal at Bradley International Airport in Windsor Locks. Precipitation there was 26% less than normal, while at Sikorsky Memorial Airport precipitation was 8% less than normal. Less precipitation tends to cause less washout of particulates from the air which in turn could result in higher TSP concentrations. However in this case, the effect of precipitation on the amount of TSP washout does not appear to be a major factor. As for temperature, degree days (heating requirement) for 1980 at Bradley and Sikorsky airports were higher than they were for 1979 and also higher than the mean (see Tables 29, 30). An increase in home heating, including the use of wood and coal stoves, is commensurate with an increase of degree days.

Although measured TSP levels decreased in 1980, it would be difficult to pinpoint a specific reason for the reduction other than the installation of retractable lids on the hi-vol monitors.

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). VMT's for 1980 have remained almost unchanged since 1978 while gasoline consumption continued to decrease. In 1980 the decrease in gasoline consumption amounted to 3.1%.

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. As explained previously, retractable lids have been installed on the hi-vols in order to eliminate the passive sampling error. 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 (ug) 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 weighted. 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 ug/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,

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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, New Haven 123, and Waterbury 123.)

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 ug/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 ug/m^3.

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 1980 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 not exceeded, while the secondary annual standard was exceeded at two sites. In 1980, of the sites that had valid annual geometric means, 31 hi-vol sites showed lower annual geometric means than in 1979, with twelve of these decreases being greater than 5 ug/m^3. In 1980, only three hi-vol sites showed higher geometric means than 1979, with none of these increases being greater than 4 ug/m^3.

Historical Data - The DEP's historical file of annual average TSP data for 1957-1980 is presented in Table 6. This table of historic TSP data invalidates and replaces all previous compilations. This table also includes 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 New Haven at site 123 in 1979, 57 samples were taken and a geometric mean of 56.5 ug/m^3 was calculated. However, the columns labeled "95-PCT-LIMITS" show the lower and upper limits for a 95% confidence interval of 51 and 63 ug/m^3, respectively. This means that if a larger (i.e., greater than 57 samples) sample set were collected in 1980 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 ug/^{3}) is within this interval, one cannot be 95% confident that the secondary standard was met here in 1979.

In Table 7, the 1980 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. The table also shows that the DEP is 95% confident that the secondary standard was exceeded at two (2) sites during 1980, as compared to four (4) sites in 1979. Last year the standard was exceeded at four sites.

Whether the secondary annual standard was exceeded is uncertain at six (6) sites, down from eleven (11) sites last year. Comparing this to the results using the actual measured levels in the discussion above, both methods shows no site exceeding the primary standard and two (2) sites exceeding the secondary annual standard. However, the statistical projections indicate that more frequent TSP sampling at four (4) sites (Hartford 123; Meriden 05; New Haven 02; Waterbury 123) might have resulted in measured violations of the secondary annual standard.,

24-Hour Averages Table 8 presents 1st and 2nd high 24-hour concentrations recorded at each site. There were no violations of the primary 24-hour standard recorded in Connecticut during 1980. Measured violations of the secondary 24-hour standard were recorded at nine sites in 1980, two more than in 1979. The 2nd high 24-hour average increased at thirteen of the 35 sites which met the minimum EPA sampling criteria in both 1979 and 1980. Two of these increases exceeded 25 ug/m^3. The 2nd high 24-hour average decreased at twenty-one of the 35 sites, and seven of these decreases exceeded 25 ug/m^3. The 2nd high at one site (Wallingford, site 001) 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 1980 there would have been no sites with violations of the primary 24-hour standard, and fourteen (14) sites with violations of the secondary 24-hour standard. In 1979, two (2) sites were predicted to have exceeded the primary 24-hour standard and twenty-two (22) sites were predicted to have exceeded the secondary 24-hour standard.

Chemical Analyses - Annual averages of seventeen components or characteristics of the particulate matter collected at each hi-vol sampling location have been computed for the year 1980 and are presented in Table 10. For concentrations dating back to 1970, see the 1978 Connecticut Air Quality Summary. 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	V	-	Vanadium
Al	-	Aluminum	Zn	-	Zinc
Be	-	Berylium	NO3	-	Total Nitrates
Cd	-	Cadmium	SO4	-	Total Sulfates
Cr	-	Chromium	NH4	-	Ammonium
Cu	-	Copper	Na	-	Sodium
Fe	-	Iron	pH	-	Acidity
Pb	-	Lead	BENZ	-	Total Benzene Solubles
Mn	-	Manganese	TSP*	-	Total Suspended Particulates
Ni	-	Nickel			

Lo-Vol Averages - For a number of 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 interpolation).

* 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.

There were two lo-vol sites located at rural locations in the state during 1980. One site was located at Mansfield, the other at Putnam. The use of the low-vols made it possible to continue to obtain data on annual average particulate levels at these rural sites.

Annual averages of the chemical components from the lo-vol TSP monitors have been computed for 1980 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.

10 High Days with Wind Data - Table 12 lists the 10 highest 24-hour average TSP readings with the dates of occurrence for each TSP hi-vol site in Connecticut during 1980. This table also shows the average wind conditions which occurred on each of these dates. The resultant wind direction (DIR, in compass degrees from north) and velocity (VEL, in mph), the average wind speed (SPD, in mph), and the ratio between the velocity and the speed are presented for each of four National Weather Service stations located in or near Connecticut. (The resultant wind direction and velocity are vector quantities and are computed from the individual wind direction and speed readings in each day.) The closer the wind speed ratio is to 1.000, the more persistent the wind. Note that the Connecticut stations have local influences which change the speed and shift the direction of the near-surface air flow (e.g., the Bradley Field air flow is channeled north-south by the Connecticut River Valley and the Bridgeport air flow is subject to frequent sea breezes).

On a statewide basis, this table shows that most high TSP days occur with southwesterly winds and most of those days have persistent winds. This relationship between southwest winds and high TSP levels is more predominant in southwestern Connecticut. However, many of the maximum levels at some urban sites do not occur with southwest winds, indicating that these sites are more influenced by local sources than by the transport of TSP with southwest winds. As noted above, a large scale southwesterly air flow is often diverted into a southerly flow up the Connecticut River Valley. At many sites in the Connecticut River Valley most of the highest TSP days occur when the winds at Bradley Airport are from the south.

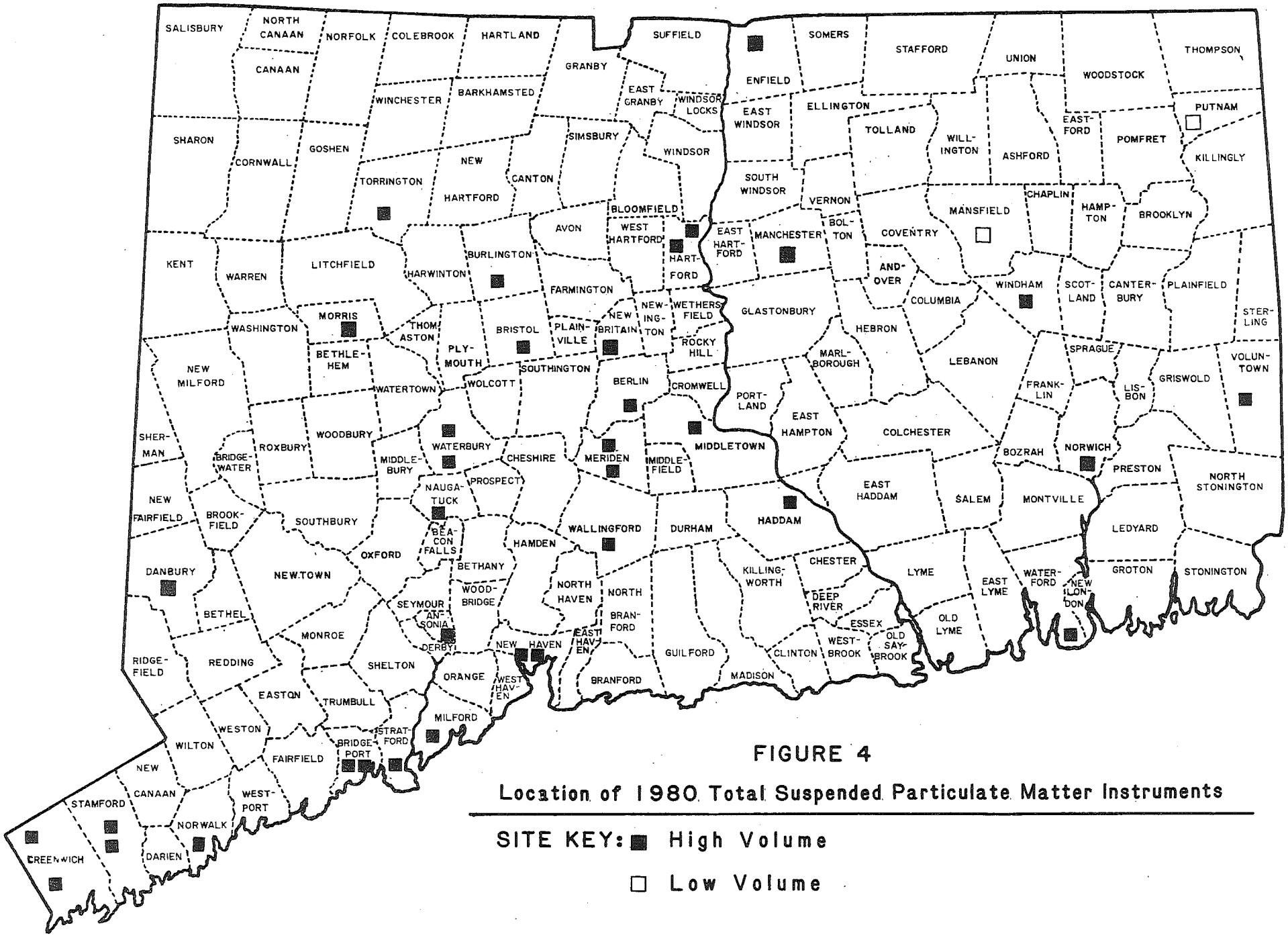


FIGURE 4

Location of 1980 Total Suspended Particulate Matter Instruments

SITE KEY: ■ High Volume

□ Low Volume

Table 6
1957-1980 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	53	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	135	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
ANSONIA	03	1979	115	56.6	53	60	1.527	4	
ANSONIA	03	1980	105	51.5	48	56	1.613	5	
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		
BERLIN	01	1979	59	30.8	27	35	1.616		
BERLIN	01	1980	56	30.3	27	34	1.601		
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	1.416		
BRIDGEPORT	01	1976	61	54.3	49	61	1.595	5	
BRIDGEPORT	01	1977	58	56.7	52	62	1.448	2	

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		01	1978	58	49.6	45	55	1.492	1	
BRIDGEPORT		01	1979	60	51.6	46	57	1.572	3	
BRIDGEPORT		01	1980	57	47.8	43	53	1.524	1	
BRIDGEPORT		02	1972	10*	91.7	54	157	2.138	100	29
BRIDGEPORT		02	1973	61	57.1	52	63	1.526	4	
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	35*	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		123	1979	120	64.8	61	69	1.491	7	
BRIDGEPORT		123	1980	120	64.2	60	69	1.669	16	1
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	

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
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	01	1979	58	42.1	38	47	1.573	1	
BRISTOL	01	1980	57	41.5	37	46	1.521		
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	
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	
BURLINGTON	01	1979	116	24.4	22	26	1.745		
BURLINGTON	01	1980	117	25.3	23	27	1.665		
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	

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
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	55.8	51	63	1.560	5	
DANBURY	123	1978	60	50.8	45	57	1.661	7	
DANBURY	123	1979	56	54.7	48	62	1.649	8	
DANBURY	123	1980	58	48.9	44	55	1.595	3	
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		
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 HARTFORD	02	1979	57	44.7	40	50	1.558	1	
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	

Table 6, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 5 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
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	123	1979	59	40.8	37	45	1.575	1	
ENFIELD	123	1980	59	37.3	34	41	1.514		
ENFIELD 01/	123	1975	54	46.6	41	53	1.655	4	
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	

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
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	55.0	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	
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	53.2	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	

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
GREENWICH	04	1979	56	37.9	33	43	1.719	2	
GREENWICH	04	1980	60	35.7	32	40	1.647	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	
GREENWICH	08	1978	57	51.3	45	59	1.723	8	
GREENWICH	08	1979	60	68.9	60	80	1.858	35	7
GREENWICH	08	1980	58	51.5	46	57	1.580	4	
GREENWICH	14	1974	60	63.0	57	69	1.501	7	
GREENWICH	14	1975	28*	58.5	52	66	1.363		
GREENWICH	16	1980	9*	53.5	34	84	1.797	13	1
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	

Table 6, Continued

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
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		123	1979	29*	32.8	27	40	1.733	1	
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		
HADDAM		02	1979	60	32.3	29	36	1.565		
HADDAM		02	1980	60	31.4	28	35	1.609		
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	
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	86	13
HARTFORD		03	1971	169	86.6	83	91	1.517	35	2

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
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	03	1979	116	61.3	58	65	1.460	3	
HARTFORD	03	1980	121	53.7	51	57	1.506	2	
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
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	

Table 6, Continued

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
HARTFORD		123	1978	61	67.1	61	74	1.519	10	
HARTFORD		123	1979	59	66.5	61	73	1.453	5	
HARTFORD		123	1980	57	55.2	50	61	1.485	2	
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	
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		
MANCHESTER		01	1979	59	42.1	38	47	1.531		
MANCHESTER		01	1980	60	37.1	34	41	1.536		

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
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*	58.2	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	02	1979	59	52.7	48	58	1.525	2	
MERIDEN	02	1980	59	51.9	47	57	1.496	2	
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
MERIDEN	03	1972	53	60.4	53	69	1.655	13	1
MERIDEN	03	1973	57	54.5	47	64	1.887	20	2

Table 6, Continued

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
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	05	1979	60	55.8	49	64	1.803	16	2
MERIDEN	05	1980	57	55.6	49	63	1.652	8	
MERIDEN	06	1971	52	78.6	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

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	1.680	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	03	1979	59	49.8	45	55	1.555	2	
MIDDLETOWN	03	1980	59	46.8	43	51	1.468		
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	

Table 6, Continued

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
MILFORD	02	1968	18*	64.7	49	85	1.750	24	2
MILFORD	02	1969	20	67.7	56	81	1.500	8	
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	02	1979	60	52.3	47	58	1.554	3	
MILFORD	02	1980	59	45.2	41	49	1.454		
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		
MORRIS	01	1980	111	29.6	28	32	1.567		
MORRIS DAM	01	1979	119	27.9	26	30	1.662		

Table 6, Continued

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

Table 6, Continued

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
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
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	
NAUGATUCK	01	1979	60	47.0	42	52	1.576	2	
NAUGATUCK	01	1980	55	44.4	40	50	1.577	1	
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

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	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
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	

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
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	123	1979	110	47.4	44	51	1.516	1	
NEW BRITAIN	123	1980	111	42.6	40	45	1.473		
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
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	02	1979	57	56.5	51	63	1.542	4	
NEW HAVEN	02	1980	52	54.8	49	61	1.535	3	
NEW HAVEN	03	1967	69*	77.0	69	86	1.660	35	3

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
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
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	123	1979	119	79.2	75	84	1.454	16	

Table 6, Continued

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		123	1980	116	61.7	58	66	1.506	5	
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	
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	15	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	

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
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
NORWALK	05	1979	116	57.2	54	61	1.497	3	
NORWALK	05	1980	117	53.7	50	57	1.567	4	
NORWICH	01	1966	43	67.8	61	76	1.450	7	
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	01	1979	58	44.9	41	50	1.517	1	
NORWICH	01	1980	60	44.6	41	49	1.464		
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

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
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	
OLD SAYBROOK	01	1979	49*	51.6	46	59	1.603	4	
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	
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

Table 6, Continued

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
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
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	07	1979	58	57.0	51	64	1.584	7	
STAMFORD	07	1980	59	52.6	47	58	1.533	2	
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

Table 6, Continued

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
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	123	1979	60	59.3	54	66	1.536	5	
STAMFORD	123	1980	58	50.7	46	56	1.556	2	
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	
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	

Table 6, Continued

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	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	
STRATFORD	05	1979	58	56.4	51	62	1.483	2	
STRATFORD	05	1980	58	50.4	46	55	1.488	1	
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
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	59	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	123	1979	116	59.4	55	64	1.702	16	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	123	1980	119	51.0	48	54	1.518	2	
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		
VOLUNTOWN	01	1979	117	25.7	24	28	1.599		
VOLUNTOWN	01	1980	119	26.0	24	28	1.613		
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	01	1979	54	54.1	49	60	1.472	2	
WALLINGFORD	01	1980	55	47.1	43	52	1.513	1	
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
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

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
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		02	1979	59	49.8	46	54	1.452		
WATERBURY		02	1980	59	48.8	44	55	1.603	3	
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		123	1979	117	69.6	65	74	1.518	13	
WATERBURY		123	1980	119	57.8	54	62	1.579	7	
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		
WATERFORD		01	1979	58	30.2	26	35	1.736	1	
WATERFORD		01	1980	57	34.1	31	38	1.563		

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
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		
WILLIMANTIC	02	1979	15*	43.2	36	52	1.424		
WILLIMANTIC	02	1980	60	42.2	38	47	1.550	1	
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 6, Continued

TABLE 7

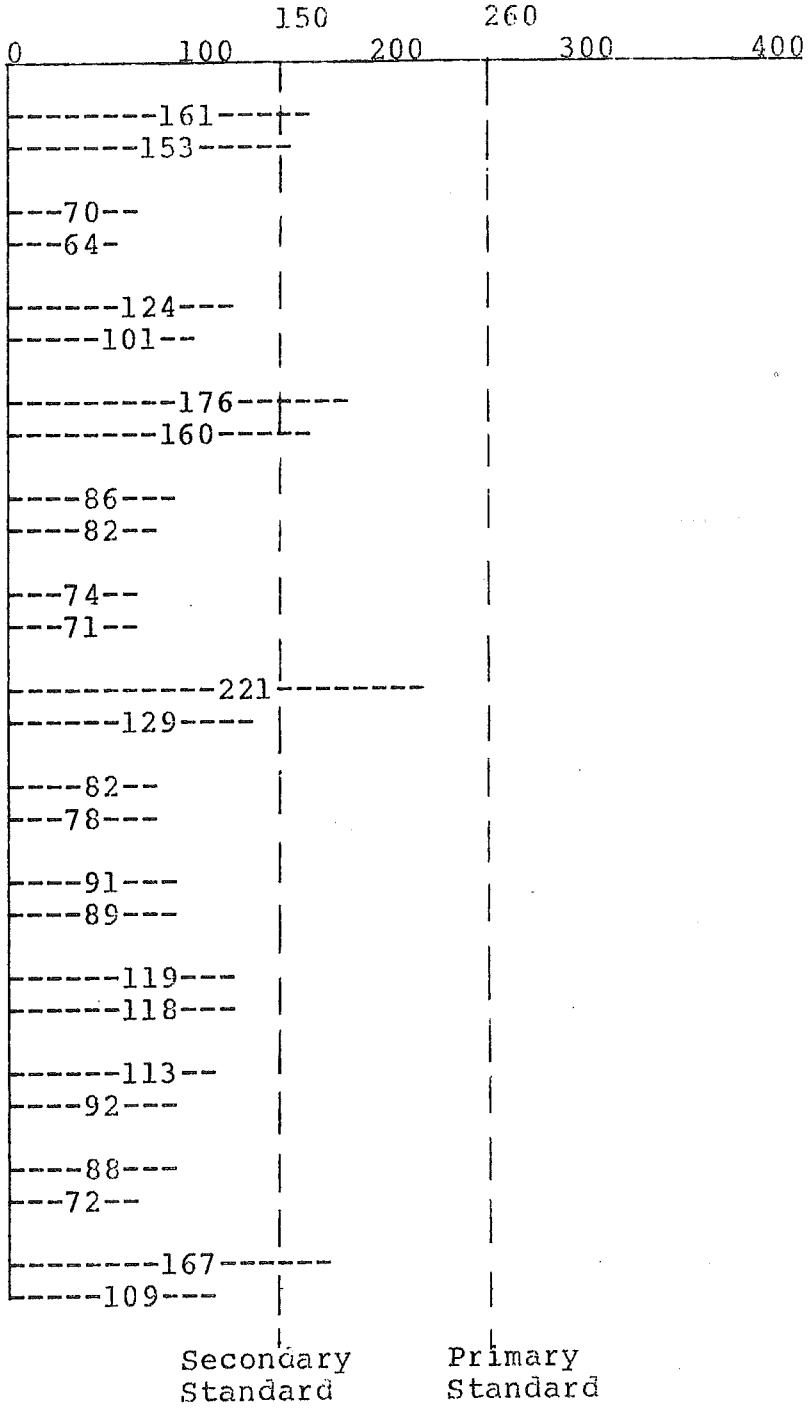
CONFIDENCE OF COMPLIANCE WITH ANNUAL TSP STANDARDS (1980)

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
		Bridgeport 123 New Haven 123	Hartford 123 Meriden 05 New Haven 02 Waterbury 123

TABLE 8

1980 MAXIMUM 24-HOUR TSP CONCENTRATIONS*

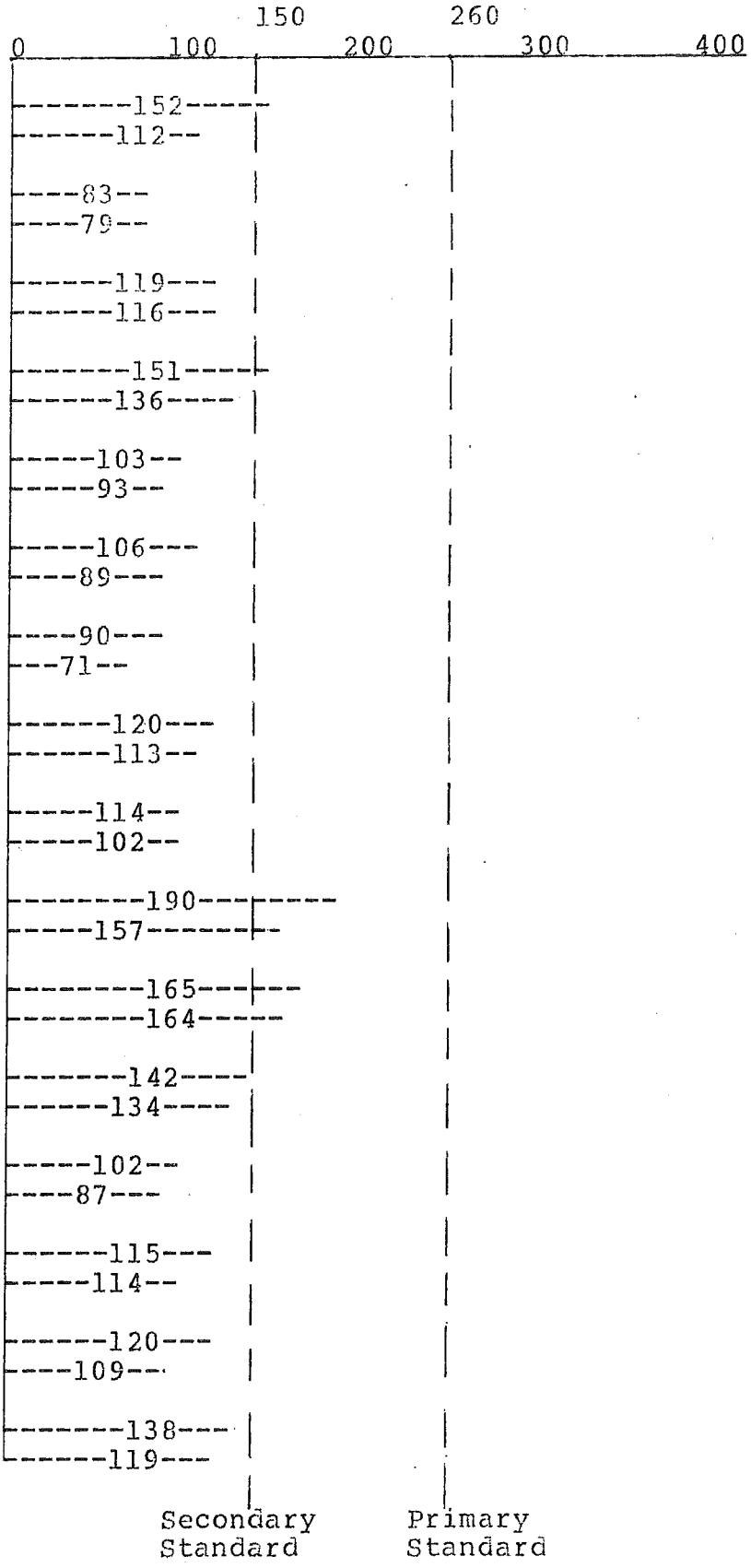
SITE	1ST HIGH	2ND HIGH
Ansonia-003	2/21	12/20
Berlin-001	2/21	8/1
Bridgeport-001	2/21	6/2
Bridgeport-123	5/24	7/20
Bristol-001	3/4	6/26
Burlington-001	5/24	6/26
Danbury-123	12/17	3/4
Enfield-123	2/21	11/23
Greenwich-04	7/20	8/1
Greenwich-08	7/14	1/22
Greenwich-016	7/20	6/25
Haddam-002	6/2	12/29
Hartford-003	2/21	5/24



* Units in ug/m^3

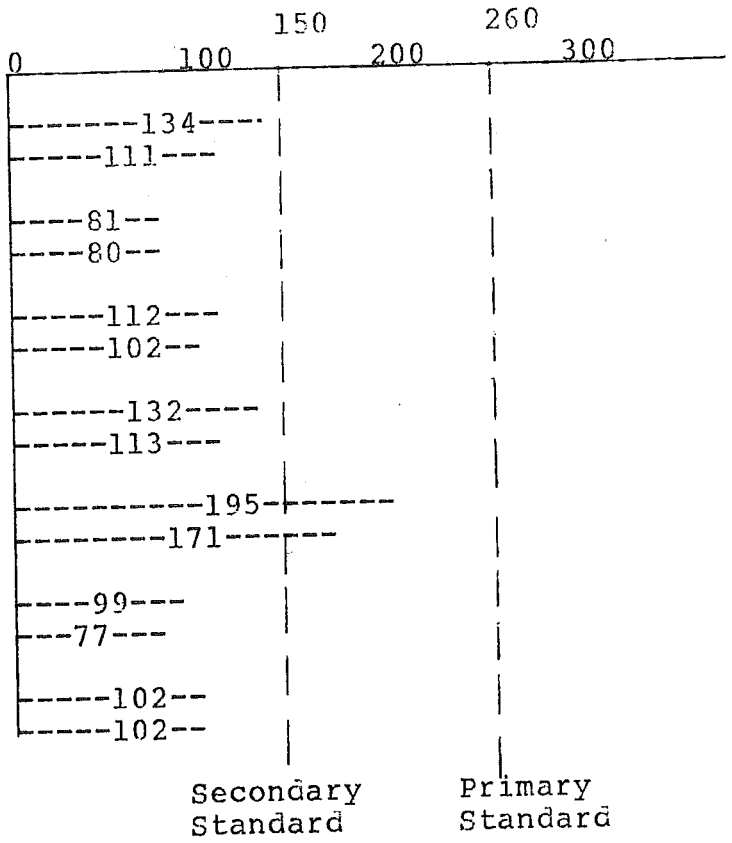
--TABLE 8, continued--

SITE	1ST HIGH	2ND HIGH
Hartford-123	2/21	7/2
Manchester-001	8/1	7/20
Meriden-002	3/4	2/21
Meriden-005	3/4	6/26
Middletown-003	2/21	7/20
Milford-002	2/21	3/4
Morris-001	5/24	7/20
Naugatuck-001	2/21	12/23
N. Britain-123	2/21	5/24
N. Haven-002	7/20	2/21
N. Haven-123	12/17	2/21
Norwalk-005	2/21	3/7
Norwich-001	2/21	3/4
Stamford-007	7/20	7/2
Stamford-123	2/21	6/2
Stratford-005	2/21	12/17



* Units in ug/m^3

SITE	1ST HIGH	2ND HIGH
Torrington-123	3/4	12/17
Voluntown-001	5/24	6/8
Wallingford-001	2/21	3/4
Waterbury-002	3/4	2/21
Waterbury-123	12/17	3/4
Waterford-001	7/20	3/16
Willimantic-002	2/21	3/10



* Units in ug/m^3

TABLE 9 SUMMARY OF THE STATISTICALLY PREDICTED NUMBER OF SITES EXCEEDING THE 24-HOUR TSP STANDARDS

YEAR	SITES WITH ≥ 2 DAYS EXCEEDING THE SECONDARY STANDARD (150 ug/m3) Number of Sites	% of Total Sites	SITES WITH ≥ 2 DAYS EXCEEDING THE PRIMARY STANDARD (260 ug/m3) 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
1979	22	63%	2	6%	35
1980	14	40%	0	0%	35

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 1
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	ANSONIA	0008	003	F	01

** METALS **

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0201	0.008	0.26	1.13	1.02	0.024	0.007	0.05	
SECOND		BDL	0.0193	0.007	0.25	0.71	0.52	0.019	0.008	0.02	0.64
THIRD		0.0001	0.0143	0.006	0.33	0.73	0.58	0.018	0.010	0.02	0.63
FOURTH		BDL	0.0519	0.011	0.43	0.67	0.56	0.018	0.014	0.04	1.31
YEAR AVG		0.0001	0.0244	0.008	0.31	0.82	0.68	0.020	0.009	0.03	0.81
COUNT		57	57	57	57	57	57	57	57	57	42

** WATER SOLUBLES ** | **BENZ SOL** | ** TSP **

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.30	5.46	0.11		9.40		75	15
SECOND	5.34	4.02	BDL		8.70		58	15
THIRD	2.18	9.41	0.11		9.10		53	16
FOURTH	1.90	6.03	0.14		7.20		48	11
YEAR AVG	3.25	6.30	0.09		8.71		59	
COUNT	57	57	57		57		57	

Table 10
Quarterly Chemical Characterization of Hi-Vol TSP, 1980

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	BERLIN	0028	C01	F	03

Table 10, Continued

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0013	0.003	0.29	0.34	0.28	0.009	0.002	0.05	
SECOND		BDL	0.0012	0.004	0.66	0.24	0.20	0.011	0.005	0.01	0.11
THIRD		0.0001	0.0010	0.003	0.40	0.26	0.19	0.009	0.004	0.01	0.04
FOURTH		BDL	0.0012	0.002	0.24	0.16	0.20	0.005	0.007	0.03	0.07
YEAR AVG		0.0001	0.0012	0.003	0.39	0.25	0.22	0.009	0.004	0.03	0.07
COUNT		56	56	56	56	56	56	56	56	56	41

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	BENZ SOL TOTAL 11103/91 UG/M3	TSP ARITH AV 11101/91 UG/M3	TSP APPROX SAMPLE COUNT
FIRST	3.34	5.20	0.10		9.50		35	15
SECOND	3.56	2.62	0.04		8.80		41	13
THIRD	1.89	5.89	0.10		8.80		34	15
FOURTH	1.88	3.52	0.06		8.00		23	13
YEAR AVG	2.66	4.40	0.08		8.80		33	
COUNT	56	56	56		56		56	

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 3
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	BRIDGEPORT	0060	001	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0028	0.004	0.23	0.59	0.67	0.017	0.004	0.04	
SECOND		BDL	0.0050	0.004	0.69	0.61	0.68	0.025	0.010	0.02	0.20
THIRD		0.0001	0.0036	0.006	0.48	0.92	0.83	0.033	0.010	0.02	0.46
FOURTH		BDL	0.0028	0.003	0.09	0.33	0.38	0.013	0.006	0.01	0.07
YEAR AVG		0.0001	0.0036	0.004	0.40	0.63	0.66	0.023	0.008	0.02	0.26
COUNT		29	29	29	29	29	29	29	29	29	22

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	4.41	5.39	0.12		9.50		57	7
SECOND	7.03	10.55	0.05		8.60		67	8
THIRD	2.23	7.15	0.11		8.80		63	8
FOURTH	2.80	7.76	0.02		8.70		25	6
YEAR AVG	4.20	7.79	0.08		8.89		55	
COUNT	29	29	29		29		29	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 4
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	BRIDGEPORT	0060	123	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0064	0.010	0.25	1.19	1.03	0.033	0.009	0.05	
SECOND		BDL	0.0035	0.012	0.15	1.41	0.69	0.046	0.015	0.02	0.18
THIRD		0.0001	0.0034	0.008	0.20	1.51	0.71	0.040	0.019	0.03	0.23
FOURTH		BDL	0.0027	0.004	0.12	0.71	0.60	0.024	0.009	0.03	0.09
YEAR AVG		0.0001	0.0040	0.009	0.18	1.22	0.76	0.036	0.013	0.03	0.17
COUNT		60	60	60	60	60	60	60	60	60	45

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	5.04	5.07	0.18		9.60		75	15
SECOND	5.52	7.66	0.04		8.50		72	15
THIRD	2.04	8.17	0.08		8.80		74	16
FOURTH	2.77	4.61	0.05		7.80		45	14
YEAR AVG	3.83	6.44	0.09		8.69		67	
COUNT	60	60	60		60		60	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 5
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	BRISTOL	0070	C01	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0038	0.005	0.17	0.67	0.59	0.017	0.005	0.02	
SECOND		BDL	0.0026	0.004	0.10	0.39	0.32	0.013	0.003	0.01	0.13
THIRD		0.0001	0.0072	0.003	0.11	0.54	0.41	0.015	0.005	0.01	0.09
FOURTH		BDL	0.0273	0.003	0.08	0.33	0.41	0.011	0.004	0.02	0.09
YEAR AVG		0.0001	0.0102	0.004	0.11	0.48	0.43	0.014	0.004	0.01	0.10
COUNT		57	57	57	57	57	57	57	57	57	44

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	4.08	1.90	0.11		9.50		53	13
SECOND	5.35	7.39	BDL		8.60		46	15
THIRD	1.42	4.70	0.12		9.00		47	15
FOURTH	3.04	7.51	0.16		7.80		34	14
YEAR AVG	3.46	5.46	0.10		8.71		45	
COUNT	57	57	57		57		57	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	BURLINGTON	0085	C01	F	03

** METALS **

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0016	0.001	0.13	0.27	0.19	0.008	0.001	0.03	
SECOND		BDL	0.0011	0.004	0.10	0.21	0.13	0.009	0.002	0.01	0.11
THIRD		0.0001	0.0008	0.002	0.26	0.29	0.15	0.008	0.003	0.01	0.03
FOURTH		BDL	0.0007	0.001	0.26	0.10	0.12	0.004	0.002	0.01	0.02
YEAR AVG		0.0001	0.0010	0.002	0.19	0.22	0.15	0.007	0.002	0.01	0.05
COUNT		59	59	59	59	59	59	59	59	59	45

** WATER SOLUBLES ** | **BENZ SOL** | ** TSP **

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.59	1.34	0.08		9.70		30	14
SECOND	3.20	5.70	BDL		8.80		36	15
THIRD	0.87	7.85	0.11		9.20		34	16
FOURTH	1.30	4.15	0.03		8.30		18	14
YEAR AVG	2.21	4.88	0.06		9.00		30	
COUNT	59	59	59		59		59	

Table 10, Continued

AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	DANBURY	0175	123	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0014	0.003	0.13	1.01	0.62	0.027	0.002	0.02	
SECOND		BDL	0.0013	0.005	0.26	0.64	0.31	0.017	0.004	0.01	0.14
THIRD		0.0001	0.0009	0.003	0.77	0.67	0.49	0.015	0.007	0.02	0.04
FOURTH		BDL	0.0010	0.003	0.31	0.78	0.65	0.018	0.008	0.03	0.06
YEAR AVG		0.0001	0.0011	0.003	0.37	0.78	0.52	0.019	0.005	0.02	0.08
COUNT		58	58	58	58	58	58	58	58	58	43

WATER SOLUBLES | **BENZ SOL** | **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.26	2.32	0.11		9.70		63	15
SECOND	3.91	5.72	0.04		8.80		51	13
THIRD	1.54	10.60	0.17		9.30		54	15
FOURTH	2.51	4.77	0.15		8.00		51	15
YEAR AVG	2.77	5.86	0.12		8.96		55	
COUNT	58	58	58		58		58	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 8
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	ENFIELD	0250	123	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0015	0.003	0.33	0.45	0.46	0.013	0.003	0.05	
SECOND		BDL	0.0031	0.006	0.31	0.44	0.29	0.012	0.006	0.01	0.13
THIRD		0.0001	0.0008	0.004	0.21	0.45	0.36	0.012	0.005	0.02	0.05
FOURTH		BDL	0.0013	0.003	0.16	0.25	0.48	0.009	0.007	0.05	0.19
YEAR AVG		0.0001	0.0016	0.004	0.25	0.40	0.40	0.012	0.005	0.03	0.12
COUNT		59	59	59	59	59	59	59	59	59	44

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.47	2.65	0.08		9.50		44	15
SECOND	4.31	2.60	0.01		9.30		43	14
THIRD	2.48	3.76	0.16		9.40		40	16
FOURTH	1.15	2.70	0.10		7.90		35	14
YEAR AVG	2.85	4.31	0.09		9.05		41	
COUNT	59	59	59		59		59	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 9
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	GREENWICH	0330	004	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0017	0.002	0.24	0.39	0.28	0.013	0.003	0.03	
SECOND		BDL	0.0014	0.004	0.07	0.31	0.22	0.012	0.003	0.01	0.09
THIRD		0.0001	0.0009	0.004	0.15	0.60	0.31	0.016	0.007	0.02	0.05
FOURTH		BDL	0.0009	0.002	0.21	0.22	0.21	0.007	0.006	0.02	0.04
YEAR AVG		0.0001	0.0012	0.003	0.17	0.38	0.26	0.012	0.005	0.02	0.06
COUNT		60	60	60	60	60	60	60	60	60	46

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.89	2.98	0.05		9.50		38	14
SECOND	3.84	6.71	0.04		9.30		43	15
THIRD	2.30	6.11	0.12		9.30		55	16
FOURTH	0.67	2.69	0.07		9.00		23	15
YEAR AVG	2.65	4.67	0.07		9.27		40	
COUNT	60	60	60		60		60	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 10
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	GREENWICH	0330	C08	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0017	0.002	0.13	0.89	0.55	0.017	0.004	0.02	
SECOND		BDL	0.0014	0.005	0.16	0.72	0.44	0.016	0.004	0.01	0.10
THIRD		0.0001	0.0011	0.004	0.23	1.06	0.57	0.020	0.008	0.02	0.07
FOURTH		BDL	0.0009	0.003	0.14	0.54	0.48	0.014	0.006	0.03	0.06
YEAR AVG		0.0001	0.0013	0.003	0.17	0.80	0.51	0.017	0.006	0.02	0.08
COUNT		58	58	58	58	58	58	58	58	58	44

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	2.85	2.43	0.08		9.60		64	14
SECOND	4.83	5.79	0.02		9.20		58	14
THIRD	2.72	9.33	0.16		9.30		67	15
FOURTH	2.57	3.91	0.07		8.80		41	15
YEAR AVG	3.22	5.41	0.08		9.22		57	
COUNT	58	58	58		58		58	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	GREENWICH	0330	C16	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST											
SECOND		BDL	0.0017	0.007	0.20	0.62	0.34	0.015	0.006	0.01	0.15
THIRD		0.0001	0.0011	0.002	0.88	0.59	0.43	0.014	0.010	0.02	0.06
FOURTH											
YEAR AVG		0.0001	0.0015	0.005	0.46	0.61	0.37	0.015	0.008	0.01	0.11
COUNT		18	18	18	18	18	18	18	18	18	18

WATER SOLUBLES | **BENZ SOL** | **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST								
SECOND	4.53	3.73	0.03		9.30		59	11
THIRD	2.75	9.91	0.05		9.60		65	7
FOURTH								
YEAR AVG	3.84	6.13	0.04		9.42		61	
COUNT	18	18	18		18		18	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	HADDAM	0380	C02	F	02

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0009	0.002	0.07	0.28	0.22	0.010	0.003	0.01	
SECOND		BDL	0.0007	0.003	0.18	0.15	0.19	0.008	0.002	0.01	0.05
THIRD		0.0001	0.0007	0.003	0.29	0.34	0.22	0.009	0.003	0.01	0.02
FOURTH		BDL	0.0009	0.002	0.18	0.15	0.20	0.006	0.009	0.03	0.05
YEAR AVG		0.0001	0.0008	0.002	0.18	0.23	0.21	0.008	0.004	0.01	0.04
COUNT		60	60	60	60	60	60	60	60	60	45

WATER SOLUBLES | **BENZ SOL** | **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	2.73	1.65	0.08		9.70		34	15
SECOND	3.53	5.74	BDL		9.50		41	15
THIRD	1.96	8.27	0.11		9.50		36	15
FOURTH	0.71	3.68	0.10		8.00		28	15
YEAR AVG	2.23	4.83	0.07		9.17		35	
COUNT	60	60	60		60		60	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	HARTFORD	0420	C03	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0017	0.004	0.23	0.82	0.15	0.018	0.005	0.05	
SECOND		BDL	0.0016	0.003	0.18	0.69	0.51	0.017	0.005	0.01	0.07
THIRD		0.0001	0.0018	0.005	0.24	0.92	0.60	0.021	0.008	0.02	0.09
FOURTH		BDL	0.0024	0.006	0.16	0.57	0.67	0.014	0.012	0.05	0.12
YEAR AVG		0.0001	0.0019	0.004	0.20	0.76	0.48	0.018	0.007	0.03	0.09
COUNT		60	60	60	60	60	60	60	60	60	45

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	2.32	2.75	0.08		9.50		64	15
SECOND	5.13	4.08	0.01		9.40		64	15
THIRD	3.03	10.20	0.19		9.40		61	16
FOURTH	1.57	4.80	0.07		8.20		50	14
YEAR AVG	3.04	5.55	0.09		9.14		60	
COUNT	60	60	60		60		60	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	HARTFORD	0420	123	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0015	0.004	0.17	0.73	0.56	0.020	0.005	0.05	
SECOND		BDL	0.0013	0.004	0.19	0.74	0.50	0.019	0.005	0.02	0.08
THIRD		0.0001	0.0014	0.005	0.16	0.83	0.55	0.018	0.007	0.02	0.07
FOURTH		BDL	0.0033	0.007	0.07	0.57	0.67	0.012	0.011	0.04	0.06
YEAR AVG		0.0001	0.0018	0.005	0.15	0.73	0.56	0.018	0.007	0.03	0.07
COUNT		57	57	57	57	57	57	57	57	57	42

WATER SOLUBLES | **BENZ SOL** | **TSP** | |

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	6.43	3.37	0.16		9.50		64	15
SECOND	4.00	3.97	BDL		9.60		66	15
THIRD	1.72	7.90	0.19		9.20		58	15
FOURTH	1.79	4.61	0.15		8.70		48	12
YEAR AVG	3.57	4.98	0.12		9.28		60	
COUNT	57	57	57		57		57	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 15
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	LTCH CTY(MORRIS DAM)	0478	C01	F	03

** METALS **

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0008	BDL	0.19	0.17	0.23	0.005	0.002	0.01	
SECOND		BDL	0.0010	0.001	0.37	0.15	0.15	0.006	0.002	0.01	0.07
THIRD		0.0001	0.0009	0.001	0.39	0.21	0.17	0.006	0.004	BDL	0.03
FOURTH		BDL	0.0006	0.003	0.38	0.22	0.16	0.006	0.002	0.01	0.02
YEAR AVG		0.0001	0.0008	0.001	0.34	0.19	0.18	0.006	0.003	0.01	0.04
COUNT		54	54	54	54	54	54	54	54	54	42

** WATER SOLUBLES ** | **BENZ SOL** | ** TSP ** | **

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	2.82	3.87	0.01		9.70		32	12
SECOND	2.76	3.49	BDL		9.60		36	13
THIRD	0.98	7.96	0.12		9.50		34	14
FOURTH	2.54	4.40	0.11		8.80		22	15
YEAR AVG	2.25	4.99	0.07		9.37		31	
COUNT	54	54	54		54		54	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 16
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	MANCHESTER	0510	C01	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0011	0.001	0.11	0.35	0.39	0.010	0.003	0.02	
SECOND		BDL	0.0009	0.002	0.09	0.29	0.30	0.010	0.004	0.01	0.07
THIRD		0.0001	0.0010	0.004	0.12	0.47	0.39	0.013	0.006	0.02	0.04
FOURTH		BDL	0.0010	0.004	0.07	0.28	0.42	0.009	0.006	0.04	0.05
YEAR AVG		0.0001	0.0010	0.003	0.10	0.35	0.37	0.011	0.005	0.02	0.05
COUNT		59	59	59	59	59	59	59	59	59	45

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPRCX SAMPLE COUNT
FIRST	2.57	3.35	0.08		9.80		38	14
SECOND	2.73	4.52	0.01		9.60		46	15
THIRD	1.66	8.19	0.12		8.90		45	16
FOURTH	2.08	5.83	0.19		8.50		35	14
YEAR AVG	2.25	5.55	0.10		9.20		41	
COUNT	59	59	59		59		59	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	MERIDEN	0540	002	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0024	0.004	0.10	0.77	0.63	0.020	0.007	0.04	
SECOND		BDL	0.0020	0.002	0.08	0.49	0.42	0.016	0.007	0.01	0.28
THIRD		0.0001	0.0011	0.003	0.10	0.70	0.52	0.017	0.009	0.02	0.21
FOURTH		BDL	0.0015	0.003	0.14	0.48	0.56	0.013	0.011	0.04	0.30
YEAR AVG		0.0001	0.0017	0.003	0.11	0.61	0.53	0.016	0.009	0.03	0.26
COUNT		59	59	59	59	59	59	59	59	59	46

WATER SOLUBLES | **BENZ SOL** | **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.11	1.15	0.09		9.60		67	13
SECOND	3.15	8.28	0.04		9.60		58	15
THIRD	2.01	11.48	0.13		9.30		54	16
FOURTH	0.87	3.96	0.07		7.70		45	15
YEAR AVG	2.25	6.48	0.08		9.04		56	
COUNT	59	59	59		59		59	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 18
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	MERIDEN	0540	C05	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0039	0.005	0.21	0.80	0.55	0.026	0.006	0.02	
SECOND		BDL	0.0038	0.005	0.21	0.83	0.41	0.028	0.009	0.01	4.15
THIRD		0.0001	0.0027	0.003	0.14	0.92	0.41	0.026	0.010	0.02	2.43
FOURTH		BDL	0.0024	0.004	0.14	0.55	0.45	0.014	0.009	0.04	1.07
YEAR AVG		0.0001	0.0033	0.004	0.18	0.80	0.45	0.025	0.008	0.02	2.77
COUNT		55	55	55	55	55	55	55	55	55	40

WATER SOLUBLES

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS
FIRST	3.93	4.40	0.22		9.70
SECOND	2.91	4.79	BDL		9.60
THIRD	1.50	7.95	0.13		9.30
FOURTH	1.31	4.55	0.15		7.90
YEAR AVG	2.52	5.56	0.12		9.26
COUNT	55	55	55		55

BENZ SOL

QUARTER	TOTAL 11103/91 UG/M3

TSP

QUARTER	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
	70	15
	70	15
	60	16
	44	9
	63	
	55	

Table 10, Continued

AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	MIDDLETOWN	0570	003	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0016	0.004	0.08	0.50	0.58	0.016	0.003	0.03	
SECOND		BDL	0.0016	0.002	0.17	0.51	0.44	0.016	0.005	0.02	0.09
THIRD		0.0001	0.0014	0.005	0.33	0.84	0.49	0.020	0.007	0.02	0.06
FOURTH		BDL	0.0020	0.004	0.20	0.43	0.54	0.013	0.008	0.04	0.09
YEAR AVG		0.0001	0.0017	0.004	0.20	0.57	0.51	0.016	0.006	0.03	0.08
COUNT		59	59	59	59	59	59	59	59	59	45

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	2.97	4.14	0.10		9.70		48	14
SECOND	3.35	4.34	0.02		9.70		52	15
THIRD	1.39	6.22	0.13		9.00		55	15
FOURTH	0.72	4.09	0.08		8.20		44	15
YEAR AVG	2.09	4.71	0.08		9.14		50	
COUNT	59	59	59		59		59	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 20
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	MILFORD	0590	002	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0032	0.011	0.13	0.57	0.59	0.019	0.014	0.03	
SECOND		BDL	0.0021	0.002	0.21	0.43	0.41	0.011	0.016	0.01	0.11
THIRD		0.0001	0.0013	0.002	0.21	0.69	0.49	0.015	0.008	0.02	0.06
FOURTH		BDL	0.0015	0.004	0.13	0.46	0.35	0.011	0.029	0.07	0.06
YEAR AVG		0.0001	0.0020	0.005	0.17	0.54	0.46	0.014	0.016	0.03	0.08
COUNT		59	59	59	59	59	59	59	59	59	44

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	BENZ SOL TOTAL 11103/91 UG/M3	TSP ARITH AV 11101/91 UG/M3	TSP APPROX SAMPLE COUNT
FIRST	3.78	6.26	0.05		9.50		56	15
SECOND	4.08	3.49	0.05		9.60		50	15
THIRD	1.00	7.88	0.13		9.30		51	16
FOURTH	1.41	5.31	0.07		7.80		35	13
YEAR AVG	2.58	5.79	0.08		9.10		48	
COUNT	59	59	59		59		59	

WATER SOLUBLES

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 21
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	NAUGATUCK	0660	C01	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0030	0.005	0.31	1.00	0.66	0.030	0.006	0.03	
SECOND		BDL	0.0023	0.003	0.34	0.66	0.43	0.020	0.006	0.01	0.11
THIRD		0.0001	0.0023	0.003	0.31	0.68	0.47	0.022	0.006	0.01	0.06
FOURTH		BDL	0.0021	0.004	0.23	0.55	0.68	0.019	0.007	0.02	0.12
YEAR AVG		0.0001	0.0024	0.004	0.30	0.72	0.56	0.023	0.006	0.02	0.10
COUNT		55	55	55	55	55	55	55	55	55	42

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.44	6.06	0.11		9.50		65	13
SECOND	3.17	7.88	0.02		9.70		49	13
THIRD	1.41	8.01	0.07		9.50		42	14
FOURTH	1.04	4.16	0.11		8.60		42	15
YEAR AVG	2.20	6.47	0.08		9.30		49	
COUNT	55	55	55		55		55	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	NEW BRITAIN	0680	123	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0012	0.008	0.16	0.44	0.56	0.013	0.006	0.04	
SECOND		BDL	0.0012	0.002	0.16	0.39	0.41	0.011	0.005	0.01	0.08
THIRD		0.0001	0.0009	0.003	0.27	0.56	0.48	0.015	0.005	0.02	0.05
FOURTH		BDL	0.0015	0.005	0.17	0.52	0.54	0.011	0.011	0.02	0.08
YEAR AVG		0.0001	0.0012	0.004	0.19	0.48	0.50	0.013	0.007	0.02	0.07
COUNT		54	54	54	54	54	54	54	54	54	41

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	1.97	5.38	0.03		9.70		45	13
SECOND	3.40	7.88	0.02		9.60		48	14
THIRD	0.53	8.47	0.10		9.40		47	14
FOURTH	1.41	3.92	0.14		8.80		39	13
YEAR AVG	1.83	6.48	0.07		9.38		45	
COUNT	54	54	54		54		54	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	NEW HAVEN	0700	C02	F	01

---------- METALS ----------

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0018	0.004	0.27	1.31	1.20	0.017	0.007	0.04	
SECOND		BDL	0.0012	0.006	0.21	0.72	0.59	0.019	0.007	0.02	0.15
THIRD		0.0001	0.0011	0.003	0.39	1.12	0.72	0.027	0.013	0.04	0.09
FOURTH		BDL	0.0014	0.005	0.18	0.73	0.70	0.017	0.011	0.05	0.10
YEAR AVG		0.0001	0.0014	0.005	0.26	0.96	0.80	0.020	0.009	0.04	0.11
COUNT		52	52	52	52	52	52	52	52	52	39

- WATER SOLUBLES - **BENZ SOL** **- TSP -**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPRCX SAMPLE COUNT
FIRST	3.61	5.98	0.10		9.60		65	13
SECOND	2.72	8.13	BDL		9.80		55	14
THIRD	2.99	11.47	0.14		9.50		71	12
FOURTH	1.85	4.20	0.22		8.70		45	13
YEAR AVG	2.79	7.38	0.11		9.41		59	
COUNT	52	52	52		52		52	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	NEW HAVEN	0700	123	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0013	0.004	0.15	0.91	0.68	0.022	0.007	0.07	
SECOND		BDL	0.0022	0.005	0.26	1.08	0.85	0.024	0.009	0.02	0.15
THIRD		0.0001	0.0009	0.003	0.22	0.99	0.78	0.019	0.012	0.03	0.07
FOURTH		BDL	0.0019	0.004	0.22	0.69	0.83	0.014	0.014	0.04	0.02
YEAR AVG		0.0001	0.0016	0.004	0.21	0.92	0.79	0.020	0.010	0.04	0.08
COUNT		28	28	28	28	28	28	28	28	28	21

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12134/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPRCX SAMPLE COUNT
FIRST	3.55	7.11	0.05		9.60		67	7
SECOND	3.49	7.27	0.02		9.60		77	8
THIRD	0.68	11.09	0.22		9.40		71	6
FOURTH	3.18	6.49	0.30		8.40		48	7
YEAR AVG	2.83	7.85	0.14		9.26		66	
COUNT	28	28	28		28		28	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	NORWALK	0820	005	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0017	0.003	0.21	0.84	0.71	0.024	0.004	0.03	
SECOND		BDL	0.0016	0.003	0.33	0.55	0.49	0.014	0.005	0.01	0.12
THIRD		0.0001	0.0013	0.002	0.38	0.79	0.62	0.016	0.007	0.02	0.09
FOURTH		BDL	0.0014	0.004	0.41	1.14	0.55	0.022	0.009	0.03	0.11
YEAR AVG		0.0001	0.0015	0.003	0.33	0.82	0.59	0.019	0.006	0.02	0.11
COUNT		58	58	58	58	58	58	58	58	58	44

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.88	7.12	0.16		9.70		69	14
SECOND	3.78	5.78	BDL		9.80		55	15
THIRD	1.53	8.73	0.04		9.50		41	15
FOURTH	1.82	5.20	0.15		8.50		55	14
YEAR AVG	2.75	6.73	0.09		9.38		55	
COUNT	58	58	58		58		58	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	NORWICH	0840	C01	F	01

** METALS **

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0010	0.002	0.08	0.37	0.40	0.008	0.003	0.03	
SECOND		BDL	0.0014	0.003	0.18	0.37	0.26	0.009	0.005	0.02	0.10
THIRD		0.0001	0.0008	0.002	0.10	0.64	0.31	0.011	0.007	0.02	0.03
FOURTH		BDL	0.0007	0.003	0.09	0.47	0.34	0.009	0.008	0.04	0.05
YEAR AVG		0.0001	0.0010	0.002	0.11	0.47	0.33	0.009	0.006	0.03	0.06
COUNT		60	60	60	60	60	60	60	60	60	46

** WATER SOLUBLES **

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS
FIRST	4.65	5.78	0.08		9.60
SECOND	4.23	5.16	BDL		9.80
THIRD	1.98	11.30	0.12		9.40
FOURTH	1.80	4.51	0.06		8.60
YEAR AVG	3.12	6.78	0.07		9.35
COUNT	60	60	60		60

BENZ SOL

QUARTER	TOTAL 11103/91 UG/M3
FIRST	
SECOND	
THIRD	
FOURTH	
YEAR AVG	
COUNT	

** TSP **

QUARTER	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	54	14
SECOND	51	15
THIRD	47	16
FOURTH	41	15
YEAR AVG	48	
COUNT	60	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	STAMFORD	1080	C07	F	01

---------- METALS ----------

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0024	0.003	0.43	0.44	0.43	0.015	0.005	0.02	
SECOND		BDL	0.0037	0.004	0.30	0.58	0.37	0.022	0.006	0.01	0.30
THIRD		0.0001	0.0017	0.003	0.35	0.84	0.44	0.021	0.008	0.02	0.10
FOURTH		BDL	0.0024	0.004	0.22	0.55	0.40	0.020	0.010	0.05	0.18
YEAR AVG		0.0001	0.0026	0.004	0.32	0.61	0.41	0.020	0.007	0.03	0.19
COUNT		59	59	59	59	59	59	59	59	59	45

---------- WATER SOLUBLES ----------

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS
FIRST	6.77	4.64	0.04		9.60
SECOND	6.54	6.48	0.01		9.70
THIRD	2.51	11.32	0.17		9.20
FOURTH	3.86	5.45	0.15		9.40
YEAR AVG	4.89	7.01	0.09		9.47
COUNT	59	59	59		59

BENZ SOL

QUARTER	TOTAL 11103/91 UG/M3

- TSP -

QUARTER	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
	57	14
	59	15
	69	15
	45	15
	58	
	59	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	STAMFORD	1080	123	F	01

---------- METALS ----------

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0019	0.005	0.19	0.60	0.57	0.019	0.004	0.04	
SECOND		BDL	0.0021	0.005	0.26	0.62	0.48	0.017	0.004	0.02	0.12
THIRD		0.0001	0.0014	0.002	0.33	0.70	0.56	0.017	0.007	0.02	0.07
FOURTH		BDL	0.0010	0.003	0.26	0.41	0.49	0.011	0.010	0.04	0.06
YEAR AVG		0.0001	0.0016	0.004	0.26	0.58	0.52	0.016	0.006	0.03	0.08
COUNT		58	58	58	58	58	58	58	58	58	44

---------- WATER SOLUBLES ---------- **BENZ SOL** **- TSP -** **----------**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	4.06	5.01	0.08		9.60		65	14
SECOND	5.79	7.14	0.03		9.70		62	14
THIRD	1.87	9.98	0.15		9.00		57	15
FOURTH	1.35	2.83	0.11		8.60		39	15
YEAR AVG	3.21	6.25	0.09		9.21		55	
COUNT	58	58	58		58		58	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 29
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	STRATFORD	1110	C05	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0031	0.005	0.26	0.63	0.75	0.017	0.004	0.02	
SECOND		BDL	0.0021	0.004	0.15	0.62	0.54	0.016	0.006	0.01	0.12
THIRD		0.0001	0.0016	0.003	0.25	0.64	0.60	0.015	0.008	0.02	0.07
FOURTH		BDL	0.0013	0.004	0.23	0.49	0.49	0.012	0.006	0.03	0.62
YEAR AVG		0.0001	0.0020	0.004	0.22	0.60	0.60	0.015	0.006	0.02	0.25
COUNT		58	58	58	58	58	58	58	58	58	43

WATER SOLUBLES **BENZ SOL** **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	4.89	4.79	0.04		9.80		64	15
SECOND	4.46	4.68	BDL		9.90		53	15
THIRD	2.09	9.86	0.17		9.20		56	15
FOURTH	2.12	3.80	0.07		9.40		41	13
YEAR AVG	3.43	5.85	0.07		9.58		54	
COUNT	58	58	58		58		58	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 30
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	TORRINGTON	1160	123	F	01

Table 10, Continued

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
					METALS						
FIRST		BDL	0.0010	0.005	0.19	0.75	0.66	0.017	0.001	0.01	
SECOND		BDL	0.0009	0.004	0.21	0.77	0.40	0.017	0.004	0.01	0.12
THIRD		0.0001	0.0009	0.004	0.26	0.63	0.42	0.014	0.004	0.01	0.05
FOURTH		BDL	0.0009	0.005	0.19	0.75	0.67	0.015	0.006	0.03	0.69
YEAR AVG		0.0001	0.0009	0.005	0.21	0.72	0.54	0.016	0.004	0.02	0.29
COUNT		59	59	59	59	59	59	59	59	59	44

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	BENZ SOL TOTAL 11103/91 UG/M3	TSP ARITH AV 11101/91 UG/M3	TSP APPROX SAMPLE COUNT
	WATER SOLUBLES					BENZ SOL	TSP	
FIRST	2.87	3.69	0.02		9.60		66	15
SECOND	3.01	4.08	BDL		9.90		63	14
THIRD	1.40	9.70	0.07		9.30		49	15
FOURTH	1.78	4.23	0.10		9.50		54	15
YEAR AVG	2.25	5.45	0.05		9.57		58	
COUNT	59	59	59		59		59	

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	VOLUNTOWN	1205	C01	F	03

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0006	0.002	0.14	0.12	0.13	0.004	0.002	BDL	
SECOND		BDL	0.0016	0.002	0.15	0.11	0.11	0.006	0.003	0.01	0.09
THIRD		0.0001	0.0005	0.002	0.14	0.27	0.11	0.006	0.003	0.01	0.02
FOURTH		BDL	0.0005	0.001	0.05	0.07	0.08	0.003	0.003	0.02	0.31
YEAR AVG		0.0001	0.0008	0.002	0.12	0.14	0.11	0.005	0.003	0.01	0.14
COUNT		60	60	60	60	60	60	60	60	60	45

WATER SOLUBLES | **BENZ SOL** | **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.52	1.34	0.02		9.70		34	15
SECOND	2.87	2.35	BDL		9.90		36	15
THIRD	2.10	11.95	0.07		9.80		32	15
FOURTH	2.24	4.57	0.10		9.50		17	15
YEAR AVG	2.68	5.05	0.05		9.72		30	
COUNT	60	60	60		60		60	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 32
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	WALLINGFORD	1210	C01	F	01

------------------**---------**---------**---------** METALS **---------**---------**---------**---------**---------**

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0013	0.006	0.14	0.80	0.66	0.031	0.007	0.01	
SECOND		BDL	0.0001	0.003	0.14	0.39	0.38	0.012	0.006	0.01	0.10
THIRD		0.0001	0.0008	0.003	0.19	0.64	0.44	0.014	0.009	0.03	0.06
FOURTH		BDL	0.0010	0.002	0.32	0.43	0.55	0.011	0.009	0.04	1.23
YEAR AVG		0.0001	0.0008	0.004	0.19	0.58	0.50	0.018	0.008	0.02	0.37
COUNT		55	55	55	55	55	55	55	55	55	40

------------------**- WATER SOLUBLES -**---------** **BENZ SOL** **- TSP -** **---------**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	5.38	3.35	0.05		9.80		61	15
SECOND	5.22	3.16	BDL		10.00		43	14
THIRD	1.46	9.28	0.16		9.00		48	16
FOURTH	2.97	5.04	0.06		9.40		48	10
YEAR AVG	3.76	5.33	0.07		9.55		50	
COUNT	55	55	55		55		55	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 33
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	WATERBURY	1240	002	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0027	0.016	0.38	0.94	0.62	0.030	0.007	0.02	
SECOND		BDL	0.0125	0.018	0.28	1.24	0.41	0.036	0.027	0.01	0.32
THIRD		0.0001	0.0049	0.008	0.61	0.77	0.44	0.019	0.013	0.02	0.13
FOURTH		BDL	0.0069	0.008	0.43	0.52	0.55	0.015	0.012	0.02	0.19
YEAR AVG		0.0001	0.0069	0.012	0.43	0.86	0.50	0.025	0.015	0.02	0.21
COUNT		59	59	59	59	59	59	59	59	59	46

WATER SOLUBLES

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS
FIRST	3.11	2.61	0.02		9.80
SECOND	2.80	6.89	BDL		10.00
THIRD	1.91	9.56	0.16		9.40
FOURTH	1.25	4.23	0.16		9.20
YEAR AVG	2.23	5.99	0.09		9.59
COUNT	59	59	59		59

BENZ SOL

QUARTER	TOTAL 11103/91 UG/M3

TSP

QUARTER	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
	62	13
	66	15
	56	16
	41	15
	56	
	59	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	WATERBURY	1240	123	F	01

---------- METALS ----------

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0030	0.022	0.20	1.11	1.07	0.02a	0.009	0.02	
SECOND		BDL	0.0036	0.014	0.19	0.98	0.92	0.025	0.010	0.02	0.25
THIRD		0.0001	0.0042	0.014	0.20	0.89	0.78	0.019	0.007	0.02	0.33
FOURTH		BDL	0.0022	0.017	0.23	0.63	0.92	0.016	0.009	0.03	0.27
YEAR AVG		0.0001	0.0033	0.017	0.20	0.90	0.92	0.022	0.009	0.02	0.28
COUNT		30	30	30	30	30	30	30	30	30	23

---------- WATER SOLUBLES ---------- **BENZ SOL** **- TSP -** **----------**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.62	4.05	0.02		9.70		77	7
SECOND	3.59	8.99	BDL		9.90		72	8
THIRD	1.04	8.88	0.20		9.20		57	8
FOURTH	2.06	0.53	0.29		9.20		52	7
YEAR AVG	2.56	7.23	0.13		9.50		65	
COUNT	30	30	30		30		30	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/13/1982 PAGE 35
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	WATERFORD	1260	001	F	02

** METALS **

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0009	0.003	0.11	0.23	0.16	0.007	0.002	0.01	
SECOND		BDL	0.0009	0.004	0.09	0.23	0.15	0.010	0.003	0.01	0.08
THIRD		0.0001	0.0007	0.006	0.15	0.68	0.22	0.014	0.006	0.02	0.06
FOURTH		BDL	0.0009	0.002	0.08	0.18	0.13	0.005	0.005	0.02	0.03
YEAR AVG		0.0001	0.0008	0.004	0.11	0.34	0.17	0.009	0.004	0.02	0.06
COUNT		57	57	57	57	57	57	57	57	57	43

** WATER SOLUBLES ** **BENZ SOL** ** TSP **

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	3.46	2.18	0.02		9.80		33	14
SECOND	4.61	3.26	BDL		9.90		41	14
THIRD	1.66	6.94	0.15		9.40		51	15
FOURTH	1.52	3.10	0.03		9.10		24	14
YEAR AVG	2.79	3.92	0.05		9.55		37	
COUNT	57	57	57		57		57	

Table 10, Continued

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	WILLIMANTIC	1410	002	F	01

METALS

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
FIRST		BDL	0.0010	0.004	0.10	0.66	0.43	0.014	0.007	0.07	
SECOND		BDL	0.0007	0.009	0.27	0.40	0.23	0.012	0.007	0.02	0.12
THIRD		0.0001	0.0005	0.002	0.43	0.45	0.31	0.009	0.004	0.02	0.03
FOURTH		BDL	0.0006	0.002	0.17	0.42	0.35	0.009	0.011	0.06	0.03
YEAR AVG		0.0001	0.0007	0.004	0.24	0.48	0.33	0.011	0.007	0.04	0.06
COUNT		60	60	60	60	60	60	60	60	60	45

WATER SOLUBLES | **BENZ SOL** | **TSP**

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	4.73	5.81	0.02		9.80		61	15
SECOND	3.85	3.87	0.01		9.90		47	15
THIRD	1.52	4.78	0.07		9.40		40	15
FOURTH	2.19	4.27	0.03		9.30		37	15
YEAR AVG	3.07	4.68	0.03		9.60		46	
COUNT	60	60	60		60		60	

Table 10, Continued

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 05/14/1982 PAGE 1
AIR COMPLIANCE MONITORING LO VOL TSP DATA EDIT

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	MANSFIELD	0520	001	F	01

Table 11
Monthly Chemical Characterization of Lo-Vol TSP, 1980

MONTH	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
JANUARY		BDL	0.0005	0.002	0.01	0.36	0.18	0.009	0.002	0.02	
FEBRUARY		BDL	0.0010	0.003	0.01	0.48	0.19	0.011	0.007	0.03	0.05
MARCH		BDL	0.0003	0.003	0.01	0.27	0.09	0.008	0.001	BDL	
APRIL		BDL	0.0006	0.006	BDL	0.33	0.24	0.010	0.006	0.02	0.10
MAY		BDL	0.0002	0.002	BDL	0.24	0.12	0.008	0.002	0.01	0.05
JUNE		BDL	0.0003	0.002	BDL	0.20	0.09	0.006	0.003	BDL	0.04
JULY		BDL	0.0006	0.001	0.01	0.34	0.16	0.009	0.005	0.03	0.05
AUGUST		BDL	0.0005	0.001	BDL	0.24	0.13	0.006	0.004	0.02	0.02
SEPTEMBER		BDL	0.0005	0.001	BDL	0.42	0.17	0.009	0.005	0.02	0.03
OCTOBER		BDL	0.0007	0.002	0.01	0.23	0.18	0.006	0.004	0.03	0.04
NOVEMBER		BDL	0.0007	0.002	0.01	0.22	0.18	0.006	0.005	0.03	0.05
DECEMBER		BDL	0.0006	0.002	0.01	0.29	0.16	0.006	0.006	0.03	0.04
YEAR AVG		0.0000	0.0005	0.002	0.01	0.30	0.16	0.008	0.004	0.02	0.05
COUNT		12	12	12	12	12	12	12	12	12	10

MONTH	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	BENZ SOL TOTAL 11103/91 UG/M3	TSP ARITH AV 11101/00 UG/M3	TSP APPROX SAMPLE COUNT
JANUARY	1.44	4.65	0.06		9.60		39	1
FEBRUARY	1.41	3.38	0.01		9.50		44	1
MARCH	0.93	1.36	0.01		9.60		19	1
APRIL	2.19	11.11	0.01		9.70		71	1
MAY	1.31	4.50	BDL		9.80		49	1
JUNE	1.49	5.34	BDL		9.80		38	1
JULY	1.73	5.52	0.05		9.60		45	1
AUGUST	0.28	5.31	0.09		8.90		26	1
SEPTEMBER	1.79	5.71	0.11		8.50		33	1
OCTOBER	2.54	3.88	0.14		9.20		23	1
NOVEMBER	1.69	3.39	0.01		9.20		24	1
DECEMBER	2.01	3.45	0.14		9.30		30	1
YEAR AVG	1.57	4.80	0.05		9.39		37	
COUNT	12	12	12		12		12	

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1980	PUTNAM	0900	002	F	01

METALS

MONTH	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CR 12112/92 UG/M3	CU 12114/92 UG/M3	FE 12126/92 UG/M3	PB 12128/92 UG/M3	MN 12132/92 UG/M3	NI 12136/92 UG/M3	V 12164/92 UG/M3	ZN 12167/92 UG/M3
JANUARY		BDL	0.0005	0.004		0.42	0.26			0.01	
FEBRUARY		BDL	0.0008	0.005	BDL	0.54	0.23	0.009	0.005	0.02	0.05
MARCH		BDL	0.0003	0.004	0.01	0.55	0.17	0.012	0.002	0.01	
APRIL		BDL	0.0005	0.003	BDL	0.31	0.15	0.009	0.003	0.02	0.08
MAY		BDL	0.0008	0.002	BDL	0.41	0.16	0.015	0.004	0.01	0.06
JUNE		BDL	0.0007	0.003	0.01	0.26	0.14	0.009	0.004	0.02	0.08
JULY		BDL	0.0004	0.001	BDL	0.28	0.17	0.007	0.006	0.02	0.04
AUGUST		BDL	0.0005	0.004	0.01	0.31	0.18	0.009	0.007	0.02	0.02
SEPTEMBER		BDL	0.0004	0.004	BDL	0.33	0.18	0.007	0.005	0.02	0.02
OCTOBER		BDL	0.0005	0.003	BDL	0.19	0.20	0.005	0.004	0.02	0.03
NOVEMBER		BDL	0.0008	0.003	0.01	0.24	0.24	0.006	0.005	0.02	0.04
DECEMBER		BDL	0.0006	0.005	0.01	0.57	0.25	0.013	0.007	0.05	0.03
YEAR AVG		0.0000	0.0006	0.003	0.01	0.37	0.19	0.009	0.005	0.02	0.04
COUNT		12	12	12	11	12	12	11	11	12	10

WATER SOLUBLES **BENZ SOL** **TSP**

MONTH	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SODIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TOTAL 11103/91 UG/M3	ARITH AV 11101/00 UG/M3	APPROX SAMPLE COUNT
JANUARY	1.56	3.59	0.07		9.50		48	1
FEBRUARY	1.70	4.39	0.06		9.70		59	1
MARCH	1.18	2.56	0.01		9.60		47	1
APRIL	1.74	6.75	0.01		9.70		35	1
MAY	1.72	5.95	0.03		9.60		47	1
JUNE	1.44	7.48	0.01		9.60		42	1
JULY	1.45	7.18	0.03		9.70		43	1
AUGUST	0.27	5.81	0.10		8.80		32	1
SEPTEMBER	0.41	4.11	0.06		9.20		28	1
OCTOBER	3.78	4.56	0.17		8.80		24	1
NOVEMBER	2.27	4.28	0.05		9.10		27	1
DECEMBER	3.47	4.62	0.17		7.80		56	1
YEAR AVG	1.75	5.10	0.06		9.26		41	
COUNT	12	12	12		12		12	

Table 11, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA.

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

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
ANSONIA	3	103		161	153	130	129	115	115	111	110	100	100
			DATE	2/21/80	12/20/80	12/17/80	1/ 7/80	1/10/80	2/18/80	3/ 4/80	3/ 7/80	2/24/80	3/10/80
METEOROLOGICAL SITE			DIR (DEG)	300	310	340	210	270	250	230	190	260	130
NEWARK			VEL (MPH)	6.5	12.0	12.1	13.4	1.9	11.5	11.9	7.8	3.1	5.9
			SPD (MPH)	9.3	12.8	12.8	13.9	8.2	11.8	12.7	9.1	9.2	9.2
			RATIO	0.693	0.941	0.948	0.962	0.228	0.978	0.940	0.861	0.337	0.639
METEOROLOGICAL SITE			DIR (DEG)	330	310	340	210	250	210	240	210	190	190
BRADLEY			VEL (MPH)	6.8	6.0	8.1	9.2	2.7	6.2	4.4	5.7	2.4	5.6
			SPD (MPH)	7.5	6.3	9.6	9.8	6.5	7.0	5.5	6.3	3.7	6.8
			RATIO	0.905	0.941	0.844	0.943	0.412	0.879	0.810	0.903	0.649	0.823
METEOROLOGICAL SITE			DIR (DEG)	320	300	320	230	280	260	240	210	240	120
BRIDGEPORT			VEL (MPH)	6.7	10.3	13.3	19.8	4.2	15.5	10.3	6.2	5.1	5.8
			SPD (MPH)	9.2	10.9	13.5	20.7	9.8	15.7	11.6	9.5	7.8	8.8
			RATIO	0.723	0.942	0.984	0.956	0.432	0.989	0.888	0.657	0.661	0.665
METEOROLOGICAL SITE			DIR (DEG)	310	290	310	220	270	260	260	230	260	210
WORCESTER			VEL (MPH)	8.2	9.3	9.3	9.2	4.4	10.5	8.2	5.8	2.5	6.3
			SPD (MPH)	10.1	9.6	9.9	10.5	5.5	10.8	8.3	6.3	4.7	7.2
			RATIO	0.818	0.969	0.935	0.874	0.813	0.978	0.978	0.918	0.533	0.873
BERLIN	1	56		70	64	62	59	56	54	54	50	48	46
			DATE	2/21/80	8/ 1/80	7/ 2/80	6/ 2/80	6/26/80	6/14/80	12/23/80	4/27/80	5/ 3/80	3/ 4/80
METEOROLOGICAL SITE			DIR (DEG)	300	180	220	240	170	150	330	80	280	230
NEWARK			VEL (MPH)	6.5	4.9	2.7	10.2	7.5	2.8	1.8	8.9	7.5	11.9
			SPD (MPH)	9.3	8.5	10.4	10.5	8.8	7.6	6.9	10.6	10.5	12.7
			RATIO	0.693	0.581	0.258	0.969	0.859	0.363	0.261	0.837	0.712	0.940
METEOROLOGICAL SITE			DIR (DEG)	330	200	200	210	200	60	160	50	260	240
BRADLEY			VEL (MPH)	6.8	4.1	7.5	1.9	10.1	2.3	0.6	3.2	2.0	4.4
			SPD (MPH)	7.5	5.6	7.9	4.2	10.5	3.6	0.6	4.5	5.6	5.5
			RATIO	0.905	0.731	0.946	0.451	0.962	0.633	0.996	0.729	0.359	0.810
METEOROLOGICAL SITE			DIR (DEG)	320	140	170	230	210	200	340	70	210	240
BRIDGEPORT			VEL (MPH)	6.7	4.4	6.6	7.0	10.6	1.7	2.9	12.8	7.7	10.3
			SPD (MPH)	9.2	6.2	8.8	7.6	11.6	4.9	5.5	14.2	9.5	11.6
			RATIO	0.723	0.705	0.755	0.915	0.907	0.352	0.526	0.896	0.815	0.888
METEOROLOGICAL SITE			DIR (DEG)	310	210	220	270	240	30	200	60	300	260
WORCESTER			VEL (MPH)	8.2	4.9	8.0	1.1	7.7	1.5	2.2	5.9	6.4	8.2
			SPD (MPH)	10.1	5.6	8.6	4.2	7.9	5.3	3.2	6.3	9.2	8.3
			RATIO	0.818	0.883	0.929	0.268	0.976	0.280	0.697	0.939	0.698	0.978
BRIDGEPORT	1	55		124	101	100	89	86	79	78	75	74	66
			DATE	2/21/80	6/ 2/80	7/20/80	5/21/80	8/ 1/80	6/14/80	3/ 4/80	7/ 2/80	7/ 8/80	3/10/80
METEOROLOGICAL SITE			DIR (DEG)	300	240	230	20	180	150	230	220	230	130
NEWARK			VEL (MPH)	6.5	10.2	10.8	12.4	4.9	2.8	11.9	2.7	10.1	5.9
			SPD (MPH)	9.3	10.5	11.2	13.4	8.5	7.6	12.7	10.4	12.5	9.2
			RATIO	0.693	0.969	0.964	0.925	0.581	0.363	0.940	0.258	0.811	0.639
METEOROLOGICAL SITE			DIR (DEG)	330	210	280	10	200	60	240	200	230	190
BRADLEY			VEL (MPH)	6.8	1.9	2.3	6.2	4.1	2.3	4.4	7.5	3.0	5.6
			SPD (MPH)	7.5	4.2	8.8	7.0	5.6	3.6	5.5	7.9	6.6	6.8
			RATIO	0.905	0.451	0.258	0.875	0.731	0.633	0.810	0.946	0.451	0.823

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND 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)	320	230	210	40	140	200	240	170	220	120
BRIDGEPORT			VEL (MPH)	6.7	7.0	9.8	10.4	4.4	1.7	10.3	6.6	7.9	5.8
			SPD (MPH)	9.2	7.6	11.6	12.1	6.2	4.9	11.6	8.8	11.6	8.8
			RATIO	0.723	0.915	0.843	0.857	0.705	0.352	0.888	0.755	0.682	0.665
METEOROLOGICAL SITE			DIR (DEG)	310	270	270	30	210	30	260	220	250	210
WORCESTER			VEL (MPH)	8.2	1.1	7.9	5.7	4.9	1.5	8.2	8.0	4.4	6.3
			SPD (MPH)	10.1	4.2	8.5	6.5	5.6	5.3	8.3	8.6	8.5	7.2
			RATIO	0.818	0.268	0.937	0.889	0.883	0.280	0.978	0.929	0.519	0.873
BRIDGEPORT	123	120		176	160	142	131	130	130	123	120	119	119
			DATE	5/24/80	7/20/80	2/21/80	7/11/80	8/ 1/80	6/23/80	7/ 5/80	8/28/80	7/17/80	6/ 2/80
METEOROLOGICAL SITE			DIR (DEG)	170	230	300	240	180	190	170	300	230	240
NEWARK			VEL (MPH)	4.6	10.8	6.5	8.9	4.9	8.1	3.6	2.7	9.3	10.2
			SPD (MPH)	6.9	11.2	9.3	9.5	8.5	9.1	9.9	8.3	11.1	10.5
			RATIO	0.665	0.964	0.693	0.940	0.581	0.895	0.363	0.321	0.844	0.969
METEOROLOGICAL SITE			DIR (DEG)	170	280	330	210	200	300	190	20	240	210
BRADLEY			VEL (MPH)	2.8	2.3	6.8	7.5	4.1	2.2	6.8	4.0	4.1	1.9
			SPD (MPH)	7.0	8.8	7.5	8.5	5.6	4.2	7.9	5.6	6.2	4.2
			RATIO	0.395	0.258	0.905	0.885	0.731	0.532	0.857	0.714	0.661	0.451
METEOROLOGICAL SITE			DIR (DEG)	130	210	320	220	140	220	220	100	230	230
BRIDGEPORT			VEL (MPH)	3.3	9.8	6.7	8.8	4.4	5.4	3.6	4.8	12.9	7.0
			SPD (MPH)	8.5	11.6	9.2	9.9	6.2	7.9	8.6	11.8	13.4	7.6
			RATIO	0.387	0.843	0.723	0.883	0.705	0.680	0.418	0.407	0.963	0.915
METEOROLOGICAL SITE			DIR (DEG)	70	270	310	250	210	290	220	340	260	270
WORCESTER			VEL (MPH)	3.3	7.9	8.2	7.4	4.9	5.3	5.2	1.9	7.9	1.1
			SPD (MPH)	5.0	8.5	10.1	7.6	5.6	5.9	6.9	5.5	8.3	4.2
			RATIO	0.660	0.937	0.818	0.973	0.883	0.906	0.749	0.339	0.948	0.268
BRISTOL	1	57		86	82	79	78	77	74	72	71	69	64
			DATE	3/ 4/80	6/26/80	2/21/80	7/20/80	7/ 2/80	12/23/80	3/10/80	8/ 1/80	6/ 2/80	3/28/80
METEOROLOGICAL SITE			DIR (DEG)	230	170	300	230	220	330	130	180	240	170
NEWARK			VEL (MPH)	11.9	7.5	6.5	10.8	2.7	1.8	5.9	4.9	10.2	7.1
			SPD (MPH)	12.7	8.8	9.3	11.2	10.4	6.9	9.2	8.5	10.5	8.1
			RATIO	0.940	0.859	0.693	0.964	0.258	0.261	0.639	0.581	0.969	0.880
METEOROLOGICAL SITE			DIR (DEG)	240	200	330	280	200	160	190	200	210	190
BRADLEY			VEL (MPH)	4.4	10.1	6.8	2.3	7.5	0.6	5.6	4.1	1.9	7.2
			SPD (MPH)	5.5	10.5	7.5	8.8	7.9	0.6	6.8	5.6	4.2	7.5
			RATIO	0.810	0.962	0.905	0.258	0.946	0.996	0.823	0.731	0.451	0.961
METEOROLOGICAL SITE			DIR (DEG)	240	210	320	210	170	340	120	140	230	210
BRIDGEPORT			VEL (MPH)	10.3	10.6	6.7	9.8	6.6	2.9	5.8	4.4	7.0	7.8
			SPD (MPH)	11.6	11.6	9.2	11.6	8.8	5.5	8.8	6.2	7.6	8.2
			RATIO	0.888	0.907	0.723	0.843	0.755	0.526	0.665	0.705	0.915	0.946
METEOROLOGICAL SITE			DIR (DEG)	260	240	310	270	220	200	210	210	270	250
WORCESTER			VEL (MPH)	8.2	7.7	8.2	7.9	8.0	2.2	6.3	4.9	1.1	6.2
			SPD (MPH)	8.3	7.9	10.1	8.5	8.6	3.2	7.2	5.6	4.2	6.9
			RATIO	0.978	0.976	0.818	0.937	0.929	0.697	0.873	0.883	0.268	0.902

Table 12, Continued

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA.

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

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
BURLINGTON	1	117	74	71	65	62	60	55	54	54	49	48
		DATE	5/24/80	6/26/80	7/20/80	7/ 2/80	8/ 1/80	9/21/80	7/11/80	8/ 4/80	5/ 6/80	8/28/80
METEOROLOGICAL SITE		DIR (DEG)	170	170	230	220	180	230	240	190	260	300
NEWARK		VEL (MPH)	4.6	7.5	10.8	2.7	4.9	10.5	8.9	7.3	2.1	2.7
		SPD (MPH)	6.9	8.8	11.2	10.4	8.5	10.6	9.5	8.5	10.1	8.3
		RATIO	0.665	0.859	0.964	0.258	0.581	0.985	0.940	0.862	0.204	0.321
METEOROLOGICAL SITE		DIR (DEG)	170	200	280	200	200	200	210	250	50	20
BRADLEY		VEL (MPH)	2.8	10.1	2.3	7.5	4.1	7.8	7.5	2.9	2.4	4.0
		SPD (MPH)	7.0	10.5	8.8	7.9	5.6	8.1	8.5	4.2	5.6	5.6
		RATIO	0.395	0.962	0.258	0.946	0.731	0.970	0.885	0.685	0.424	0.714
METEOROLOGICAL SITE		DIR (DEG)	130	210	210	170	140	230	220	230	100	100
BRIDGEPORT		VEL (MPH)	3.3	10.6	9.8	6.6	4.4	13.3	8.8	8.6	9.8	4.8
		SPD (MPH)	8.5	11.6	11.6	8.8	6.2	13.7	9.9	9.3	10.9	11.8
		RATIO	0.387	0.907	0.843	0.755	0.705	0.974	0.883	0.920	0.896	0.407
METEOROLOGICAL SITE		DIR (DEG)	70	240	270	220	210	240	250	260	70	340
WORCESTER		VEL (MPH)	3.3	7.7	7.9	8.0	4.9	6.8	7.4	4.8	8.3	1.9
		SPD (MPH)	5.0	7.9	8.5	8.6	5.6	7.3	7.6	5.6	8.6	5.5
		RATIO	0.660	0.976	0.937	0.929	0.883	0.933	0.973	0.861	0.967	0.339
DANBURY	123	58	221	129	96	87	85	84	79	76	76	75
		DATE	12/17/80	3/ 4/80	11/23/80	7/ 2/80	12/23/80	2/21/80	8/ 1/80	7/20/80	3/28/80	1/10/80
METEOROLOGICAL SITE		DIR (DEG)	340	230	230	220	330	300	180	230	170	270
NEWARK		VEL (MPH)	12.1	11.9	6.9	2.7	1.8	6.5	4.9	10.8	7.1	1.9
		SPD (MPH)	12.8	12.7	7.3	10.4	6.9	9.3	8.5	11.2	8.1	8.2
		RATIO	0.948	0.940	0.947	0.258	0.261	0.693	0.581	0.964	0.880	0.228
METEOROLOGICAL SITE		DIR (DEG)	340	240	210	200	160	330	200	280	190	250
BRADLEY		VEL (MPH)	8.1	4.4	1.0	7.5	0.6	6.8	4.1	2.3	7.2	2.7
		SPD (MPH)	9.6	5.5	1.3	7.9	0.6	7.5	5.6	8.8	7.5	6.5
		RATIO	0.844	0.810	0.769	0.946	0.996	0.905	0.731	0.258	0.961	0.412
METEOROLOGICAL SITE		DIR (DEG)	320	240	210	170	340	320	140	210	210	280
BRIDGEPORT		VEL (MPH)	13.3	10.3	4.6	6.6	2.9	6.7	4.4	9.8	7.8	4.2
		SPD (MPH)	13.5	11.6	6.0	8.8	5.5	9.2	6.2	11.6	8.2	9.8
		RATIO	0.984	0.888	0.767	0.755	0.526	0.723	0.705	0.843	0.946	0.432
METEOROLOGICAL SITE		DIR (DEG)	310	260	270	220	200	310	210	270	250	270
WORCESTER		VEL (MPH)	9.3	8.2	6.9	8.0	2.2	8.2	4.9	7.9	6.2	4.4
		SPD (MPH)	9.9	8.3	7.6	8.6	3.2	10.1	5.6	8.5	6.9	5.5
		RATIO	0.935	0.978	0.910	0.929	0.697	0.818	0.883	0.937	0.902	0.813
ENFIELD	123	59	82	78	76	71	69	67	65	65	63	63
		DATE	2/21/80	11/23/80	12/29/80	6/26/80	12/17/80	8/ 1/80	7/20/80	6/ 2/80	7/ 2/80	3/ 4/80
METEOROLOGICAL SITE		DIR (DEG)	300	230	30	170	340	180	230	240	220	230
NEWARK		VEL (MPH)	6.5	6.9	13.9	7.5	12.1	4.9	10.8	10.2	2.7	11.9
		SPD (MPH)	9.3	7.3	13.9	8.8	12.8	8.5	11.2	10.5	10.4	12.7
		RATIO	0.693	0.947	0.996	0.859	0.948	0.581	0.964	0.969	0.258	0.940
METEOROLOGICAL SITE		DIR (DE	330	210	20	200	340	200	280	210	200	240
BRADLEY		VEL (MP	6.8	1.0	5.1	10.1	8.1	4.1	2.3	1.9	7.5	4.4
		SPD (MP	7.5	1.3	5.2	10.5	9.6	5.6	8.8	4.2	7.9	5.5
		RATIO	0.905	0.769	0.985	0.962	0.844	0.731	0.258	0.451	0.946	0.810

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND 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			DIR (DEG)	320	210	10	210	320	140	210	230	170	240
			VEL (MPH)	6.7	4.6	12.6	10.6	13.3	4.4	9.8	7.0	6.6	10.3
			SPD (MPH)	9.2	6.0	12.9	11.6	13.5	6.2	11.6	7.6	8.8	11.6
			RATIO	0.723	0.767	0.975	0.907	0.984	0.705	0.843	0.915	0.755	0.888
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	310	270	300	240	310	210	270	270	220	260
			VEL (MPH)	8.2	6.9	1.4	7.7	9.3	4.9	7.9	1.1	8.0	8.2
			SPD (MPH)	10.1	7.6	5.6	7.9	9.9	5.6	8.5	4.2	8.6	8.3
			RATIO	0.818	0.910	0.243	0.976	0.935	0.883	0.937	0.268	0.929	0.978
GREENWICH	4	60		91	89	88	73	70	68	64	63	62	58
			DATE	7/20/80	8/ 1/80	7/ 2/80	7/26/80	6/ 2/80	6/14/80	8/19/80	6/26/80	8/ 7/80	2/21/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	180	220	210	240	150	190	170	290	300
			VEL (MPH)	10.8	4.9	2.7	4.7	10.2	2.8	5.5	7.5	6.4	6.5
			SPD (MPH)	11.2	8.5	10.4	7.8	10.5	7.6	6.6	8.8	9.8	9.3
			RATIO	0.964	0.581	0.258	0.604	0.969	0.363	0.835	0.859	0.651	0.693
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	280	200	200	310	210	60	220	200	320	330
			VEL (MPH)	2.3	4.1	7.5	1.4	1.9	2.3	2.1	10.1	4.4	6.8
			SPD (MPH)	8.8	5.6	7.9	2.6	4.2	3.6	3.6	10.5	6.3	7.5
			RATIO	0.258	0.731	0.946	0.540	0.451	0.633	0.590	0.962	0.697	0.905
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	210	140	170	200	230	200	200	210	260	320
			VEL (MPH)	9.8	4.4	6.6	6.5	7.0	1.7	7.2	10.6	6.4	6.7
			SPD (MPH)	11.6	6.2	8.8	8.6	7.6	4.9	8.3	11.6	9.5	9.2
			RATIO	0.843	0.705	0.755	0.749	0.915	0.352	0.868	0.907	0.678	0.723
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	270	210	220	280	270	30	160	240	290	310
			VEL (MPH)	7.9	4.9	8.0	5.9	1.1	1.5	2.0	7.7	9.2	8.2
			SPD (MPH)	8.5	5.6	8.6	6.2	4.2	5.3	5.3	7.9	9.5	10.1
			RATIO	0.937	0.883	0.929	0.962	0.268	0.280	0.375	0.976	0.966	0.818
GREENWICH	8	58		119	118	105	102	99	91	90	85	84	83
			DATE	7/14/80	1/22/80	8/ 1/80	6/ 2/80	7/20/80	2/21/80	7/ 2/80	12/17/80	2/27/80	8/ 7/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	210	210	180	240	230	300	220	340	230	290
			VEL (MPH)	2.7	6.8	4.9	10.2	10.8	6.5	2.7	12.1	10.5	6.4
			SPD (MPH)	7.6	8.2	8.5	10.5	11.2	9.3	10.4	12.8	13.8	9.8
			RATIO	0.348	0.828	0.581	0.969	0.964	0.693	0.258	0.948	0.759	0.651
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	310	210	200	210	280	330	200	340	220	320
			VEL (MPH)	2.5	2.6	4.1	1.9	2.3	6.8	7.5	8.1	7.7	4.4
			SPD (MPH)	4.7	5.3	5.6	4.2	8.8	7.5	7.9	9.6	9.2	6.3
			RATIO	0.518	0.481	0.731	0.451	0.258	0.905	0.946	0.844	0.834	0.697
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	190	240	140	230	210	320	170	320	240	260
			VEL (MPH)	6.3	7.3	4.4	7.0	9.8	6.7	6.6	13.3	10.2	6.4
			SPD (MPH)	9.5	11.2	6.2	7.6	11.6	9.2	8.8	13.5	12.4	9.5
			RATIO	0.660	0.648	0.705	0.915	0.843	0.723	0.755	0.984	0.823	0.678
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	230	210	270	270	310	220	310	240	290
			VEL (MPH)	4.6	3.7	4.9	1.1	7.9	8.2	8.0	9.3	5.3	9.2
			SPD (MPH)	5.0	5.3	5.6	4.2	8.5	10.1	8.6	9.9	6.3	9.5
			RATIO	0.907	0.695	0.883	0.268	0.937	0.818	0.929	0.935	0.831	0.966

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND 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*	15	24		103	92	86	85	82	75	75	71	71	66
			DATE	5/22/80	6/25/80	6/ 2/80	6/20/80	3/10/80	6/14/80	3/ 4/80	2/ 3/80	1/22/80	1/ 9/80
METEOROLOGICAL SITE			DIR (DEG)	250	210	240	260	130	150	230	300	210	280
NEWARK			VEL (MPH)	8.4	12.9	10.2	8.8	5.9	2.8	11.9	16.9	6.8	7.4
			SPD (MPH)	9.8	13.4	10.5	12.5	9.2	7.6	12.7	17.3	8.2	8.3
			RATIO	0.863	0.965	0.969	0.702	0.639	0.363	0.940	0.980	0.828	0.890
METEOROLOGICAL SITE			DIR (DEG)	280	220	210	220	190	60	240	330	210	280
BRADLEY			VEL (MPH)	5.4	6.2	1.9	8.4	5.6	2.3	4.4	11.7	2.6	5.6
			SPD (MPH)	6.6	6.6	4.2	10.9	6.8	3.6	5.5	11.9	5.3	6.2
			RATIO	0.823	0.937	0.451	0.766	0.823	0.633	0.810	0.982	0.481	0.907
METEOROLOGICAL SITE			DIR (DEG)	250	230	230	240	120	200	240	300	240	290
BRIDGEPORT			VEL (MPH)	10.6	10.7	7.0	7.8	5.8	1.7	10.3	13.6	7.3	8.9
			SPD (MPH)	11.4	11.2	7.6	13.2	8.8	4.9	11.6	13.9	11.2	9.8
			RATIO	0.936	0.954	0.915	0.586	0.665	0.352	0.888	0.979	0.648	0.911
METEOROLOGICAL SITE			DIR (DEG)	290	280	270	190	210	30	260	290	230	270
WORCESTER			VEL (MPH)	11.3	7.6	1.1	4.7	6.3	1.5	8.2	12.5	3.7	7.1
			SPD (MPH)	11.8	8.8	4.2	7.3	7.2	5.3	8.3	12.7	5.3	7.3
			RATIO	0.957	0.865	0.268	0.644	0.873	0.280	0.978	0.991	0.695	0.967
GREENWICH *	16	9		113	88	84	83	64	46	40	21	21	
			DATE	7/20/80	8/ 1/80	7/24/80	7/ 2/80	7/14/80	9/12/80	9/ 6/80	9/25/80	9/18/80	
METEOROLOGICAL SITE			DIR (DEG)	230	180	340	220	210	180	160	80	310	
NEWARK			VEL (MPH)	10.8	4.9	14.3	2.7	2.7	5.0	3.0	9.3	8.3	
			SPD (MPH)	11.2	8.5	15.0	10.4	7.6	7.9	8.8	9.6	10.2	
			RATIO	0.964	0.581	0.957	0.258	0.348	0.637	0.343	0.971	0.814	
METEOROLOGICAL SITE			DIR (DEG)	280	200	360	200	310	300	230	90	340	
BRADLEY			VEL (MPH)	2.3	4.1	6.9	7.5	2.5	2.5	3.1	3.0	6.0	
			SPD (MPH)	8.8	5.6	7.3	7.9	4.7	4.3	4.2	5.5	6.5	
			RATIO	0.258	0.731	0.945	0.946	0.518	0.576	0.744	0.548	0.932	
METEOROLOGICAL SITE			DIR (DEG)	210	140	340	170	190	220	210	80	320	
BRIDGEPORT			VEL (MPH)	9.8	4.4	11.4	6.6	6.3	2.6	6.2	12.3	9.2	
			SPD (MPH)	11.6	6.2	11.9	8.8	9.5	6.9	8.8	14.8	10.4	
			RATIO	0.843	0.705	0.954	0.755	0.660	0.381	0.707	0.834	0.886	
METEOROLOGICAL SITE			DIR (DEG)	270	210	330	220	260	290	270	120	320	
WORCESTER			VEL (MPH)	7.9	4.9	7.6	8.0	4.6	2.7	7.2	4.1	6.7	
			SPD (MPH)	8.5	5.6	8.9	8.6	5.0	4.5	8.1	4.9	7.6	
			RATIO	0.937	0.883	0.849	0.929	0.907	0.606	0.894	0.838	0.882	
HADDAM	2	60		88	72	72	64	61	55	53	51	50	48
			DATE	6/ 2/80	12/29/80	7/20/80	8/ 1/80	2/21/80	12/23/80	3/ 4/80	5/ 3/80	4/ 3/80	7/ 8/80
METEOROLOGICAL SITE			DIR (DEG)	240	30	230	180	300	330	230	280	220	230
NEWARK			VEL (MPH)	10.2	13.9	10.8	4.9	6.5	1.8	11.9	7.5	2.9	10.1
			SPD (MPH)	10.5	13.9	11.2	8.5	9.3	6.9	12.7	10.5	8.3	12.5
			RATIO	0.969	0.996	0.964	0.581	0.693	0.261	0.940	0.712	0.350	0.811
METEOROLOGICAL SITE			DIR (DEG)	210	20	280	200	330	160	240	260	290	230
BRADLEY			VEL (MPH)	1.9	5.1	2.3	4.1	6.8	0.6	4.4	2.0	2.5	3.0
			SPD (MPH)	4.2	5.2	8.8	5.6	7.5	0.6	5.5	5.6	5.5	6.6
			RATIO	0.451	0.985	0.258	0.731	0.905	0.996	0.810	0.359	0.465	0.451

* Special Study, Partial Year Only

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND 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)	230	10	210	140	320	340	240	210	230	220
BRIDGEPORT			VEL (MPH)	7.0	12.6	9.8	4.4	6.7	2.9	10.3	7.7	5.3	7.9
			SPD (MPH)	7.6	12.9	11.6	6.2	9.2	5.5	11.6	9.5	11.1	11.6
			RATIO	0.915	0.975	0.843	0.705	0.723	0.526	0.888	0.815	0.475	0.682
METEOROLOGICAL SITE			DIR (DEG)	270	300	270	210	310	200	260	300	300	250
WORCESTER			VEL (MPH)	1.1	1.4	7.9	4.9	8.2	2.2	8.2	6.4	7.5	4.4
			SPD (MPH)	4.2	5.6	8.5	5.6	10.1	3.2	8.3	9.2	8.9	8.5
			RATIO	0.268	0.243	0.937	0.883	0.818	0.697	0.978	0.698	0.840	0.519
HARTFORD	3	120		167	109	103	102	99	99	99	96	95	94
			DATE	2/21/80	5/24/80	6/ 2/80	3/ 4/80	8/ 1/80	12/26/80	12/23/80	7/11/80	11/20/80	7/ 2/80
METEOROLOGICAL SITE			DIR (DEG)	300	170	240	230	180	230	330	240	270	220
NEWARK			VEL (MPH)	6.5	4.6	10.2	11.9	4.9	6.8	1.8	8.9	6.9	2.7
			SPD (MPH)	9.3	6.9	10.5	12.7	8.5	6.9	6.9	9.5	7.6	10.4
			RATIO	0.693	0.665	0.969	0.940	0.581	0.989	0.261	0.940	0.906	0.258
METEOROLOGICAL SITE			DIR (DEG)	330	170	210	240	200	200	160	210	210	200
BRADLEY			VEL (MPH)	6.8	2.8	1.9	4.4	4.1	2.9	0.6	7.5	2.8	7.5
			SPD (MPH)	7.5	7.0	4.2	5.5	5.6	3.7	0.6	8.5	3.4	7.9
			RATIO	0.905	0.395	0.451	0.810	0.731	0.789	0.996	0.885	0.801	0.946
METEOROLOGICAL SITE			DIR (DEG)	320	130	230	240	140	260	340	220	260	170
BRIDGEPORT			VEL (MPH)	6.7	3.3	7.0	10.3	4.4	6.1	2.9	8.8	8.3	6.6
			SPD (MPH)	9.2	8.5	7.6	11.6	6.2	8.2	5.5	9.9	9.3	8.8
			RATIO	0.723	0.387	0.915	0.888	0.705	0.742	0.526	0.883	0.890	0.755
METEOROLOGICAL SITE			DIR (DEG)	310	70	270	260	210	260	200	250	270	220
WORCESTER			VEL (MPH)	8.2	3.3	1.1	8.2	4.9	7.7	2.2	7.4	7.4	8.0
			SPD (MPH)	10.1	5.0	4.2	8.3	5.6	9.1	3.2	7.6	7.6	8.6
			RATIO	0.818	0.660	0.268	0.978	0.883	0.854	0.697	0.973	0.965	0.929
HARTFORD	123	57		152	112	101	101	101	97	94	90	89	82
			DATE	2/21/80	7/ 2/80	12/23/80	11/23/80	6/ 2/80	6/26/80	8/ 1/80	3/ 4/80	3/10/80	4/ 3/80
METEOROLOGICAL SITE			DIR (DEG)	300	220	330	230	240	170	180	230	130	220
NEWARK			VEL (MPH)	6.5	2.7	1.8	6.9	10.2	7.5	4.9	11.9	5.9	2.9
			SPD (MPH)	9.3	10.4	6.9	7.3	10.5	8.8	8.5	12.7	9.2	8.3
			RATIO	0.693	0.258	0.261	0.947	0.969	0.859	0.581	0.940	0.639	0.350
METEOROLOGICAL SITE			DIR (DEG)	330	200	160	210	210	200	200	240	190	290
BRADLEY			VEL (MPH)	6.8	7.5	0.6	1.0	1.9	10.1	4.1	4.4	5.6	2.5
			SPD (MPH)	7.5	7.9	0.6	1.3	4.2	10.5	5.6	5.5	6.8	5.5
			RATIO	0.905	0.946	0.996	0.769	0.451	0.962	0.731	0.810	0.823	0.465
METEOROLOGICAL SITE			DIR (DEG)	320	170	340	210	230	210	140	240	120	230
BRIDGEPORT			VEL (MPH)	6.7	6.6	2.9	4.6	7.0	10.6	4.4	10.3	5.8	5.3
			SPD (MPH)	9.2	8.8	5.5	6.0	7.6	11.6	6.2	11.6	8.8	11.1
			RATIO	0.723	0.755	0.526	0.767	0.915	0.907	0.705	0.888	0.665	0.475
METEOROLOGICAL SITE			DIR (DEG)	310	220	200	270	270	240	210	260	210	300
WORCESTER			VEL (MPH)	8.2	8.0	2.2	6.9	1.1	7.7	4.9	8.2	6.3	7.5
			SPD (MPH)	10.1	8.6	3.2	7.6	4.2	7.9	5.6	8.3	7.2	8.9
			RATIO	0.818	0.929	0.697	0.910	0.268	0.976	0.883	0.978	0.873	0.840

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA.

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

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
LTCH CTY(MORRIS DAM)	1	111	DATE	5/24/80	7/20/80	9/21/80	6/26/80	8/ 4/80	8/ 1/80	5/ 6/80	8/28/80	7/ 5/80	7/ 2/80
METEOROLOGICAL SITE			DIR (DEG)	170	230	230	170	190	180	260	300	170	220
NEWARK			VEL (MPH)	4.6	10.8	10.5	7.5	7.3	4.9	2.1	2.7	3.6	2.7
			SPD (MPH)	6.9	11.2	10.6	8.8	8.5	8.5	10.1	8.3	9.9	10.4
			RATIO	0.665	0.964	0.985	0.859	0.862	0.581	0.204	0.321	0.363	0.258
METEOROLOGICAL SITE			DIR (DEG)	170	280	200	200	250	200	50	20	190	200
BRADLEY			VEL (MPH)	2.8	2.3	7.8	10.1	2.9	4.1	2.4	4.0	6.8	7.5
			SPD (MPH)	7.0	8.8	8.1	10.5	4.2	5.6	5.6	5.6	7.9	7.9
			RATIO	0.395	0.258	0.970	0.962	0.685	0.731	0.424	0.714	0.857	0.946
METEOROLOGICAL SITE			DIR (DEG)	130	210	230	210	230	140	100	100	220	170
BRIDGEPORT			VEL (MPH)	3.3	9.8	13.3	10.6	8.6	4.4	9.8	4.8	3.6	6.6
			SPD (MPH)	8.5	11.6	13.7	11.6	9.3	6.2	10.9	11.8	8.6	8.8
			RATIO	0.387	0.843	0.974	0.907	0.920	0.705	0.896	0.407	0.418	0.755
METEOROLOGICAL SITE			DIR (DEG)	70	270	240	240	260	210	70	340	220	220
WORCESTER			VEL (MPH)	3.3	7.9	6.8	7.7	4.8	4.9	8.3	1.9	5.2	8.0
			SPD (MPH)	5.0	8.5	7.3	7.9	5.6	5.6	8.6	5.5	6.9	8.6
			RATIO	0.660	0.937	0.933	0.976	0.861	0.883	0.967	0.339	0.749	0.929
MANCHESTER	1	60	DATE	8/ 1/80	7/20/80	2/21/80	12/29/80	6/ 2/80	7/14/80	3/ 4/80	12/23/80	5/27/80	7/ 2/80
METEOROLOGICAL SITE			DIR (DEG)	180	230	300	30	240	210	230	330	310	220
NEWARK			VEL (MPH)	4.9	10.8	6.5	13.9	10.2	2.7	11.9	1.8	13.3	2.7
			SPD (MPH)	8.5	11.2	9.3	13.9	10.5	7.6	12.7	6.9	14.5	10.4
			RATIO	0.581	0.964	0.693	0.996	0.969	0.348	0.940	0.261	0.913	0.258
METEOROLOGICAL SITE			DIR (DEG)	200	280	330	20	210	310	240	160	310	200
BRADLEY			VEL (MPH)	4.1	2.3	6.8	5.1	1.9	2.5	4.4	0.6	9.8	7.5
			SPD (MPH)	5.6	8.8	7.5	5.2	4.2	4.7	5.5	0.6	10.5	7.9
			RATIO	0.731	0.258	0.905	0.985	0.451	0.518	0.910	0.996	0.938	0.946
METEOROLOGICAL SITE			DIR (DEG)	140	210	320	10	230	190	240	340	310	170
BRIDGEPORT			VEL (MPH)	4.4	9.8	6.7	12.6	7.0	6.3	10.3	2.9	15.3	6.6
			SPD (MPH)	6.2	11.6	9.2	12.9	7.6	9.5	11.6	5.5	15.5	8.8
			RATIO	0.705	0.843	0.723	0.975	0.915	0.660	0.888	0.526	0.988	0.755
METEOROLOGICAL SITE			DIR (DEG)	210	270	310	300	270	260	260	200	320	220
WORCESTER			VEL (MPH)	4.9	7.9	8.2	1.4	1.1	4.6	8.2	2.2	9.6	8.0
			SPD (MPH)	5.6	8.5	10.1	5.6	4.2	5.0	8.3	3.2	10.4	8.6
			RATIO	0.883	0.937	0.818	0.243	0.268	0.907	0.978	0.697	0.929	0.929
MERIDEN	2	59	DATE	3/ 4/80	2/21/80	12/23/80	12/17/80	7/20/80	6/ 2/80	6/14/80	3/10/80	8/ 1/80	5/27/80
METEOROLOGICAL SITE			DIR (DEG)	230	300	330	340	230	240	150	130	180	310
NEWARK			VEL (MPH)	11.9	6.5	1.8	12.1	10.8	10.2	2.8	5.9	4.9	13.3
			SPD (MPH)	12.7	9.3	6.9	12.8	11.2	10.5	7.6	9.2	8.5	14.5
			RATIO	0.940	0.693	0.261	0.948	0.964	0.969	0.363	0.639	0.581	0.913
METEOROLOGICAL SITE			DIR (DEG)	240	330	160	340	280	210	60	190	200	310
BRADLEY			VEL (MPH)	4.4	6.8	0.6	8.1	2.3	1.9	2.3	5.6	4.1	9.8
			SPD (MPH)	5.5	7.5	0.6	9.6	8.8	4.2	3.6	6.8	5.6	10.5
			RATIO	0.810	0.905	0.996	0.844	0.258	0.451	0.633	0.823	0.731	0.938

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND 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			DIR (DEG)	240	320	340	320	210	230	200	120	140	310
			VEL (MPH)	10.3	6.7	2.9	13.3	9.8	7.0	1.7	5.8	4.4	15.3
			SPD (MPH)	11.6	9.2	5.5	13.5	11.6	7.6	4.9	8.8	6.2	15.5
			RATIO	0.888	0.723	0.526	0.984	0.843	0.915	0.352	0.665	0.705	0.988
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	310	200	310	270	270	30	210	210	320
			VEL (MPH)	8.2	8.2	2.2	9.3	7.9	1.1	1.5	6.3	4.9	9.6
			SPD (MPH)	8.3	10.1	3.2	9.9	8.5	4.2	5.3	7.2	5.6	10.4
			RATIO	0.978	0.818	0.697	0.935	0.937	0.268	0.280	0.873	0.883	0.929
MERIDEN	5	55		151	136	119	119	111	106	104	103	101	100
			DATE	3/ 4/80	6/26/80	6/14/80	8/ 1/80	6/ 2/80	2/21/80	3/10/80	3/28/80	2/27/80	7/ 2/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	170	150	180	240	300	130	170	230	220
			VEL (MPH)	11.9	7.5	2.8	4.9	10.2	6.5	5.9	7.1	10.5	2.7
			SPD (MPH)	12.7	8.8	7.6	8.5	10.5	9.3	9.2	8.1	13.8	10.4
			RATIO	0.940	0.859	0.363	0.581	0.969	0.693	0.639	0.880	0.759	0.258
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	240	200	60	200	210	330	190	190	220	200
			VEL (MPH)	4.4	10.1	2.3	4.1	1.9	6.8	5.6	7.2	7.7	7.5
			SPD (MPH)	5.5	10.5	3.6	5.6	4.2	7.5	6.8	7.5	9.2	7.9
			RATIO	0.810	0.962	0.633	0.731	0.451	0.905	0.823	0.961	0.834	0.946
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	240	210	200	140	230	320	120	210	240	170
			VEL (MPH)	10.3	10.6	1.7	4.4	7.0	6.7	5.8	7.8	10.2	6.6
			SPD (MPH)	11.6	11.6	4.9	6.2	7.6	9.2	8.8	8.2	12.4	8.8
			RATIO	0.888	0.907	0.352	0.705	0.915	0.723	0.665	0.946	0.823	0.755
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	240	30	210	270	310	210	250	240	220
			VEL (MPH)	8.2	7.7	1.5	4.9	1.1	8.2	6.3	6.2	5.3	8.0
			SPD (MPH)	8.3	7.9	5.3	5.6	4.2	10.1	7.2	6.9	6.3	8.6
			RATIO	0.978	0.976	0.280	0.883	0.268	0.818	0.873	0.902	0.831	0.929
MIDDLETOWN	3	59		103	93	91	86	85	85	83	80	73	71
			DATE	2/21/80	7/20/80	8/ 1/80	12/17/80	3/ 4/80	12/23/80	6/ 2/80	9/12/80	7/ 2/80	3/10/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	300	230	180	340	230	330	240	180	220	130
			VEL (MPH)	6.5	10.8	4.9	12.1	11.9	1.8	10.2	5.0	2.7	5.9
			SPD (MPH)	9.3	11.2	8.5	12.8	12.7	6.9	10.5	7.9	10.4	9.2
			RATIO	0.693	0.964	0.581	0.948	0.940	0.261	0.969	0.637	0.258	0.639
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	330	280	200	340	240	160	210	300	200	190
			VEL (MPH)	6.8	2.3	4.1	8.1	4.4	0.6	1.9	2.5	7.5	5.6
			SPD (MPH)	7.5	8.8	5.6	9.6	5.5	0.6	4.2	4.3	7.9	6.8
			RATIO	0.905	0.258	0.731	0.844	0.810	0.996	0.451	0.576	0.946	0.823
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	320	210	140	320	240	340	230	220	170	120
			VEL (MPH)	6.7	9.8	4.4	13.3	10.3	2.9	7.0	2.6	6.6	5.8
			SPD (MPH)	9.2	11.6	6.2	13.5	11.6	5.5	7.6	6.9	8.8	8.8
			RATIO	0.723	0.843	0.705	0.984	0.888	0.526	0.915	0.381	0.755	0.665
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	310	270	210	310	260	200	270	290	220	210
			VEL (MPH)	8.2	7.9	4.9	9.3	8.2	2.2	1.1	2.7	8.0	6.3
			SPD (MPH)	10.1	8.5	5.6	9.9	8.3	3.2	4.2	4.5	8.6	7.2
			RATIO	0.818	0.937	0.883	0.935	0.978	0.697	0.268	0.606	0.929	0.873

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA.

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

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
MILFORD	2	59		106	89	81	81	81	80	68	67	65	64
			DATE	2/21/80	3/ 4/80	6/ 2/80	7/20/80	3/10/80	8/ 1/80	8/ 7/80	3/28/80	4/ 3/80	12/17/80
METEOROLOGICAL SITE			DIR (DEG)	300	230	240	230	130	180	290	170	220	340
NEWARK			VEL (MPH)	6.5	11.9	10.2	10.8	5.9	4.9	6.4	7.1	2.9	12.1
			SPD (MPH)	9.3	12.7	10.5	11.2	9.2	8.5	9.8	8.1	8.3	12.8
			RATIO	0.693	0.940	0.969	0.964	0.639	0.581	0.651	0.880	0.350	0.948
METEOROLOGICAL SITE			DIR (DEG)	330	240	210	280	190	200	320	190	290	340
BRADLEY			VEL (MPH)	6.8	4.4	1.9	2.3	5.6	4.1	4.4	7.2	2.5	8.1
			SPD (MPH)	7.5	5.5	4.2	8.8	6.8	5.6	6.3	7.5	5.5	9.6
			RATIO	0.905	0.810	0.451	0.258	0.823	0.731	0.697	0.961	0.465	0.844
METEOROLOGICAL SITE			DIR (DEG)	320	240	230	210	120	140	260	210	230	320
BRIDGEPORT			VEL (MPH)	6.7	10.3	7.0	9.8	5.8	4.4	6.4	7.8	5.3	13.3
			SPD (MPH)	9.2	11.6	7.6	11.6	8.8	6.2	9.5	8.2	11.1	13.5
			RATIO	0.723	0.888	0.915	0.843	0.665	0.705	0.678	0.946	0.475	0.984
METEOROLOGICAL SITE			DIR (DEG)	310	260	270	270	210	210	290	250	300	310
WORCESTER			VEL (MPH)	8.2	8.2	1.1	7.9	6.3	4.9	9.2	6.2	7.5	9.3
			SPD (MPH)	10.1	8.3	4.2	8.5	7.2	5.6	9.5	6.9	8.9	9.9
			RATIO	0.818	0.978	0.268	0.937	0.873	0.883	0.966	0.902	0.840	0.935
NAUGATUCK	1	55		120	113	111	80	79	76	75	71	69	68
			DATE	2/21/80	12/23/80	3/ 4/80	1/10/80	3/10/80	4/ 3/80	6/ 2/80	12/17/80	1/22/80	11/23/80
METEOROLOGICAL SITE			DIR (DEG)	300	330	230	270	130	220	240	340	210	230
NEWARK			VEL (MPH)	6.5	1.8	11.9	1.9	5.9	2.9	10.2	12.1	6.8	6.9
			SPD (MPH)	9.3	6.9	12.7	8.2	9.2	8.3	10.5	12.8	8.2	7.3
			RATIO	0.693	0.261	0.940	0.228	0.639	0.350	0.969	0.948	0.828	0.947
METEOROLOGICAL SITE			DIR (DEG)	330	160	240	250	190	290	210	340	210	210
BRADLEY			VEL (MPH)	6.8	0.6	4.4	2.7	5.6	2.5	1.9	8.1	2.6	1.0
			SPD (MPH)	7.5	0.6	5.5	6.5	6.8	5.5	4.2	9.6	5.3	1.3
			RATIO	0.905	0.996	0.810	0.412	0.823	0.465	0.451	0.844	0.481	0.769
METEOROLOGICAL SITE			DIR (DEG)	320	340	240	280	120	230	230	320	240	210
BRIDGEPORT			VEL (MPH)	6.7	2.9	10.3	4.2	5.8	5.3	7.0	13.3	7.3	4.6
			SPD (MPH)	9.2	5.5	11.6	9.8	8.8	11.1	7.6	13.5	11.2	6.0
			RATIO	0.723	0.526	0.888	0.432	0.665	0.475	0.915	0.984	0.648	0.767
METEOROLOGICAL SITE			DIR (DEG)	310	200	260	270	210	300	270	310	230	270
WORCESTER			VEL (MPH)	8.2	2.2	8.2	4.4	6.3	7.5	1.1	9.3	3.7	6.9
			SPD (MPH)	10.1	3.2	8.3	5.5	7.2	8.9	4.2	9.9	5.3	7.6
			RATIO	0.818	0.697	0.978	0.813	0.873	0.840	0.268	0.935	0.695	0.910
NEW BRITAIN	123	111		114	102	91	85	85	79	76	73	73	69
			DATE	2/21/80	5/24/80	5/ 6/80	12/23/80	8/28/80	11/20/80	7/20/80	8/ 1/80	5/12/80	6/ 2/80
METEOROLOGICAL SITE			DIR (DEG)	300	170	260	330	300	270	230	180	220	240
NEWARK			VEL (MPH)	6.5	4.6	2.1	1.8	2.7	6.9	10.8	4.9	6.4	10.2
			SPD (MPH)	9.3	6.9	10.1	6.9	8.3	7.6	11.2	8.5	8.6	10.5
			RATIO	0.693	0.665	0.204	0.261	0.321	0.906	0.964	0.581	0.743	0.969
METEOROLOGICAL SITE			DIR (DEG)	330	170	50	160	20	210	280	200	190	210
BRADLEY			VEL (MPH)	6.8	2.8	2.4	0.6	4.0	2.8	2.3	4.1	4.3	1.9
			SPD (MPH)	7.5	7.0	5.6	0.6	5.6	3.4	8.8	5.6	6.2	4.2
			RATIO	0.905	0.395	0.424	0.996	0.714	0.801	0.258	0.731	0.700	0.451

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND 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)	320	130	100	340	100	260	210	140	220	230
BRIDGEPORT			VEL (MPH)	6.7	3.3	9.8	2.9	4.8	8.3	9.8	4.4	8.2	7.0
			SPD (MPH)	9.2	8.5	10.9	5.5	11.8	9.3	11.6	6.2	9.5	7.6
			RATIO	0.723	0.387	0.896	0.526	0.407	0.890	0.843	0.705	0.866	0.915
METEOROLOGICAL SITE			DIR (DEG)	310	70	70	200	340	270	270	210	260	270
WORCESTER			VEL (MPH)	8.2	3.3	8.3	2.2	1.9	7.4	7.9	4.9	7.5	1.1
			SPD (MPH)	10.1	5.0	8.6	3.2	5.5	7.6	8.5	5.6	7.6	4.2
			RATIO	0.818	0.660	0.967	0.697	0.339	0.965	0.937	0.883	0.989	0.268
NEW HAVEN	2	52		190	157	111	105	101	92	83	79	77	76
			DATE	7/20/80	2/21/80	12/23/80	3/ 4/80	6/ 2/80	5/ 3/80	6/14/80	8/ 1/80	3/10/80	7/26/80
METEOROLOGICAL SITE			DIR (DEG)	230	300	330	230	240	280	150	180	130	210
NEWARK			VEL (MPH)	10.8	6.5	1.8	11.9	10.2	7.5	2.8	4.9	5.9	4.7
			SPD (MPH)	11.2	9.3	6.9	12.7	10.5	10.5	7.6	8.5	9.2	7.8
			RATIO	0.964	0.693	0.261	0.940	0.969	0.712	0.363	0.581	0.639	0.604
METEOROLOGICAL SITE			DIR (DEG)	280	330	160	240	210	260	60	200	190	310
BRADLEY			VEL (MPH)	2.3	6.8	0.6	4.4	1.9	2.0	2.3	4.1	5.6	1.4
			SPD (MPH)	8.8	7.5	0.6	5.5	4.2	5.6	3.6	5.6	6.8	2.6
			RATIO	0.258	0.905	0.996	0.810	0.451	0.359	0.633	0.731	0.823	0.540
METEOROLOGICAL SITE			DIR (DEG)	210	320	340	240	230	210	200	140	120	200
BRIDGEPORT			VEL (MPH)	9.8	6.7	2.9	10.3	7.0	7.7	1.7	4.4	5.8	6.5
			SPD (MPH)	11.6	9.2	5.5	11.6	7.6	9.5	4.9	6.2	8.8	8.6
			RATIO	0.843	0.723	0.526	0.888	0.915	0.815	0.352	0.705	0.665	0.749
METEOROLOGICAL SITE			DIR (DEG)	270	310	200	260	270	300	30	210	210	280
WORCESTER			VEL (MPH)	7.9	8.2	2.2	8.2	1.1	6.4	1.5	4.9	6.3	5.9
			SPD (MPH)	8.5	10.1	3.2	8.3	4.2	9.2	5.3	5.6	7.2	6.2
			RATIO	0.937	0.818	0.697	0.978	0.268	0.698	0.280	0.883	0.873	0.962
NEW HAVEN	123	113		165	164	143	131	122	119	117	115	114	114
			DATE	12/17/80	2/21/80	6/23/80	5/24/80	11/20/80	4/ 3/80	3/ 4/80	7/20/80	12/ 8/80	4/18/80
METEOROLOGICAL SITE			DIR (DEG)	340	300	190	170	270	220	230	230	220	310
NEWARK			VEL (MPH)	12.1	6.5	8.1	4.6	6.9	2.9	11.9	10.8	9.9	4.8
			SPD (MPH)	12.8	9.3	9.1	6.9	7.6	8.3	12.7	11.2	10.2	7.9
			RATIO	0.948	0.693	0.895	0.665	0.906	0.350	0.940	0.964	0.966	0.611
METEOROLOGICAL SITE			DIR (DEG)	340	330	300	170	210	290	240	280	180	310
BRADLEY			VEL (MPH)	8.1	6.8	2.2	2.8	2.8	2.5	4.4	2.3	4.9	5.3
			SPD (MPH)	9.6	7.5	4.2	7.0	3.4	5.5	5.5	8.8	4.9	6.6
			RATIO	0.844	0.905	0.532	0.395	0.801	0.465	0.810	0.258	0.996	0.794
METEOROLOGICAL SITE			DIR (DEG)	320	320	220	130	260	230	240	210	230	240
BRIDGEPORT			VEL (MPH)	13.3	6.7	5.4	3.3	8.3	5.3	10.3	9.8	3.0	3.8
			SPD (MPH)	13.5	9.2	7.9	8.5	9.3	11.1	11.6	11.6	3.0	6.6
			RATIO	0.984	0.723	0.680	0.387	0.890	0.475	0.888	0.843	1.000	0.575
METEOROLOGICAL SITE			DIR (DEG)	310	310	290	70	270	300	260	270	240	290
WORCESTER			VEL (MPH)	9.3	8.2	5.3	3.3	7.4	7.5	8.2	7.9	9.1	9.7
			SPD (MPH)	9.9	10.1	5.9	5.0	7.6	8.9	8.3	8.5	9.3	9.9
			RATIO	0.935	0.818	0.906	0.660	0.965	0.840	0.978	0.937	0.976	0.978

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA.

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

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
NORWALK	5	117		142	134	133	124	118	111	109	104	101	100
			DATE	2/21/80	3/ 7/80	12/26/80	12/17/80	5/24/80	7/20/80	12/ 5/80	12/ 8/80	11/26/80	7/11/80
METEOROLOGICAL SITE			DIR (DEG)	300	190	230	340	170	230	320	220	320	240
NEWARK			VEL (MPH)	6.5	7.8	6.8	12.1	4.6	10.8	16.2	9.9	15.6	8.9
			SPD (MPH)	9.3	9.1	6.9	12.8	6.9	11.2	16.5	10.2	16.0	9.5
			RATIO	0.693	0.861	0.989	0.948	0.665	0.964	0.980	0.966	0.979	0.940
METEOROLOGICAL SITE			DIR (DEG)	330	210	200	340	170	280	350	180	330	210
BRADLEY			VEL (MPH)	6.8	5.7	2.9	8.1	2.8	2.3	11.7	4.9	10.7	7.5
			SPD (MPH)	7.5	6.3	3.7	9.6	7.0	8.8	12.1	4.9	11.1	8.5
			RATIO	0.905	0.903	0.789	0.844	0.395	0.258	0.969	0.996	0.964	0.885
METEOROLOGICAL SITE			DIR (DEG)	320	210	260	320	130	210	310	230	300	220
BRIDGEPORT			VEL (MPH)	6.7	6.2	6.1	13.3	3.3	9.8	16.3	3.0	16.2	8.8
			SPD (MPH)	9.2	9.5	8.2	13.5	8.5	11.6	17.1	3.0	16.4	9.9
			RATIO	0.723	0.657	0.742	0.984	0.387	0.843	0.955	1.000	0.988	0.883
METEOROLOGICAL SITE			DIR (DEG)	310	230	260	310	70	270	320	240	300	250
WORCESTER			VEL (MPH)	8.2	5.8	7.7	9.3	3.3	7.9	20.3	9.1	18.4	7.4
			SPD (MPH)	10.1	6.3	9.1	9.9	5.0	8.5	20.7	9.3	19.1	7.6
			RATIO	0.818	0.918	0.854	0.935	0.660	0.937	0.982	0.976	0.964	0.973
NORWICH	1	60		102	87	84	81	81	81	79	77	71	68
			DATE	2/21/80	3/ 4/80	12/17/80	4/27/80	12/23/80	6/ 2/80	8/ 1/80	1/10/80	3/10/80	7/20/80
METEOROLOGICAL SITE			DIR (DEG)	300	230	340	80	330	240	180	270	130	230
NEWARK			VEL (MPH)	6.5	11.9	12.1	8.9	1.8	10.2	4.9	1.9	5.9	10.8
			SPD (MPH)	9.3	12.7	12.8	10.6	6.9	10.5	8.5	8.2	9.2	11.2
			RATIO	0.693	0.940	0.948	0.837	0.261	0.969	0.581	0.228	0.639	0.964
METEOROLOGICAL SITE			DIR (DEG)	330	240	340	50	160	210	200	250	190	280
BRADLEY			VEL (MPH)	6.8	4.4	8.1	3.2	0.6	1.9	4.1	2.7	5.6	2.3
			SPD (MPH)	7.5	5.5	9.6	4.5	0.6	4.2	5.6	6.5	6.8	8.8
			RATIO	0.905	0.810	0.844	0.729	0.996	0.451	0.731	0.412	0.823	0.258
METEOROLOGICAL SITE			DIR (DEG)	320	240	320	70	340	230	140	280	120	210
BRIDGEPORT			VEL (MPH)	6.7	10.3	13.3	12.8	2.9	7.0	4.4	4.2	5.8	9.8
			SPD (MPH)	9.2	11.6	13.5	14.2	5.5	7.6	6.2	9.8	8.8	11.6
			RATIO	0.723	0.888	0.984	0.896	0.526	0.915	0.705	0.432	0.665	0.843
METEOROLOGICAL SITE			DIR (DEG)	310	260	310	60	200	270	210	270	210	270
WORCESTER			VEL (MPH)	8.2	8.2	9.3	5.9	2.2	1.1	4.9	4.4	6.3	7.9
			SPD (MPH)	10.1	8.3	9.9	6.3	3.2	4.2	5.6	5.5	7.2	8.5
			RATIO	0.818	0.978	0.935	0.939	0.697	0.268	0.883	0.813	0.873	0.937
STAMFORD	7	59		115	114	114	100	100	94	91	89	85	84
			DATE	7/20/80	7/ 2/80	2/21/80	8/ 1/80	3/28/80	7/26/80	6/ 2/80	5/27/80	8/ 7/80	6/14/80
METEOROLOGICAL SITE			DIR (DEG)	230	220	300	180	170	210	240	310	290	150
NEWARK			VEL (MPH)	10.8	2.7	6.5	4.9	7.1	4.7	10.2	13.3	6.4	2.8
			SPD (MPH)	11.2	10.4	9.3	8.5	8.1	7.8	10.5	14.5	9.8	7.6
			RATIO	0.964	0.258	0.693	0.581	0.880	0.604	0.969	0.913	0.651	0.363
METEOROLOGICAL SITE			DIR (DEG)	280	200	330	200	190	310	210	310	320	60
BRADLEY			VEL (MPH)	2.3	7.5	6.8	4.1	7.2	1.4	1.9	9.8	4.4	2.3
			SPD (MPH)	8.8	7.9	7.5	5.6	7.5	2.6	4.2	10.5	6.3	3.6
			RATIO	0.258	0.946	0.905	0.731	0.961	0.540	0.451	0.938	0.697	0.633

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND 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	170	320	140	210	200	230	310	260	200
BRIDGEPORT			VEL (MPH)	9.8	6.6	6.7	4.4	7.8	6.5	7.0	15.3	6.4	1.7
			SPD (MPH)	11.6	8.8	9.2	6.2	8.2	8.6	7.6	15.5	9.5	4.9
			RATIO	0.843	0.755	0.723	0.705	0.946	0.749	0.915	0.988	0.678	0.352
METEOROLOGICAL SITE			DIR (DEG)	270	220	310	210	250	280	270	320	290	30
WORCESTER			VEL (MPH)	7.9	8.0	8.2	4.9	6.2	5.9	1.1	9.6	9.2	1.5
			SPD (MPH)	8.5	8.6	10.1	5.6	6.9	6.2	4.2	10.4	9.5	5.3
			RATIO	0.937	0.929	0.818	0.883	0.902	0.962	0.268	0.929	0.966	0.280
STAMFORD	123	58		120	109	106	100	90	83	82	82	80	77
			DATE	2/21/80	6/ 2/80	8/ 1/80	3/ 4/80	7/20/80	4/ 3/80	3/10/80	6/14/80	12/23/80	3/28/80
METEOROLOGICAL SITE			DIR (DEG)	300	240	180	230	230	220	130	150	330	170
NEWARK			VEL (MPH)	6.5	10.2	4.9	11.9	10.8	2.9	5.9	2.8	1.8	7.1
			SPD (MPH)	9.3	10.5	8.5	12.7	11.2	8.3	9.2	7.6	6.9	8.1
			RATIO	0.693	0.969	0.581	0.940	0.964	0.350	0.639	0.363	0.261	0.880
METEOROLOGICAL SITE			DIR (DEG)	330	210	200	240	280	290	190	60	160	190
BRADLEY			VEL (MPH)	6.8	1.9	4.1	4.4	2.3	2.5	5.6	2.3	0.6	7.2
			SPD (MPH)	7.5	4.2	5.6	5.5	8.8	5.5	6.8	3.6	0.6	7.5
			RATIO	0.905	0.451	0.731	0.810	0.258	0.465	0.823	0.633	0.996	0.961
METEOROLOGICAL SITE			DIR (DEG)	320	230	140	240	210	230	120	200	340	210
BRIDGEPORT			VEL (MPH)	6.7	7.0	4.4	10.3	9.8	5.3	5.8	1.7	2.9	7.8
			SPD (MPH)	9.2	7.6	6.2	11.6	11.6	11.1	8.8	4.9	5.5	8.2
			RATIO	0.723	0.915	0.705	0.888	0.843	0.475	0.665	0.352	0.526	0.946
METEOROLOGICAL SITE			DIR (DEG)	310	270	210	260	270	300	210	30	200	250
WORCESTER			VEL (MPH)	8.2	1.1	4.9	8.2	7.9	7.5	6.3	1.5	2.2	6.2
			SPD (MPH)	10.1	4.2	5.6	8.3	8.5	8.9	7.2	5.3	3.2	6.9
			RATIO	0.818	0.268	0.883	0.978	0.937	0.840	0.873	0.280	0.697	0.902
STRATFORD	5	58		138	119	106	96	95	93	84	75	73	71
			DATE	2/21/80	12/17/80	6/ 2/80	3/ 4/80	7/20/80	8/ 1/80	1/10/80	7/ 2/80	2/27/80	3/28/80
METEOROLOGICAL SITE			DIR (DEG)	300	340	240	230	230	180	270	220	230	170
NEWARK			VEL (MPH)	6.5	12.1	10.2	11.9	10.8	4.9	1.9	2.7	10.5	7.1
			SPD (MPH)	9.3	12.8	10.5	12.7	11.2	8.5	8.2	10.4	13.8	8.1
			RATIO	0.693	0.948	0.969	0.940	0.964	0.581	0.228	0.258	0.759	0.880
METEOROLOGICAL SITE			DIR (DEG)	330	340	210	240	280	200	250	200	220	190
BRADLEY			VEL (MPH)	6.8	8.1	1.9	4.4	2.3	4.1	2.7	7.5	7.7	7.2
			SPD (MPH)	7.5	9.6	4.2	5.5	8.8	5.6	6.5	7.9	9.2	7.5
			RATIO	0.905	0.844	0.451	0.810	0.258	0.731	0.412	0.946	0.834	0.961
METEOROLOGICAL SITE			DIR (DEG)	320	320	230	240	210	140	280	170	240	210
BRIDGEPORT			VEL (MPH)	6.7	13.3	7.0	10.3	9.8	4.4	4.2	6.6	10.2	7.8
			SPD (MPH)	9.2	13.5	7.6	11.6	11.6	6.2	9.8	8.8	12.4	8.2
			RATIO	0.723	0.984	0.915	0.888	0.843	0.705	0.432	0.755	0.823	0.946
METEOROLOGICAL SITE			DIR (DEG)	310	310	270	260	270	210	270	220	240	250
WORCESTER			VEL (MPH)	8.2	9.3	1.1	8.2	7.9	4.9	4.4	8.0	5.3	6.2
			SPD (MPH)	10.1	9.9	4.2	8.3	8.5	5.6	5.5	8.6	6.3	6.9
			RATIO	0.818	0.935	0.268	0.978	0.937	0.883	0.813	0.929	0.831	0.902

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA.

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

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
TORRINGTON	123	119		134	111	109	106	105	104	101	94	94	94
			DATE	3/ 4/80	12/17/80	6/ 8/80	11/23/80	3/19/80	12/11/80	12/23/80	5/24/80	3/ 7/80	12/20/80
METEOROLOGICAL SITE			DIR (DEG)	230	340	310	230	260	320	330	170	190	310
NEWARK			VEL (MPH)	11.9	12.1	9.3	6.9	9.5	11.8	1.8	4.6	7.8	12.0
			SPD (MPH)	12.7	12.8	14.1	7.3	12.1	13.9	6.9	6.9	9.1	12.8
			RATIO	0.940	0.948	0.657	0.947	0.783	0.848	0.261	0.665	0.861	0.941
METEOROLOGICAL SITE			DIR (DEG)	240	340	310	210	330	330	160	170	210	310
BRADLEY			VEL (MPH)	4.4	8.1	4.6	1.0	8.6	8.0	0.6	2.8	5.7	6.0
			SPD (MPH)	5.5	9.6	9.1	1.3	9.6	11.1	0.6	7.0	6.3	6.3
			RATIO	0.810	0.844	0.505	0.769	0.892	0.724	0.996	0.395	0.903	0.941
METEOROLOGICAL SITE			DIR (DEG)	240	320	310	210	250	320	340	130	210	300
BRIDGEPORT			VEL (MPH)	10.3	13.3	9.2	4.6	9.6	11.9	2.9	3.3	6.2	10.3
			SPD (MPH)	11.6	13.5	13.5	6.0	11.5	13.4	5.5	8.5	9.5	10.9
			RATIO	0.888	0.984	0.677	0.767	0.835	0.890	0.526	0.387	0.657	0.942
METEOROLOGICAL SITE			DIR (DEG)	260	310	280	270	280	300	200	70	230	290
WORCESTER			VEL (MPH)	8.2	9.3	7.7	6.9	11.4	9.1	2.2	3.3	5.8	9.3
			SPD (MPH)	8.3	9.9	11.2	7.6	12.1	9.8	3.2	5.0	6.3	9.6
			RATIO	0.978	0.935	0.691	0.910	0.944	0.926	0.697	0.660	0.918	0.969
VOLUNTOWN	1	118		81	80	67	67	66	62	60	58	53	51
			DATE	5/24/80	6/ 8/80	7/11/80	8/ 1/80	2/ 9/80	6/ 2/80	7/20/80	1/28/80	7/ 5/80	8/ 4/80
METEOROLOGICAL SITE			DIR (DEG)	170	310	240	180	300	240	230	310	170	190
NEWARK			VEL (MPH)	4.6	9.3	8.9	4.9	4.3	10.2	10.8	11.5	3.6	7.3
			SPD (MPH)	6.9	14.1	9.5	8.5	7.8	10.5	11.2	12.1	9.9	8.5
			RATIO	0.665	0.657	0.940	0.581	0.557	0.969	0.964	0.950	0.363	0.862
METEOROLOGICAL SITE			DIR (DEG)	170	310	210	200	320	210	280	300	190	250
BRADLEY			VEL (MPH)	2.8	4.6	7.5	4.1	4.4	1.9	2.3	9.1	6.8	2.9
			SPD (MPH)	7.0	9.1	8.5	5.6	5.3	4.2	8.8	10.4	7.9	4.2
			RATIO	0.395	0.505	0.885	0.731	0.830	0.451	0.258	0.880	0.857	0.685
METEOROLOGICAL SITE			DIR (DEG)	130	310	220	140	280	230	210	310	220	230
BRIDGEPORT			VEL (MPH)	3.3	9.2	8.8	4.4	5.1	7.0	9.8	10.4	3.6	8.6
			SPD (MPH)	8.5	13.5	9.9	6.2	7.8	7.6	11.6	10.6	8.6	9.3
			RATIO	0.387	0.677	0.883	0.705	0.660	0.915	0.843	0.979	0.418	0.920
METEOROLOGICAL SITE			DIR (DEG)	70	280	250	210	310	270	270	290	220	260
WORCESTER			VEL (MPH)	3.3	7.7	7.4	4.9	7.5	1.1	7.9	11.3	5.2	4.8
			SPD (MPH)	5.0	11.2	7.6	5.6	8.1	4.2	8.5	11.5	6.9	5.6
			RATIO	0.660	0.691	0.973	0.883	0.931	0.268	0.937	0.985	0.749	0.861
WALLINGFORD	1	54		112	102	95	84	79	78	77	74	74	72
			DATE	2/21/80	3/ 4/80	12/23/80	12/17/80	3/10/80	1/10/80	4/ 3/80	2/27/80	8/ 1/80	7/ 2/80
METEOROLOGICAL SITE			DIR (DEG)	300	230	330	340	130	270	220	230	180	220
NEWARK			VEL (MPH)	6.5	11.9	1.8	12.1	5.9	1.9	2.9	10.5	4.9	2.7
			SPD (MPH)	9.3	12.7	6.9	12.8	9.2	8.2	8.3	13.8	8.5	10.4
			RATIO	0.693	0.940	0.261	0.948	0.639	0.228	0.350	0.759	0.581	0.258
METEOROLOGICAL SITE			DIR (DEG)	330	240	160	340	190	250	290	220	200	200
BRADLEY			VEL (MPH)	6.8	4.4	0.6	8.1	5.6	2.7	2.5	7.7	4.1	7.5
			SPD (MPH)	7.5	5.5	0.6	9.6	6.8	6.5	5.5	9.2	5.6	7.9
			RATIO	0.905	0.810	0.996	0.844	0.823	0.412	0.465	0.834	0.731	0.946

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND 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)	320	240	340	320	120	280	230	240	140	170
BRIDGEPORT			VEL (MPH)	6.7	10.3	2.9	13.3	5.8	4.2	5.3	10.2	4.4	6.6
			SPD (MPH)	9.2	11.6	5.5	13.5	8.8	9.8	11.1	12.4	6.2	8.8
			RATIO	0.723	0.888	0.526	0.984	0.665	0.432	0.475	0.823	0.705	0.755
METEOROLOGICAL SITE			DIR (DEG)	310	260	200	310	210	270	300	240	210	220
WORCESTER			VEL (MPH)	8.2	8.2	2.2	9.3	6.3	4.4	7.5	5.3	4.9	8.0
			SPD (MPH)	10.1	8.3	3.2	9.9	7.2	5.5	8.9	6.3	5.6	8.6
			RATIO	0.818	0.978	0.697	0.935	0.873	0.813	0.840	0.831	0.883	0.929
WATERBURY	2	59		140	113	110	108	100	88	85	79	78	76
			DATE	3/ 4/80	2/21/80	12/23/80	5/27/80	5/21/80	7/20/80	8/ 1/80	6/26/80	3/28/80	7/ 2/80
METEOROLOGICAL SITE			DIR (DEG)	230	300	330	310	20	230	180	170	170	220
NEWARK			VEL (MPH)	11.9	6.5	1.8	13.3	12.4	10.8	4.9	7.5	7.1	2.7
			SPD (MPH)	12.7	9.3	6.9	14.5	13.4	11.2	8.5	8.8	8.1	10.4
			RATIO	0.940	0.693	0.261	0.913	0.925	0.964	0.581	0.859	0.880	0.258
METEOROLOGICAL SITE			DIR (DEG)	240	330	160	310	10	280	200	200	190	200
BRADLEY			VEL (MPH)	4.4	6.8	0.6	9.8	6.2	2.3	4.1	10.1	7.2	7.5
			SPD (MPH)	5.5	7.5	0.6	10.5	7.0	8.8	5.6	10.5	7.5	7.9
			RATIO	0.810	0.905	0.996	0.938	0.875	0.258	0.731	0.962	0.961	0.946
METEOROLOGICAL SITE			DIR (DEG)	240	320	340	310	40	210	140	210	210	170
BRIDGEPORT			VEL (MPH)	10.3	6.7	2.9	15.3	10.4	9.8	4.4	10.6	7.8	6.6
			SPD (MPH)	11.6	9.2	5.5	15.5	12.1	11.6	6.2	11.6	8.2	8.8
			RATIO	0.888	0.723	0.526	0.988	0.857	0.843	0.705	0.907	0.946	0.755
METEOROLOGICAL SITE			DIR (DEG)	260	310	200	320	30	270	210	240	250	220
WORCESTER			VEL (MPH)	8.2	8.2	2.2	9.6	5.7	7.9	4.9	7.7	6.2	8.0
			SPD (MPH)	8.3	10.1	3.2	10.4	6.5	8.5	5.6	7.9	6.9	8.6
			RATIO	0.978	0.818	0.697	0.929	0.889	0.937	0.883	0.976	0.902	0.929
WATERBURY	123	116		195	171	160	132	118	117	116	115	115	115
			DATE	12/17/80	3/ 4/80	2/21/80	12/23/80	3/ 7/80	12/20/80	5/24/80	3/10/80	12/ 8/80	1/ 7/80
METEOROLOGICAL SITE			DIR (DEG)	340	230	300	330	190	310	170	130	220	210
NEWARK			VEL (MPH)	12.1	11.9	6.5	1.8	7.8	12.0	4.6	5.9	9.9	13.4
			SPD (MPH)	12.8	12.7	9.3	6.9	9.1	12.8	6.9	9.2	10.2	13.9
			RATIO	0.948	0.940	0.693	0.261	0.861	0.941	0.665	0.639	0.966	0.962
METEOROLOGICAL SITE			DIR (DEG)	340	240	330	160	210	310	170	190	180	210
BRADLEY			VEL (MPH)	8.1	4.4	6.8	0.6	5.7	6.0	2.8	5.6	4.9	9.2
			SPD (MPH)	9.6	5.5	7.5	0.6	6.3	6.3	7.0	6.8	4.9	9.8
			RATIO	0.844	0.810	0.905	0.996	0.903	0.941	0.395	0.823	0.996	0.943
METEOROLOGICAL SITE			DIR (DEG)	320	240	320	340	210	300	130	120	230	230
BRIDGEPORT			VEL (MPH)	13.3	10.3	6.7	2.9	6.2	10.3	3.3	5.8	3.0	19.8
			SPD (MPH)	13.5	11.6	9.2	5.5	9.5	10.9	8.5	8.8	3.0	20.7
			RATIO	0.984	0.888	0.723	0.526	0.657	0.942	0.387	0.665	1.000	0.956
METEOROLOGICAL SITE			DIR (DEG)	310	260	310	200	230	290	70	210	240	220
WORCESTER			VEL (MPH)	9.3	8.2	8.2	2.2	5.8	9.3	3.3	6.3	9.1	9.2
			SPD (MPH)	9.9	8.3	10.1	3.2	6.3	9.6	5.0	7.2	9.3	10.5
			RATIO	0.935	0.978	0.818	0.697	0.918	0.969	0.660	0.873	0.976	0.874

Table 12, Continued

1980 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA.

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

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
WATERFORD	1	57	DATE	7/20/80	8/ 7/80	8/ 1/80	9/12/80	6/ 2/80	2/15/80	7/26/80	5/27/80	3/ 4/80	2/21/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	290	180	180	240	300	210	310	230	300
			VEL (MPH)	10.8	6.4	4.9	5.0	10.2	7.4	4.7	13.3	11.9	6.5
			SPD (MPH)	11.2	9.8	8.5	7.9	10.5	10.6	7.8	14.5	12.7	9.3
			RATIO	0.964	0.651	0.581	0.637	0.969	0.696	0.604	0.913	0.940	0.693
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	280	320	200	300	210	310	310	310	240	330
			VEL (MPH)	2.3	4.4	4.1	2.5	1.9	6.9	1.4	9.8	4.4	6.8
			SPD (MPH)	8.8	6.3	5.6	4.3	4.2	7.3	2.6	10.5	5.5	7.5
			RATIO	0.258	0.697	0.731	0.576	0.451	0.940	0.540	0.938	0.810	0.905
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	210	260	140	220	230	290	200	310	240	320
			VEL (MPH)	9.8	6.4	4.4	2.6	7.0	9.0	6.5	15.3	10.3	6.7
			SPD (MPH)	11.6	9.5	6.2	6.9	7.6	10.9	8.6	15.5	11.6	9.2
			RATIO	0.843	0.678	0.705	0.381	0.915	0.827	0.749	0.988	0.888	0.723
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	270	290	210	290	270	290	280	320	260	310
			VEL (MPH)	7.9	9.2	4.9	2.7	1.1	8.0	5.9	9.6	8.2	8.2
			SPD (MPH)	8.5	9.5	5.6	4.5	4.2	8.1	6.2	10.4	8.3	10.1
			RATIO	0.937	0.966	0.883	0.606	0.268	0.992	0.962	0.929	0.978	0.818
WILLIMANTIC	2	60	DATE	3/10/80	2/21/80	3/ 4/80	12/17/80	1/10/80	11/23/80	8/ 1/80	7/ 8/80	2/ 9/80	6/ 2/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	130	300	230	340	270	230	180	230	300	240
			VEL (MPH)	5.9	6.5	11.9	12.1	1.9	6.9	4.9	10.1	4.3	10.2
			SPD (MPH)	9.2	9.3	12.7	12.8	8.2	7.3	8.5	12.5	7.8	10.5
			RATIO	0.639	0.693	0.940	0.948	0.228	0.947	0.581	0.811	0.557	0.969
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	190	330	240	340	250	210	200	230	320	210
			VEL (MPH)	5.6	6.8	4.4	8.1	2.7	1.0	4.1	3.0	4.4	1.9
			SPD (MPH)	6.8	7.5	5.5	9.6	6.5	1.3	5.6	6.6	5.3	4.2
			RATIO	0.823	0.905	0.810	0.844	0.412	0.769	0.731	0.451	0.830	0.451
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	120	320	240	320	280	210	140	220	280	230
			VEL (MPH)	5.8	6.7	10.3	13.3	4.2	4.6	4.4	7.9	5.1	7.0
			SPD (MPH)	8.8	9.2	11.6	13.5	9.8	6.0	6.2	11.6	7.8	7.6
			RATIO	0.665	0.723	0.888	0.984	0.432	0.767	0.705	0.682	0.660	0.915
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	210	310	260	310	270	270	210	250	310	270
			VEL (MPH)	6.3	8.2	8.2	9.3	4.4	6.9	4.9	4.4	7.5	1.1
			SPD (MPH)	7.2	10.1	8.3	9.9	5.5	7.6	5.6	8.5	8.1	4.2
			RATIO	0.873	0.818	0.978	0.935	0.813	0.910	0.883	0.519	0.931	0.268

Table 12, Continued

III. SULFUR DIOXIDE

Conclusions:

Sulfur dioxide concentrations did not approach any primary or secondary standards in Connecticut during 1980. Measured concentrations were substantially below the 80 ug/m^3 primary annual standard as well as the former State of Connecticut 60 ug/m^3 secondary annual standard. SO_2 levels were also below the 365 ug/m^3 primary 24-hour standard and the former state 260 ug/m^3 secondary 24-hour standard. The secondary 3-hour standard of 1300 ug/m^3 was not approached at any site in the state.

According to the results of the Wilcoxon Test, which made use of sulfation rate data, there was a small but statistically significant rise in SO_2 levels from 1979 to 1980 (see Table 3). The general increase (shown by the Wilcoxon test) of SO_2 levels was probably a result of greater heating requirements due to the colder temperatures experienced during the heating seasons of 1980 as compared to 1979.

The continued attainment of SO_2 standards is primarily attributable to Connecticut's sulfur-in-fuel regulation.

Method of Measurement:

The DEP Air Monitoring Unit used two types of instruments to continuously measure sulfur dioxide levels in 1980. The coulometric method was employed by Philips instruments and the pulsed fluorescence method is used by Teco instruments.

Philips monitoring instruments were used at the following sites in 1980:

Bridgeport 001 (7 months)
Milford 002 (2 months)

Teco instruments were used at the following sites in 1980:

Bridgeport 001 (4 months)
Danbury 123
Enfield 123 (6 months)
Greenwich 004
Hartford 123
Milford 002 (10 months)
New Britain 123
New Haven 123
Stamford 123
Waterbury 123

Discussion of Data:

Monitoring Network - A total of eleven (11) continuous SO_2 monitors (one was a partial year only) recorded data in ten towns in 1980 (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 ten sites. The average for Enfield site 123 represents 56% of the possible sampling hours.

Annual Averages - The primary annual standard for SO_2 is 80 ug/m^3 and the former state secondary annual standard was 60 ug/m^3. SO_2 levels were below the annual standards at all sites in 1980 (see Table 13). The annual average SO_2 levels decreased at six of the eleven monitoring sites from 1979 to 1980. The decrease at two of those sites exceeded 5 ug/m^3. Annual average SO_2 levels increased at five monitoring sites, the same number as last year, with the largest increase being 3 ug/^{3}. According to the Wilcoxon test, these changes indicate a small but significant upward trend when compared to 1979.

Statistical Projections - A statistical analysis of the sulfur dioxide data is presented in Table 14. This analysis provides information to compensate for any 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 (see Table 6). 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 the SO_2 data tends to be lognormal, the geometric means and standard deviations were used to predict the number of days the 24-hour standard of 365 ug/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 better in 1980 than in 1979. The data indicate with reasonable assurance that there were no violations of the primary SO_2 standard in Connecticut. For example, a statistical prediction of one day exceeding the primary 24-hour standard (365 ug/m^3) at Hartford site 123 would indicate 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 - The primary 24-hour standard for SO_2 is 365 ug/m^3 and the former state secondary 24-hour standard in Connecticut was 260 ug/m^3. In 1980 no sites recorded SO_2 levels in excess of the 24-hour standards (see Table 15). Second high running 24-hour average concentrations increased at five of the SO_2 monitoring sites during 1980. The increase exceeded 50 ug/m^3 at one site, Bridgeport 001. The second high running 24-hour concentration decreased at six sites with two of the decreases being greater than 25 ug/m^3.

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 federal secondary 3-hour SO_2 standard at all DEP monitoring sites in Connecticut in 1980, down from twelve (12) sites in 1979 (see Table 17).

10-High Days with Wind Data - Table 18 lists the ten highest 24-hour calendar day SO_2 averages and the dates of occurrence for each SO_2 site in Connecticut during 1980. The table also shows the average wind conditions that 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 during periods of southwesterly winds. Most of those days also have persistent winds. This relationship is caused, at least in part, by SO_2 transport; but any 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 very 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 conducive to high SO_2 levels on days when there are southwesterly winds than on other days.

Using the data in Table 18, the dates of occurrence of the ten highest 24-hour averages were noted. There are some interesting similarities among the high SO_2 days. First, all of the days on the table occurred during the winter months. This can be attributed to more fuel being burned during the cold weather. Second, almost all of the days experienced persistent southwesterly winds. Transport from the New York City area as well as industrial centers to our west is indicated.

Many of the sites across the state had high SO_2 values in the week before Christmas. This was during a period of successive cold fronts preceded by steady southwesterly air flow. On the 18th of December, Connecticut was east of a cold front moving from the midwest. The temperatures for the day did not go above freezing. In the southwest flow ahead of the cold front, Connecticut received a good deal of transported SO_2. The day with the highest SO_2 values across the state was December 24, the day before a major cold front passed through the state. Once again, due to the southwesterly flow ahead of the front, SO_2 levels throughout the state were high.

In summary, high levels of SO_2 in Connecticut seem to be caused by a number of related factors. First, Connecticut experiences its highest SO_2 levels during the winter months, when there is an increased amount of fuel combustion. Second, the New York City metropolitan area, a large emission source, is located to the southwest of Connecticut and in this region, southwest winds occur relatively often in comparison to other wind

directions. Also, adverse meteorological conditions are often associated with southwest winds. The net effect is that during the winter months when a persistent southwesterly wind occurs, an air mass picks up increased amounts of SO_2 over the New York City metropolitan area and transports this SO_2 into Connecticut. Here, the SO_2 levels remain high because the relatively low mixing heights associated with the southwest wind will not allow much vertical mixing. 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. It is the sulfate particulates that combine with water droplets to produce "acid rain," both wet and dry deposition.

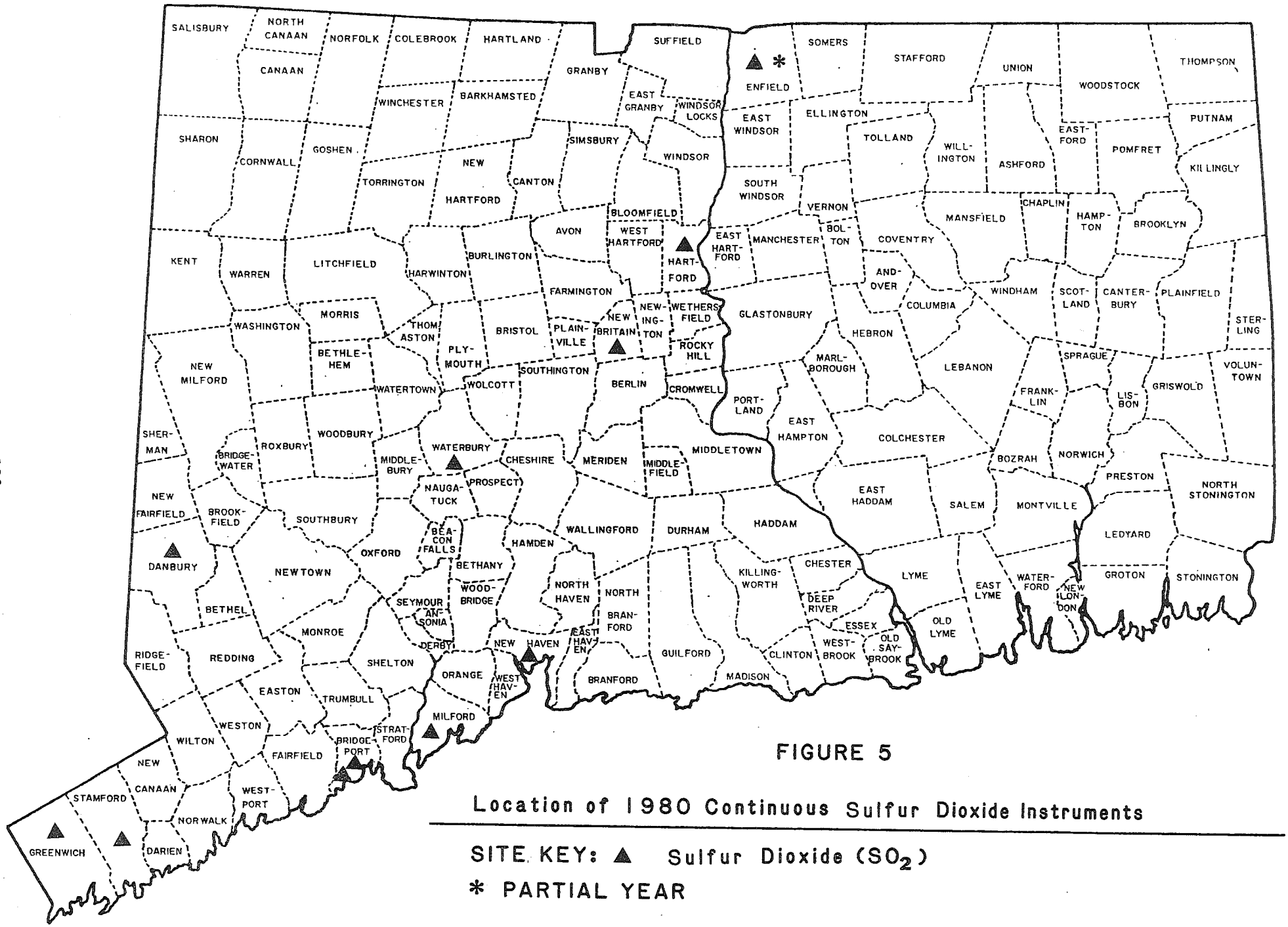


FIGURE 5

Location of 1980 Continuous Sulfur Dioxide Instruments

SITE KEY: ▲ Sulfur Dioxide (SO_2)

* PARTIAL YEAR

TABLE 13

1980
ANNUAL ARITHMETIC AVERAGES OF SULFUR DIOXIDE
AT SITES WITH CONTINUOUS MONITORS

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

TOWN	SITE NAME	1980 ANNUAL AVERAGE
Bridgeport-001	City Hall	26
Bridgeport-123	Hallett Street	38
Danbury-123	Western Conn. State College	25
Enfield-123*	Kosciusko Junior High School	15
Greenwich-004	Bruce Golf Course	29
Hartford-123	State Office Building	38
Milford-002	Devon Community Center	32
New Britain-123	Lake Street	19
New Haven-123	State Street	35
Stamford-123	Health Department	30
Waterbury-123	Bank Street	22

(a) State of Connecticut Air Quality Standard

* Insufficient data for valid annual average or estimate (7 months)

Table 14

1980 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	UPPER	STD DEVIATION	PREDICTED DAYS OVER 260 UG/M3	PREDICTED DAYS OVER 365 UG/M3
BRIDGEPORT	01	1980	300	25.6	25	27	22.530		
BRIDGEPORT	123	1980	355	38.0	38	38	25.911		
DANBURY	123	1980	359	25.0	25	25	18.075		
ENFIELD	123	1980	206	14.9	14	16	13.156		
GREENWICH	04	1980	329	28.7	28	29	21.589		
HARTFORD	123	1980	365	38.1	38	38	28.488		
MILFORD	02	1980	342	32.2	32	33	25.957		
NEW BRITAIN	123	1980	303	19.2	19	20	14.857		
NEW HAVEN	123	1980	354	34.7	34	35	26.713		
STAMFORD	123	1980	357	29.7	29	30	28.217		
WATERBURY	123	1980	364	22.1	22	22	16.599		

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

TABLE 15

1980 MAXIMUM 24-HOUR RUNNING AVERAGE
SULFUR DIOXIDE CONCENTRATIONS

SITE	DATE 1ST HIGH	DATE 2ND HIGH	Concentration (ug/m3) 0 100 200 300 400 365 Primary
Bridgeport-001	12/24/21		190
		12/19/01	156
Bridgeport-123	12/24/21		167
		2/21/12	161
Danbury-123	12/24/22		133
		12/18/21	110
Enfield-123[b]	1/14/24		105
		1/23/16	81
Greenwich-004	12/24/21		171
		12/19/06	128
Hartford-123	12/24/21		200
		2/21/12	193
Milford-002	11/13/11		173
		2/27/09	167
New Britain-123	2/21/09[a]		122
		2/20/22	99
New Haven-123	2/21/13		205
		12/24/22	176
Stamford-123	12/24/20		187
		12/26/22	170
Waterbury-123	2/21/11		103
		12/19/07	97

* Date is month/day/ending hour of occurrence
a Non-overlapping maximum on 02/21/22= 103 ug/m^3
b 7 months data

TABLE 16

COMPARISONS OF 1980 FIRST AND SECOND HIGH RUNNING AND CALENDAR DAY 24-HOUR SO2 AVERAGES
units = ug/m3

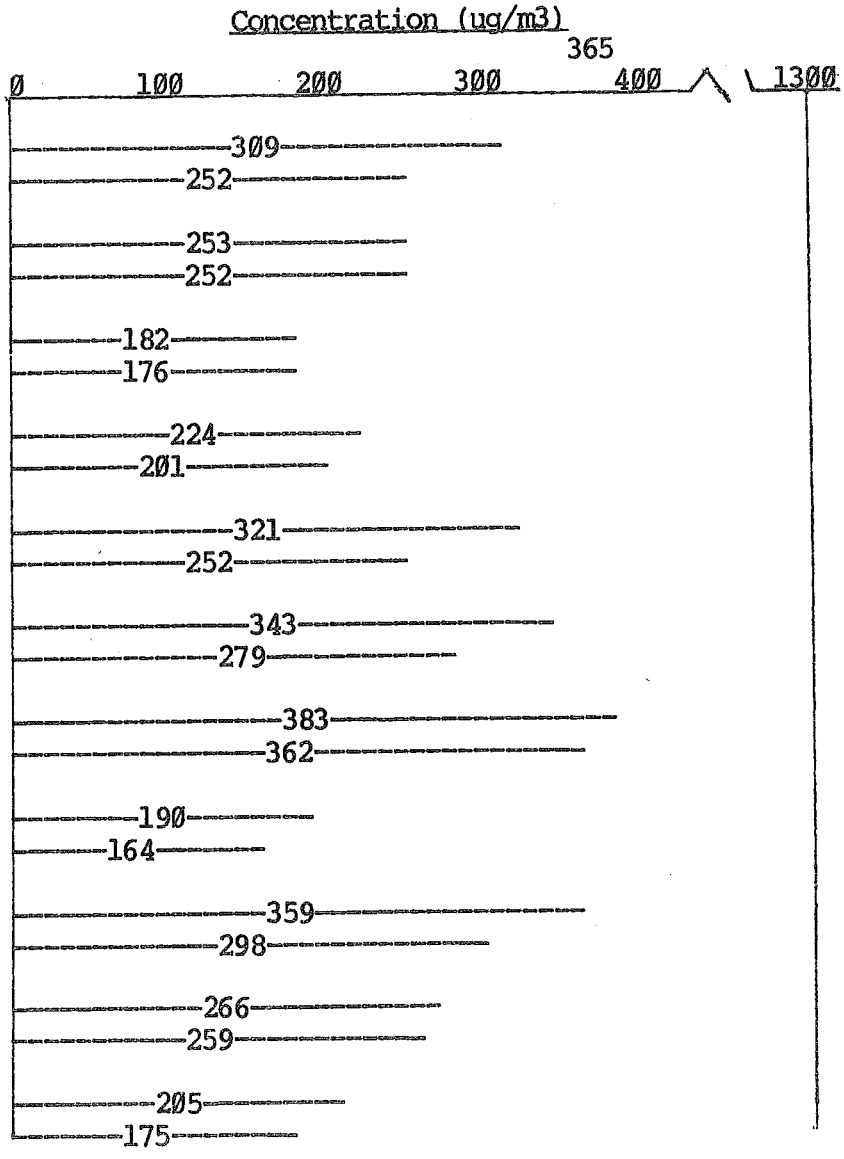
Site	1st High Running Avg.	1st High Calendar Day	2nd High Running Avg.	2nd High Calendar Day
Bridgeport-001	190	186	156	155
Bridgeport-123	167	160	161	156
Danbury 123	133	126	110	109
Enfield 123*	105	104	81	76
Greenwich 004	171	157	128	118
Hartford 123	200	186	193	169
Milford 002	173	163	167	131
New Britain 123	122	105	99	93
New Haven 123	205	180	176	170
Stamford 123	187	169	170	166
Waterbury 123	103	89	97	88

* 7 months of data

TABLE 17

1980 MAXIMUM 3-HOUR SULFUR DIOXIDE CONCENTRATIONS

SITE	DATE* 1ST HIGH	DATE* 2ND HIGH
Bridgeport-001	12/24/09[a]	12/24/11
Bridgeport-123	12/24/17	2/21/08
Danbury-123	12/18/08	12/24/11
Enfield-123**	1/14/15	2/20/13
Greenwich-004	11/24/02	12/24/18
Hartford-123	2/21/11[b]	2/21/09
Milford-002	2/26/14	12/03/18
New Britain-123	2/21/09[c]	2/21/07
New Haven-123	2/21/10	2/21/01
Stamford-123	12/26/03	12/08/11
Waterbury-123	2/21/11	2/19/10



* Date is month/day/ending hour of occurrence
a Non-overlapping maximum on 02/24/08 = 291 ug/m^3
b Non-overlapping maximum on 2/21/12 = 323 ug/m^3
c Non-overlapping maximum on 2/21/10 = 165 ug/m^3
** 7 months data

1980 TEN HIGHEST 24 HR AVG SO2 DAYS WITH WIND DATA

POLLUTANT--SULFUR DIOXIDE UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	1	300	187	155	137	118	114	97	94	88	83	83
		DATE	12/24/80	12/16/80	12/ 8/80	12/26/80	12/27/80	12/ 7/80	12/22/80	12/23/80	10/17/80	12/19/80
METEOROLOGICAL SITE		DIR (DEG)	270	230	220	230	30	100	170	330	200	320
NEWARK		VEL (MPH)	4.8	9.8	9.9	6.8	7.0	2.5	2.9	1.8	8.9	10.8
		SPD (MPH)	9.3	10.5	10.2	6.9	7.5	4.5	6.6	6.9	9.9	14.7
		RATIO	0.511	0.938	0.966	0.989	0.935	0.570	0.439	0.261	0.894	0.734
METEOROLOGICAL SITE		DIR (DEG)	310	210	180	200	10	340	210	160	190	300
BRADLEY		VEL (MPH)	2.5	8.6	4.9	2.9	3.5	2.0	3.3	0.6	6.4	10.3
		SPD (MPH)	4.7	8.9	4.9	3.7	4.7	3.2	4.9	0.6	6.6	15.7
		RATIO	0.531	0.961	0.996	0.789	0.740	0.644	0.675	0.996	0.961	0.656
METEOROLOGICAL SITE		DIR (DEG)	260	240	230	260	20	240	240	340	200	290
BRIDGEPORT		VEL (MPH)	6.0	12.6	3.0	6.1	6.8	5.4	1.3	2.9	10.9	15.0
		SPD (MPH)	7.2	14.7	3.0	8.2	9.1	6.0	7.5	5.5	11.8	18.0
		RATIO	0.831	0.862	1.000	0.742	0.755	0.894	0.168	0.526	0.922	0.836
METEOROLOGICAL SITE		DIR (DEG)	270	240	240	260	20	300	250	200	160	290
WORCESTER		VEL (MPH)	7.3	8.9	9.1	7.7	3.0	3.8	4.3	2.2	3.0	13.3
		SPD (MPH)	7.8	9.1	9.3	9.1	5.9	4.9	5.0	3.2	4.5	14.8
		RATIO	0.945	0.983	0.976	0.854	0.504	0.771	0.863	0.697	0.675	0.898
BRIDGEPORT	123	355	161	157	142	136	125	118	118	111	110	103
		DATE	12/24/80	2/19/80	2/20/80	12/18/80	2/14/80	3/ 4/80	2/21/80	12/ 8/80	11/21/80	12/27/80
METEOROLOGICAL SITE		DIR (DEG)	270	220	70	230	260	230	300	220	270	30
NEWARK		VEL (MPH)	4.8	5.9	1.6	9.8	10.5	11.9	6.5	9.9	5.7	7.0
		SPD (MPH)	9.3	7.2	4.7	10.5	12.2	12.7	9.3	10.2	6.5	7.5
		RATIO	0.511	0.827	0.339	0.938	0.861	0.940	0.693	0.966	0.880	0.935
METEOROLOGICAL SITE		DIR (DEG)	310	200	10	210	290	240	330	180	180	10
BRADLEY		VEL (MPH)	2.5	10.1	1.1	8.6	5.1	4.4	6.8	4.9	2.3	3.5
		SPD (MPH)	4.7	10.8	2.0	8.9	6.9	5.5	7.5	4.9	2.3	4.7
		RATIO	0.531	0.933	0.544	0.961	0.734	0.810	0.905	0.996	0.997	0.740
METEOROLOGICAL SITE		DIR (DEG)	260	230	80	240	260	240	320	230	270	20
BRIDGEPORT		VEL (MPH)	6.0	9.9	2.1	12.6	12.2	10.3	6.7	3.0	5.2	6.8
		SPD (MPH)	7.2	10.9	4.0	14.7	13.4	11.6	9.2	3.0	6.8	9.1
		RATIO	0.831	0.905	0.529	0.862	0.914	0.868	0.723	1.000	0.769	0.755
METEOROLOGICAL SITE		DIR (DEG)	270	250	80	240	280	260	310	240	240	20
WORCESTER		VEL (MPH)	7.3	11.3	0.5	8.9	8.1	8.2	8.2	9.1	5.7	3.0
		SPD (MPH)	7.8	11.6	4.7	9.1	8.5	8.3	10.1	9.3	6.9	5.9
		RATIO	0.945	0.969	0.116	0.983	0.957	0.978	0.818	0.976	0.824	0.504
DANBURY	123	359	127	109	95	94	90	83	83	81	77	76
		DATE	12/24/80	12/16/80	12/26/80	11/21/80	2/20/80	2/21/80	2/14/80	12/27/80	11/23/80	2/19/80
METEOROLOGICAL SITE		DIR (DEG)	270	230	230	270	70	300	260	30	230	220
NEWARK		VEL (MPH)	4.8	9.8	6.8	5.7	1.6	6.5	10.5	7.0	6.9	5.9
		SPD (MPH)	9.3	10.5	6.9	6.5	4.7	9.3	12.2	7.5	7.3	7.2
		RATIO	0.511	0.938	0.989	0.880	0.339	0.693	0.861	0.935	0.947	0.827
METEOROLOGICAL SITE		DIR (DEG)	310	210	200	180	10	330	290	10	210	200
BRADLEY		VEL (MPH)	2.5	8.6	2.9	2.3	1.1	6.8	5.1	3.5	1.0	10.1
		SPD (MPH)	4.7	8.9	3.7	2.3	2.0	7.5	6.9	4.7	1.3	10.8
		RATIO	0.531	0.961	0.789	0.997	0.544	0.905	0.734	0.740	0.769	0.933

Table 18

1980 TEN HIGHEST 24 HR AVG SO2 DAYS WITH WIND 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 BRIDGEPORT			DIR (DEG)	260	240	260	270	80	320	260	20	210	230
			VEL (MPH)	6.0	12.6	6.1	5.2	2.1	6.7	12.2	6.8	4.6	9.9
			SPD (MPH)	7.2	14.7	8.2	6.8	4.0	9.2	13.4	9.1	6.0	10.9
			RATIO	0.831	0.862	0.742	0.769	0.529	0.723	0.914	0.755	0.767	0.905
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	270	240	260	240	80	310	280	20	270	250
			VEL (MPH)	7.3	8.9	7.7	5.7	0.5	8.2	8.1	3.0	6.9	11.3
			SPD (MPH)	7.8	9.1	9.1	6.9	4.7	10.1	8.5	5.9	7.6	11.6
			RATIO	0.945	0.983	0.854	0.824	0.116	0.818	0.957	0.504	0.910	0.969
ENFIELD	123	206		105	76	68	56	52	47	47	43	43	42
			DATE	1/14/80	2/20/80	1/23/80	2/ 6/80	2/14/80	2/19/80	3/ 8/80	1/ 1/80	1/ 7/80	2/12/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	20	70	290	30	260	220	110	30	210	300
			VEL (MPH)	12.4	1.6	11.7	11.4	10.5	5.9	4.6	5.7	13.4	11.3
			SPD (MPH)	12.5	4.7	13.4	11.5	12.2	7.2	7.0	6.6	13.9	13.9
			RATIO	0.995	0.339	0.878	0.989	0.861	0.827	0.647	0.862	0.962	0.814
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	10	10	340	20	290	200	10	10	210	310
			VEL (MPH)	5.9	1.1	4.7	4.7	5.1	10.1	3.6	2.3	9.2	6.3
			SPD (MPH)	6.0	2.0	5.0	4.9	6.9	10.8	3.9	3.0	9.8	7.9
			RATIO	0.974	0.544	0.939	0.971	0.734	0.933	0.935	0.776	0.943	0.794
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	60	80	290	40	260	230	120	80	230	290
			VEL (MPH)	15.0	2.1	11.6	10.3	12.2	9.9	4.8	1.8	19.8	13.5
			SPD (MPH)	15.5	4.0	12.7	11.6	13.4	10.9	8.3	4.9	20.7	14.5
			RATIO	0.964	0.529	0.916	0.887	0.914	0.905	0.574	0.359	0.956	0.929
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	60	80	290	50	280	250	60	330	220	290
			VEL (MPH)	4.7	0.5	6.8	2.3	8.1	11.3	4.7	3.6	9.2	8.2
			SPD (MPH)	6.3	4.7	7.3	5.0	8.5	11.6	5.3	4.5	10.5	9.1
			RATIO	0.742	0.116	0.929	0.456	0.957	0.969	0.887	0.803	0.874	0.910
GREENWICH	4	330		158	118	106	105	98	96	93	85	83	80
			DATE	12/24/80	12/ 8/80	2/20/80	11/21/80	2/14/80	12/16/80	10/ 8/80	12/27/80	12/23/80	12/26/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	270	220	70	270	260	230	210	30	300	230
			VEL (MPH)	4.8	9.9	1.6	5.7	10.5	9.8	7.8	7.0	1.8	6.8
			SPD (MPH)	9.3	10.2	4.7	6.5	12.2	10.5	8.5	7.5	6.9	6.9
			RATIO	0.511	0.966	0.339	0.880	0.861	0.938	0.919	0.935	0.261	0.989
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	310	180	10	180	290	210	200	10	160	200
			VEL (MPH)	2.5	4.9	1.1	2.3	5.1	8.6	7.1	3.5	0.6	2.9
			SPD (MPH)	4.7	4.9	2.0	2.3	6.9	8.9	7.2	4.7	0.6	3.7
			RATIO	0.531	0.996	0.544	0.997	0.734	0.961	0.995	0.740	0.996	0.789
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	260	230	80	270	260	240	210	20	340	260
			VEL (MPH)	6.0	3.0	2.1	5.2	12.2	12.6	11.0	6.8	2.9	6.1
			SPD (MPH)	7.2	3.0	4.0	6.8	13.4	14.7	12.9	9.1	5.5	8.2
			RATIO	0.831	1.000	0.529	0.769	0.914	0.862	0.853	0.755	0.526	0.742
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	270	240	80	240	260	240	220	20	200	260
			VEL (MPH)	7.3	9.1	0.5	5.7	8.1	8.9	8.1	3.0	2.2	7.7
			SPD (MPH)	7.8	9.3	4.7	6.9	8.5	9.1	8.6	5.9	3.2	9.1
			RATIO	0.945	0.976	0.116	0.824	0.957	0.983	0.942	0.504	0.697	0.854

Table 18, Continued

1980 TEN HIGHEST 24 HR AVG SO2 DAYS WITH WIND DATA

POLLUTANT--SULFUR DIOXIDE UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
HARTFORD	123	366		186	169	157	157	135	130	119	116	115	114
			DATE	12/24/80	2/20/80	2/21/80	11/21/80	12/23/80	12/18/80	2/19/80	12/27/80	11/23/80	2/14/80
METEOROLOGICAL SITE			DIR (DEG)	270	70	300	270	330	230	220	30	230	260
NEWARK			VEL (MPH)	4.8	1.6	6.5	5.7	1.8	9.8	5.9	7.0	6.9	10.5
			SPD (MPH)	9.3	4.7	9.3	6.5	6.9	10.5	7.2	7.5	7.3	12.2
			RATIO	0.511	0.339	0.693	0.880	0.261	0.938	0.827	0.935	0.947	0.861
METEOROLOGICAL SITE			DIR (DEG)	310	10	330	180	160	210	200	10	210	290
BRADLEY			VEL (MPH)	2.5	1.1	6.8	2.3	0.6	8.6	10.1	3.5	1.0	5.1
			SPD (MPH)	4.7	2.0	7.5	2.3	0.6	8.9	10.8	4.7	1.3	6.9
			RATIO	0.531	0.544	0.905	0.997	0.996	0.961	0.933	0.740	0.769	0.734
METEOROLOGICAL SITE			DIR (DEG)	260	80	320	270	340	240	230	20	210	260
BRIDGEPORT			VEL (MPH)	6.0	2.1	6.7	5.2	2.9	12.6	9.9	6.8	4.6	12.2
			SPD (MPH)	7.2	4.0	9.2	6.8	5.5	14.7	10.9	9.1	6.0	13.4
			RATIO	0.831	0.529	0.723	0.769	0.526	0.862	0.905	0.755	0.767	0.914
METEOROLOGICAL SITE			DIR (DEG)	270	80	310	240	200	240	250	20	270	280
WORCESTER			VEL (MPH)	7.3	0.5	8.2	5.7	2.2	8.9	11.3	3.0	6.9	8.1
			SPD (MPH)	7.8	4.7	10.1	6.9	3.2	9.1	11.6	5.9	7.6	8.5
			RATIO	0.945	0.116	0.813	0.824	0.697	0.983	0.969	0.504	0.910	0.957
MILFORD	2	342		163	153	132	132	128	122	113	104	103	98
			DATE	11/11/80	2/26/80	11/12/80	12/24/80	12/18/80	12/ 5/80	12/ 4/80	12/19/80	2/19/80	11/14/80
METEOROLOGICAL SITE			DIR (DEG)	320	340	330	270	230	320	320	320	220	260
NEWARK			VEL (MPH)	27.6	21.1	22.0	4.8	9.8	16.2	17.3	10.8	5.9	7.4
			SPD (MPH)	27.9	22.0	22.4	9.3	10.5	16.5	17.7	14.7	7.2	12.2
			RATIO	0.989	0.958	0.981	0.511	0.938	0.980	0.981	0.734	0.827	0.602
METEOROLOGICAL SITE			DIR (DEG)	330	350	340	310	210	350	320	300	200	280
BRADLEY			VEL (MPH)	16.2	15.5	13.1	2.5	8.6	11.7	13.7	10.3	10.1	3.5
			SPD (MPH)	16.8	17.3	13.4	4.7	8.9	12.1	14.1	15.7	10.8	7.9
			RATIO	0.963	0.899	0.977	0.531	0.961	0.969	0.975	0.656	0.933	0.443
METEOROLOGICAL SITE			DIR (DEG)	310	320	320	230	240	310	290	290	230	280
BRIDGEPORT			VEL (MPH)	26.1	20.5	23.3	6.0	12.6	16.3	23.6	15.0	9.9	11.7
			SPD (MPH)	26.3	21.7	24.1	7.2	14.7	17.1	24.1	18.0	10.9	15.2
			RATIO	0.992	0.943	0.965	0.831	0.862	0.955	0.975	0.836	0.905	0.768
METEOROLOGICAL SITE			DIR (DEG)	320	340	320	270	240	320	310	280	250	280
WORCESTER			VEL (MPH)	21.1	12.5	22.7	7.3	8.9	20.3	23.8	13.3	11.3	8.4
			SPD (MPH)	21.4	13.7	22.9	7.8	9.1	20.7	24.1	14.8	11.6	9.5
			RATIO	0.983	0.919	0.991	0.945	0.983	0.982	0.984	0.898	0.969	0.884
NEW BRITAIN	123	303		106	93	87	79	77	65	64	56	55	54
			DATE	2/20/80	2/21/80	2/14/80	2/19/80	3/ 4/80	1/ 7/80	1/18/80	3/10/80	2/11/80	1/23/80
METEOROLOGICAL SITE			DIR (DEG)	70	300	260	220	230	210	250	130	250	290
NEWARK			VEL (MPH)	1.6	6.5	10.5	5.9	11.9	13.4	5.5	5.9	8.5	11.7
			SPD (MPH)	4.7	9.3	12.2	7.2	12.7	13.9	6.0	9.2	11.5	13.4
			RATIO	0.339	0.693	0.861	0.827	0.940	0.962	0.905	0.639	0.737	0.878
METEOROLOGICAL SITE			DIR (DEG)	10	330	290	200	240	210	100	190	230	340
BRADLEY			VEL (MPH)	1.1	6.8	5.1	10.1	4.4	9.2	0.6	5.6	4.2	4.7
			SPD (MPH)	2.0	7.5	6.9	10.8	5.5	9.8	1.6	6.8	7.0	5.0
			RATIO	0.544	0.905	0.734	0.933	0.810	0.943	0.372	0.823	0.594	0.939

Table 18, Continued

1980 TEN HIGHEST 24 HR AVG SO2 DAYS WITH WIND 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			DIR (DEG)	80	320	260	230	240	230	320	120	240	290
BRIDGEPORT			VEL (MPH)	2.1	6.7	12.2	9.9	10.3	19.8	1.1	5.8	9.0	11.6
			SPD (MPH)	4.0	9.2	13.4	10.9	11.6	20.7	4.9	8.8	10.6	12.7
			RATIO	0.529	0.723	0.914	0.905	0.888	0.956	0.225	0.665	0.844	0.916
METEOROLOGICAL SITE			DIR (DEG)	80	310	280	250	260	220	340	210	280	290
WORCESTER			VEL (MPH)	0.5	8.2	8.1	11.3	8.2	9.2	1.1	6.3	5.4	6.8
			SPD (MPH)	4.7	10.1	8.5	11.6	8.3	10.5	3.4	7.2	6.3	7.3
			RATIO	0.116	0.818	0.957	0.969	0.978	0.874	0.318	0.873	0.848	0.929
NEW HAVEN	123	354		181	170	160	152	142	120	116	116	109	105
			DATE	2/20/80	12/24/80	2/21/80	12/18/80	11/21/80	12/26/80	2/19/80	11/14/80	2/13/80	2/14/80
METEOROLOGICAL SITE			DIR (DEG)	70	270	300	230	270	230	220	260	270	260
NEWARK			VEL (MPH)	1.6	4.8	6.5	9.8	5.7	6.8	5.9	7.4	11.0	10.5
			SPD (MPH)	4.7	9.3	9.3	10.5	6.5	6.9	7.2	12.2	11.6	12.2
			RATIO	0.339	0.511	0.693	0.938	0.880	0.969	0.827	0.602	0.948	0.861
METEOROLOGICAL SITE			DIR (DEG)	10	310	330	210	180	200	200	280	300	290
BRADLEY			VEL (MPH)	1.1	2.5	6.8	8.6	2.3	2.9	10.1	3.5	7.2	5.1
			SPD (MPH)	2.0	4.7	7.5	8.9	2.3	3.7	10.8	7.9	8.1	6.9
			RATIO	0.544	0.531	0.905	0.961	0.997	0.789	0.933	0.443	0.900	0.734
METEOROLOGICAL SITE			DIR (DEG)	80	260	320	240	270	260	230	280	270	260
BRIDGEPORT			VEL (MPH)	2.1	6.0	6.7	12.6	5.2	6.1	9.9	11.7	9.1	12.2
			SPD (MPH)	4.0	7.2	9.2	14.7	6.8	8.2	10.9	15.2	10.6	13.4
			RATIO	0.529	0.831	0.723	0.862	0.769	0.742	0.905	0.768	0.859	0.914
METEOROLOGICAL SITE			DIR (DEG)	80	270	310	240	240	260	250	280	290	280
WORCESTER			VEL (MPH)	0.5	7.3	8.2	8.9	5.7	7.7	11.3	8.4	9.1	8.1
			SPD (MPH)	4.7	7.8	10.1	9.1	6.9	9.1	11.6	9.5	9.2	8.5
			RATIO	0.116	0.945	0.818	0.983	0.824	0.854	0.969	0.884	0.986	0.957
STAMFORD	123	357		170	167	162	140	139	137	132	125	124	114
			DATE	12/26/80	12/24/80	2/19/80	12/18/80	12/ 8/80	2/20/80	11/21/80	11/23/80	2/14/80	12/23/80
METEOROLOGICAL SITE			DIR (DEG)	230	270	220	230	220	70	270	230	260	330
NEWARK			VEL (MPH)	6.8	4.8	5.9	9.8	9.9	1.6	5.7	6.9	10.5	1.8
			SPD (MPH)	6.9	9.3	7.2	10.5	10.2	4.7	6.5	7.3	12.2	6.9
			RATIO	0.989	0.511	0.827	0.938	0.966	0.339	0.880	0.947	0.861	0.261
METEOROLOGICAL SITE			DIR (DEG)	200	310	200	210	180	10	180	210	290	160
BRADLEY			VEL (MPH)	2.9	2.5	10.1	8.6	4.9	1.1	2.3	1.0	5.1	0.6
			SPD (MPH)	3.7	4.7	10.8	8.9	4.9	2.0	2.3	1.3	6.9	0.6
			RATIO	0.789	0.531	0.933	0.961	0.996	0.544	0.997	0.769	0.734	0.996
METEOROLOGICAL SITE			DIR (DEG)	260	260	230	240	230	80	270	210	260	340
BRIDGEPORT			VEL (MPH)	6.1	6.0	9.9	12.6	3.0	2.1	5.2	4.6	12.2	2.9
			SPD (MPH)	8.2	7.2	10.9	14.7	3.0	4.0	6.8	6.0	13.4	5.5
			RATIO	0.742	0.831	0.905	0.862	1.000	0.529	0.769	0.767	0.914	0.526
METEOROLOGICAL SITE			DIR (DEG)	260	270	250	240	240	80	240	270	280	200
WORCESTER			VEL (MPH)	7.7	7.3	11.3	8.9	9.1	0.5	5.7	6.9	8.1	2.2
			SPD (MPH)	9.1	7.8	11.6	9.1	9.3	4.7	6.9	7.6	8.5	3.2
			RATIO	0.854	0.945	0.969	0.983	0.976	0.116	0.824	0.910	0.957	0.697

Table 18, Continued

1980 TEN HIGHEST 24 HR AVG SO2 DAYS WITH WIND 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	364	DATE	2/19/80	12/24/80	2/20/80	2/21/80	12/18/80	2/14/80	1/18/80	12/ 8/80	4/ 2/80	1/ 7/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	220	270	70	300	230	260	250	220	180	210
			VEL (MPH)	5.9	4.8	1.6	6.5	9.8	10.5	5.5	9.9	4.5	13.4
			SPD (MPH)	7.2	9.3	4.7	9.3	10.5	12.2	6.0	10.2	7.6	13.9
			RATIO	0.827	0.511	0.339	0.693	0.938	0.861	0.905	0.966	0.594	0.962
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	200	310	10	330	210	290	100	180	220	210
			VEL (MPH)	10.1	2.5	1.1	6.8	8.6	5.1	0.6	4.9	5.4	9.2
			SPD (MPH)	10.8	4.7	2.0	7.5	8.9	6.9	1.6	4.9	6.8	9.8
			RATIO	0.933	0.531	0.544	0.905	0.961	0.734	0.372	0.996	0.801	0.943
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	230	260	80	320	240	260	320	230	230	230
			VEL (MPH)	9.9	6.0	2.1	6.7	12.6	12.2	1.1	3.0	6.8	19.8
			SPD (MPH)	10.9	7.2	4.0	9.2	14.7	13.4	4.9	3.0	7.3	20.7
			RATIO	0.905	0.831	0.529	0.723	0.862	0.914	0.225	1.000	0.931	0.956
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	250	270	80	310	240	260	340	240	260	220
			VEL (MPH)	11.3	7.3	0.5	8.2	8.9	8.1	1.1	9.1	9.7	9.2
			SPD (MPH)	11.6	7.8	4.7	10.1	9.1	8.5	3.4	9.3	10.2	10.5
			RATIO	0.969	0.945	0.116	0.818	0.983	0.957	0.318	0.976	0.946	0.874

Table 18, Continued

IV. OZONE

Conclusions:

Once again in 1980, Connecticut experienced very high concentrations of ozone in the summer months. At each of the ten monitored sites, levels in excess of the one-hour NAAQS of 0.12 ppm were frequently recorded, with one-hour average concentrations occasionally ecxeeding 0.20 ppm.

The frequency but not the magnitude of measured levels in excess of the 0.12 ppm ozone standard increased again during 1980. Year-to-year changes of regional weather conditions most likely contributed a great deal to the increase. Federal emission controls on motor vehicles and continued conservation of gasoline (3.1% less than 1979) have not been large enough to offset the increase in ozone production caused by meteorological conditions.

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 New York City area and other points to the west and the southwest. The increased frequency of levels in excess of the ozone standard is at least partially attributable to the frequency of the southwesterly transport winds. Southwesterly winds are a common occurrence in this region during the summer ozone season. Likewise, the magnitude of the high ozone levels can be associated with yearly variations in temperature. Ozone production is greatest at high temperatures and in strong sunlight. In 1980, the average summer season temperatures averaged between 0.5°F to 2.3°F higher than in 1979. Also, the summer season daily high temperatures were higher in 1980 than in 1979, as exemplified by an increase in the number of days exceeding 90°F from 1 in 1979 to 6 in 1980 at the Sikorsky Airport National Weather Service station. At Bradley, the number of days exceeding 90°F remained at 19.

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 a state-wide ozone monitoring network consisting of four types of sites in 1980 (see Figure 6):

Urban - Bridgeport, Derby, Hartford, Middletown, New Haven
Advection from Southwest - Danbury, Greenwich
Suburban - Stratford
Rural - Morris, Stafford

NAAQS - On February 8, 1979 the EPA established an ambient air quality standard for ozone of 0.12 ppm for a one-hour average. Compliance with this standard is determined by the number of hourly exceedances of this standard at each monitoring site over a consecutive three-year period and then computing the average number of standard exceedances over this interval. If the resulting average value (at each site) is less than or equal to 1.0; that is, if the fourth highest hourly value in a consecutive three-year period is less than 0.12 ppm, the ozone standard is considered attained. 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 1980 Annual Summary uses the term "ozone" in conjunction with the NAAQS to reflect the changes in both the numerical value of the NAAQS and its definition.

1-Hour Average - The 1-hour ozone standard was exceeded at all ten DEP monitoring sites in 1980. The 1st highest 1-hour average ozone concentrations were higher in 1980 than in 1979 at six of the seven paired DEP ozone sites in Connecticut. One of these increases exceeded 0.08 ppm. The 1st highest hourly average decreased at one site from 1979 to 1980, the decrease being 0.08 ppm.

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 ten highest 1-hour ozone averages, and dates of occurrence from the 10-highest days for each ozone site in Connecticut for 1980. 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.)

Nearly all of the high O_3 levels occurred on days with southwesterly winds. This is expected because there are no local sources of ozone; it is all produced by photochemical reactions in the atmosphere. Since New York City and other 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 remembered that bright sunshine and high temperatures are the prime producers of ozone. During the summer ozone season these conditions are most often associated with a southwesterly air flow. It is the combination of these factors that often produces unhealthful ozone levels in Connecticut.

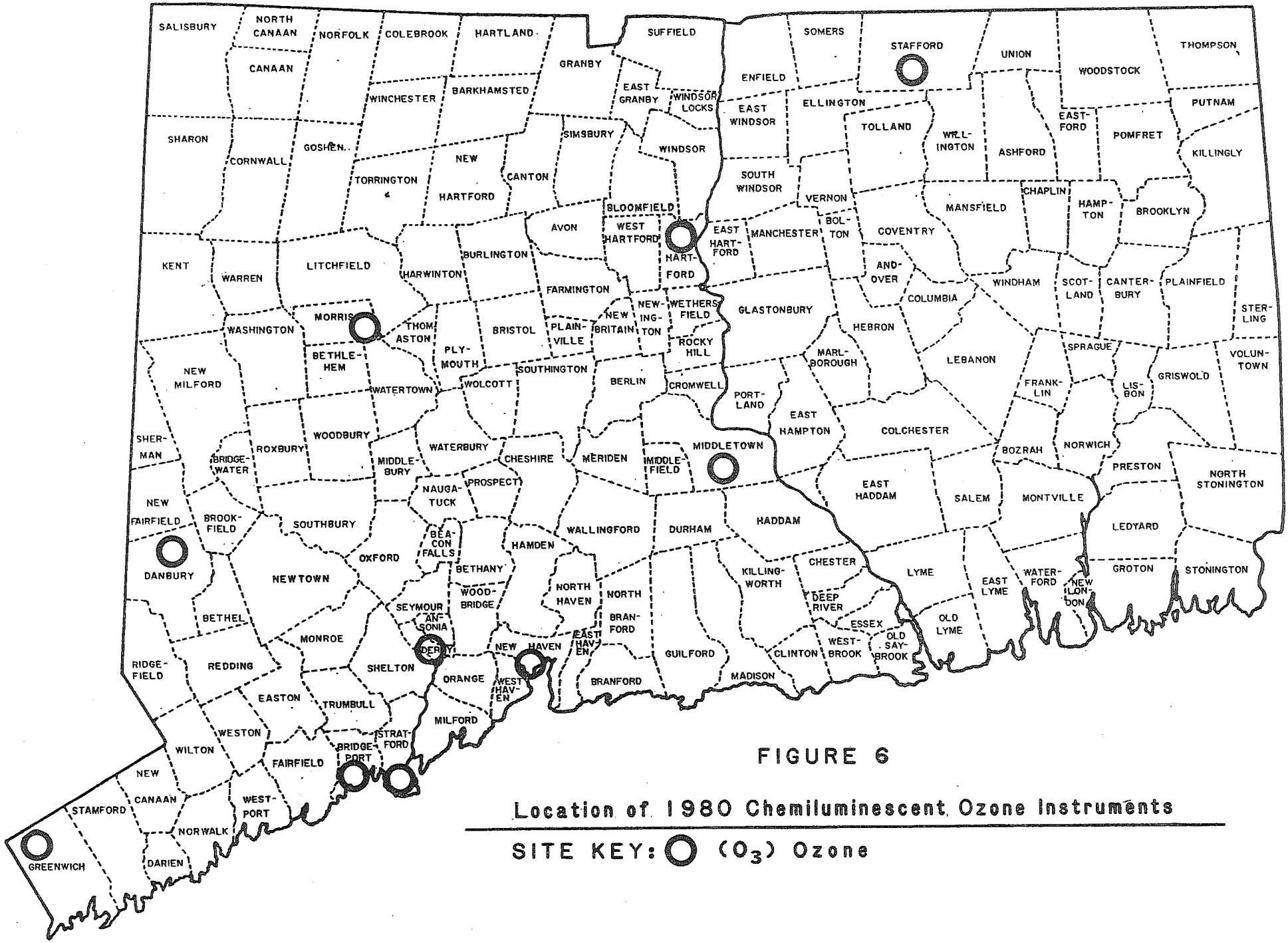


FIGURE 6

Location of 1980 Chemiluminescent Ozone Instruments

SITE KEY: ○ (O_3) Ozone

TABLE 19

NUMBER OF DAYS WITH 1 HOUR WHICH EXCEEDED THE OZONE STANDARDS
(> 0.12 PPM)

1980

SITE	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	TOTAL	TOTAL LAST YEAR
Bridgeport-123	0	0	4	8	8	2	22	16
Danbury-123	0	1	6	8	5	4	24	14
Derby-123	0	1	4	13	5	2	25	15
Greenwich-004	0	1	4	14	5	6	30	17
Hartford-123	0	0	4	9	5	3	21	15
Middletown-007	0*	2*	4	11	8	3	28	-
Morris-001	0*	0*	5	7	5	2	19	19
New Haven-123	0	0	4	5*	7	2	18	12
Stafford-001	0*	5*	2	4	1*	2*	14	-
Stratford-007	0*	5	9	11*	8	7	40	-

* Less than 75% of days during peak pollution potential season have sufficient data.

TABLE 20

1980 HIGHEST 1-HOUR OZONE VALUES BY MONTH, PPM

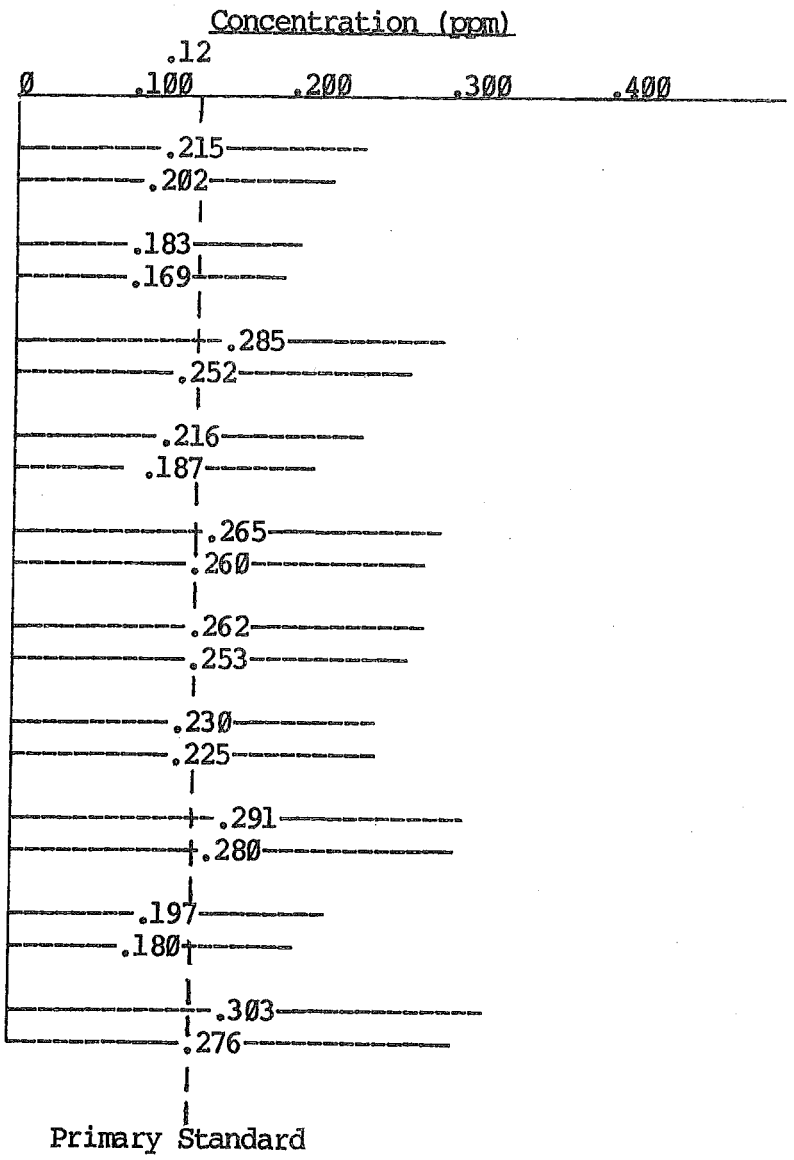
SITE	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	# OF TIMES STANDARD EXCEEDED
Bridgeport-123	.065	.120	.200	.215	.182	.160	68
Danbury-123	.090*	.133	.183	.166	.154	.168	63
Derby-123	.066	.128	.248	.285	.217	.180*	98
Greenwich-004	.080	.132	.178	.187	.172	.216	122
Hartford-123	.082	.106	.183	.265	.147	.171	61
Middletown-007	.081*	.127*	.234	.262	.167	.145	126
Morris-001	.087*	.087*	.211	.196	.175	.230	57
New Haven-123	.076	.108	.204	.291*	.189	.138	66
Stafford-001	.085*	.144*	.153	.197	.121*	.123*	35
Stratford-007	.080*	.189	.276	.303*	.249*	.180	178

* <75% of the data available

TABLE 21

1980 MAXIMUM 1-HOUR OZONE CONCENTRATIONS

SITE	DATE* 1ST HIGH	DATE* 2ND HIGH	1ST HIGH	2ND HIGH
Bridgeport-123	7/16/15	7/16/14	.215	.202
Danbury-123	6/25/16	6/25/17	.183	.169
Derby-123	7/16/15	7/16/14	.285	.252
Greenwich-004	9/21/15	7/21/17	.216	.187
Hartford-123	7/16/17	7/16/16	.265	.260
Middletown-007	7/16/17	7/16/16	.262	.253
Morris-001	9/2/15	9/2/16	.230	.225
New Haven-123	7/16/15	7/16/14	.291	.280
Stafford-001	7/22/18	7/22/17	.197	.180
Stratford-007	7/21/16	6/25/14	.303	.276



* Date is month/day/ending hour of occurrence

1980 TEN HIGHEST 1 HOUR AVG OZONE DAYS WITH WIND DATA

POLLUTANT--OZONE UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	123	217		0.215	0.200	0.190	0.183	0.182	0.179	0.179	0.175	0.173	0.170
			DATE	7/16/80	6/24/80	7/21/80	7/20/80	8/ 6/80	6/25/80	8/27/80	7/ 5/80	7/22/80	8/ 8/80
METEOROLOGICAL SITE			DIR (DEG)	250	220	230	230	250	210	240	170	240	230
NEWARK			VEL (MPH)	10.5	8.9	6.5	10.8	7.3	12.9	6.8	3.6	10.6	11.0
			SPD (MPH)	13.5	9.9	9.6	11.2	9.8	13.4	7.2	9.9	11.5	11.9
			RATIO	0.779	0.902	0.671	0.964	0.744	0.965	0.949	0.363	0.925	0.923
METEOROLOGICAL SITE			DIR (DEG)	200	210	280	280	250	220	280	190	250	230
BRADLEY			VEL (MPH)	5.8	2.7	2.8	2.3	3.6	6.2	3.5	6.8	8.2	4.4
			SPD (MPH)	7.8	5.3	5.6	8.8	4.9	6.6	5.2	7.9	11.5	5.9
			RATIO	0.746	0.498	0.499	0.258	0.735	0.937	0.678	0.857	0.711	0.739
METEOROLOGICAL SITE			DIR (DEG)	230	230	230	210	230	230	230	220	230	240
BRIDGEPORT			VEL (MPH)	14.7	10.7	9.0	9.8	8.7	10.7	5.6	3.6	10.6	11.1
			SPD (MPH)	15.1	11.6	12.5	11.6	11.1	11.2	7.3	8.6	12.4	11.5
			RATIO	0.972	0.919	0.723	0.843	0.785	0.954	0.760	0.418	0.854	0.962
METEOROLOGICAL SITE			DIR (DEG)	260	270	270	270	250	280	280	220	250	260
WORCESTER			VEL (MPH)	8.0	8.5	6.7	7.9	7.0	7.6	6.4	5.2	7.4	6.9
			SPD (MPH)	8.3	8.9	7.0	8.5	7.3	8.8	6.5	6.9	7.8	7.2
			RATIO	0.960	0.955	0.945	0.937	0.955	0.865	0.993	0.749	0.949	0.966
DANBURY	123	177		0.183	0.168	0.166	0.164	0.157	0.156	0.154	0.146	0.146	0.140
			DATE	6/25/80	9/ 2/80	7/ 5/80	6/24/80	9/21/80	7/21/80	8/ 4/80	7/10/80	6/23/80	7/20/80
METEOROLOGICAL SITE			DIR (DEG)	210	220	170	220	230	230	190	120	190	230
NEWARK			VEL (MPH)	12.9	10.5	3.6	8.9	10.5	6.5	7.3	5.6	8.1	10.8
			SPD (MPH)	13.4	12.2	9.9	9.9	10.6	9.6	8.5	7.6	9.1	11.2
			RATIO	0.965	0.856	0.363	0.902	0.985	0.671	0.862	0.736	0.895	0.964
METEOROLOGICAL SITE			DIR (DEG)	220	210	190	210	200	280	250	200	300	280
BRADLEY			VEL (MPH)	6.2	9.0	6.8	2.7	7.8	2.8	2.9	2.3	2.2	2.3
			SPD (MPH)	6.6	10.5	7.9	5.3	8.1	5.6	4.2	6.8	4.2	8.8
			RATIO	0.937	0.862	0.857	0.498	0.970	0.499	0.685	0.342	0.532	0.258
METEOROLOGICAL SITE			DIR (DEG)	230	210	220	230	230	230	230	100	220	210
BRIDGEPORT			VEL (MPH)	10.7	12.4	3.6	10.7	13.3	9.0	8.6	6.5	5.4	9.8
			SPD (MPH)	11.2	13.9	8.6	11.6	13.7	12.5	9.3	9.1	7.9	11.6
			RATIO	0.954	0.893	0.418	0.919	0.974	0.723	0.920	0.723	0.680	0.843
METEOROLOGICAL SITE			DIR (DEG)	280	240	220	270	240	270	260	90	290	270
WORCESTER			VEL (MPH)	7.6	7.7	5.2	8.5	6.8	6.7	4.8	3.0	5.3	7.9
			SPD (MPH)	8.8	8.3	6.9	8.9	7.3	7.0	5.6	4.5	5.9	8.5
			RATIO	0.865	0.928	0.749	0.955	0.933	0.945	0.861	0.684	0.906	0.937
DERBY	123	154		0.285	0.248	0.230	0.227	0.217	0.204	0.204	0.194	0.190	0.180
			DATE	7/16/80	6/24/80	7/21/80	7/20/80	8/ 6/80	7/22/80	7/11/80	8/27/80	6/25/80	9/ 1/80
METEOROLOGICAL SITE			DIR (DEG)	250	220	230	230	250	240	240	240	210	210
NEWARK			VEL (MPH)	10.5	8.9	6.5	10.8	7.3	10.6	8.9	6.8	12.9	12.8
			SPD (MPH)	13.5	9.9	9.6	11.2	9.8	11.5	9.5	7.2	13.4	12.9
			RATIO	0.779	0.902	0.671	0.964	0.744	0.925	0.940	0.949	0.965	0.989
METEOROLOGICAL SITE			DIR (DEG)	200	210	280	280	250	250	210	280	220	200
BRADLEY			VEL (MPH)	5.8	2.7	2.8	2.3	3.6	8.2	7.5	3.5	6.2	7.3
			SPD (MPH)	7.8	5.3	5.6	8.8	4.9	11.5	8.5	5.2	6.6	7.9
			RATIO	0.746	0.498	0.499	0.258	0.735	0.711	0.885	0.678	0.937	0.920

1980 TEN HIGHEST 1 HOUR AVG OZONE DAYS WITH WIND 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)	230	230	230	210	230	230	220	230	230	210
BRIDGEPORT			VEL (MPH)	14.7	10.7	9.0	9.8	8.7	10.6	8.8	5.6	10.7	10.5
			SPD (MPH)	15.1	11.6	12.5	11.6	11.1	12.4	9.9	7.3	11.2	11.6
			RATIO	0.972	0.919	0.723	0.843	0.785	0.854	0.883	0.760	0.954	0.903
METEOROLOGICAL SITE			DIR (DEG)	260	270	270	270	250	250	250	280	280	240
WORCESTER			VEL (MPH)	8.0	8.5	6.7	7.9	7.0	7.4	7.4	6.4	7.6	7.8
			SPD (MPH)	8.3	8.9	7.0	8.5	7.3	7.8	7.6	6.5	8.8	8.1
			RATIO	0.960	0.955	0.945	0.937	0.955	0.949	0.973	0.993	0.865	0.965
GREENWICH		4	299	0.216	0.197	0.187	0.185	0.183	0.179	0.178	0.178	0.176	0.174
			DATE	9/21/80	9/ 1/80	7/21/80	7/ 5/80	7/16/80	9/ 2/80	6/24/80	7/14/80	7/26/80	7/10/80
METEOROLOGICAL SITE			DIR (DEG)	230	210	230	170	250	220	220	210	210	120
NEWARK			VEL (MPH)	10.5	12.8	6.5	3.6	10.5	10.5	8.9	2.7	4.7	5.6
			SPD (MPH)	10.6	12.9	9.6	9.9	13.5	12.2	9.9	7.6	7.8	7.6
			RATIO	0.985	0.989	0.671	0.363	0.779	0.856	0.902	0.348	0.604	0.736
METEOROLOGICAL SITE			DIR (DEG)	200	200	280	190	200	210	210	310	310	200
BRADLEY			VEL (MPH)	7.8	7.3	2.8	6.8	5.8	9.0	2.7	2.5	1.4	2.3
			SPD (MPH)	8.1	7.9	5.6	7.9	7.8	10.5	5.3	4.7	2.6	6.8
			RATIO	0.970	0.920	0.499	0.857	0.746	0.862	0.498	0.518	0.540	0.342
METEOROLOGICAL SITE			DIR (DEG)	230	210	230	220	230	210	230	190	200	100
BRIDGEPORT			VEL (MPH)	13.3	10.5	9.0	3.6	14.7	12.4	10.7	6.3	6.5	6.5
			SPD (MPH)	13.7	11.6	12.5	8.6	15.1	13.9	11.6	9.5	8.6	9.1
			RATIO	0.974	0.903	0.723	0.418	0.972	0.893	0.919	0.660	0.749	0.723
METEOROLOGICAL SITE			DIR (DEG)	240	240	270	220	260	240	270	260	280	90
WORCESTER			VEL (MPH)	6.8	7.8	6.7	5.2	8.0	7.7	8.5	4.6	5.9	3.0
			SPD (MPH)	7.3	8.1	7.0	6.9	8.3	8.3	8.9	5.0	6.2	4.5
			RATIO	0.933	0.965	0.945	0.749	0.960	0.928	0.955	0.907	0.962	0.684
HARTFORD	123	308		0.265	0.240	0.186	0.185	0.183	0.171	0.170	0.167	0.147	0.147
			DATE	7/16/80	7/22/80	7/15/80	7/21/80	6/25/80	9/ 1/80	7/11/80	6/15/80	9/21/80	8/ 4/80
METEOROLOGICAL SITE			DIR (DEG)	250	240	210	230	210	210	240	220	230	190
NEWARK			VEL (MPH)	10.5	10.6	12.7	6.5	12.9	12.8	8.9	10.2	10.5	7.3
			SPD (MPH)	13.5	11.5	13.1	9.6	13.4	12.9	9.5	11.6	10.6	8.5
			RATIO	0.779	0.925	0.968	0.671	0.965	0.989	0.940	0.875	0.985	0.862
METEOROLOGICAL SITE			DIR (DEG)	200	250	210	280	220	200	210	220	200	250
BRADLEY			VEL (MPH)	5.8	8.2	9.4	2.8	6.2	7.3	7.5	4.7	7.8	2.9
			SPD (MPH)	7.8	11.5	10.1	5.6	6.6	7.9	8.5	5.8	8.1	4.2
			RATIO	0.746	0.711	0.931	0.499	0.937	0.920	0.885	0.825	0.970	0.685
METEOROLOGICAL SITE			DIR (DEG)	230	230	220	230	230	210	220	230	230	230
BRIDGEPORT			VEL (MPH)	14.7	10.6	12.6	9.0	10.7	10.5	8.8	6.0	13.3	8.6
			SPD (MPH)	15.1	12.4	13.5	12.5	11.2	11.6	9.9	8.6	13.7	9.3
			RATIO	0.972	0.854	0.934	0.723	0.954	0.903	0.883	0.694	0.974	0.920
METEOROLOGICAL SITE			DIR (DEG)	260	250	240	270	280	240	250	250	240	260
WORCESTER			VEL (MPH)	8.0	7.4	9.9	6.7	7.6	7.8	7.4	4.6	6.8	4.8
			SPD (MPH)	8.3	7.8	10.2	7.0	8.8	8.1	7.6	6.2	7.3	5.6
			RATIO	0.960	0.949	0.973	0.945	0.865	0.965	0.973	0.740	0.933	0.861

Table 22, Continued

1980 TEN HIGHEST 1 HOUR AVG OZONE DAYS WITH WIND DATA

POLLUTANT--OZONE UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
LTCH CTY(MORRIS DAM)	1	172		0.230	0.211	0.196	0.175	0.148	0.148	0.145	0.140	0.140	0.140
			DATE	9/ 2/80	6/25/80	7/ 5/80	8/ 5/80	6/24/80	7/22/80	8/30/80	8/ 1/80	7/20/80	6/15/80
METEOROLOGICAL SITE			DIR (DEG)	220	210	170	190	220	240	160	180	230	220
NEWARK			VEL (MPH)	10.5	12.9	3.6	4.5	8.9	10.6	6.8	4.9	10.8	10.2
			SPD (MPH)	12.2	13.4	9.9	6.8	9.9	11.5	7.9	8.5	11.2	11.6
			RATIO	0.856	0.965	0.363	0.666	0.902	0.925	0.863	0.581	0.964	0.875
METEOROLOGICAL SITE			DIR (DEG)	210	220	190	290	210	250	190	200	280	220
BRADLEY			VEL (MPH)	9.0	6.2	6.8	0.8	2.7	8.2	5.2	4.1	2.3	4.7
			SPD (MPH)	10.5	6.6	7.9	4.7	5.3	11.5	5.5	5.6	8.8	5.8
			RATIO	0.862	0.937	0.857	0.170	0.498	0.711	0.947	0.731	0.258	0.825
METEOROLOGICAL SITE			DIR (DEG)	210	230	220	70	230	230	180	140	210	230
BRIDGEPORT			VEL (MPH)	12.4	10.7	3.6	5.1	10.7	10.6	5.7	4.4	9.8	6.0
			SPD (MPH)	13.9	11.2	8.6	6.6	11.6	12.4	7.6	6.2	11.6	8.6
			RATIO	0.893	0.954	0.418	0.769	0.919	0.854	0.747	0.705	0.843	0.694
METEOROLOGICAL SITE			DIR (DEG)	240	280	220	230	270	250	230	210	270	250
WORCESTER			VEL (MPH)	7.7	7.6	5.2	3.0	8.5	7.4	5.0	4.9	7.9	4.6
			SPD (MPH)	8.3	8.8	6.9	3.6	8.9	7.8	6.0	5.6	8.5	6.2
			RATIO	0.928	0.865	0.749	0.822	0.955	0.949	0.830	0.883	0.937	0.740
MIDDLETOWN	7	172		0.262	0.262	0.234	0.223	0.220	0.204	0.196	0.180	0.168	0.167
			DATE	7/21/80	7/16/80	6/24/80	6/25/80	7/22/80	6/15/80	7/11/80	7/20/80	7/15/80	8/27/80
METEOROLOGICAL SITE			DIR (DEG)	230	250	220	210	240	220	240	230	210	240
NEWARK			VEL (MPH)	6.5	10.5	8.9	12.9	10.6	10.2	8.9	10.8	12.7	6.8
			SPD (MPH)	9.6	13.5	9.9	13.4	11.5	11.6	9.5	11.2	13.1	7.2
			RATIO	0.671	0.779	0.902	0.965	0.925	0.875	0.940	0.964	0.968	0.949
METEOROLOGICAL SITE			DIR (DEG)	280	200	210	220	250	220	210	280	210	280
BRADLEY			VEL (MPH)	2.8	5.8	2.7	6.2	8.2	4.7	7.5	2.3	9.4	3.5
			SPD (MPH)	5.6	7.8	5.3	6.6	11.5	5.8	8.5	8.8	10.1	5.2
			RATIO	0.499	0.746	0.498	0.937	0.711	0.825	0.885	0.258	0.931	0.678
METEOROLOGICAL SITE			DIR (DEG)	230	230	230	230	230	230	220	210	220	230
BRIDGEPORT			VEL (MPH)	9.0	14.7	10.7	10.7	10.6	6.0	8.8	9.8	12.6	5.6
			SPD (MPH)	12.5	15.1	11.6	11.2	12.4	8.6	9.9	11.6	13.5	7.3
			RATIO	0.723	0.972	0.919	0.954	0.854	0.694	0.883	0.843	0.934	0.760
METEOROLOGICAL SITE			DIR (DEG)	270	260	270	280	250	250	250	270	240	280
WORCESTER			VEL (MPH)	6.7	8.0	8.5	7.6	7.4	4.6	7.4	7.9	9.9	6.4
			SPD (MPH)	7.0	8.3	8.9	8.8	7.8	6.2	7.6	8.5	10.2	6.5
			RATIO	0.945	0.960	0.955	0.865	0.949	0.740	0.973	0.937	0.973	0.993
NEW HAVEN	123	236		0.291	0.235	0.227	0.226	0.204	0.189	0.184	0.173	0.172	0.166
			DATE	7/16/80	7/21/80	7/22/80	7/20/80	6/24/80	8/27/80	6/25/80	8/ 6/80	8/ 3/80	8/ 8/80
METEOROLOGICAL SITE			DIR (DEG)	250	230	240	230	220	240	210	250	240	230
NEWARK			VEL (MPH)	10.5	6.5	10.6	10.8	8.9	6.8	12.9	7.3	7.3	11.0
			SPD (MPH)	13.5	9.6	11.5	11.2	9.9	7.2	13.4	9.8	11.2	11.9
			RATIO	0.779	0.671	0.925	0.964	0.902	0.949	0.965	0.744	0.648	0.923
METEOROLOGICAL SITE			DIR (DEG)	200	280	250	280	210	280	220	250	230	230
BRADLEY			VEL (MPH)	5.8	2.8	8.2	2.3	2.7	3.5	6.2	3.6	8.8	4.4
			SPD (MPH)	7.8	5.6	11.5	8.8	5.3	5.2	6.6	4.9	10.1	5.9
			RATIO	0.746	0.499	0.711	0.258	0.498	0.678	0.937	0.735	0.878	0.739

Table 22, Continued

1980 TEN HIGHEST 1 HOUR AVG OZONE DAYS WITH WIND 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)	230	230	230	210	230	230	230	230	210	240
BRIDGEPORT			VEL (MPH)	14.7	9.0	10.6	9.8	10.7	5.6	10.7	8.7	9.5	11.1
			SPD (MPH)	15.1	12.5	12.4	11.6	11.6	7.3	11.2	11.1	10.9	11.5
			RATIO	0.972	0.723	0.854	0.843	0.919	0.760	0.954	0.785	0.868	0.962
METEOROLOGICAL SITE			DIR (DEG)	260	270	250	270	270	280	280	250	230	260
WORCESTER			VEL (MPH)	8.0	6.7	7.4	7.9	8.5	6.4	7.6	7.0	6.7	6.9
			SPD (MPH)	8.3	7.0	7.8	8.5	8.9	6.5	8.8	7.3	6.9	7.2
			RATIO	0.960	0.945	0.949	0.937	0.955	0.993	0.865	0.955	0.978	0.966
STAFFORD	1	161		0.197	0.153	0.146	0.144	0.140	0.131	0.127	0.126	0.126	0.125
		DATE		7/22/80	6/15/80	7/11/80	5/23/80	7/17/80	6/25/80	7/27/80	5/30/80	5/24/80	5/29/80
METEOROLOGICAL SITE			DIR (DEG)	240	220	240	260	230	210	180	140	170	70
NEWARK			VEL (MPH)	10.6	10.2	8.9	8.3	9.3	12.9	8.8	7.4	4.6	5.4
			SPD (MPH)	11.5	11.6	9.5	9.6	11.1	13.4	10.9	8.2	6.9	10.1
			RATIO	0.925	0.875	0.940	0.866	0.844	0.965	0.806	0.906	0.665	0.537
METEOROLOGICAL SITE			DIR (DEG)	250	220	210	320	240	220	200	200	170	30
BRADLEY			VEL (MPH)	8.2	4.7	7.5	3.0	4.1	6.2	6.1	7.4	2.8	2.5
			SPD (MPH)	11.5	5.8	8.5	5.2	6.2	6.6	6.3	7.9	7.0	6.6
			RATIO	0.711	0.825	0.885	0.571	0.661	0.937	0.957	0.942	0.395	0.381
METEOROLOGICAL SITE			DIR (DEG)	230	230	220	240	230	230	200	90	130	90
BRIDGEPORT			VEL (MPH)	10.6	6.0	8.8	8.8	12.9	10.7	8.4	6.0	3.3	4.7
			SPD (MPH)	12.4	8.6	9.9	9.6	13.4	11.2	9.5	8.1	8.5	11.4
			RATIO	0.854	0.694	0.883	0.910	0.963	0.954	0.883	0.742	0.387	0.414
METEOROLOGICAL SITE			DIR (DEG)	250	250	250	350	260	280	220	220	70	270
WORCESTER			VEL (MPH)	7.4	4.6	7.4	1.9	7.9	7.6	5.5	7.0	3.3	0.7
			SPD (MPH)	7.8	6.2	7.6	6.6	8.3	8.8	5.8	8.5	5.0	3.9
			RATIO	0.949	0.740	0.973	0.286	0.948	0.865	0.955	0.830	0.660	0.171
STRATFORD	7	176		0.303	0.276	0.274	0.272	0.253	0.249	0.246	0.244	0.226	0.189
		DATE		7/21/80	6/25/80	7/16/80	7/20/80	6/24/80	8/ 6/80	8/ 8/80	8/27/80	7/22/80	5/23/80
METEOROLOGICAL SITE			DIR (DEG)	230	210	250	230	220	250	230	240	240	260
NEWARK			VEL (MPH)	6.5	12.9	10.5	10.8	8.9	7.3	11.0	6.8	10.6	8.3
			SPD (MPH)	9.6	13.4	13.5	11.2	9.9	9.8	11.9	7.2	11.5	9.6
			RATIO	0.671	0.965	0.779	0.964	0.902	0.744	0.923	0.949	0.925	0.866
METEOROLOGICAL SITE			DIR (DEG)	280	220	200	280	210	250	230	280	250	320
BRADLEY			VEL (MPH)	2.8	6.2	5.8	2.3	2.7	3.6	4.4	3.5	8.2	3.0
			SPD (MPH)	5.6	6.6	7.8	8.8	5.3	4.9	5.9	5.2	11.5	5.2
			RATIO	0.499	0.937	0.746	0.258	0.498	0.735	0.739	0.678	0.711	0.571
METEOROLOGICAL SITE			DIR (DEG)	230	230	230	210	230	230	240	230	230	240
BRIDGEPORT			VEL (MPH)	9.0	10.7	14.7	9.8	10.7	8.7	11.1	5.6	10.6	8.8
			SPD (MPH)	12.5	11.2	15.1	11.6	11.6	11.1	11.5	7.3	12.4	9.6
			RATIO	0.723	0.954	0.972	0.843	0.919	0.785	0.962	0.760	0.854	0.910
METEOROLOGICAL SITE			DIR (DEG)	270	280	260	270	270	250	260	280	250	350
WORCESTER			VEL (MPH)	6.7	7.6	8.0	7.9	8.5	7.0	6.9	6.4	7.4	1.9
			SPD (MPH)	7.0	8.8	8.3	8.5	8.9	7.3	7.2	6.5	7.8	6.6
			RATIO	0.945	0.865	0.960	0.937	0.955	0.955	0.966	0.993	0.949	0.286

Table 22, Continued

V. NITROGEN DIOXIDE

Conclusions:

Once again in 1980, measured nitrogen dioxide levels at all sampling sites in Connecticut were below the National Ambient Air Quality Standard of 100 ug/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.

There was no significant change in NO_2 levels between 1979 and 1980 (see Table 4). Since 60% of the NO_2 emissions in Connecticut come from motor vehicles, this continued attainment could be attributable to the Federal emission control program for motor vehicles. The year-to-year changes in NO_2 levels appear to be caused primarily by fluctuations in meteorological conditions.

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 eighteen nitrogen dioxide sites in 1980 as compared to twenty in 1979. The sites were distributed in a network covering urban, residential and suburban locations (see Figure 7).

Historical Data - The DEP's historical file of annual average nitrogen dioxide data for 1973-1980 is presented in Table 23. The data presented in this 1980 Annual Summary replaces all previous compilations. Also, if minimum EPA sampling requirements were not met in a given year at a given site, an asterisk appears next to the number of samples taken at that site.

Annual Averages - The annual average NO_2 standard was not exceeded in 1980 at any site in Connecticut. In 1980, of the sites that had sufficient data to compute valid arithmetic means, eleven sites showed higher annual means than in 1979, with only one of the increases being greater than 4 ug/m^3. In 1980, six sites showed lower annual means than in 1979, with two of these decreases being greater than 3 ug/m^3. Thus, these results indicate that NO_2 levels have remained at about the same level since 1978.

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 ug/m^3 and 282 ug/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 ug/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 Conneecticut's Administrative Regulations for the Abatement of Air Pollution. The 100 ug/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 1980 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 the wind data.)

As with the other pollutants, NO_2 levels were high most often during the winter months and 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 photochemically 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.

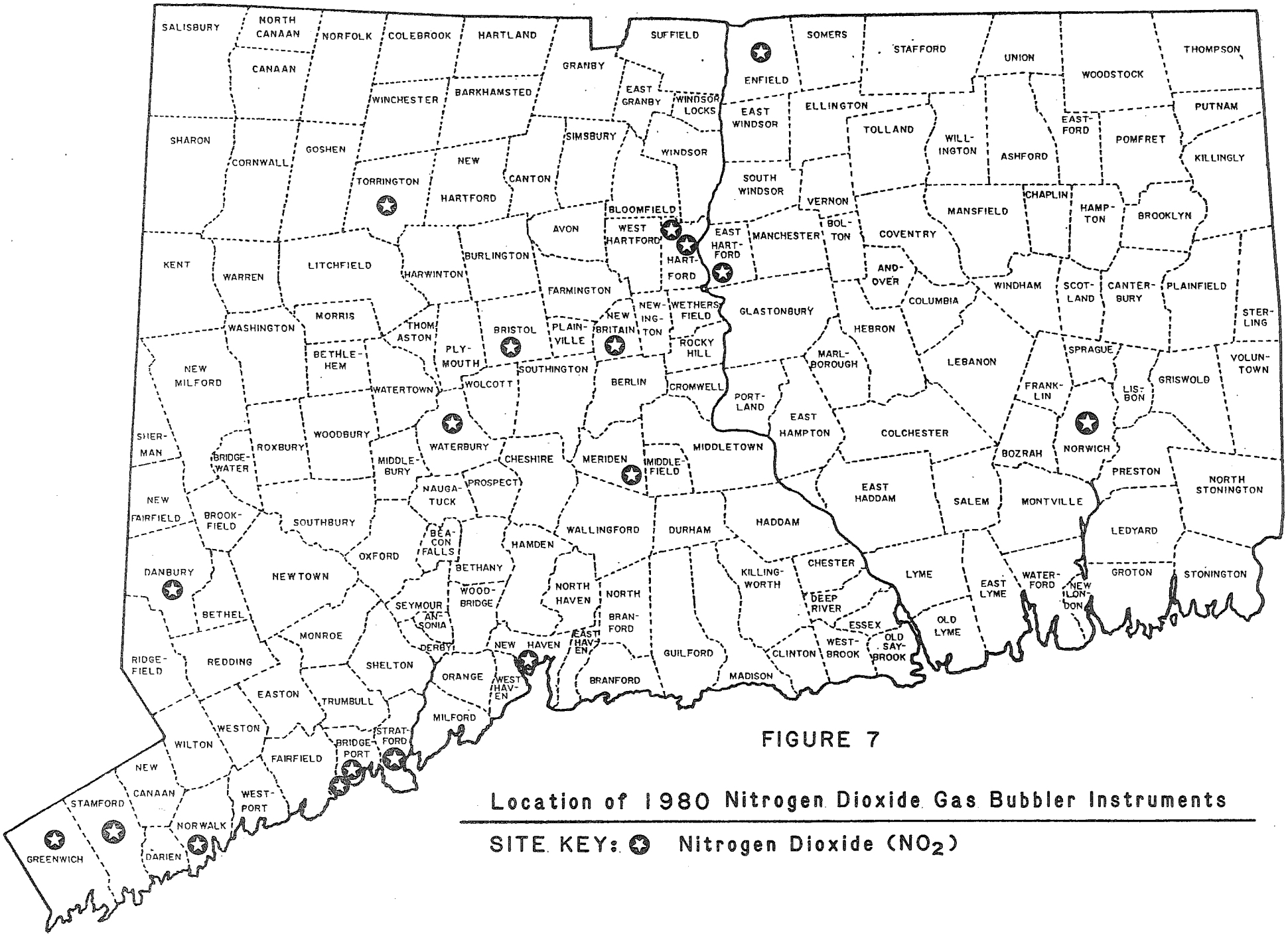


FIGURE 7

Location of 1980 Nitrogen Dioxide Gas Bubbler Instruments

SITE KEY: ✪ Nitrogen Dioxide (NO_2)

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	UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
BERLIN	01	1973	58	42.4	34	50	33.266	29	2
BERLIN	01	1974	55	17.3	13	21	15.498	4	
BERLIN	01	1975	51	39.9	33	47	26.066	20	
BERLIN	01	1976	13*	49.7	35	64	24.304	24	
BRIDGEPORT	01	1973	26*	64.8	56	74	23.676	29	
BRIDGEPORT	01	1974	60	57.1	52	63	22.824	20	
BRIDGEPORT	01	1975	56	58.0	52	64	25.255	29	
BRIDGEPORT	01	1976	57	69.1	61	77	31.261	77	2
BRIDGEPORT	01	1977	57	84.7	76	94	36.274	100	
BRIDGEPORT	01	1978	61	74.7	67	82	31.824	67	
BRIDGEPORT	01	1979	60	72.5	65	80	29.751	58	
BRIDGEPORT	01	1980	59	75.8	69	82	26.893	58	
BRIDGEPORT	03	1973	29*	104.0	84	124	54.953	154	8
BRIDGEPORT	03	1975	45*	71.8	64	80	27.710	67	
BRIDGEPORT	03	1976	13*	62.9	51	75	20.216	29	
BRIDGEPORT	123	1975	30*	72.0	60	84	33.054	67	
BRIDGEPORT	123	1976	59	70.3	63	77	29.970	67	
BRIDGEPORT	123	1977	58	72.5	66	79	26.607	58	
BRIDGEPORT	123	1978	59	66.1	59	73	26.084	50	
BRIDGEPORT	123	1979	59	74.2	65	83	37.035	67	
BRIDGEPORT	123	1980	61	77.0	69	85	34.003	77	
BRISTOL	01	1973	20*	51.9	43	61	19.450	35	
BRISTOL	01	1974	59	33.3	28	39	23.633	29	2
BRISTOL	01	1975	47	47.1	41	53	21.087	16	
BRISTOL	01	1976	52	53.1	45	61	31.396	29	
BRISTOL	01	1977	59	49.7	45	54	19.605	29	
BRISTOL	01	1978	58	48.0	43	53	22.045	16	
BRISTOL	01	1979	58	48.9	44	54	22.195	13	
BRISTOL	01	1980	59	48.5	44	53	18.823	13	

TABLE 23

1973-80 NO_2 Annual Averages and Statistical Projection

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	02	1973	19*	36.7	30	43	14.094		
BRISTOL	02	1974	56	26.8	22	32	20.149	13	1
BRISTOL	03	1973	19*	43.2	33	54	22.402	24	
BRISTOL	03	1974	59	28.6	24	33	19.652	13	1
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	6.832		
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	123	1979	61	53.5	48	59	23.360	16	
DANBURY	123	1980	57	55.0	50	60	21.868	35	
DANBURY 01/	123	1975	57	47.5	41	54	25.326	10	
DERBY	123	1976	56	52.1	46	58	23.071	24	

Table 23, Continued

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
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	
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 HARTFORD	02	1979	58	55.8	51	61	20.963	16	
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	
ENFIELD	123	1979	59	49.2	44	54	21.131	16	
ENFIELD	123	1980	61	50.5	46	55	20.333	10	
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	

Table 23, Continued

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
GREENWICH		04	1977	59	48.8	43	54	22.671	20	
GREENWICH		04	1978	60	39.4	35	44	18.012	8	
GREENWICH		04	1979	60	55.1	48	62	28.619	24	
GREENWICH		04	1980	61	51.6	46	57	23.177	20	
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	
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		123	1979	29	44.3	38	50	16.246	4	
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		03	1979	60	77.5	71	84	26.379	77	
HARTFORD		03	1980	58	78.6	72	85	26.686	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	

Table 23, Continued

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
HARTFORD	123	1979	60	71.3	65	78	28.080	50	
HARTFORD	123	1980	58	73.3	67	79	24.710	42	
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	
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
MERIDEN	02	1979	61	57.0	51	63	26.622	50	1
MERIDEN	02	1980	57	55.9	50	62	25.247	42	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	

Table 23, Continued

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
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 BRITAIN	123	1979	56	53.9	49	59	21.705	13	
NEW BRITAIN	123	1980	59	56.1	52	60	17.403	10	
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	
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	
NEW HAVEN	123	1979	59	64.0	60	68	17.938	13	
NEW HAVEN	123	1980	59	64.8	59	71	26.407	58	
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

Table 23, Continued

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
NORWALK	05	1977	55	74.1	66	82	31.159	67	
NORWALK	05	1978	61	66.1	59	73	29.445	50	
NORWALK	05	1979	60	73.2	66	80	28.999	67	
NORWALK	05	1980	61	75.8	70	82	24.429	58	
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	
NORWICH	01	1979	59	46.3	42	50	15.855	7	
NORWICH	01	1980	59	49.7	46	53	15.341	4	
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	
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	07	1979	61	60.8	54	67	28.421	50	1
STAMFORD	07	1980	61	64.6	59	70	24.627	35	

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	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	
STAMFORD	123	1979	61	64.2	59	70	24.282	29	
STAMFORD	123	1980	61	60.6	54	67	26.466	35	
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
STRATFORD	05	1979	59	71.8	65	78	26.617	50	
STRATFORD	05	1980	58	71.8	66	78	25.359	67	
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	123	1979	61	50.2	46	55	18.621	7	
TORRINGTON	123	1980	61	49.4	46	53	16.134	4	
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		

Table 23, Continued

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
WATERBURY	01	1973	28*	64.0	55	73	23.192	58	
WATERBURY	01	1974	58	63.7	57	70	25.709	67	2
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	
WATERBURY	123	1979	60	73.0	67	79	26.051	50	
WATERBURY	123	1980	61	72.2	66	78	24.760	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 23, Continued

1980 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA.

POLLUTANT--NITROGEN DIOXIDE

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	1	59		160	141	131	129	126	114	107	107	105	103
			DATE	6/ 2/80	6/14/80	12/23/80	2/21/80	3/28/80	9/12/80	3/ 4/80	9/18/80	3/10/80	4/ 3/80
METEOROLOGICAL SITE			DIR (DEG)	240	150	330	300	170	180	230	310	130	220
NEWARK			VEL (MPH)	10.2	2.8	1.8	6.5	7.1	5.0	11.9	8.3	5.9	2.9
			SPD (MPH)	10.5	7.6	6.9	9.3	8.1	7.9	12.7	10.2	9.2	8.3
			RATIO	0.969	0.363	0.261	0.693	0.880	0.637	0.940	0.814	0.639	0.350
METEOROLOGICAL SITE			DIR (DEG)	210	60	160	330	190	300	240	340	190	290
BRADLEY			VEL (MPH)	1.9	2.3	0.6	6.8	7.2	2.5	4.4	6.0	5.6	2.5
			SPD (MPH)	4.2	3.6	0.6	7.5	7.5	4.3	5.5	6.5	6.8	5.5
			RATIO	0.451	0.633	0.996	0.905	0.961	0.576	0.810	0.932	0.823	0.465
METEOROLOGICAL SITE			DIR (DEG)	230	200	340	320	210	220	240	320	120	230
BRIDGEPORT			VEL (MPH)	7.0	1.7	2.9	6.7	7.8	2.6	10.3	9.2	5.8	5.3
			SPD (MPH)	7.6	4.9	5.5	9.2	8.2	6.9	11.6	10.4	8.8	11.1
			RATIO	0.915	0.352	0.526	0.723	0.946	0.381	0.888	0.886	0.665	0.475
METEOROLOGICAL SITE			DIR (DEG)	270	30	200	310	250	290	260	320	210	300
WORCESTER			VEL (MPH)	1.1	1.5	2.2	8.2	6.2	2.7	8.2	6.7	6.3	7.5
			SPD (MPH)	4.2	5.3	3.2	10.1	6.9	4.5	8.3	7.6	7.2	8.9
			RATIO	0.268	0.280	0.697	0.818	0.902	0.606	0.978	0.882	0.873	0.840
BRIDGEPORT	123	61		207	196	143	142	120	117	114	114	113	113
			DATE	5/ 9/80	1/ 4/80	6/14/80	9/ 6/80	3/ 4/80	6/ 2/80	2/21/80	3/28/80	9/12/80	6/27/80
METEOROLOGICAL SITE			DIR (DEG)	310	10	150	160	230	240	300	170	180	300
NEWARK			VEL (MPH)	12.2	10.1	2.8	3.0	11.9	10.2	6.5	7.1	5.0	8.5
			SPD (MPH)	12.4	11.8	7.6	8.8	12.7	10.5	9.3	8.1	7.9	12.7
			RATIO	0.983	0.856	0.363	0.343	0.940	0.969	0.693	0.880	0.637	0.671
METEOROLOGICAL SITE			DIR (DEG)	310	360	60	230	240	210	330	190	300	300
BRADLEY			VEL (MPH)	9.2	5.1	2.3	3.1	4.4	1.9	6.8	7.2	2.5	6.6
			SPD (MPH)	9.6	6.2	3.6	4.2	5.5	4.2	7.5	7.5	4.3	9.5
			RATIO	0.951	0.825	0.633	0.744	0.810	0.451	0.905	0.961	0.576	0.691
METEOROLOGICAL SITE			DIR (DEG)	270	40	200	210	240	230	320	210	220	250
BRIDGEPORT			VEL (MPH)	8.2	7.6	1.7	6.2	10.3	7.0	6.7	7.8	2.6	5.7
			SPD (MPH)	12.4	10.8	4.9	8.8	11.6	7.6	9.2	8.2	6.9	10.8
			RATIO	0.663	0.706	0.352	0.707	0.888	0.915	0.723	0.946	0.381	0.528
METEOROLOGICAL SITE			DIR (DEG)	290	350	30	270	260	270	310	250	290	300
WORCESTER			VEL (MPH)	12.9	3.7	1.5	7.2	8.2	1.1	8.2	6.2	2.7	9.7
			SPD (MPH)	13.1	5.0	5.3	8.1	8.3	4.2	10.1	6.9	4.5	11.5
			RATIO	0.984	0.734	0.280	0.894	0.978	0.268	0.818	0.902	0.606	0.846
BRISTOL	1	59		97	95	84	78	77	77	72	72	68	65
			DATE	2/21/80	12/23/80	11/23/80	3/28/80	12/29/80	6/14/80	10/24/80	4/27/80	7/ 2/80	1/22/80
METEOROLOGICAL SITE			DIR (DEG)	300	330	230	170	30	150	50	80	220	210
NEWARK			VEL (MPH)	6.5	1.8	6.9	7.1	13.9	2.8	10.2	8.9	2.7	6.8
			SPD (MPH)	9.3	6.9	7.3	8.1	13.9	7.6	11.5	10.6	10.4	8.2
			RATIO	0.693	0.261	0.947	0.880	0.996	0.363	0.884	0.837	0.258	0.828
METEOROLOGICAL SITE			DIR (DEG)	330	160	210	190	20	60	60	50	200	210
BRADLEY			VEL (MPH)	6.8	0.6	1.0	7.2	5.1	2.3	1.1	3.2	7.5	2.6
			SPD (MPH)	7.5	0.6	1.3	7.5	5.2	3.6	4.2	4.5	7.9	5.3
			RATIO	0.905	0.996	0.769	0.961	0.985	0.633	0.255	0.729	0.946	0.481

1980 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND 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			DIR (DEG)	320	340	210	210	10	200	80	70	170	240
			VEL (MPH)	6.7	2.9	4.6	7.8	12.6	1.7	11.4	12.8	6.6	7.3
			SPD (MPH)	9.2	5.5	6.0	8.2	12.9	4.9	13.8	14.2	8.8	11.2
			RATIO	0.723	0.526	0.767	0.946	0.975	0.352	0.826	0.896	0.755	0.648
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	310	200	270	250	300	30	70	60	220	230
			VEL (MPH)	8.2	2.2	6.9	6.2	1.4	1.5	3.4	5.9	8.0	3.7
			SPD (MPH)	10.1	3.2	7.6	6.9	5.6	5.3	5.0	6.3	8.6	5.3
			RATIO	0.818	0.697	0.910	0.902	0.243	0.280	0.676	0.939	0.929	0.695
DANBURY	123	57		122	98	97	84	83	82	79	78	77	77
			DATE	2/21/80	11/23/80	9/12/80	3/ 4/80	6/14/80	4/27/80	10/ 6/80	3/28/80	1/22/80	7/ 2/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	300	230	160	230	150	80	360	170	210	220
			VEL (MPH)	6.5	6.9	5.0	11.9	2.8	8.9	7.8	7.1	6.8	2.7
			SPD (MPH)	9.3	7.3	7.9	12.7	7.6	10.6	8.8	8.1	8.2	10.4
			RATIO	0.693	0.947	0.637	0.940	0.363	0.837	0.889	0.880	0.828	0.258
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	330	210	300	240	60	50	10	190	210	200
			VEL (MPH)	6.8	1.0	2.5	4.4	2.3	3.2	5.2	7.2	2.6	7.5
			SPD (MPH)	7.5	1.3	4.3	5.5	3.6	4.5	5.3	7.5	5.3	7.9
			RATIO	0.905	0.769	0.576	0.810	0.633	0.729	0.972	0.961	0.481	0.946
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	320	210	220	240	200	70	360	210	240	170
			VEL (MPH)	6.7	4.6	2.6	10.3	1.7	12.8	6.7	7.8	7.3	6.6
			SPD (MPH)	9.2	6.0	6.9	11.6	4.9	14.2	9.1	8.2	11.2	8.8
			RATIO	0.723	0.767	0.381	0.888	0.352	0.896	0.737	0.946	0.648	0.755
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	310	270	290	260	30	60	30	250	230	220
			VEL (MPH)	8.2	6.9	2.7	8.2	1.5	5.9	3.9	6.2	3.7	8.0
			SPD (MPH)	10.1	7.6	4.5	8.3	5.3	6.3	4.5	6.9	5.3	8.6
			RATIO	0.818	0.910	0.606	0.978	0.280	0.939	0.865	0.902	0.695	0.929
ENFIELD	123	61		113	104	103	99	87	74	74	74	73	71
			DATE	3/ 4/80	11/23/80	2/21/80	12/23/80	12/29/80	12/17/80	10/ 6/80	2/ 9/80	11/17/80	3/28/80
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	230	300	330	30	340	360	300	10	170
			VEL (MPH)	11.9	6.9	6.5	1.8	13.9	12.1	7.8	4.3	4.6	7.1
			SPD (MPH)	12.7	7.3	9.3	6.9	13.9	12.8	8.8	7.8	9.1	8.1
			RATIO	0.940	0.947	0.693	0.261	0.996	0.948	0.889	0.557	0.509	0.880
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	240	210	330	160	20	340	10	320	350	190
			VEL (MPH)	4.4	1.0	6.8	0.6	5.1	8.1	5.2	4.4	2.0	7.2
			SPD (MPH)	5.5	1.3	7.5	0.6	5.2	9.6	5.3	5.3	4.0	7.5
			RATIO	0.810	0.769	0.905	0.996	0.985	0.844	0.972	0.830	0.499	0.961
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	240	210	320	340	10	320	360	280	340	210
			VEL (MPH)	10.3	4.6	6.7	2.9	12.6	13.3	6.7	5.1	3.6	7.8
			SPD (MPH)	11.6	6.0	9.2	5.5	12.9	13.5	9.1	7.8	8.6	8.2
			RATIO	0.888	0.767	0.723	0.526	0.975	0.984	0.737	0.660	0.419	0.946
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	270	310	200	300	310	30	310	300	250
			VEL (MPH)	8.2	6.9	8.2	2.2	1.4	9.3	3.9	7.5	0.4	6.2
			SPD (MPH)	8.3	7.6	10.1	3.2	5.6	9.9	4.5	8.1	3.4	6.9
			RATIO	0.978	0.910	0.818	0.697	0.243	0.935	0.865	0.931	0.123	0.902

Table 24, Continued

1980 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA.

POLLUTANT--NITROGEN DIOXIDE UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
GREENWICH	4	61		123	101	98	93	90	87	82	80	78	77
			DATE	12/23/80	3/ 4/80	3/28/80	8/19/80	11/23/80	1/22/80	6/ 2/80	7/ 2/80	2/21/80	10/30/80
METEOROLOGICAL SITE			DIR (DEG)	330	230	170	190	230	210	240	220	300	330
NEWARK			VEL (MPH)	1.8	11.9	7.1	5.5	6.9	6.8	10.2	2.7	6.5	5.7
			SPD (MPH)	6.9	12.7	8.1	6.6	7.3	8.2	10.5	10.4	9.3	8.2
			RATIO	0.261	0.940	0.880	0.835	0.947	0.828	0.969	0.258	0.693	0.696
METEOROLOGICAL SITE			DIR (DEG)	160	240	190	220	210	210	210	200	330	300
BRADLEY			VEL (MPH)	0.6	4.4	7.2	2.1	1.0	2.6	1.9	7.5	6.8	3.1
			SPD (MPH)	0.6	5.5	7.5	3.6	1.3	5.3	4.2	7.9	7.5	3.7
			RATIO	0.996	0.810	0.961	0.590	0.769	0.481	0.451	0.946	0.905	0.833
METEOROLOGICAL SITE			DIR (DEG)	340	240	210	200	210	240	230	170	320	300
BRIDGEPORT			VEL (MPH)	2.9	10.3	7.8	7.2	4.6	7.3	7.0	6.6	6.7	7.4
			SPD (MPH)	5.5	11.6	8.2	8.3	6.0	11.2	7.6	8.8	9.2	7.9
			RATIO	0.526	0.888	0.946	0.868	0.767	0.648	0.915	0.755	0.723	0.935
METEOROLOGICAL SITE			DIR (DEG)	200	260	250	160	270	230	270	220	310	280
WORCESTER			VEL (MPH)	2.2	8.2	6.2	2.0	6.9	3.7	1.1	8.0	8.2	5.2
			SPD (MPH)	3.2	8.3	6.9	5.3	7.6	5.3	4.2	8.6	10.1	5.6
			RATIO	0.697	0.978	0.902	0.375	0.910	0.695	0.268	0.929	0.818	0.928
HARTFORD	3	58		159	157	140	130	107	106	105	103	98	98
			DATE	2/21/80	6/14/80	11/23/80	12/23/80	3/ 4/80	4/ 3/80	3/10/80	6/ 2/80	8/25/80	9/12/80
METEOROLOGICAL SITE			DIR (DEG)	300	150	230	330	230	220	130	240	50	180
NEWARK			VEL (MPH)	6.5	2.8	6.9	1.8	11.9	2.9	5.9	10.2	1.5	5.0
			SPD (MPH)	9.3	7.6	7.3	6.9	12.7	8.3	9.2	10.5	7.3	7.9
			RATIO	0.693	0.363	0.947	0.261	0.940	0.350	0.639	0.969	0.201	0.637
METEOROLOGICAL SITE			DIR (DEG)	330	60	210	160	240	290	190	210	10	300
BRADLEY			VEL (MPH)	6.8	2.3	1.0	0.6	4.4	2.5	5.6	1.9	3.9	2.5
			SPD (MPH)	7.5	3.6	1.3	0.6	5.5	5.5	6.8	4.2	4.6	4.3
			RATIO	0.905	0.633	0.769	0.996	0.810	0.465	0.823	0.451	0.849	0.576
METEOROLOGICAL SITE			DIR (DEG)	320	200	210	340	240	230	120	230	250	220
BRIDGEPORT			VEL (MPH)	6.7	1.7	4.6	2.9	10.3	5.3	5.8	7.0	0.4	2.6
			SPD (MPH)	9.2	4.9	6.0	5.5	11.6	11.1	8.8	7.6	5.8	6.9
			RATIO	0.723	0.352	0.767	0.526	0.888	0.475	0.665	0.915	0.067	0.381
METEOROLOGICAL SITE			DIR (DEG)	310	30	270	200	260	300	210	270	20	290
WORCESTER			VEL (MPH)	8.2	1.5	6.9	2.2	8.2	7.5	6.3	1.1	3.6	2.7
			SPD (MPH)	10.1	5.3	7.6	3.2	8.3	8.9	7.2	4.2	5.0	4.5
			RATIO	0.818	0.280	0.910	0.697	0.9.8	0.840	0.873	0.268	0.706	0.606
HARTFORD	123	58		158	153	135	128	109	97	97	94	89	88
			DATE	8/ 7/80	2/21/80	12/23/80	11/23/80	4/27/80	9/12/80	6/14/80	5/ 3/80	11/17/80	6/ 2/80
METEOROLOGICAL SITE			DIR (DEG)	290	300	330	230	80	180	150	280	10	240
NEWARK			VEL (MPH)	6.4	6.5	1.8	6.9	8.9	5.0	2.8	7.5	4.6	10.2
			SPD (MPH)	9.8	9.3	6.9	7.3	10.6	7.9	7.6	10.5	9.1	10.5
			RATIO	0.651	0.693	0.261	0.947	0.837	0.637	0.363	0.712	0.509	0.969
METEOROLOGICAL SITE			DIR (DEG)	320	330	160	210	50	300	60	260	350	210
BRADLEY			VEL (MPH)	4.4	6.8	0.6	1.0	3.2	2.5	2.3	2.0	2.0	1.9
			SPD (MPH)	6.3	7.5	0.6	1.3	4.5	4.3	3.6	5.6	4.0	4.2
			RATIO	0.697	0.905	0.996	0.769	0.729	0.576	0.633	0.359	0.499	0.451

Table 24, Continued

1980 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND 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)	260	320	340	210	70	220	200	210	340	230
BRIDGEPORT			VEL (MPH)	6.4	6.7	2.9	4.6	12.8	2.6	1.7	7.7	3.6	7.0
			SPD (MPH)	9.5	9.2	5.5	6.0	14.2	6.9	4.9	9.5	8.6	7.6
			RATIO	0.678	0.723	0.526	0.767	0.896	0.381	0.352	0.815	0.419	0.915
METEOROLOGICAL SITE			DIR (DEG)	290	310	200	270	60	290	30	300	300	270
WORCESTER			VEL (MPH)	9.2	8.2	2.2	6.9	5.9	2.7	1.5	6.4	0.4	1.1
			SPD (MPH)	9.5	10.1	3.2	7.6	6.3	4.5	5.3	9.2	3.4	4.2
			RATIO	0.966	0.818	0.697	0.910	0.939	0.606	0.280	0.698	0.123	0.268
MERIDEN	2	57		137	110	94	94	92	91	90	84	83	82
			DATE	2/21/80	12/23/80	6/ 2/80	1/22/80	6/14/80	11/23/80	8/ 7/80	9/12/80	4/27/80	12/29/80
METEOROLOGICAL SITE			DIR (DEG)	300	330	240	210	150	230	290	180	80	30
NEWARK			VEL (MPH)	6.5	1.8	10.2	6.8	2.8	6.9	6.4	5.0	8.9	13.9
			SPD (MPH)	9.3	6.9	10.5	8.2	7.6	7.3	9.8	7.9	10.6	13.9
			RATIO	0.693	0.261	0.969	0.828	0.363	0.947	0.651	0.637	0.837	0.996
METEOROLOGICAL SITE			DIR (DEG)	330	160	210	210	60	210	320	300	50	20
BRADLEY			VEL (MPH)	6.8	0.6	1.9	2.6	2.3	1.0	4.4	2.5	3.2	5.1
			SPD (MPH)	7.5	0.6	4.2	5.3	3.6	1.3	6.3	4.3	4.5	5.2
			RATIO	0.905	0.996	0.451	0.481	0.633	0.769	0.697	0.576	0.729	0.985
METEOROLOGICAL SITE			DIR (DEG)	320	340	230	240	200	210	260	220	70	10
BRIDGEPORT			VEL (MPH)	6.7	2.9	7.0	7.3	1.7	4.6	6.4	2.6	12.8	12.6
			SPD (MPH)	9.2	5.5	7.6	11.2	4.9	6.0	9.5	6.9	14.2	12.9
			RATIO	0.723	0.526	0.915	0.648	0.352	0.767	0.678	0.381	0.896	0.975
METEOROLOGICAL SITE			DIR (DEG)	310	200	270	230	30	270	290	290	60	300
WORCESTER			VEL (MPH)	8.2	2.2	1.1	3.7	1.5	6.9	9.2	2.7	5.9	1.4
			SPD (MPH)	10.1	3.2	4.2	5.3	5.3	7.6	9.5	4.5	6.3	5.6
			RATIO	0.818	0.697	0.268	0.695	0.280	0.910	0.966	0.606	0.939	0.243
NEW BRITAIN	123	59		101	99	90	85	80	80	77	76	75	74
			DATE	2/21/80	11/23/80	3/ 4/80	9/12/80	3/10/80	4/27/80	7/ 8/80	6/14/80	6/ 2/80	3/28/80
METEOROLOGICAL SITE			DIR (DEG)	300	230	230	180	130	80	230	150	240	170
NEWARK			VEL (MPH)	6.5	6.9	11.9	5.0	5.9	8.9	10.1	2.8	10.2	7.1
			SPD (MPH)	9.3	7.3	12.7	7.9	9.2	10.6	12.5	7.6	10.5	8.1
			RATIO	0.693	0.947	0.940	0.637	0.639	0.837	0.811	0.363	0.969	0.880
METEOROLOGICAL SITE			DIR (DEG)	330	210	240	300	190	50	230	60	210	190
BRADLEY			VEL (MPH)	6.8	1.0	4.4	2.5	5.6	3.2	3.0	2.3	1.9	7.2
			SPD (MPH)	7.5	1.3	5.5	4.3	6.8	4.5	6.6	3.6	4.2	7.5
			RATIO	0.905	0.769	0.810	0.576	0.823	0.729	0.451	0.633	0.451	0.961
METEOROLOGICAL SITE			DIR (DEG)	320	210	240	220	120	70	220	200	230	210
BRIDGEPORT			VEL (MPH)	6.7	4.6	10.3	2.8	5.8	12.8	7.9	1.7	7.0	7.8
			SPD (MPH)	9.2	6.0	11.6	6.9	8.8	14.2	11.6	4.9	7.6	8.2
			RATIO	0.723	0.767	0.888	0.381	0.665	0.896	0.682	0.352	0.915	0.946
METEOROLOGICAL SITE			DIR (DEG)	310	270	260	290	210	60	250	30	270	250
WORCESTER			VEL (MPH)	8.2	6.9	8.2	2.7	6.3	5.9	4.4	1.5	1.1	6.2
			SPD (MPH)	10.1	7.6	8.3	4.5	7.2	6.3	8.5	5.3	4.2	6.9
			RATIO	0.818	0.910	0.978	0.606	0.873	0.939	0.519	0.280	0.268	0.902

Table 24, Continued

1980 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA.

POLLUTANT--NITROGEN DIOXIDE

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
NEW HAVEN	123	59		130	129	121	120	108	104	103	103	86	83
			DATE	5/27/80	9/12/80	2/21/80	4/ 3/80	7/ 2/80	6/14/80	3/28/80	4/27/80	12/ 5/80	10/24/80
METEOROLOGICAL SITE			DIR (DEG)	310	180	300	220	220	150	170	80	320	50
NEWARK			VEL (MPH)	13.3	5.0	6.5	2.9	2.7	2.8	7.1	8.9	16.2	10.2
			SPD (MPH)	14.5	7.9	9.3	8.3	10.4	7.6	8.1	10.6	16.5	11.5
			RATIO	0.913	0.637	0.693	0.350	0.258	0.363	0.880	0.837	0.980	0.884
METEOROLOGICAL SITE			DIR (DEG)	310	300	330	290	200	60	190	50	350	60
BRADLEY			VEL (MPH)	9.8	2.5	6.8	2.5	7.5	2.3	7.2	3.2	11.7	1.1
			SPD (MPH)	10.5	4.3	7.5	5.5	7.9	3.6	7.5	4.5	12.1	4.2
			RATIO	0.938	0.576	0.905	0.465	0.946	0.633	0.961	0.729	0.969	0.255
METEOROLOGICAL SITE			DIR (DEG)	310	220	320	230	170	200	210	70	310	80
BRIDGEPORT			VEL (MPH)	15.3	2.6	6.7	5.3	6.6	1.7	7.8	12.8	16.3	11.4
			SPD (MPH)	15.5	6.9	9.2	11.1	8.8	4.9	8.2	14.2	17.1	13.8
			RATIO	0.988	0.381	0.723	0.475	0.755	0.352	0.946	0.896	0.955	0.826
METEOROLOGICAL SITE			DIR (DEG)	320	290	310	300	220	30	250	60	320	70
WORCESTER			VEL (MPH)	9.6	2.7	8.2	7.5	8.0	1.5	6.2	5.9	20.3	3.4
			SPD (MPH)	10.4	4.5	10.1	8.9	8.6	5.3	6.9	6.3	20.7	5.0
			RATIO	0.929	0.606	0.818	0.840	0.929	0.280	0.902	0.939	0.982	0.676
NORWALK	5	61		129	126	120	120	120	112	107	107	107	105
			DATE	2/21/80	7/ 2/80	6/ 2/80	12/23/80	8/ 7/80	7/20/80	3/28/80	6/14/80	9/12/80	4/ 3/80
METEOROLOGICAL SITE			DIR (DEG)	300	220	240	330	290	230	170	300	180	220
NEWARK			VEL (MPH)	6.5	2.7	10.2	1.8	6.4	10.8	7.1	7.6	5.0	2.9
			SPD (MPH)	9.3	10.4	10.5	6.9	9.8	11.2	8.1	9.6	7.9	8.3
			RATIO	0.693	0.258	0.969	0.261	0.651	0.964	0.880	0.785	0.637	0.350
METEOROLOGICAL SITE			DIR (DEG)	330	200	210	160	320	280	190	310	300	290
BRADLEY			VEL (MPH)	6.8	7.5	1.9	0.6	4.4	2.3	7.2	6.0	2.5	2.5
			SPD (MPH)	7.5	7.9	4.2	0.6	6.3	8.8	7.5	6.2	4.3	5.5
			RATIO	0.905	0.946	0.451	0.996	0.697	0.258	0.961	0.965	0.576	0.465
METEOROLOGICAL SITE			DIR (DEG)	320	170	230	340	260	210	210	270	220	230
BRIDGEPORT			VEL (MPH)	6.7	6.6	7.0	2.9	6.4	9.8	7.8	3.4	2.6	5.3
			SPD (MPH)	9.2	8.8	7.6	5.5	9.5	11.6	8.2	9.8	6.9	11.1
			RATIO	0.723	0.755	0.915	0.526	0.678	0.843	0.946	0.353	0.381	0.475
METEOROLOGICAL SITE			DIR (DEG)	310	220	270	200	290	270	250	280	290	300
WORCESTER			VEL (MPH)	8.2	8.0	1.1	2.2	9.2	7.9	6.2	7.5	2.7	7.5
			SPD (MPH)	10.1	8.6	4.2	3.2	9.5	8.5	6.9	7.8	4.5	8.9
			RATIO	0.818	0.929	0.268	0.697	0.966	0.937	0.902	0.962	0.606	0.840
NORWICH	1	59		86	82	78	77	74	72	69	68	67	66
			DATE	12/23/80	3/ 4/80	11/23/80	12/29/80	2/21/80	10/30/80	9/12/80	10/12/80	12/17/80	12/11/80
METEOROLOGICAL SITE			DIR (DEG)	330	230	230	30	300	330	180	290	340	320
NEWARK			VEL (MPH)	1.8	11.9	6.9	13.9	6.5	5.7	5.0	11.3	12.1	11.8
			SPD (MPH)	6.9	12.7	7.3	13.9	9.3	8.2	7.9	12.9	12.8	13.9
			RATIO	0.261	0.940	0.947	0.996	0.693	0.696	0.637	0.877	0.948	0.848
METEOROLOGICAL SITE			DIR (DEG)	160	240	210	20	330	300	300	290	340	330
BRADLEY			VEL (MPH)	0.6	4.4	1.0	5.1	6.8	3.1	2.5	5.4	8.1	8.0
			SPD (MPH)	0.6	5.5	1.3	5.2	7.5	3.7	4.3	6.6	9.6	11.1
			RATIO	0.996	0.810	0.769	0.985	0.905	0.833	0.576	0.817	0.844	0.724

Table 24, Continued

1980 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND 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)	340	240	210	10	320	300	220	280	320	320
BRIDGEPORT			VEL (MPH)	2.9	10.3	4.6	12.6	6.7	7.4	2.6	15.2	13.3	11.9
			SPD (MPH)	5.5	11.6	6.0	12.9	9.2	7.9	6.9	15.5	13.5	13.4
			RATIO	0.526	0.888	0.767	0.975	0.723	0.935	0.381	0.979	0.984	0.890
METEOROLOGICAL SITE			DIR (DEG)	200	260	270	300	310	280	290	280	310	300
WORCESTER			VEL (MPH)	2.2	8.2	6.9	1.4	8.2	5.2	2.7	10.6	9.3	9.1
			SPD (MPH)	3.2	8.3	7.6	5.6	10.1	5.6	4.5	11.1	9.9	9.8
			RATIO	0.697	0.978	0.910	0.243	0.818	0.928	0.606	0.955	0.935	0.926
STAMFORD	7	61		139	137	104	101	101	98	93	90	89	88
			DATE	11/23/80	2/21/80	7/20/80	3/ 4/80	6/ 2/80	2/ 9/80	6/14/80	8/ 7/80	8/25/80	3/28/80
METEOROLOGICAL SITE			DIR (DEG)	230	300	230	230	240	300	150	290	50	170
NEWARK			VEL (MPH)	6.9	6.5	10.8	11.9	10.2	4.3	2.8	6.4	1.5	7.1
			SPD (MPH)	7.3	9.3	11.2	12.7	10.5	7.8	7.6	9.8	7.3	8.1
			RATIO	0.947	0.693	0.964	0.940	0.969	0.557	0.363	0.651	0.201	0.880
METEOROLOGICAL SITE			DIR (DEG)	210	330	280	240	210	320	60	320	10	190
BRADLEY			VEL (MPH)	1.0	6.8	2.3	4.4	1.9	4.4	2.3	4.4	3.9	7.2
			SPD (MPH)	1.3	7.5	8.8	5.5	4.2	5.3	3.6	6.3	4.6	7.5
			RATIO	0.769	0.905	0.258	0.810	0.451	0.830	0.633	0.697	0.849	0.961
METEOROLOGICAL SITE			DIR (DEG)	210	320	210	240	230	280	200	260	250	210
BRIDGEPORT			VEL (MPH)	4.6	6.7	9.8	10.3	7.0	5.1	1.7	6.4	0.4	7.8
			SPD (MPH)	6.0	9.2	11.6	11.6	7.6	7.8	4.9	9.5	5.8	8.2
			RATIO	0.767	0.723	0.843	0.888	0.915	0.660	0.352	0.678	0.067	0.946
METEOROLOGICAL SITE			DIR (DEG)	270	310	270	260	270	310	30	290	20	250
WORCESTER			VEL (MPH)	6.9	8.2	7.9	8.2	1.1	7.5	1.5	9.2	3.6	6.2
			SPD (MPH)	7.6	10.1	8.5	8.3	4.2	8.1	5.3	9.5	5.0	6.9
			RATIO	0.910	0.818	0.937	0.978	0.268	0.931	0.280	0.966	0.706	0.902
STAMFORD	123	61		157	132	102	99	96	96	92	90	86	86
			DATE	6/14/80	6/ 2/80	12/23/80	11/23/80	3/28/80	2/ 9/80	7/20/80	9/12/80	7/ 2/80	3/16/80
METEOROLOGICAL SITE			DIR (DEG)	150	240	330	230	170	300	230	180	220	270
NEWARK			VEL (MPH)	2.8	10.2	1.8	6.9	7.1	4.3	10.8	5.0	2.7	2.2
			SPD (MPH)	7.6	10.5	6.9	7.3	8.1	7.8	11.2	7.9	10.4	8.3
			RATIO	0.363	0.969	0.261	0.947	0.880	0.557	0.964	0.637	0.258	0.263
METEOROLOGICAL SITE			DIR (DEG)	60	210	160	210	190	320	280	300	200	270
BRADLEY			VEL (MPH)	2.3	1.9	0.6	1.0	7.2	4.4	2.3	2.5	7.5	5.8
			SPD (MPH)	3.6	4.2	0.6	1.3	7.5	5.3	8.8	4.3	7.9	8.1
			RATIO	0.633	0.451	0.996	0.769	0.961	0.830	0.258	0.576	0.946	0.724
METEOROLOGICAL SITE			DIR (DEG)	200	230	340	210	210	280	210	220	170	260
BRIDGEPORT			VEL (MPH)	1.7	7.0	2.9	4.6	7.8	5.1	9.8	2.6	6.6	7.3
			SPD (MPH)	4.9	7.6	5.5	6.0	8.2	7.8	11.6	6.9	8.8	10.2
			RATIO	0.352	0.915	0.526	0.767	0.946	0.660	0.843	0.381	0.755	0.718
METEOROLOGICAL SITE			DIR (DEG)	30	270	200	270	250	310	270	290	220	280
WORCESTER			VEL (MPH)	1.5	1.1	2.2	6.9	6.2	7.5	7.9	2.7	8.0	8.0
			SPD (MPH)	5.3	4.2	3.2	7.6	6.9	8.1	8.5	4.5	8.6	8.8
			RATIO	0.280	0.268	0.697	0.910	0.902	0.931	0.937	0.606	0.929	0.908

Table 24, Continued

1980 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA.

POLLUTANT--NITROGEN DIOXIDE UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
STRATFORD	5	58		131	126	118	115	107	103	101	100	100	98
			DATE	6/14/80	9/12/80	6/ 2/80	8/ 7/80	2/21/80	7/ 2/80	7/26/80	3/16/80	8/25/80	8/19/80
METEOROLOGICAL SITE			DIR (DEG)	150	180	240	290	300	220	210	270	50	190
NEWARK			VEL (MPH)	2.8	5.0	10.2	6.4	6.5	2.7	4.7	2.2	1.5	5.5
			SPD (MPH)	7.6	7.9	10.5	9.8	9.3	10.4	7.8	8.3	7.3	6.6
			RATIO	0.363	0.637	0.969	0.651	0.693	0.258	0.604	0.263	0.201	0.835
METEOROLOGICAL SITE			DIR (DEG)	60	300	210	320	330	200	310	270	10	220
BRADLEY			VEL (MPH)	2.3	2.5	1.9	4.4	6.8	7.5	1.4	5.8	3.9	2.1
			SPD (MPH)	3.6	4.3	4.2	6.3	7.5	7.9	2.6	8.1	4.6	3.6
			RATIO	0.633	0.576	0.451	0.697	0.905	0.946	0.540	0.724	0.849	0.590
METEOROLOGICAL SITE			DIR (DEG)	200	220	230	260	320	170	200	260	250	200
BRIDGEPORT			VEL (MPH)	1.7	2.6	7.0	6.4	6.7	6.6	6.5	7.3	0.4	7.2
			SPD (MPH)	4.9	6.9	7.6	9.5	9.2	8.8	8.6	10.2	5.8	8.3
			RATIO	0.352	0.381	0.915	0.678	0.723	0.755	0.749	0.718	0.067	0.868
METEOROLOGICAL SITE			DIR (DEG)	30	290	270	290	310	220	280	280	20	160
WORCESTER			VEL (MPH)	1.5	2.7	1.1	9.2	8.2	8.0	5.9	8.0	3.6	2.0
			SPD (MPH)	5.3	4.5	4.2	9.5	10.1	8.6	6.2	8.8	5.0	5.3
			RATIO	0.280	0.606	0.268	0.966	0.818	0.929	0.962	0.908	0.706	0.375
TORRINGTON	123	61		109	87	84	78	73	70	69	65	63	62
			DATE	11/23/80	12/23/80	3/ 4/80	2/21/80	9/12/80	12/29/80	1/22/80	3/16/80	8/13/80	11/17/80
METEOROLOGICAL SITE			DIR (DEG)	230	330	230	300	180	30	210	270	300	10
NEWARK			VEL (MPH)	6.9	1.8	11.9	6.5	5.0	13.9	6.8	2.2	9.9	4.6
			SPD (MPH)	7.3	6.9	12.7	9.3	7.9	13.9	8.2	8.3	10.5	9.1
			RATIO	0.947	0.261	0.940	0.693	0.637	0.996	0.828	0.263	0.946	0.509
METEOROLOGICAL SITE			DIR (DEG)	210	160	240	330	300	20	210	270	330	350
BRADLEY			VEL (MPH)	1.0	0.6	4.4	6.8	2.5	5.1	2.6	5.8	5.8	2.0
			SPD (MPH)	1.3	0.6	5.5	7.5	4.3	5.2	5.3	8.1	6.0	4.0
			RATIO	0.769	0.996	0.810	0.905	0.576	0.985	0.481	0.724	0.959	0.499
METEOROLOGICAL SITE			DIR (DEG)	210	340	240	320	220	10	240	260	300	340
BRIDGEPORT			VEL (MPH)	4.6	2.9	10.3	6.7	2.6	12.6	7.3	7.3	3.1	3.6
			SPD (MPH)	6.0	5.5	11.6	9.2	6.9	12.9	11.2	10.2	8.9	8.6
			RATIO	0.767	0.526	0.888	0.723	0.381	0.975	0.648	0.718	0.351	0.419
METEOROLOGICAL SITE			DIR (DEG)	270	200	260	310	290	300	230	280	300	300
WORCESTER			VEL (MPH)	6.9	2.2	8.2	8.2	2.7	1.4	3.7	8.0	5.3	0.4
			SPD (MPH)	7.6	3.2	8.3	10.1	4.5	5.6	5.3	8.8	5.8	3.4
			RATIO	0.910	0.697	0.978	0.818	0.606	0.243	0.695	0.908	0.924	0.123
WATERBURY	123	61		168	135	112	109	107	106	103	103	98	96
			DATE	2/21/80	12/23/80	9/12/80	4/27/80	11/17/80	3/ 4/80	3/28/80	7/ 2/80	1/22/80	11/23/80
METEOROLOGICAL SITE			DIR (DEG)	300	330	160	80	10	230	170	220	210	230
NEWARK			VEL (MPH)	6.5	1.8	5.0	8.9	4.6	11.9	7.1	2.7	6.8	6.9
			SPD (MPH)	9.3	6.9	7.9	10.6	9.1	12.7	8.1	10.4	8.2	7.3
			RATIO	0.693	0.261	0.637	0.837	0.509	0.940	0.880	0.258	0.828	0.947
METEOROLOGICAL SITE			DIR (DEG)	330	160	300	50	350	240	190	200	210	210
BRADLEY			VEL (MPH)	6.8	0.6	2.5	3.2	2.0	4.4	7.2	7.5	2.6	1.0
			SPD (MPH)	7.5	0.6	4.3	4.5	4.0	5.5	7.5	7.9	5.3	1.3
			RATIO	0.905	0.996	0.576	0.729	0.499	0.810	0.961	0.946	0.481	0.769

Table 24, Continued

1980 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND 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)	320	340	220	70	340	240	210	170	240	210
BRIDGEPORT	VEL (MPH)	6.7	2.9	2.6	12.8	3.6	10.3	7.8	6.6	7.3	4.6
	SPD (MPH)	9.2	5.5	6.9	14.2	8.6	11.6	8.2	8.8	11.2	6.0
	RATIO	0.723	0.526	0.381	0.896	0.419	0.888	0.946	0.755	0.648	0.767
METEOROLOGICAL SITE	DIR (DEG)	310	200	290	60	300	260	250	220	230	270
WORCESTER	VEL (MPH)	8.2	2.2	2.7	5.9	0.4	8.2	6.2	8.0	3.7	6.9
	SPD (MPH)	10.1	3.2	4.5	6.3	3.4	8.3	6.9	8.6	5.3	7.6
	RATIO	0.818	0.697	0.606	0.939	0.123	0.978	0.902	0.929	0.695	0.910

Table 24, continued

VI. CARBON MONOXIDE

Conclusions:

The eight-hour National Ambient Air Quality Standard of 9 parts per million (ppm) was exceeded at four of the five carbon monoxide monitoring sites in Connecticut during 1980. These sites were: Hartford 012, New Britain 002, New Haven 007, and Stamford 020. The number of times that the 8-hour standard was exceeded ranged from one time at the Hartford 012 site to 241 times at the Stamford 020 site. No site except Stamford 020 violated the one-hour standard of 35 ppm. The one-hour standard was exceeded two times at the Stamford 020 site in 1980.

A definite decrease in carbon monoxide levels took place between 1979 and 1980.

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 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, Hartford, and New Haven where CO levels are higher than those observed in the monitoring sites in those towns. The CO standards are likely to be exceeded in any city in the Stte 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 continue to 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 1980 consisted of five carbon monoxide monitors. They are all located in urban areas. All sites are located west of the Connecticut River, with three of them in coastal towns (see Figure 8).

8-Hour and 1-Hour Averages - CO levels recorded during 180 were lower overall than those measured during 1979. However, all sites except Bridgeport 004 still exceeded the primary 8-hour standard of 9 ppm. Two sites showed an increase of the maximum 8-hour level from 1979 to 1980. They were New Britain 002 and New Haven 007. This pattern was also evident with the maximum 1-hour levels, though the 1-hour standard of 35 ppm was exceeded at only one site, Stamford 020. The second highest 8-hour ozone levels rose from 1979 at all stations except Hartford 012. The standard was still exceeded at Hartford 012, New Britain 002, and Stamford 020. The second highest 1-hour levels decreased at three sites from last year and they were far below the 1-hour standard with the exception of Stamford 020 (see Table 25).

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 with dates of occurrence, for the 10-highest days at each CO site in Connecticut for 1980. 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 all five CO sites in Connecticut, the high CO levels tend to occur when the winds in the region are southwesterly. Low atmospheric mixing heights and 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 ae blowing CO emissions from the direction of nearby roads toward the monitors. Such appears to be the case especially with the Stamford 020 site, 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 only two days in 1980 when CO levels were relatively high across the state, February 21 and November 21. This is opposite of the behavior exhibited by all the other pollutants and it demonstrates that high levels of CO are much more dependent on local effects than are the other pollutants.

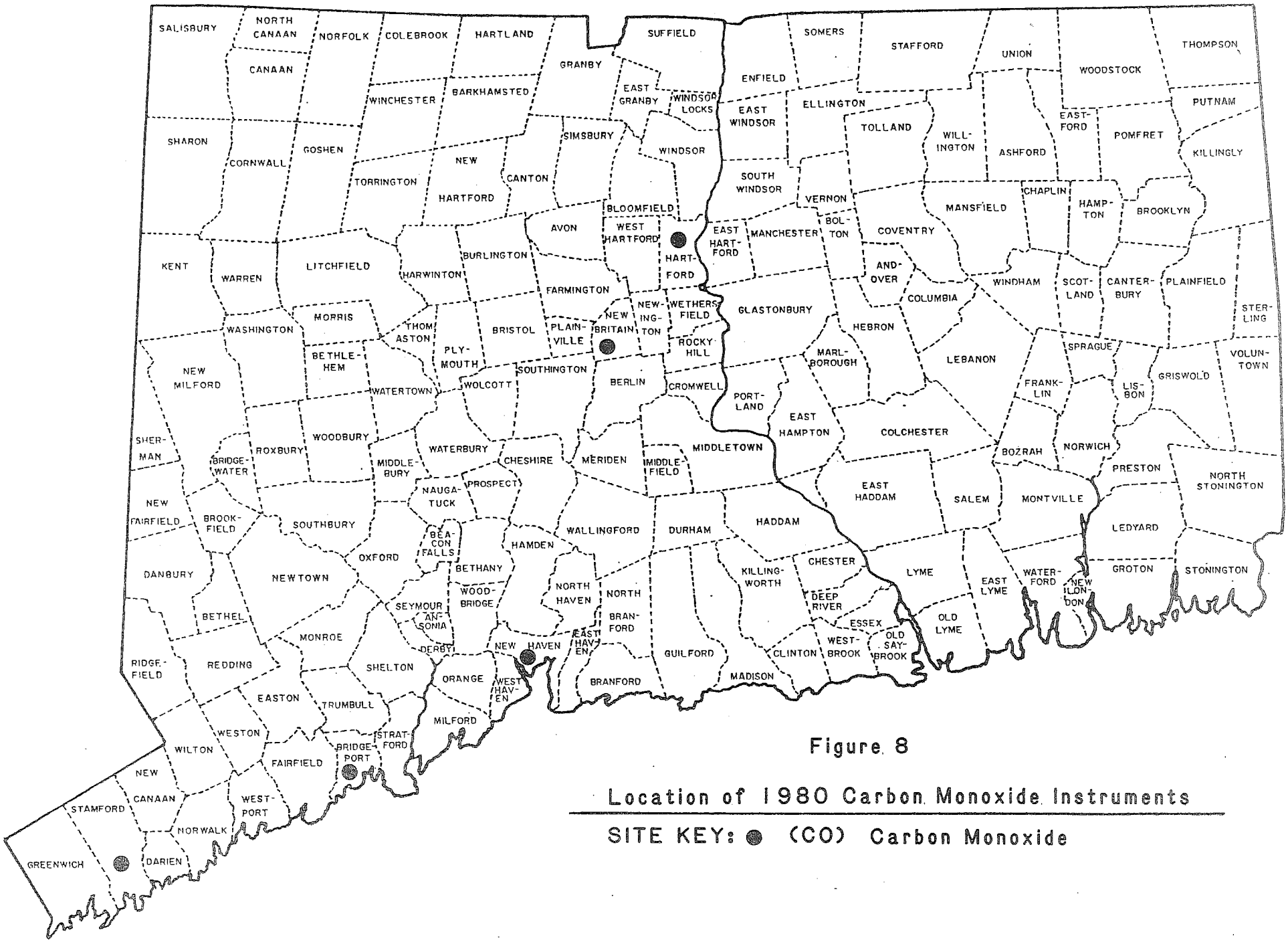


Figure 8

Location of 1980 Carbon Monoxide Instruments

SITE KEY: ● (CO) Carbon Monoxide

TABLE 25

1980 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	8.5	11/21/03	8.2	12/08/14	14.8	2/21/09	13.5	11/21/09
Hartford-012	9.2	5/23/22	9.2	11/21/22	13.9	6/20/24	13.0	5/10/24
New Britain-002	11.5	12/23/21	10.3	2/21/14	18.8	2/21/08	17.0	11/21/18
New Haven-007	9.1	11/21/03	8.7	11/21/11	18.6	11/21/09	18.6	12/08/08
Stamford-020	25.0	1/08/19	21.9	1/03/19	36.0	1/3/17	36.0	2/20/09

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

TABLE 26

1980 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.	4.8*	14.8	7.0	5.6	3.8	5.0	5.3	6.8	9.0	9.0	13.5	11.3	0
	Max-8 Hr.	3.8*	7.7	4.5	4.0	2.5	3.4	4.1	4.1	6.0	5.8	8.5	8.2	0
Hartford-012	Max-1 Hr.	9.5	12.5	13.0	8.0	13.3	13.9	9.4	10.7	11.7	11.4	12.7	10.4	0
	Max-8 Hr.	7.6	7.9	6.1	4.8	9.2	7.9	6.0	4.9	5.3	5.7	9.2	8.8	1
New Britain-002	Max-1 Hr.	—	18.8	12.6	6.4	7.5	13.3	10.0	8.1	8.3	16.0	17.0	16.4	0
	Max-8 Hr.	—	10.3	6.0	4.9	5.3	7.3	5.3	5.2	5.3	7.9	9.8	11.5	8
New Haven-007	Max-1 Hr.	—	2.0*	3.8*	4.4	4.0	5.5	4.4	5.9	9.0	18.1	18.6	18.6	0
	Max-8 Hr.	—	0.9*	1.8*	2.8	2.5	3.3	2.3	3.3	5.8	7.2	9.1	7.7	1
Stamford-020	Max-1 Hr.	36.0	36.0	28.1	22.0	25.7	23.1	20.2	24.5	21.4	18.7	26.9	26.0	2
	Max-8 Hr.	25.0	17.3	17.2	13.6	19.1	13.3	12.5	18.1	12.8	13.2	13.4	19.9	241

* < 75% of Data Available

POLLUTANT--CARBON MONOXIDE

1980 TEN HIGHEST 1 HR AVG CO DAYS WITH WIND DATA

UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	4	354		14.8	13.5	11.8	11.3	11.1	9.0	9.0	9.0	8.8	8.7
			DATE	2/21/80	11/21/80	11/20/80	12/24/80	12/ 8/80	9/29/80	2/19/80	10/ 8/80	10/ 3/80	2/20/80
METEOROLOGICAL SITE			DIR (DEG)	300	270	270	270	220	50	220	210	360	70
NEWARK			VEL (MPH)	6.5	5.7	6.9	4.8	9.9	9.1	5.9	7.8	8.6	1.6
			SPD (MPH)	9.3	6.5	7.6	9.3	10.2	10.6	7.2	8.5	9.3	4.7
			RATIO	0.693	0.880	0.906	0.511	0.966	0.860	0.827	0.919	0.921	0.339
METEOROLOGICAL SITE			DIR (DEG)	330	180	210	310	180	40	200	200	10	10
BRADLEY			VEL (MPH)	6.8	2.3	2.8	2.5	4.9	1.0	10.1	7.1	3.4	1.1
			SPD (MPH)	7.5	2.3	3.4	4.7	4.9	6.2	10.8	7.2	4.3	2.0
			RATIO	0.905	0.997	0.801	0.531	0.996	0.156	0.933	0.995	0.782	0.544
METEOROLOGICAL SITE			DIR (DEG)	320	270	260	260	230	80	230	210	360	80
BRIDGEPORT			VEL (MPH)	6.7	5.2	8.3	6.0	3.0	14.6	9.9	11.0	7.6	2.1
			SPD (MPH)	9.2	6.8	9.3	7.2	3.0	16.8	10.9	12.9	10.1	4.0
			RATIO	0.723	0.769	0.890	0.831	1.000	0.868	0.905	0.853	0.756	0.529
METEOROLOGICAL SITE			DIR (DEG)	310	240	270	270	240	80	250	220	50	80
WORCESTER			VEL (MPH)	8.2	5.7	7.4	7.3	9.1	3.8	11.3	8.1	3.2	0.5
			SPD (MPH)	10.1	6.9	7.6	7.8	9.3	5.8	11.6	8.6	4.2	4.7
			RATIO	0.818	0.824	0.965	0.945	0.976	0.668	0.969	0.942	0.779	0.116
HARTFORD	12	359		13.9	13.3	13.0	12.7	12.5	12.3	12.0	11.7	11.6	11.4
			DATE	6/20/80	5/10/80	3/10/80	11/21/80	2/21/80	11/ 5/80	3/20/80	9/29/80	5/23/80	10/ 8/80
METEOROLOGICAL SITE			DIR (DEG)	260	210	130	270	300	310	170	50	260	210
NEWARK			VEL (MPH)	8.8	9.2	5.9	5.7	6.5	11.6	5.6	9.1	8.3	7.8
			SPD (MPH)	12.5	11.4	9.2	6.5	9.3	12.9	7.9	10.6	9.6	8.5
			RATIO	0.702	0.810	0.639	0.880	0.693	0.899	0.713	0.860	0.866	0.919
METEOROLOGICAL SITE			DIR (DEG)	220	270	190	180	330	310	190	40	320	200
BRADLEY			VEL (MPH)	8.4	5.2	5.6	2.3	6.8	10.2	8.0	1.0	3.0	7.1
			SPD (MPH)	10.9	7.9	6.8	2.3	7.5	11.8	8.2	6.2	5.2	7.2
			RATIO	0.766	0.654	0.823	0.997	0.905	0.862	0.974	0.156	0.571	0.995
METEOROLOGICAL SITE			DIR (DEG)	240	230	120	270	320	290	170	80	240	210
BRIDGEPORT			VEL (MPH)	7.8	10.9	5.8	5.2	6.7	14.7	5.4	14.6	8.8	11.0
			SPD (MPH)	13.2	14.4	8.8	6.8	9.2	15.1	8.9	16.8	9.6	12.9
			RATIO	0.586	0.758	0.665	0.769	0.723	0.976	0.607	0.868	0.910	0.853
METEOROLOGICAL SITE			DIR (DEG)	190	270	210	240	310	300	220	80	350	220
WORCESTER			VEL (MPH)	4.7	8.4	6.3	5.7	8.2	11.3	6.8	3.8	1.9	8.1
			SPD (MPH)	7.3	9.1	7.2	6.9	10.1	12.2	7.0	5.8	6.6	8.6
			RATIO	0.644	0.931	0.873	0.824	0.818	0.922	0.961	0.668	0.286	0.942
NEW BRITAIN	2	326		18.8	17.0	16.4	16.3	16.0	15.2	15.0	15.0	14.4	13.9
			DATE	2/21/80	11/21/80	12/16/80	12/ 1/80	10/ 8/80	12/19/80	12/29/80	11/20/80	12/23/80	12/24/80
METEOROLOGICAL SITE			DIR (DEG)	300	270	20	240	210	320	30	270	330	270
NEWARK			VEL (MPH)	6.5	5.7	11.3	7.5	7.8	10.8	13.9	6.9	1.8	4.8
			SPD (MPH)	9.3	6.5	11.6	8.5	8.5	14.7	13.9	7.6	6.9	9.3
			RATIO	0.693	0.880	0.967	0.879	0.919	0.734	0.996	0.906	0.261	0.511
METEOROLOGICAL SITE			DIR (DEG)	330	180	20	250	200	300	20	210	160	310
BRADLEY			VEL (MPH)	6.8	2.3	8.2	5.9	7.1	10.3	5.1	2.8	0.6	2.5
			SPD (MPH)	7.5	2.3	8.8	7.9	7.2	15.7	5.2	3.4	0.6	4.7
			RATIO	0.905	0.997	0.935	0.747	0.995	0.656	0.985	0.801	0.996	0.531

1980 TEN HIGHEST 1 HR AVG CO DAYS WITH WIND 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	270	20	240	210	290	10	260	340	260
BRIDGEPORT			VEL (MPH)	6.7	5.2	11.1	14.4	11.0	15.0	12.6	8.3	2.9	6.0
			SPD (MPH)	9.2	6.8	12.4	14.8	12.9	18.0	12.9	9.3	5.5	7.2
			RATIO	0.723	0.769	0.895	0.970	0.853	0.836	0.975	0.890	0.526	0.631
METEOROLOGICAL SITE			DIR (DEG)	310	240	30	260	220	280	300	270	200	270
WORCESTER			VEL (MPH)	8.2	5.7	7.2	5.9	8.1	13.3	1.4	7.4	2.2	7.3
			SPD (MPH)	10.1	6.9	7.5	6.9	8.6	14.8	5.6	7.6	3.2	7.8
			RATIO	0.818	0.824	0.965	0.848	0.942	0.898	0.243	0.965	0.697	0.945
NEW HAVEN	7	294		18.6	18.6	18.1	12.7	11.8	11.2	10.0	9.3	9.2	9.1
			DATE	12/ 8/80	11/21/80	10/ 8/80	12/ 2/80	10/17/80	11/20/80	11/ 3/80	12/ 1/80	11/24/80	12/24/80
METEOROLOGICAL SITE			DIR (DEG)	220	270	210	140	200	270	190	240	150	270
NEWARK			VEL (MPH)	9.9	5.7	7.8	3.7	8.9	6.9	5.2	7.5	4.2	4.8
			SPD (MPH)	10.2	6.5	8.5	8.9	9.9	7.6	7.5	8.5	4.7	9.3
			RATIO	0.966	0.880	0.919	0.412	0.894	0.906	0.695	0.879	0.884	0.511
METEOROLOGICAL SITE			DIR (DEG)	180	180	200	190	190	210	190	250	90	310
BRADLEY			VEL (MPH)	4.9	2.3	7.1	4.1	6.4	2.8	5.2	5.9	0.4	2.5
			SPD (MPH)	4.9	2.3	7.2	6.3	6.6	3.4	5.8	7.9	2.9	4.7
			RATIO	0.996	0.997	0.995	0.656	0.961	0.801	0.913	0.747	0.130	0.531
METEOROLOGICAL SITE			DIR (DEG)	230	270	210	130	200	260	200	240	150	260
BRIDGEPORT			VEL (MPH)	3.0	5.2	11.0	6.2	10.9	8.3	5.1	14.4	6.7	6.0
			SPD (MPH)	3.0	6.8	12.9	12.5	11.8	9.3	10.1	14.8	10.9	7.2
			RATIO	1.000	0.769	0.853	0.497	0.922	0.890	0.508	0.970	0.611	0.831
METEOROLOGICAL SITE			DIR (DEG)	240	240	220	160	160	270	270	260	200	270
WORCESTER			VEL (MPH)	9.1	5.7	8.1	6.1	3.0	7.4	3.2	5.9	4.4	7.3
			SPD (MPH)	9.3	6.9	8.6	7.2	4.5	7.6	4.6	6.9	6.0	7.8
			RATIO	0.976	0.824	0.942	0.843	0.675	0.965	0.692	0.848	0.735	0.945
STAMFORD	20	364		36.0	36.0	35.5	34.8	34.7	34.0	32.0	31.6	30.0	28.7
			DATE	1/ 3/80	2/20/80	2/14/80	1/ 9/80	1/25/80	2/21/80	1/24/80	1/ 8/80	1/18/80	1/23/80
METEOROLOGICAL SITE			DIR (DEG)	320	70	260	280	260	300	270	270	250	290
NEWARK			VEL (MPH)	11.9	1.6	10.5	7.4	5.9	6.5	16.3	12.3	5.5	11.7
			SPD (MPH)	12.7	4.7	12.2	8.3	7.5	9.3	16.5	12.9	6.0	13.4
			RATIO	0.939	0.339	0.861	0.890	0.794	0.693	0.986	0.954	0.905	0.878
METEOROLOGICAL SITE			DIR (DEG)	340	10	290	280	300	330	290	290	100	340
BRADLEY			VEL (MPH)	8.3	1.1	5.1	5.6	5.3	6.8	12.3	8.4	0.6	4.7
			SPD (MPH)	8.9	2.0	6.9	6.2	6.2	7.5	12.8	8.6	1.6	5.0
			RATIO	0.935	0.544	0.734	0.907	0.850	0.905	0.964	0.969	0.372	0.939
METEOROLOGICAL SITE			DIR (DEG)	340	80	260	290	280	320	270	290	320	290
BRIDGEPORT			VEL (MPH)	11.5	2.1	12.2	8.9	10.5	6.7	22.7	15.1	1.1	11.6
			SPD (MPH)	11.9	4.0	13.4	9.8	12.7	9.2	23.1	15.5	4.9	12.7
			RATIO	0.962	0.529	0.914	0.911	0.830	0.723	0.982	0.972	0.225	0.916
METEOROLOGICAL SITE			DIR (DEG)	320	80	280	270	280	310	280	280	340	290
WORCESTER			VEL (MPH)	7.6	0.5	8.1	7.1	11.9	8.2	20.1	11.9	1.1	6.8
			SPD (MPH)	7.9	4.7	8.5	7.3	11.9	10.1	20.3	12.1	3.4	7.3
			RATIO	0.959	0.116	0.957	0.967	0.994	0.818	0.992	0.986	0.318	0.929

Table 27, continued

VII. LEAD

Conclusions:

The National Ambient Air Quality Standard (NAAQS) for lead is 1.5 ug/m^3 per calendar quarter average. It was not exceeded at any site in Connecticut during 1980, down from seven sites in 1979.

A definite downward trend in measured concentrations of lead has been noted since 1978.

The monitoring sites where the lead standard was approached were generally in urban locations in areas of moderate to heavy traffic. In Connecticut, the primary source of lead concentrations in the atmosphere is emission from the combustion of leaded gasoline in motor vehicles. Atmospheric concentrations of lead should continue to decline as use of unleaded gasoline continues.

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 1980, 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.

NAAQS - On October 5, 1978, the EPA established an ambient air quality standard for lead of 1.5 ug/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 ug/m^3.

Quarterly Averages - The calendar quarter lead standard was not exceeded at any site in 1980, seven less than in 1979. Quarterly and annual averages for lead in 1980 are presented in Table 28. The maximum quarterly lead level was lower in 1980 than in 1979 at thirty-one of the thirty-two paired hi-vol sites where the minimum EPA sampling criteria were met. At twenty-three of these sites the decrease exceeded 0.5 ug/m^3. The maximum quarterly lead level increased at only one site from 1979 to 1980. The increase amounted to 0.01 ug/m^3. Annual average lead concentrations decreased at thirty-two sites and increased at no sites from 1979 to 1980. The quarterly and the annual average lead (Pb) levels for 1980 can be found in Table 28.

TABLE 28

1980 QUARTERLY AND ANNUAL AVERAGE LEAD (Pb) LEVELS BY SITE, ug/m3)

TOWN	SITE	QUARTERLY AVERAGES[1] 1ST	2ND	3RD	4TH	ANNUAL AVERAGE[2]
Ansonia	003	0.93	0.50	0.53	0.58*	0.64
Berlin	001	0.22	0.19	0.19	0.20	0.20
Bridgeport	001	0.64*	0.72*	0.73*	0.37*	0.63*
Bridgeport	123	0.98	0.70	0.70	0.56	0.74
Bristol	001	0.56	0.44	0.36	0.34	0.39
Burlington	001	0.18	0.13	0.15	0.12	0.14
Danbury	123	0.63	0.31	0.48	0.61	0.51
Enfield	123	0.45	0.28	0.34	0.48	0.39
Greenwich	004	0.32	0.23	0.29	0.20	0.26
Greenwich	008	0.58	0.42	0.56	0.45	0.50
Haddam	002	0.21	0.17	0.21	0.19	0.20
Hartford	003	0.69	0.50	0.54	0.61	0.58
Hartford	123	0.67	0.51	0.53	0.65	0.59
Morris	001	0.25	0.16	0.18	0.15	0.18
Manchester	001	0.39	0.27	0.34	0.42	0.35
Meriden	002	0.68	0.46	0.49	0.49	0.53
Meriden	005	0.58	0.38	0.37	0.44*	0.44
Middletown	003	0.59	0.42	0.49	0.52	0.50
Milford	002	0.61	0.34	0.44	0.33	0.43
Naugatuck	001	0.79	0.39	0.49	0.58	0.56
New Britain	123	0.60	0.40	0.46	0.47	0.48
New Haven	002	0.95	0.60	0.73	0.68	0.73
New Haven	123	0.72*	0.80*	0.77*	0.70*	0.75*
Norwalk	005	0.78	0.52	0.59	0.54	0.60
Norwich	001	0.51	0.26	0.30	0.32	0.34
Stamford	007	0.72	0.35	0.47	0.37	0.47
Stamford	123	0.50	0.49	0.52	0.46	0.49
Stratford	005	0.80	0.47	0.58	0.47	0.59
Torrington	123	0.68	0.41	0.46	0.59	0.53
Voluntown	001	0.12	0.10	0.11	0.08	0.10
Wallingford	001	0.65	0.39	0.47	0.50*	0.50
Waterbury	002	0.67	0.41	0.44	0.51	0.50
Waterbury	123	1.17*	0.90*	0.75*	0.85*	0.91*
Waterford	001	0.15	0.15	0.25	0.12	0.17
Willimantic	002	0.46	0.23	0.32	0.32	0.33

1 Weighted average based on number of filters analyzed in each month.
2 Weighted average based on number of filters analyzed in each quarter.
* Less than 75% of possible data

VIII. CLIMATOLOGICAL DATA

Weather is often the most significant factor influencing short-term changes in air quality and also has an affect on long-term trends. Shown in Table 29 is climatological information from the National Weather Service Station at Bradley International Airport in Windsor Locks for the years 1979 and 1980. Table 30 contains information from the Weather Service site located at Sikorsky Memorial Airport near Bridgeport. All data are compared to "mean" or "normal" values. Wind speeds and temperatures are shown as monthly and yearly averages. Precipitation data includes the number of days with more than 0.01 inches of precipitation as well as total water equivalent. Also shown are degree days* (heating requirement) and the number of days with temperatures exceeding 90°F. These comparisons show that 1980 was somewhat cooler than 1979 and a "normal" year. Precipitation was 86% of the mean in Bridgeport and only 70% of the mean in Windsor Locks. Average wind speed at Bradley was 8% lower than the mean while it was 9% greater than the mean at Bridgeport. More discussion of the meteorological data is included in the discussions of each pollutant in the earlier sections of this 1980 Annual Summary.

Wind roses for Bradley Airport, Sikorsky Airport, and Newark Airport have been developed from 1980 National Weather Service surface observations and are shown in Figures 9, 10, and 11.. Wind roses from these stations for 1979 are shown in Figures 12, 13, and 14. The differences between 1979 and 1980 wind roses were discussed earlier in the trend analysis section.

* The degree day value for each day is arrived at by subtracting the low temperature of the day from 65°F. This number (65) is used as a base value because it is assumed that there is no heating requirement when the outside temperature is 65°F.

TABLE 29

1979 AND 1980 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)			
	1980	1979	Mean[a]	1980	1979	Mean[b]	1980	1979	Normal[b]	1980	1979	Normal[a]	1980	1979	Mean[c]	1980	1979	Mean[d]	
January	27.6	26.6	26.9	0	0	0	1151	1184	1246	0.72	9.12	3.58	3	15	11	9.3	8.4	9.4	Jan.
February	24.3	18.0	27.6	0	0	0	1174	1310	1070	0.98	2.83	3.19	4	10	10	8.7	9.1	9.7	Feb.
March	35.2	41.2	37.1	0	0	0	916	730	911	5.87	4.25	3.78	17	12	12	10.5	8.1	10.2	Mar.
April	49.2	49.0	48.1	0	0	*	466	473	519	5.39	5.88	3.73	13	15	11	8.2	8.1	10.3	Apr.
May	61.0	64.1	59.1	1	2	1	146	81	226	1.65	3.48	3.54	9	12	11	8.0	7.4	9.2	May
June	66.4	69.0	68.0	3	4	4	68	26	24	3.81	0.91	3.47	12	5	11	6.8	7.8	8.3	June
July	74.2	74.6	73.1	6	10	8	0	16	0	2.65	1.97	3.53	10	8	10	6.9	6.1	7.7	July
August	73.2	70.8	71.0	6	3	5	0	30	12	1.60	4.44	3.86	11	18	10	6.8	6.6	7.4	Aug.
September	64.9	61.6	63.6	3	0	1	99	152	106	1.40	2.95	3.66	6	9	10	7.0	6.7	7.5	Sept.
October	50.3	50.7	53.1	0	0	*	449	442	384	2.58	4.76	3.12	9	9	8	6.9	6.7	8.0	Oct.
November	37.9	45.5	42.0	0	0	0	808	578	711	4.22	3.46	3.76	9	11	11	8.2	7.4	8.5	Nov.
December	24.6	33.6	30.3	0	0	0	1246	965	1141	0.82	2.57	3.79	13	7	12	8.3	8.9	8.9	Dec.
YEAR	49.1	50.4	50.0	19	19	20	6523	5987	6350	31.69	46.62	43.01	116	131	128	8.0	7.6	8.7	YEAR

* Less than 1/2

a 1905-1980
b 1959-1980
c 1954-1980
d 1954-1980

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

TABLE 30

1979 AND 1980 CLIMATOLOGICAL DATA
SIKORSKY INTERNATIONAL AIRPORT
STRATFORD

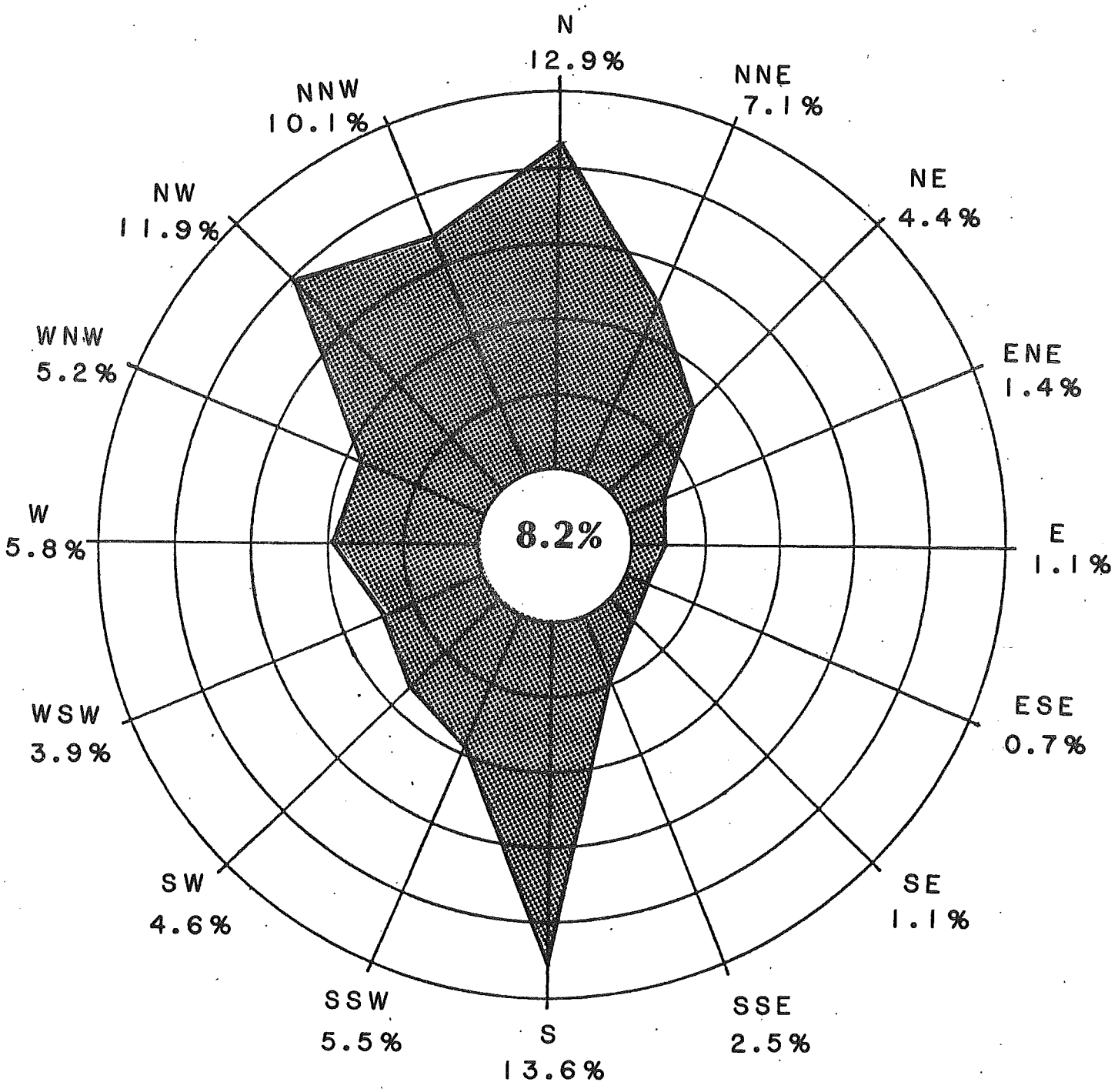
	AVERAGE TEMPERATURES °F			NUMBER OF DAYS ON WHICH MAX. TEMP. EXCEEDED 90 °F			DEGREE DAYS			PRECIPITATION IN INCHES WATER EQUIVALENT			NUMBER OF DAYS WITH MORE THAN .01 INCHES OF PRECIPITATION			AVERAGE WIND SPEED (MPH)			
	1980	1979	Mean[a]	1980	1979	Mean[b]	1980	1979	Normal[c]	1980	1979	Mean[d]	1980	1979	Mean[e]	1980	1979	Mean[f]	
January	31.7	30.6	28.5	0	0	0	1025	1062	1079	1.02	11.20	3.66	6	13	11	13.9	15.7	13.2	Jan.
February	28.1	24.6	30.3	0	0	0	1064	1126	955	1.07	3.65	3.31	3	10	10	13.4	15.0	13.6	Feb.
March	37.0	43.0	37.9	0	0	0	862	675	840	7.05	3.70	3.98	15	9	11	14.8	11.9	13.5	Mar.
April	48.1	49.5	47.9	0	0	0	499	460	498	7.03	4.53	3.85	9	12	11	13.5	12.9	13.0	Apr.
May	60.4	61.7	58.4	0	0	*	159	114	225	2.69	4.88	3.69	10	12	11	11.1	11.2	11.6	May
June	67.3	66.6	67.8	0	0	1	39	23	24	2.52	3.29	3.27	8	10	9	11.0	10.0	10.5	June
July	75.8	73.8	73.3	3	0	2	0	8	0	5.97	0.47	3.65	7	6	8	10.9	9.5	10.0	July
August	75.9	72.8	72.0	2	1	2	0	13	0	2.38	4.35	4.08	7	12	10	10.3	11.0	10.1	Aug.
September	68.4	64.8	65.2	1	0	*	41	84	42	2.39	4.46	3.57	5	8	9	12.3	11.8	11.2	Sept.
October	55.4	53.2	54.8	0	0	0	297	360	261	4.12	2.71	3.37	9	9	7	13.1	11.9	11.9	Oct.
November	43.2	47.3	44.1	0	0	0	646	523	570	3.95	2.54	3.78	8	11	10	15.3	11.5	12.7	Nov.
December	31.3	37.9	33.1	0	0	0	1038	833	967	0.95	2.24	3.74	10	9	11	13.2	13.3	13.0	Dec.
YEAR	51.9	52.2	51.1	6	1	6	5670	5281	5461	41.14	48.02	43.95	97	121	118	12.7	12.3	12.0	YEAR

*Less than 1/2

a 1903-1980
b 1966-1980
c 1941-1970
d 1894-1980
e 1949-1980
f 1958-1980

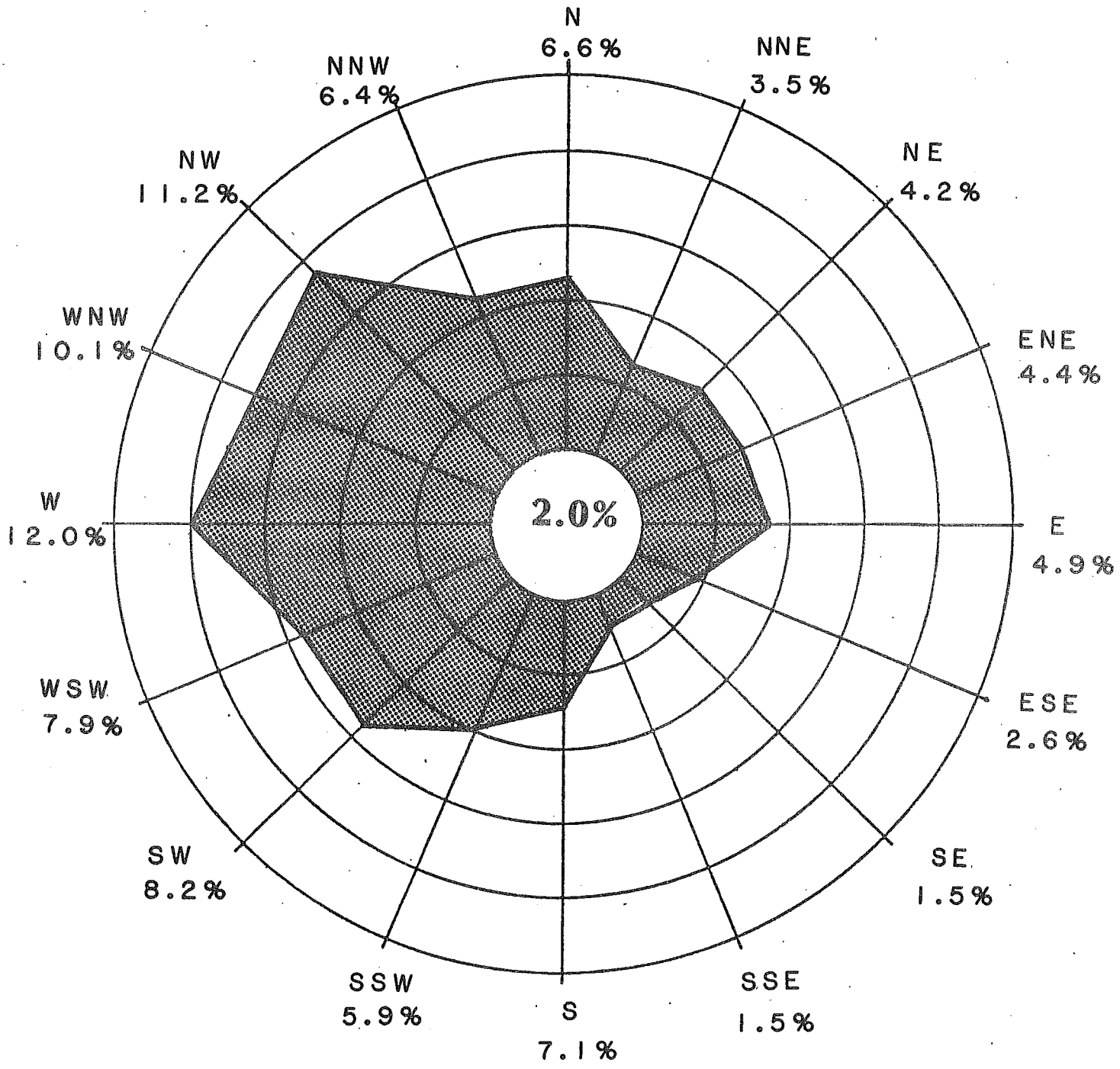
Extracted From:

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



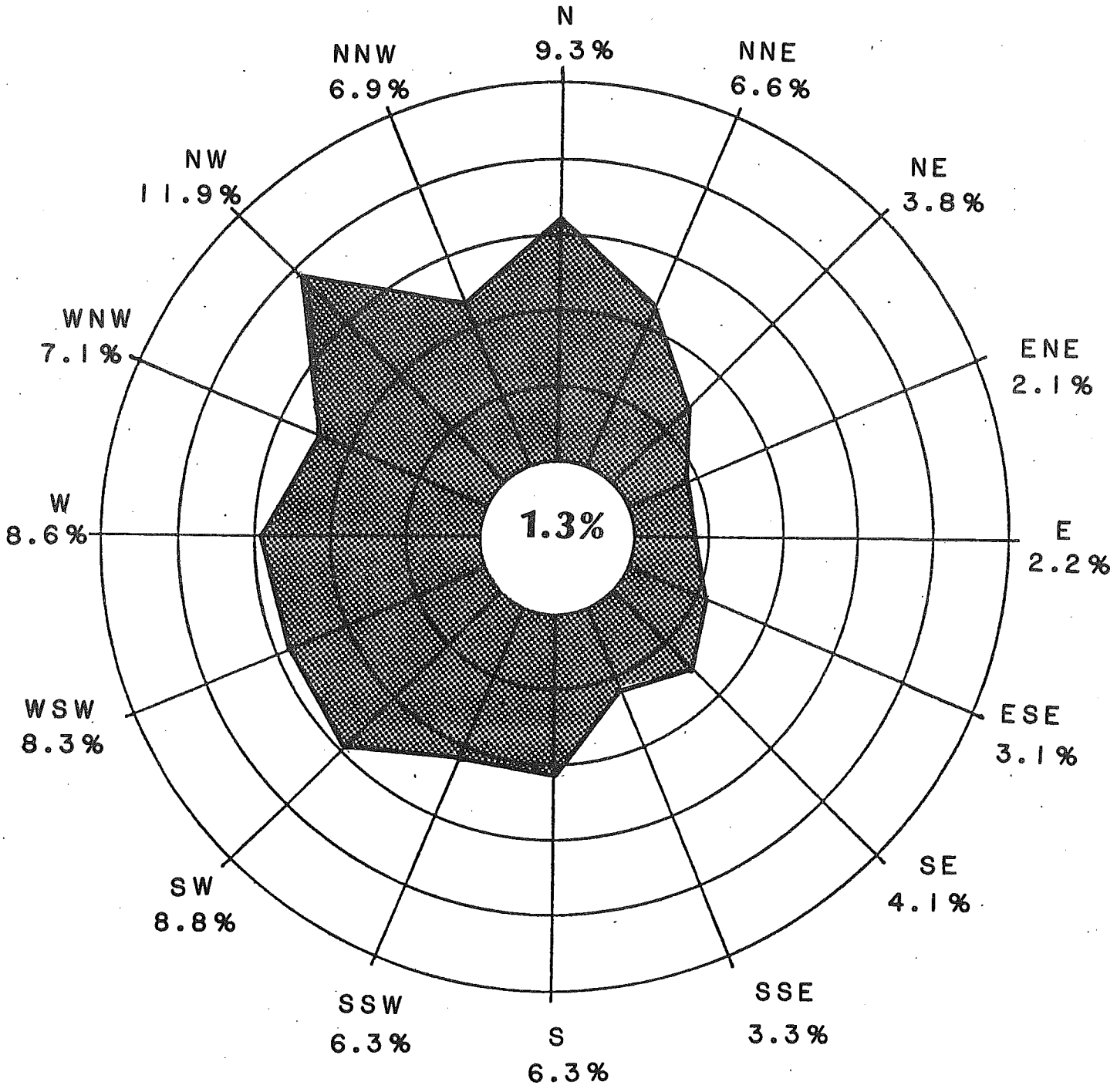
ANNUAL WIND ROSE 1980
BRADLEY INTERNATIONAL AIRPORT
WINDSOR LOCKS, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABREVIATION

Figure 10



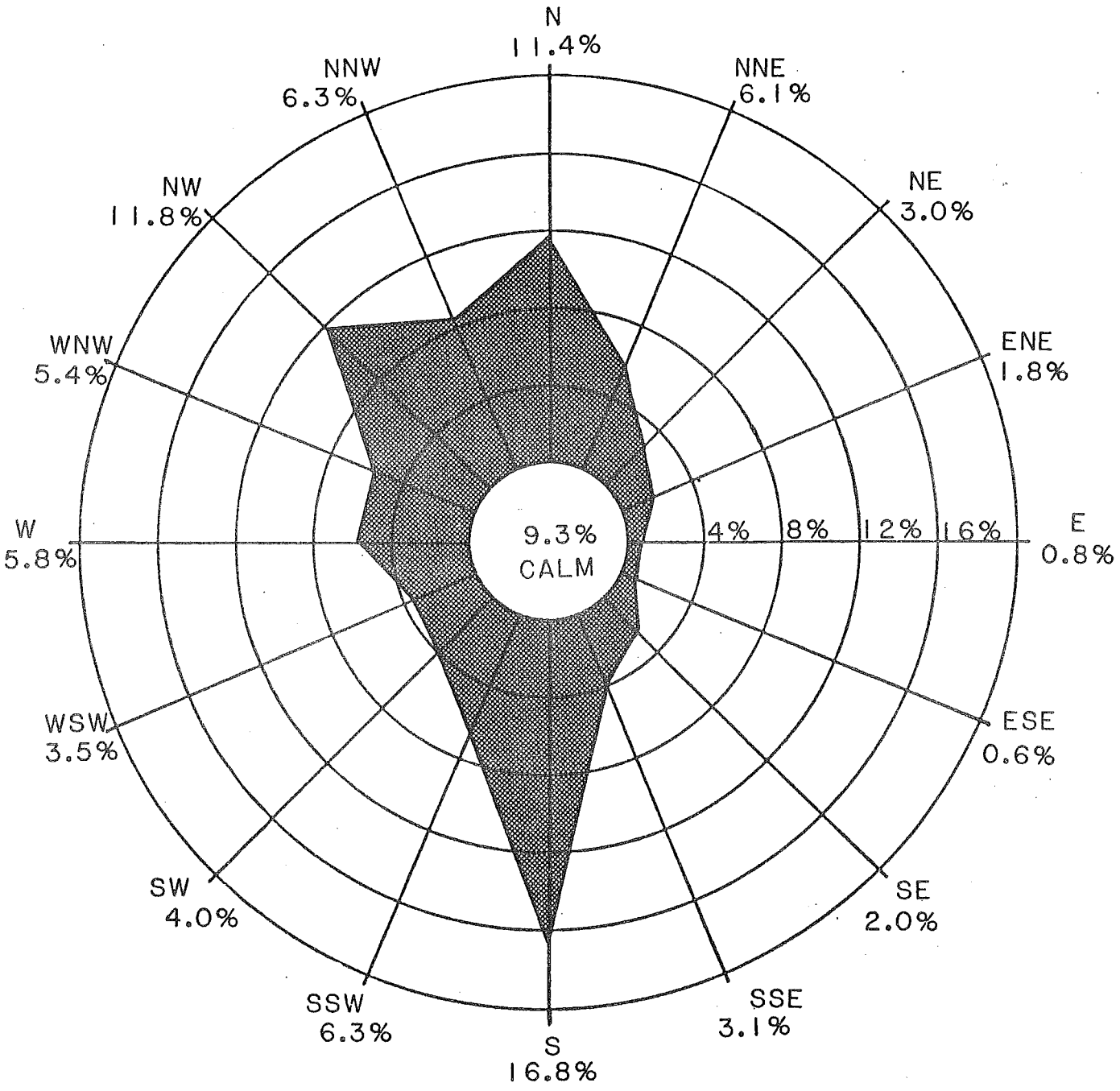
ANNUAL WIND ROSE 1980
SIKORSKY MEMORIAL AIRPORT
STRATFORD/BRIDGEPORT, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABREVIATION

Figure 11



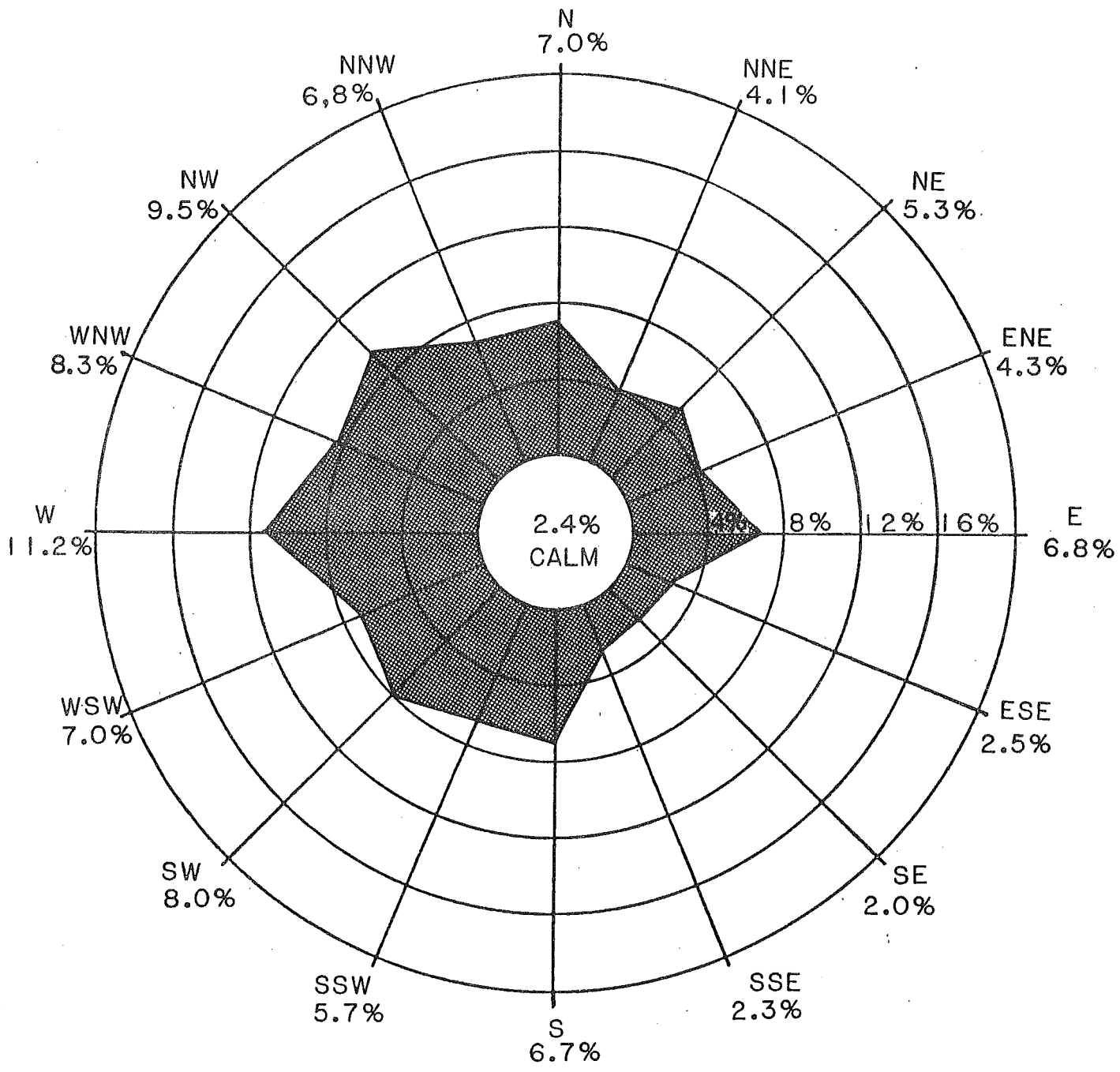
ANNUAL WIND ROSE 1980
NEWARK INTERNATIONAL AIRPORT
NEWARK, NEW JERSEY
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABREVIATION

FIGURE 12



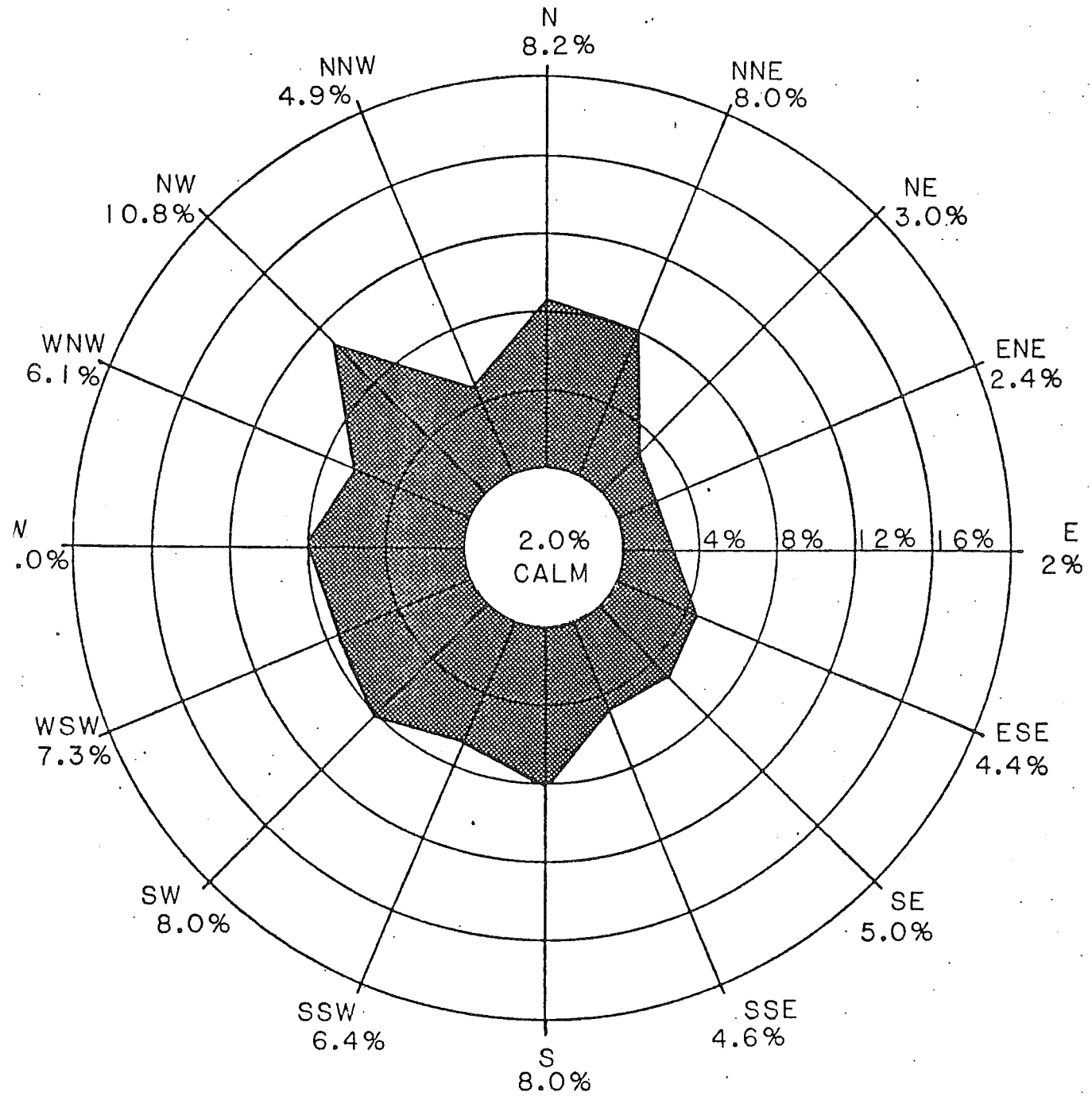
ANNUAL WIND ROSE 1979
BRADLEY INTERNATIONAL AIRPORT
WINDSOR LOCKS, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABREVIATION

FIGURE 13



ANNUAL ROSE 1979
SIKORSKY MEMORIAL AIRPORT
STRATFORD/BRIDGEPORT, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABREVIATION

FIGURE 14



ANNUAL WIND ROSE 1979
NEWARK INTERNATIONAL AIRPORT
NEWARK, NEW JERSEY
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABREVATION

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 31 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 1978, 1979, or 1980. Unclassifiable regions are ones in which there were no monitors with which to determine attainment or non-attainment.

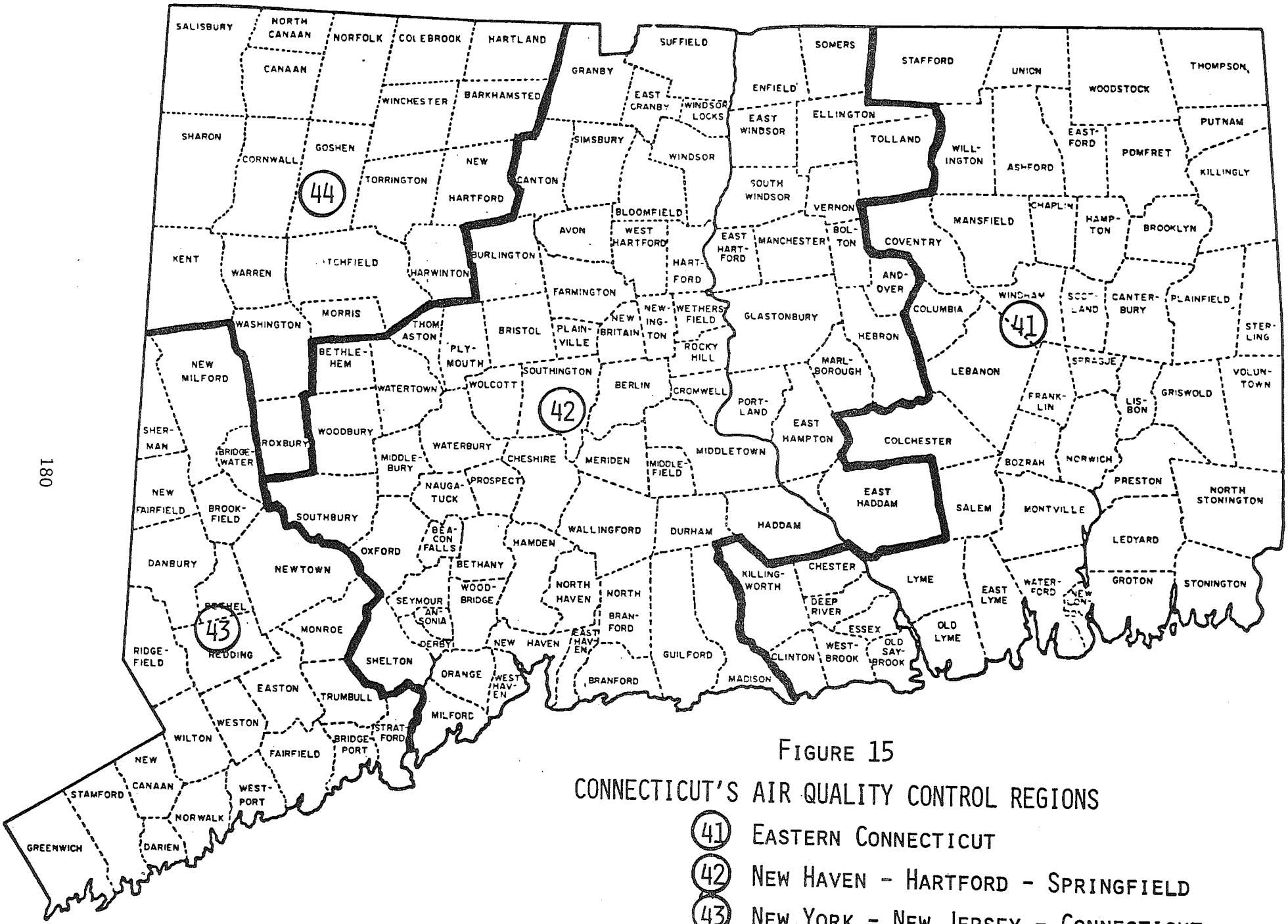


FIGURE 15

CONNECTICUT'S AIR QUALITY CONTROL REGIONS

(41) EASTERN CONNECTICUT

(42) NEW HAVEN - HARTFORD - SPRINGFIELD

(43) NEW YORK - NEW JERSEY - CONNECTICUT

(44) NORTHWESTERN CONNECTICUT

TABLE 31

CONNECTICUT'S COMPLIANCE WITH THE NAAQS (BY AQCR)

POLLUTANT	PRIMARY OR SECONDARY	NAAQS	AQCR 41	AQCR 42	AQCR 43	AQCR 44
TSP	Primary	Annual	A	A	A	A
		24-Hour	A	A	A	A
	Secondary	Annual	X	X	X	X
		24-Hour	X	X	X	X
SO2	Primary	Annual	A	A	A	A
		24-Hour	A	A	A	A
Ozone	Primary	1-Hour	X	X	X	X
	Secondary	1-Hour	X	X	X	X
NO2	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

X = Non-Attainment
U = Unclassifiable
A = Attainment

X. SPECIAL STUDIES

A. "SAMPLE SAVER" HI-VOL STUDY

A study of a TSP hi-vol (HIVOL) monitor alongside a "sample saver" hi-vol (SSHIVOL) was conducted at Hartford site 123 from March 25, 1979 to March 16, 1980; a total of 60 samples were collected. The purpose of the study was to determine any difference in measured TSP levels collected by each sampler. The "sample saver" has a retractable lid that moves out of the way during sampling and moves back to cover the filter when the sampling is completed. In this way the filter is protected from wind erosion and excess deposition. The results of the study are shown in Table 32.

The results indicate that a regular hi-vol filter is susceptible to excess deposition during non-operating hours. The SSHIVOL produced lower TSP levels on more than 85% of the days sampled. Although differences as high as 40% were observed, these extreme variations occurred on essentially "clean" days (i.e., days with TSP concentrations below 100 ug/m^3). Of the 6 days when HIVOL TSP values exceeded 100 ug/m^3 the maximum observed difference was 12%. Interestingly, on certain days the SSHIVOL TSP concentrations were greater than these produced by the HIVOL indicating that "negative chains" can be introduced, probably due to the removal of deposited material by high winds during passive sampling periods. The average percent difference (i.e., 8%) was statistically significant ($p < 0.0001$).

Since January 1, 1980, all TSP monitors have been equipped with the retractable lids. DEP feels that the addition of the retractable lid devices to the hi-vols will help in the effort to continue to collect quality data. This change has probably had an impact on measured TSP levels at all monitors (see the TSP section).

TABLE 32
1979-1980 COMPARISON OF CO-LOCATED HI-VOLS
REGULAR HI-VOL/SAMPLE SAVER HI-VOL
AT HARTFORD SITE 123
(ALL DATA ug/m^3)

DATE	REGULAR HI-VOL	SAMPLE SAVER HI-VOL	% DIFFERENCE, [1-[SAMPLE SAVER/ HI-VOL]]x 100
3/25	51	44	-14
4/3	65	60	-08
4/9	37	26	-30
4/15	30	29	-03
4/21	81	73	-10
4/24	30	18	-40
5/3	104	95	-09
5/9	138	138	0
5/15	73	68	-07
5/21	62	73	+18
5/27	58	59	+02
6/2	55	56	+02
6/8	68	67	-01
6/14	72	70	-03
6/20	53	53	0
6/26	72	57	-21
7/2	51	45	-12
7/8	57	51	-11
7/14	128	113	-12
7/20	97	86	-13
7/26	73	66	-10
8/1	101	95	-06
8/7	52	49	-06
8/13	52	44	-15
8/19	62	53	-15
8/25	73	61	-16
8/31	64	59	-08
9/6	50	49	-02
9/12	64	57	-11
9/18	98	88	-10
9/24	53	46	-13
9/30	45	36	-20
10/6	52	46	-12
10/12	82	76	-07
10/18	90	87	-03
10/24	43	34	-11
10/30	54	51	-06
11/5	102	93	-09
11/11	37	31	-16
11/17	58	53	-09

TABLE 32, continued

1979-1980 COMPARISON OF CO-LOCATED HI-VOLS
REGULAR HI-VOL/SAMPLE SAVER HI-VOL
AT HARTFORD SITE 123
(ALL DATA ug/m^3)

DATE	REGULAR HI-VOL	SAMPLE SAVER HI-VOL	% DIFFERENCE, [1-[SAMPLE SAVER/ HI-VOL]]x 100
11/23	78	75	-04
11/29	37	33	-11
12/5	74	70	-05
12/11	87	89	+02
12/17	75	68	-09
12/23	55	46	-16
12/29	34	27	-21
1/4	55	52	-05
1/10	56	54	-04
1/16	58	51	-12
1/22	59	65	+10
1/28	55	52	-05
2/3	39	33	-15
2/9	53	40	-24
2/15	53	49	-07
2/21	152	152	0
2/27	56	68	+21
3/4	96	90	-06
3/10	94	89	-05
3/16	42	48	+14
AVERAGE	67	62	-8%

B. 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 Investigtion 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 in 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 Association, 27: 460-3 (1977).

24. Wolff, G.T., P.J. Lioy, R.E. Meyers, R.T. Cederalll, 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 377-20.3, 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).