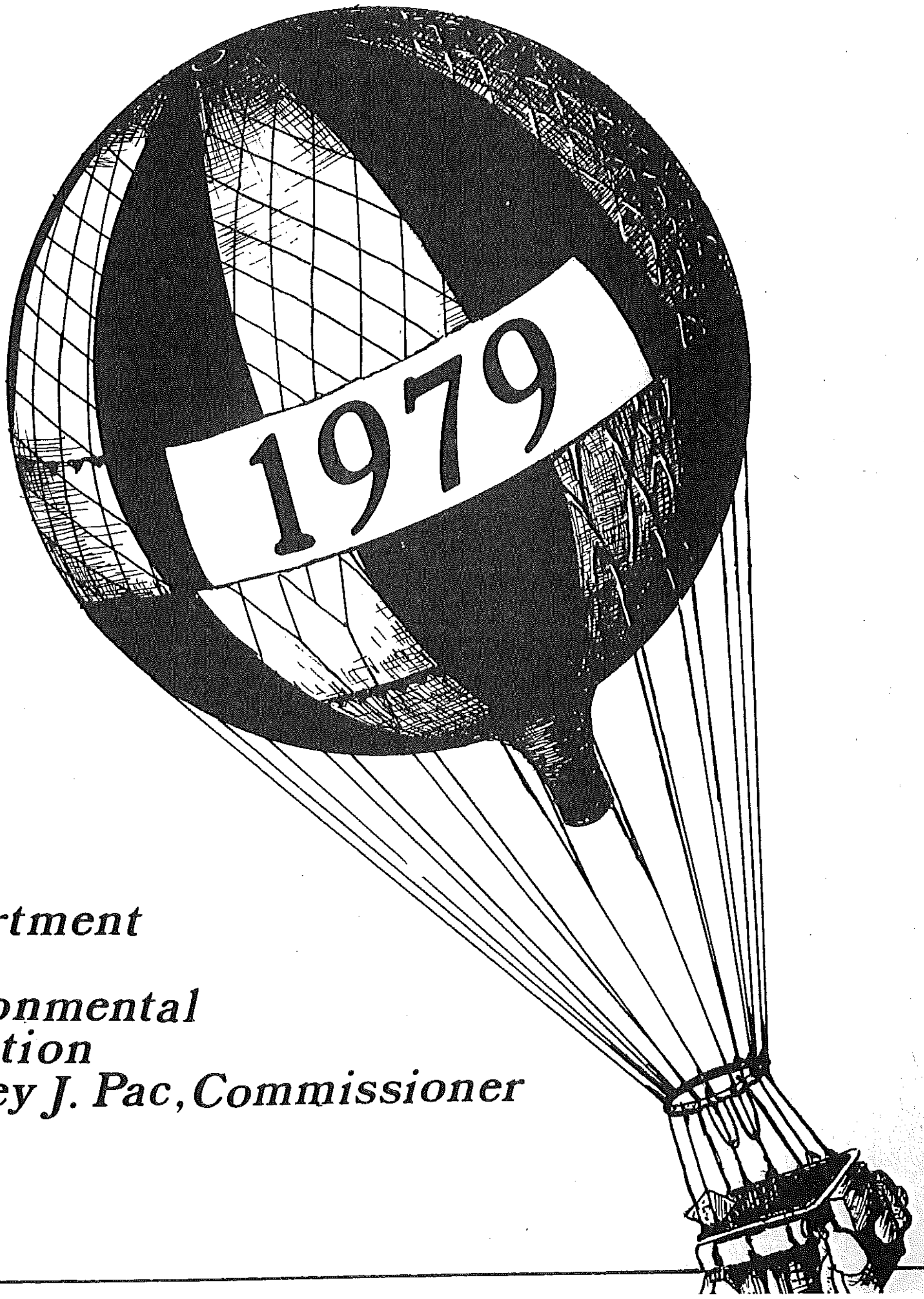
Connecticut Air Quality Summary



Department
of
Environmental
Protection
Stanley J. Pac, Commissioner

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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 silicate 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, judgment 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 mucous 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.

I. INTRODUCTION

This summary of 1979 ambient air quality levels in Connecticut is a compilation of all air pollutant measurements made at Department of Environmental Protection (DEP) air monitoring network sites in the State.

A. Overview of Air Pollutant Concentrations in Connecticut

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

1. Total Suspended Particulates (TSP)

The measured TSP level exceeded the primary annual standard (75 $\mu g/m^3$) in New Haven at site 123, and measured TSP levels exceeded the secondary annual standard of 60 $\mu g/m^3$ at 6 sites in 1979. No sites recorded measured values exceeding the primary 24-hour standard (260 $\mu g/m3$) in 1979, but 7 sites did exceed the secondary 24-hour standard of 150 $\mu g/m^3$. (See Table 1).

In general, measured Total Suspended Particulate levels in Connecticut showed no significant improvement in 1979 as compared to 1978. This lack of improvement is believed to have been primarily caused by an increased frequency of southwest winds in 1979, compared to 1978, which increased the amount of TSP transported into Connecticut from the southwest. The recent increase of at-home burning of wood and coal also contributed to TSP levels.

2. Sulfur Dioxide (SO_2)

None of the air quality standards for sulfur dioxide were exceeded in Connecticut in 1979. Measured concentrations were substantially below the 80 $\mu g/m^3$ primary annual standard, the 365 $\mu g/m^3$ primary 24-hour standard, and the 1300 $\mu g/m^3$ secondary 3-hour standard. Measured concentrations were closer to, but were also below, the 60 $\mu g/m^3$ secondary annual standard and the 260 $\mu g/m^3$ secondary 24-hour standard.

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

The results of sulfation rate monitoring show that sulfur dioxide levels improved significantly from 1978 to 1979. The general improvement in SO_2 levels was probably primarily due to increased regional conservation of heat and electricity. This effort was aided by the fact that 1979 was somewhat warmer than the previous year. At Bridgeport, there was an eleven per cent decrease of degree days (heating requirement). At Bradley, the decrease amounted to nearly ten per cent.

3. Ozone (O_3)

New NAAQS - On February 8, 1979 the EPA established a new ambient air quality standard for ozone of 0.12 ppm. This standard replaces the old photochemical oxidant standard of 0.08 ppm. The definition of the pollutant was changed along with the numerical value partly because the instruments used to measure photochemical oxidants in the air really measure only ozone. Ozone is only one of a group of chemicals which are formed photochemically in the air and are called photochemical oxidants. In the past, the two terms have often been used interchangeably. This 1979 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 1979 (see Table 1).

The frequency and magnitude of ozone levels in excess of the 0.12 ppm ozone standard increased from 1978 to 1979. Some of this difference is attributable to the changes in meteorological factors which occur from year to year. An increase in average temperatures as well as southwesterly wind transport were important factors during 1979. 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 for improvement in ozone levels.

4. Nitrogen Dioxide (NO_2)

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

No significant improvement in NO_2 levels took place between 1978 and 1979. 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 increased gasoline conservation. However, yearly differences of weather conditions have probably been an overriding factor in determining overall NO_2 levels (i.e., an increase in SW winds during 1979).

5. Carbon Monoxide (CO)

The primary eight-hour standard of 9 ppm was exceeded at five of the six carbon monoxide monitoring sites in Connecticut during 1979. These were Bridgeport 004, Hartford 012, New Britain 002, Norwalk 005 and Stamford 020. The number of times the 8-hour standard was exceeded ranged from zero at New Haven 007 to three, ten, fourteen and twenty-five times at Bridgeport 004, Norwalk 005, Hartford 012, and New Britain 002, respectively. The Stamford 020 site exceeded the primary standard 330 times, down from .366 the year before.

No site, except Stamford 020, violated the primary one-hour standard of 35 ppm. The one-hour standard was exceeded seven times at the Stamford 020 site in 1979, unchanged from last year (See Table 1).

A general decrease in carbon monoxide levels took place between 1978 and 1979.

6. Lead (Pb)

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

The newly promulgated primary NAAQS for lead (1.5 $\mu g/m^3$, calendar quarter average) was exceeded at 7 sites in 1979, down from 16 during 1978.

Measured concentrations of lead decreased slightly from 1978 to 1979.

TABLE AIR QUALITY STANDARDS EXCEEDED IN CONNECTICUT IN 1979

		TOTAL SUSPENDED PARTICULATES				OZONE		CARBON MONOXIDE		LEAD	
		Level Exceeding Annual Standard		Secondary 24-Hour Standard Exceeded		1-Hour Standard Exceeded		8-Hour/1-Hour Standards Exceeded		Quarterly Standard Exceeded	
TOWN	SITE	Primary (75 μg/m^3)	Secondary (60 μg/m^3)	2nd High Level (150 μg/m^3)	Number of Times	2nd High Level (0.12 ppm)	Number of Times	2nd High Level (9 ppm/35 ppm)	Number of Times	Maximum Quarter (1.5 μg/m^3)	Number of Times
Ansonia	003	-	-	-	-	-	-	-	-	1.61	1
Bridgeport	004	-	-	-	-	-	-	-	-	-	-
Bridgeport	123	-	64.8	157	1	0.195	39	-	-	1.64	1
Danbury	123	-	-	-	-	0.180	40	-	-	-	-
Derby	123	-	-	-	-	0.190	47	-	-	-	-
Eastford	001	-	-	-	-	-	-	-	-	-	-
East Hartford	002	-	-	-	-	-	-	-	-	-	-
Enfield	123	-	-	-	-	0.162	30	-	-	-	-
Greenwich	001	-	-	-	-	-	-	-	-	-	-
Greenwich	004	-	-	-	-	0.200	42	-	-	-	-
Greenwich	008	-	68.9	272	5	-	-	-	-	-	-
Groton	123	-	-	-	-	0.182	24	-	-	-	-
Hamden	001	-	-	-	-	-	-	-	-	-	-
Hartford	003	-	61.3	154	1	-	-	-	-	1.54	1
Hartford	012	-	-	-	-	-	-	10.0/-	14/-	-	-
Hartford	123	-	66.5	-	-	0.203	34	-	-	-	-
Meriden	002	-	-	-	-	-	-	-	-	-	-
Meriden	005	-	-	170	2	-	-	-	-	-	-
Middletown	003	-	-	-	-	-	-	-	-	-	-
Morris	001	-	-	-	-	0.255	86	-	-	-	-
Naugatuck	001	-	-	-	-	-	-	-	-	-	-
New Britain	002	-	-	-	-	-	-	9.8/-	24/-	-	-
New Britain	123	-	-	-	-	-	-	-	-	-	-
New Haven	002	-	-	-	-	-	-	-	-	-	-
New Haven	007	-	-	-	-	-	-	-	-	-	-
New Haven	123	79.2	-	167	4	0.177	34	-	-	1.60	1
Norwalk	005	-	-	-	-	-	-	-	-	-	-
Stamford	020	-	-	-	-	-	-	23.6/42.0	330/7	-	-
Torrington	123	-	-	159	3	-	-	-	-	1.70	1
Waterbury	002	-	-	-	-	-	-	-	-	-	-
Waterbury	004	-	-	-	-	-	-	-	-	-	-
Waterbury	123	-	69.6	174	3	-	-	-	-	1.92	1
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 1968-1979 Total Suspended Particulate (TSP) data, to 1968-1979 Sulfation rate/Sulfur Dioxide (SO_2) data, and to 1973-1979 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. (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 year. 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 during 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 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 $\mu g/m^3$), however, can certainly be attributed to the emission controls implemented by DEP during those years. (Perhaps the most effective of these controls is Connecticut's .5% sulfur-in-fuel regulation).

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 span, 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:

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

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.

Historical sulfation rate data were then converted (using the above equation) 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.

As with TSP, annual changes in SO_2 levels can be caused simply by changes in meteorology. 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 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 or between 1978 and 1979.

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

TABLE 2

TSP TREND, 1968-1979 (WILCOXON SIGNED-RANK TEST)

PAIRED YEARS	NUMBER OF SITES	AVERAGE OF ANNUAL GEOMETRIC MEANS*	STANDARD DEVIATION	SIGNIFICANCE LEVEL TREND AT 95% level**	SIGNIFICANCE LEVEL TREND AT 99% level**	SIGNIFICANCE LEVEL ACTUAL SIGNIFICANCE OF CHANGE
68	17	73.6	21.6			
69	17	66.9	18.6	↓	↓	0.0075
69	21	69.0	23.0			
70	21	71.7	25.5	N.C.	N.C.	0.2891
70	23	67.8	20.6			
71	23	66.2	18.2	N.C.	N.C.	0.3458
71	40	68.4	22.5			
72	40	61.9	17.3	↓	↓	0.0013
72	39	59.1	13.4			
73	39	51.9	10.2	↓	↓	<0.00005
73	41	51.9	11.6			
74	41	48.3	10.3	↓	N.C.	0.0143
74	40	49.9	10.7			
75	40	52.3	10.1	↑	N.C.	0.0101
75	31	52.8	9.8			
76	31	53.0	9.3	N.C.	N.C.	0.7539
76	37	54.9	10.4			
77	37	54.7	10.1	N.C.	N.C.	0.7296
77	32	55.9	10.7			
78	32	53.8	10.2	↓	↓	0.0086
78	34	52.5	12.8			
79	34	50.8	12.6	↓	N.C.	0.0293

* 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 SO_2 TREND FROM SULFATION RATE, 1968-1979 (WILCOXON SIGNED-RANK TEST)

PAIRED YEARS	NUMBER OF SITES	AVERAGE OF ANNUAL ARITHMETIC MEANS*	STANDARD DEVIATION	SIGNIFICANCE LEVEL		
				TREND AT 95% level**	TREND AT 99% level**	ACTUAL SIGNIFICANCE OF CHANGE
68	12	75.4	29.3	N.C.	N.C.	0.0619
69	12	65.3	21.3			
69	22	56.6	18.8	↑	↑	0.0006
70	22	64.4	20.3			
70	34	62.4	20.9	↓	↓	<0.00005
71	34	50.1	13.9			
71	40	51.6	14.9	↓	↓	<0.00005
72	40	40.3	6.8			
72	38	41.3	6.9	↓	↓	<0.00005
73	38	34.0	4.5			
73	25	35.4	5.2	↑	↑	0.0004
74	25	38.2	6.3			
74	25	35.9	8.2	↓	↓	0.0002
75	25	33.2	7.8			
75	18	33.1	7.7	N.C.	N.C.	0.1071
76	18	33.6	6.0			
76	29	35.2	4.7	N.C.	N.C.	0.8009
77	29	34.9	4.3			
77	25	35.1	4.2	↓	↓	<0.00005
78	25	30.4	3.4			
78	25	30.0	4.1	↓	↓	0.0001
79	25	27.8	3.1			

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

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

TABLE 4

NO_2 TREND, 1973-1979 (WILCOXON SIGNED-RANK TEST)

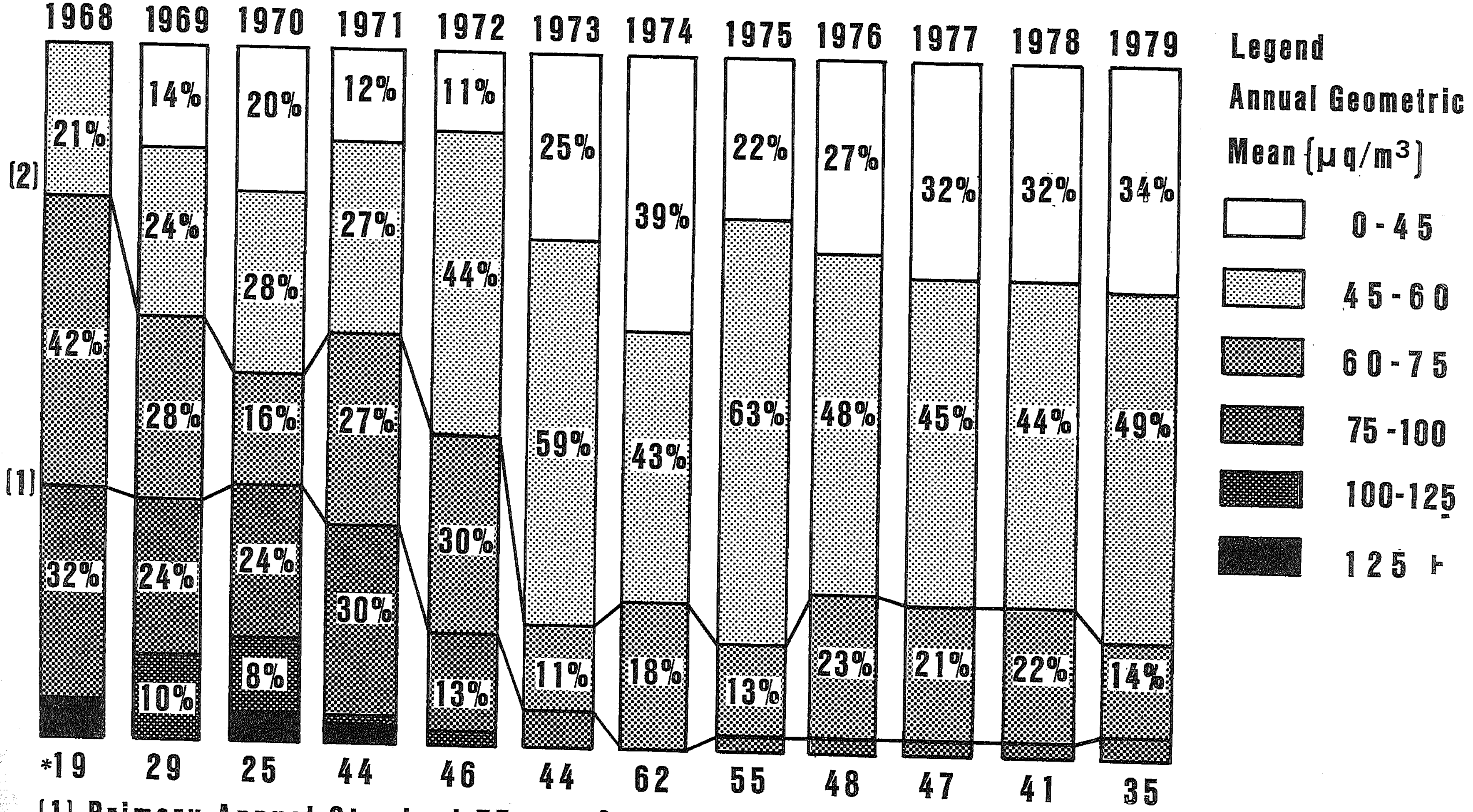
PAIRED YEARS	NUMBER OF SITES	AVERAGE OF ANNUAL ARITHMETIC MEANS*	STANDARD DEVIATION	SIGNIFICANCE LEVEL TREND AT 95% level**	SIGNIFICANCE LEVEL TREND AT 99% level**	ACTUAL SIGNIFICANCE OF CHANGE
73	7	62.0	32.7			
74	7	39.7	20.0	↓	N.C.	0.0180
74	24	43.5	17.2			
75	24	49.6	17.2	↑	↑	0.0004
75	13	58.0	13.8			
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

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

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

Figure 1 Total Suspended Particulate Matter Trend

" Percent of sites within each range "

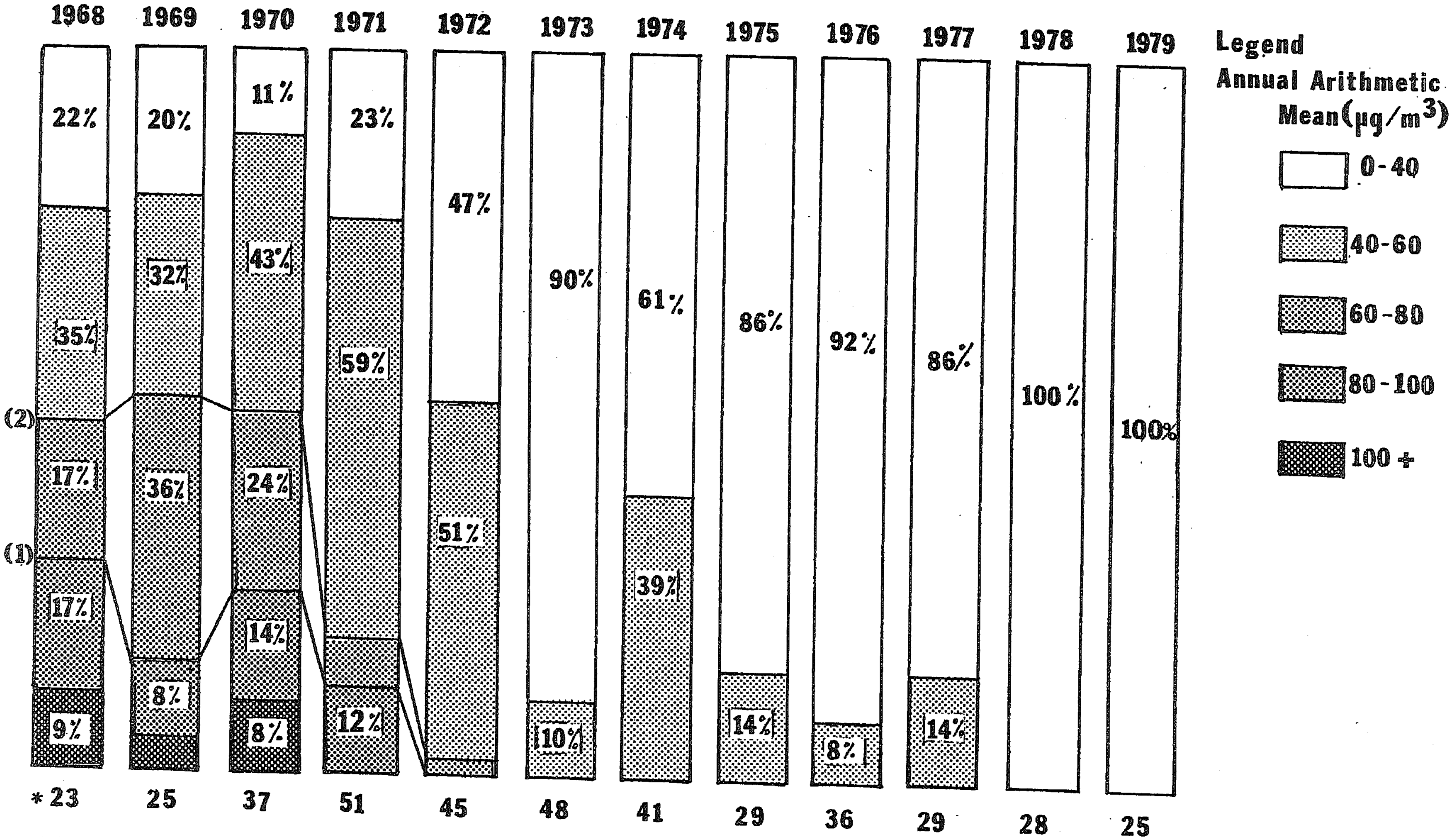


(1) Primary Annual Standard 75μq/m³

(2) Secondary Annual Standard 60μq/m³

*Number of Sites

Figure 2 Sulfur Dioxide Trend from Sulfation Rate Data



(1) Primary Annual Standard 80 $\mu g/m^3$

(2) Secondary Annual Standard 60 $\mu g/m^3$

*Number of Sites

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, Enfield, Greenwich, Groton, 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.

The complete monitoring network used in 1979 consisted of:

38	Total Suspended Particulate and Lead (Hi-Vol) sites
7	Total Suspended Particulate (Lo-Vol) sites
12	Sulfur Dioxide sites (Continuous Monitors)
9	Ozone sites
20	Nitrogen Dioxide sites (Bubblers)
6	Carbon Monoxide sites

A complete description of all permanent air monitoring sites in Connecticut operated by DEP in 1979 is available from the Department of Environmental Protection, Air Compliance, State Office Building, Hartford, Connecticut, 06115.

D. Air Quality Standards

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

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

TABLE 5
ASSESSMENT OF AMBIENT AIR QUALITY

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

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

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

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

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

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

** For use as a guide in devising implementation plans to achieve ozone standards.

† Secondary Standard applies to State of Connecticut only.

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

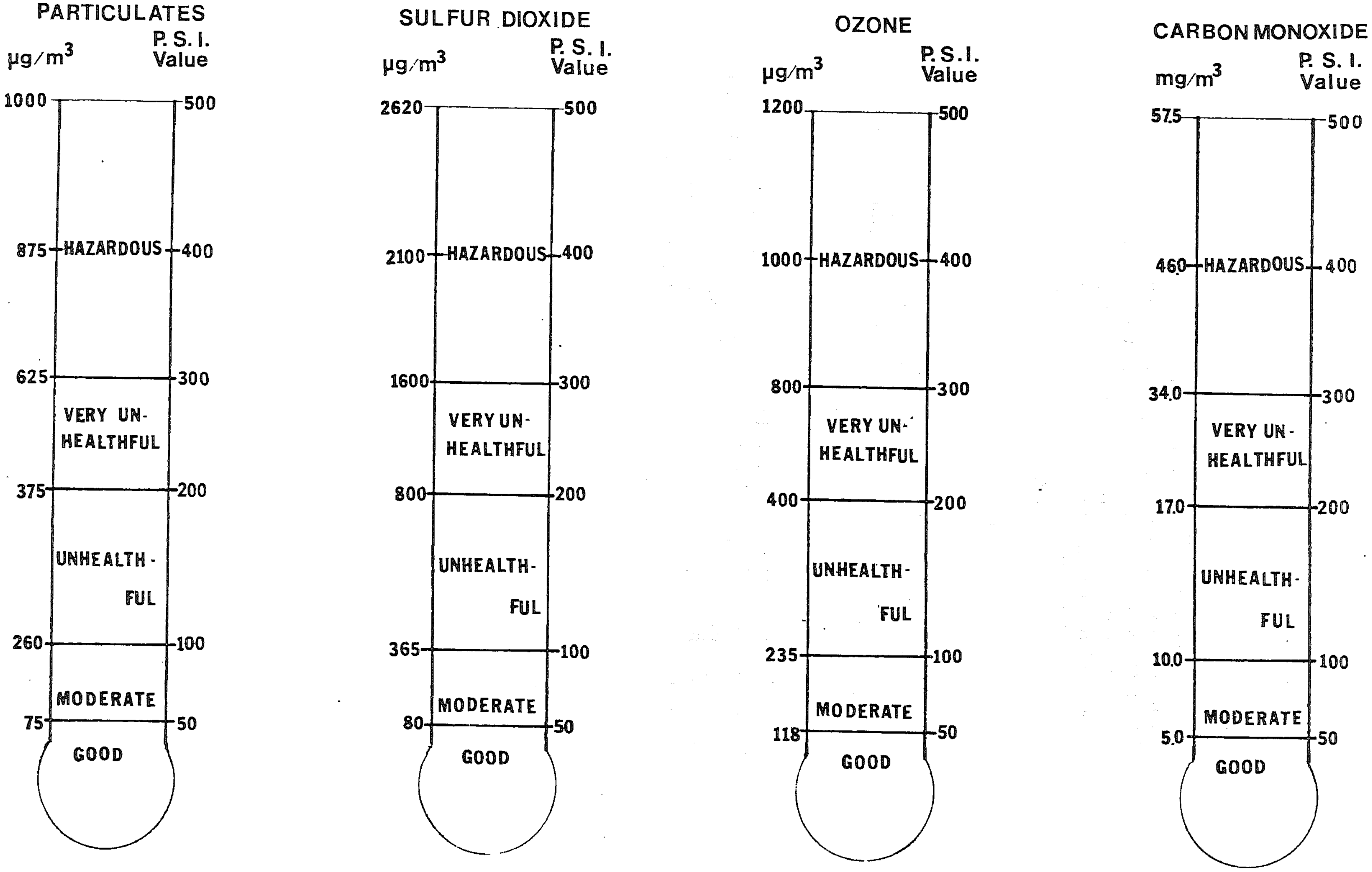
E. Pollutant Standards Index

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

Figure 3 shows the breakdown of index values for the commonly reported pollutants (TSP, SO_2, CO, and O_3) in Connecticut. In 1979, the PSI was reported for the 10 telemetered monitoring sites in Connecticut (Bridgeport, Danbury, Enfield, Greenwich, Groton, Hartford, Middletown, New Britain, New Haven, Stamford, and Waterbury). Each day the pollutant with the highest PSI value of all the pollutants being monitored is reported for each town, along with the dimensionless PSI number, and a descriptor word to characterize the daily air quality.

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

FIGURE 3
POLLUTANT STANDARDS INDEX



F. Quality Assurance

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

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

With the advancement of instrument technology, personnel experience, and improved quality control and quality assurance procedures for the operation, maintenance and calibration of monitoring equipment, the data quality has improved from year to year.

1. DEP Data Handling Criteria

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

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

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

2. EPA Audits

It is essential that data quality be assessed by an impartial source (EPA) who periodically performs quantitative audits on monitoring instruments, calibration systems and laboratory functions. The results of Connecticut DEP's performance are summarized here in an effort to quantify the degree of data accuracy. The following discussion describes the results for the individual pollutants.

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

  1) Particulates

    a) Connecticut participated in the audits of 10 samplers using an orifice calibrated by EPA at Research Triangle Park (RTP), North Carolina. Each sampler was audited at five different flow rates for a total of 50 data points. There was only one data value which was outside the acceptable range. Fortunately, this was the lowest audit point (≃ 26 CFM) and well below the normal sampling range of approximately 60 CFM.

    b) The Quality Assurance Group performed a balance audit on the Christian Becher balance (S/N 102082) used by the Health Department to perform hi-vol measurements. Six weights of unknown value were placed on the balance and the results were reported to the Quality Assurance group. All results were within the ± 1 mg accuracy of weights used.

  2) Nitrogen Dioxide

  During the year, ten EPA reagent samples were analyzed at the Environmental Chemistry Laboratory of the Connecticut Health Department to determine the accuracy of DEP's analytical system. The average absolute difference was 3.7% with the largest difference occurring at the lowest range and amounted to 11.4%.

b. Continuous Instruments

  1) Sulfur Dioxide

  Three instrument audits were performed on the SO_2 sampling network, and all were found to be acceptable. The chart output of a fourth unit was found to be inoperative due to a noisy recorder amplifier. The amplifier was repaired and all invalid data were eliminated.

  An SO_2 network transition in which the latest state of the art SO_2 monitors are being installed is continuing. Three audits performed on these instruments were acceptable with all results within ± 10%. With these new instruments, the quality and quantity of SO_2 data should improve.

2) Ozone

During 1979 a total of sixteen instrument audits were performed. Eight were conducted at the beginning of the summer "ozone season" and eight at the end of the season. Each period had one unacceptable audit. The remaining audits showed total error within ± 10%. The unacceptable spring audit at Morris showed a difference of 26% and all data up to that time was rejected. On 10/4/79 Enfield's ozone monitor developed spiking during the EPA audit. All data from 10/1 was scrutinized to determine if it was being influenced by this spiking problem. (Values were found to be low during this period.)

3) Carbon Monoxide

a) Seven carbon monoxide instrument audits with a total of 21 data points were performed by EPA during 1979. All but one instrument were within 1 ppm or 5% (whichever is greater). The one faulty monitor averaged -11%. This instrument continued to drift steadily downward over the following week and all data for the time was rejected.

b) Eleven instrument audits were performed by DEP personnel using tanks of unknown concentrations (low, mid, and high range) received from EPA. All low range (3.0, & 6.5 ppm) results were within ± 1 ppm. The mid-range (14.8, and 19.8 ppm) had a maximum absolute difference of 2.9% while the high range (33.8, and 43.7 ppm) had a maximum absolute difference of 2.6%.

II. TOTAL SUSPENDED PARTICULATES

Conclusions:

The measured Total Suspended Particulate (TSP) level exceeded the primary annual standard of 75 µg/m^3 at New Haven site 123 and measured TSP levels exceeded the secondary annual standard at 5 sites in 1979. One site, Greenwich 008, had a measured value exceeding the primary 24-hour standard of 260 µg/m^3 during 1979. Seven sites exceeded the secondary 24-hour standard.

In general, measured total suspended particulate (TSP) levels in Connecticut showed a small, but not significant improvement in 1979 as compared to 1978 (see Table 2).

The possible causes of this lack of improvement in TSP levels range from more unfavorable meteorology to increased particulate emissions (e.g., more wood and coal burning in homes). One of the most evident changes in the meteorology was that there were greater periods of southwesterly wind flows in 1979 than in 1978. At the National Weather Service station located near Bridgeport this increase amounted to 6.7%, and at Bradley Airport located in Windsor Locks, the increase was 12.6%. An increase in frequency of southwesterly winds causes an increase in the amount of transport of particulate matter into Connecticut from the New York City Metropolitan area and the other sources of emissions situated further to the west and southwest. As far as decreased emissions are concerned, the increasing cost of fuel and associated conservation efforts between 1978 and 1979 would be expected to decrease TSP emissions, but this has not been the case. Degree days (heating requirement) decreased by an average of nearly 11% across the State, while there was a 5-15% increase of precipitation (which helps to wash out particulates). The average wind speed increased by 6-12% (more wind results in greater dilution of emissions) during 1979. Once again, the transport of particulates on southwesterly winds is indicated.

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 1979 have remained almost unchanged since 1978 while gasoline consumption decreased by 4.4% from 1978 to 1979.

Since most sources of particulates did not increase their emissions (those that reduced emissions did so only slightly), and since temperature, precipitation and wind speed favored decreased TSP levels, it is somewhat anomalous that TSP levels hardly dropped between 1978 and 1979. The only obvious cause is the increased frequency of southwest winds which raised the amount of TSP transported into Connecticut from the southwest.

Sample Collection and Analysis:

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

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

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

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 1979 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.

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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.)

Annual Averages - The Federal EPA has established minimum sampling criteria (see Table 5) for use in determining compliance with either the primary or secondary annual NAAQS for TSP. Using the EPA criteria, the primary annual standard was exceeded in New Haven at site 123, while the secondary annual standard was exceeded at 7 sites. In 1979, of the sites that had valid annual geometric means, 23 hi-vol sites showed lower annual geometric means than in 1978, with 7 of these decreases being greater than 5 $\mu g/m^3$. In 1979, 11 hi-vol sites showed higher geometric means than 1978, with 3 of these increases being greater than 5 $\mu g/m^3$.

Historical Data - The DEP's historical file of annual average TSP data for 1957-1979 is presented in Table 6. The entire file of historic TSP data are presented here because some corrections have been made to the data published in earlier Annual Summaries. This table of historic TSP data invalidates and replaces all previous compilations. This table also includes 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 $\mu g/m^3$ was calculated. However, the columns labeled "95-PCT-LIMITS" show the lower and upper limits for a 95% confidence interval of 51 and 63 $\mu g/m^3$, respectively. This means that if a larger (i.e., greater than 57 samples) sample set were collected in 1979 at this site there is a 95% chance that the geometric mean would fall between these limits. Since the national secondary standard for particulates (60 $\mu g/m^3$) is within this interval, one cannot be 95% confident that the secondary standard was met here in 1979.

In Table 7, the 1979 monitoring sites are examined for compliance with standards, using the State's hi-vol confidence limit criteria. The table shows that no sites exceeded the primary annual standard with 95% confidence. It is uncertain whether the primary standard was achieved or exceeded at 2 sites (i.e., New Haven, site 123 and Greenwich, site 008. The table also shows that the secondary standard was exceeded at 4 sites; Bridgeport site 123; Hartford site 123; New Haven site 123; and

Waterbury site 123. Whether the secondary standard was exceeded is uncertain at 10 other sites. Comparing this to the results using the actual measured levels in the discussion above, the 95% confidence method shows one less site exceeding the primary standard and 3 less sites exceeding the secondary standard.

24-Hour Averages - Table 8 presents 1st and 2nd high 24-hour concentrations recorded at each site. There was one violation at site 008 in Greenwich of the primary 24-hour standard recorded in 1979. Measured violations of the secondary 24-hour standard were recorded at 7 sites in 1979, 2 less than in 1978. The 2nd high 24-hour average increased at 11 of the 35 sites which met the minimum EPA sampling criteria in both 1978 and 1979. 2 of these increases exceeded 25 $\mu g/m^3$. The 2nd high 24-hour average decreased at 23 of the 35 sites, and 13 of these decreases exceeded 25 $\mu g/m^3$. The 2nd high at one site (Norwich, 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 1979 there would have been 2 sites with violations of the primary 24-hour standard, and 22 sites with violations of the secondary 24-hour standard. In 1978, seven sites were predicted to have exceeded the primary 24-hour standard and 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 1979 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	-	Beryllium	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 6 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

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

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).

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

Annual averages of the chemical components (and pH) of the lo-vol TSP have been computed for 1979 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 TSP readings (with the dates of occurrence) for each TSP hi-vol site in Connecticut for 1979. 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 (which are not to the southwest of the sites) 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.

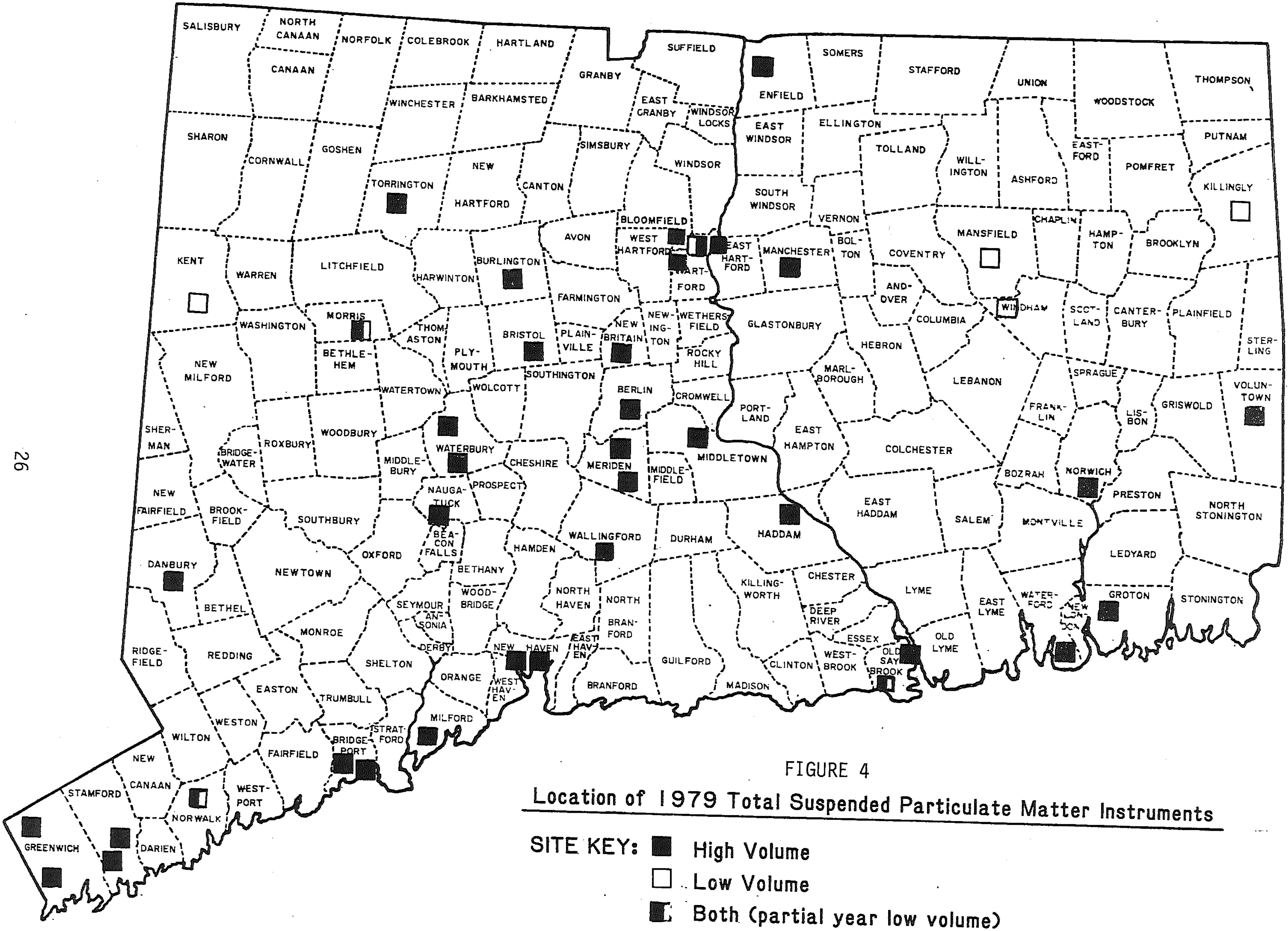


FIGURE 4

Location of 1979 Total Suspended Particulate Matter Instruments

SITE KEY:
■ High Volume
□ Low Volume
◧ Both (partial year low volume)
◨ Both (for comparisons)

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 1 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
ANSONIA	01	1966	22*	98.4	82	119	1.546	58	5
ANSONIA	01	1967	27*	85.9	70	105	1.703	58	7
ANSONIA	01	1968	19*	97.2	68	138	2.120	100	35
ANSONIA	01	1969	25	102.5	92	114	1.310	29	
ANSONIA	01	1970	25	132.4	113	156	1.498	139	16
ANSONIA	01	1971	12*	143.1	117	175	1.383	168	13
ANSONIA	03	1971	40*	107.9	95	122	1.524	77	7
ANSONIA	03	1972	59	83.0	75	91	1.501	24	1
ANSONIA	03	1973	57	57.3	50	66	1.789	16	2
ANSONIA	03	1974	53	56.0	50	63	1.602	7	
ANSONIA	03	1975	58	55.7	50	62	1.539	4	
ANSONIA	03	1976	61	59.8	53	68	1.715	16	1
ANSONIA	03	1977	59	63.1	57	70	1.537	8	
ANSONIA	03	1978	117	62.5	58	68	1.739	20	2
ANSONIA	03	1979	115	56.6	53	60	1.527	4	
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		
BRIDGEPORT	01	1970	27	65.0	55	77	1.551	10	
BRIDGEPORT	01	1971	55	54.3	50	60	1.445	1	
BRIDGEPORT	01	1972	61	56.1	52	61	1.438	1	
BRIDGEPORT	01	1973	60	45.5	42	50	1.463		
BRIDGEPORT	01	1974	60	48.9	44	54	1.564	2	
BRIDGEPORT	01	1975	60	51.9	48	56	1.418		
BRIDGEPORT	01	1976	61	54.3	49	61	1.595	5	
BRIDGEPORT	01	1977	58	56.7	52	62	1.448	2	
BRIDGEPORT	01	1978	58	49.8	45	55	1.492	1	
BRIDGEPORT	01	1979	60	51.6	46	57	1.572	3	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 2 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
BRIDGEPORT		02	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	36*	93.4	82	107	1.524	50	3
BRIDGEPORT		05	1968	27	79.2	70	89	1.360	7	
BRIDGEPORT		05	1969	21*	80.3	71	90	1.300	3	
BRIDGEPORT		123	1975	38*	65.7	58	75	1.535	10	
BRIDGEPORT		123	1976	60	68.4	61	77	1.638	20	1
BRIDGEPORT		123	1977	120	70.9	67	75	1.508	13	
BRIDGEPORT		123	1978	120	66.4	61	72	1.683	20	2
BRIDGEPORT		123	1979	120	64.8	61	69	1.491	7	
BRIDGEPORT	A	01	1960	24	86.5	71	105	1.620	50	4
BRIDGEPORT	A	01	1962	26	88.8	78	101	1.380	20	
BRIDGEPORT	A	01	1966	24	78.2	64	96	1.660	35	3
BRIDGEPORT	A	01	1969	25	65.9	60	72	1.270		
BRIDGEPORT	A	01	1970	26	63.9	54	75	1.510	7	
BRIDGEPORT	A	01	1971	26	57.9	50	67	1.450	2	
BRIDGEPORT	A	01	1972	30	51.0	44	60	1.550	2	
BRISTOL		01	1970	18*	40.0	30	53	1.773	4	
BRISTOL		01	1971	54	50.4	44	57	1.642	5	
BRISTOL		01	1972	58	51.1	46	56	1.510	2	
BRISTOL		01	1973	58	52.5	47	59	1.572	4	
BRISTOL		01	1974	59	42.3	38	48	1.638	2	
BRISTOL		01	1975	54	49.0	43	56	1.644	4	
BRISTOL		01	1976	53	58.1	50	67	1.744	16	1
BRISTOL		01	1977	58	51.5	46	57	1.531	2	
BRISTOL		01	1978	59	47.0	43	52	1.511	1	
BRISTOL		01	1979	58	42.1	38	47	1.573	1	

TABLE 6, cont.

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
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		
DANBURY	01	1966	23*	51.1	43	60	1.475	1	
DANBURY	01	1967	28*	67.1	55	82	1.692	24	2
DANBURY	01	1968	21*	113.4	84	154	1.990	126	42
DANBURY	01	1969	16*	82.0	64	105	1.610	35	3
DANBURY	01	1970	21*	82.1	63	107	1.813	58	10
DANBURY	01	1972	8*	84.1	45	159	2.154	77	24
DANBURY	01	1973	38	58.1	49	70	1.782	20	2
DANBURY	01	1974	51	51.5	46	58	1.588	4	
DANBURY	01	1975	8*	58.1	37	91	1.722	16	1
DANBURY	123	1975	49*	53.2	48	59	1.431	1	
DANBURY	123	1976	60	53.0	47	60	1.671	8	
DANBURY	123	1977	58	56.8	51	65	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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 4 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
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	
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	85	1.363	1	
ENFIELD	123	1975	33*	38.6	33	45	1.562		

TABLE 6, cont.

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		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	C1/	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	
GREENWICH		01	1975	27*	62.7	51	78	1.761	24	2
GREENWICH		01	1976	58	54.4	49	61	1.567	4	
GREENWICH		01	1977	55	57.7	52	64	1.515	4	
GREENWICH		01	1978	44*	54.9	48	63	1.624	7	
GREENWICH		02	1966	29*	59.2	50	70	1.567	7	
GREENWICH		02	1967	35*	66.1	56	78	1.634	16	1
GREENWICH		02	1968	26	61.2	48	78	1.870	29	4
GREENWICH		02	1969	25	54.7	46	65	1.530	3	
GREENWICH		02	1970	24	53.0	43	65	1.636	7	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 6 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
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	66	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	59.2	54	65	1.444	2	
GREENWICH	03	1978	43*	58.1	50	67	1.631	10	
GREENWICH	04	1973	47*	42.1	36	49	1.751	4	
GREENWICH	04	1974	58	40.1	35	46	1.733	3	
GREENWICH	04	1975	56	37.4	33	43	1.747	2	
GREENWICH	04	1976	57	40.3	35	46	1.755	4	
GREENWICH	04	1977	58	42.3	38	47	1.589	1	
GREENWICH	04	1978	58	36.4	32	41	1.673	1	
GREENWICH	04	1979	56	37.9	33	43	1.719	2	
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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 7 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95 PCT-LIMITS LOWER	UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
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	14	1974	60	63.0	57	69	1.501	7	
GREENWICH	14	1975	28*	58.5	52	66	1.363		
GROTON	01	1967	16*	36.4	28	47	1.631	1	
GROTON	01	1968	21*	61.2	46	80	1.860	29	4
GROTON	01	1969	25	72.5	62	84	1.460	10	
GROTON	01	1970	25	102.5	86	122	1.555	67	7
GROTON	01	1971	53	87.4	77	99	1.638	50	5
GROTON	01	1972	56	46.2	40	53	1.716	5	
GROTON	01	1973	55	34.8	31	39	1.652	1	
GROTON	01	1974	61	34.5	31	39	1.674	1	
GROTON	01	1975	25*	38.5	32	47	1.635	1	
GROTON	04	1966	6*	44.8	28	72	1.584	2	
GROTON	04	1967	14*	40.3	30	55	1.722	3	
GROTON	123	1975	35*	38.8	34	44	1.495		
GROTON	123	1976	58	44.7	41	49	1.506		
GROTON	123	1977	61	42.7	39	47	1.542	1	
GROTON	123	1978	61	40.7	37	44	1.462		
GROTON	123	1979	29*	32.8	27	40	1.733	1	
GROTON 01/	123	1975	60	38.7	35	43	1.555		

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 8 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
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		
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	88	13
HARTFORD	03	1971	169	86.6	83	91	1.517	35	2
HARTFORD	03	1972	139	74.3	70	79	1.602	24	1
HARTFORD	03	1973	33*	80.7	71	92	1.474	20	
HARTFORD	03	1974	55	62.4	56	70	1.599	10	
HARTFORD	03	1975	60	68.5	63	75	1.471	8	
HARTFORD	03	1976	58	73.5	67	81	1.496	13	
HARTFORD	03	1977	105	66.2	62	71	1.568	13	
HARTFORD	03	1978	119	64.6	60	69	1.596	13	
HARTFORD	03	1979	116	61.3	58	65	1.460	3	
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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 9 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
HARTFORD		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	
HARTFORD		123	1978	61	67.1	61	74	1.519	10	
HARTFORD		123	1979	59	66.5	61	73	1.453	5	
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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION   PAGE 10   AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
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		
MANSFIELD		01	1969	14*	37.9	31	47	1.460		
MANSFIELD		01	1970	22	44.6	37	55	1.593	2	
MANSFIELD		01	1971	34*	46.2	40	53	1.543	1	
MANSFIELD		01	1972	26*	43.1	32	58	2.101	16	3
MANSFIELD		01	1973	18*	23.2	19	28	1.497		
MANSFIELD		01	1974	47	34.3	30	39	1.609		
MANSFIELD		01	1975	60	36.5	33	41	1.628	1	
MANSFIELD		01	1976	14*	40.5	31	54	1.646	2	
MERIDEN		01	1971	53	40.4	36	45	1.535		
MERIDEN		01	1972	54	72.5	66	80	1.484	13	
MERIDEN		01	1973	36*	58.2	48	71	1.839	20	2
MERIDEN		01	1974	55	50.3	45	57	1.607	4	
MERIDEN		01	1975	35*	53.2	42	67	2.013	24	4
MERIDEN		02	1968	14*	66.1	50	87	1.630	16	1
MERIDEN		02	1969	18*	79.8	59	108	1.850	58	10

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 11 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
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	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*	85.6	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
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	116	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	75	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

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 12 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
MERIDEN	06	1971	52	78.8	70	88	1.543	24	1
MERIDEN	06	1972	38	68.0	56	82	1.822	35	5
MERIDEN	06	1973	51	49.3	42	58	1.903	16	2
MERIDEN	06	1974	54	56.1	49	65	1.755	16	1
MERIDEN	06	1975	53	59.3	50	70	1.916	29	4
MERIDEN	06	1976	23*	59.7	43	84	2.242	50	13
MERIDEN	07	1968	10*	61.1	47	79	1.430	2	
MIDDLETOWN	01	1966	23*	44.2	36	55	1.678	3	
MIDDLETOWN	01	1967	38*	36.9	32	42	1.558		
MIDDLETOWN	01	1968	22	60.9	46	81	1.950	35	5
MIDDLETOWN	01	1969	25	56.0	46	68	1.600	7	
MIDDLETOWN	01	1970	22	38.6	29	52	2.003	8	1
MIDDLETOWN	01	1971	57	35.9	32	40	1.577		
MIDDLETOWN	01	1972	59	47.3	42	53	1.602	3	
MIDDLETOWN	01	1973	59	50.7	44	59	1.88[illegible]	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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 13 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
MIDDLETOWN	04	1973	52*	51.4	42	63	2.245	35	8
MILFORD	01	1968	19*	59.3	44	81	1.930	29	5
MILFORD	01	1969	22*	43.2	35	53	1.630	2	
MILFORD	01	1970	16*	58.0	46	74	1.580	7	
MILFORD	01	1971	53	53.7	48	60	1.552	4	
MILFORD	01	1972	58	49.2	44	55	1.613	4	
MILFORD	01	1973	49*	43.8	39	49	1.476		
MILFORD	01	1974	60	46.7	42	52	1.552	1	
MILFORD	01	1975	58	45.7	41	51	1.537	1	
MILFORD	01	1976	60	50.6	45	56	1.566	3	
MILFORD	01	1977	55	45.6	41	51	1.556	1	
MILFORD	01	1978	32*	48.4	42	56	1.549	2	
MILFORD	02	1968	18*	64.7	49	85	1.750	24	2
MILFORD	02	1969	20	67.7	56	81	1.500	8	
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	06	1970	11*	56.6	38	84	1.821	20	2
MILFORD	06	1971	48	42.8	38	46	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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 14 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
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 DAM	01	1979	119	27.9	26	30	1.662		
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	
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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 15 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NEW BRITAIN	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*	105.6	86	130	1.644	88	13
NEW BRITAIN	03	1967	28*	111.7	91	137	1.727	113	24
NEW BRITAIN	03	1968	26	131.9	102	171	1.940	154	58
NEW BRITAIN	03	1969	25	97.3	77	122	1.780	77	16
NEW BRITAIN	03	1970	26	90.8	72	115	1.826	77	16
NEW BRITAIN	03	1971	58	86.3	75	99	1.782	58	10
NEW BRITAIN	03	1972	59	69.9	61	80	1.724	29	3
NEW BRITAIN	03	1973	57	73.9	64	85	1.751	35	5
NEW BRITAIN	03	1974	60	62.9	56	71	1.676	16	1
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	56	1.726	6	
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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 16 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NEW BRITAIN	05	1970	26	44.7	38	53	1.566	1	
NEW BRITAIN	05	1971	57	49.4	45	55	1.494	1	
NEW BRITAIN	05	1972	59	42.1	37	49	1.816	7	
NEW BRITAIN	05	1973	58	45.5	40	51	1.638	3	
NEW BRITAIN	05	1974	58	38.8	33	45	1.863	5	
NEW BRITAIN	06	1966	24*	74.8	64	88	1.490	16	
NEW BRITAIN	06	1967	29*	71.1	63	81	1.422	7	
NEW BRITAIN	123	1975	13*	63.1	50	79	1.475	5	
NEW BRITAIN	123	1976	61	56.7	51	63	1.607	7	
NEW BRITAIN	123	1977	120	57.9	55	61	1.444	2	
NEW BRITAIN	123	1978	121	60.1	56	64	1.564	8	
NEW BRITAIN	123	1979	110	47.4	44	51	1.516	1	
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

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PRCTECTION PAGE 17 AIR COMPLIANCE MONITORING

PCLLUTANT--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	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	03	1967	69*	77.0	69	86	1.660	35	3
NEW HAVEN	03	1968	76	68.4	62	76	1.670	24	2
NEW HAVEN	03	1969	69	63.8	58	70	1.550	10	
NEW HAVEN	03	1970	7*	84.3	61	117	1.433	20	
NEW HAVEN	03	1971	47*	48.2	42	55	1.634	4	
NEW HAVEN	03	1972	69	50.2	46	55	1.569	3	
NEW HAVEN	03	1973	61	43.4	40	48	1.489		
NEW HAVEN	03	1974	61	46.4	41	52	1.650	4	
NEW HAVEN	03	1975	59	52.1	47	58	1.544	3	
NEW HAVEN	03	1976	15*	49.2	41	59	1.396		
NEW HAVEN	05	1967	56*	63.9	50	81	2.610	67	24
NEW HAVEN	05	1968	60*	69.7	62	79	1.680	24	2
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

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 18 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NEW HAVEN		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	
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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 19 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NORWALK	01	1969	26	58.0	50	67	1.470	2	
NORWALK	01	1970	25	59.7	48	74	1.700	16	1
NORWALK	01	1971	57	57.0	52	63	1.469	2	
NORWALK	01	1972	59	55.2	50	61	1.487	2	
NORWALK	01	1973	59	52.6	47	58	1.560	3	
NORWALK	01	1974	57	53.1	47	60	1.603	5	
NORWALK	01	1975	57	53.8	48	61	1.619	7	
NORWALK	01	1976	10*	68.3	52	90	1.470	8	
NORWALK	03	1968	26	69.8	55	89	1.850	42	7
NORWALK	05	1970	26	65.9	55	79	1.615	16	1
NORWALK	05	1971	58	69.3	64	75	1.396	4	
NORWALK	05	1972	61	63.0	57	69	1.481	5	
NORWALK	05	1973	61	58.1	53	64	1.513	4	
NORWALK	05	1974	57	66.4	59	75	1.640	20	1
NORWALK	05	1975	56	56.1	51	62	1.480	2	
NORWALK	05	1976	59	58.7	52	66	1.620	10	
NORWALK	05	1977	60	60.8	55	67	1.471	4	
NORWALK	05	1978	60	57.0	50	64	1.674	10	1
NORWALK	05	1979	116	57.2	54	61	1.497	3	
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		

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 20 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
NORWICH		01	1979	58	44.9	41	50	1.517	1	
NORWICH	A	01	1963	26	65.1	55	77	1.530	8	
NORWICH	A	01	1965	24	73.5	62	86	1.490	13	
OLD SAYBROOK		01	1973	25*	62.5	54	72	1.447	3	
OLD SAYBROOK		01	1974	60	66.1	59	74	1.641	16	1
OLD SAYBROOK		01	1975	60	64.9	59	71	1.490	7	
OLD SAYBROOK		01	1976	58	63.8	57	71	1.569	10	
OLD SAYBROOK		01	1977	61	59.9	54	66	1.535	7	
OLD SAYBROOK		01	1978	61	55.0	50	60	1.447	1	
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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 21 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

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

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 22 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
STAMFORD		10	1971	14*	86.4	58	129	2.023	77	20
STAMFORD		10	1972	41	69.0	55	87	2.156	58	16
STAMFORD		10	1973	35	62.1	52	74	1.696	16	1
STAMFORD		123	1976	36*	57.4	50	66	1.555	5	
STAMFORD		123	1977	61	62.6	57	69	1.486	5	
STAMFORD		123	1978	60	53.1	47	61	1.745	10	1
STAMFORD		123	1979	60	59.3	54	66	1.536	5	
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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 23 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
STRATFORD	05	1973	16*	57.9	48	70	1.446	2	
STRATFORD	05	1974	45	58.0	51	66	1.621	8	
STRATFORD	05	1975	49	52.7	46	60	1.611	5	
STRATFORD	05	1976	60	60.0	54	67	1.567	8	
STRATFORD	05	1977	59	57.9	52	65	1.584	7	
STRATFORD	05	1978	61	55.3	50	62	1.598	7	
STRATFORD	05	1979	58	56.4	51	62	1.483	2	
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	58	80	1.582	16	1
TORRINGTON	123	1975	28*	45.6	40	52	1.401		
TORRINGTON	123	1976	57	67.7	59	77	1.702	24	2
TORRINGTON	123	1977	61	62.7	56	71	1.653	16	1

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PRCTECTION PAGE 24 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
TORRINGTON	123	1978	120	59.7	54	66	1.929	29	5
TORRINGTON	123	1979	116	59.4	55	64	1.702	16	1
TORRINGTON 1/	123	1975	58	56.2	50	63	1.573	5	
VOLUNTOWN	01	1973	48	26.6	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		
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	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
WATERBURY	01	1974	51	72.3	65	83	1.725	35	4

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 25 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME		SITE	YEAR	SAMPLES	GEOM MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
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		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	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	
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	

TABLE 6, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 26 AIR COMPLIANCE MONITORING

POLLUTANT--PARTICULATES

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	GEOM MEAN	95 PCT-LIMITS LOWER	95 PCT-LIMITS UPPER	STD GEOM DEV	PREDICTED DAYS OVER 150 UG/M3	PREDICTED DAYS OVER 260 UG/M3
WILLIMANTIC	01	1976	13*	54.7	45	66	1.377		
WILLIMANTIC	02	1979	15*	43.2	36	52	1.424		
WINCHESTER	01	1967	13*	80.8	56	117	1.868	58	10
WINCHESTER	01	1968	22*	61.9	50	77	1.640	13	1
WINCHESTER	01	1969	23*	51.0	44	59	1.430		
WINCHESTER	01	1970	25	55.4	48	64	1.420	1	
WINCHESTER	01	1971	56	58.2	53	64	1.504	4	
WINCHESTER	01	1972	50	50.0	43	58	1.746	8	
WINCHESTER	01	1973	58	40.6	36	46	1.731	3	
WINCHESTER	01	1974	60	44.7	39	51	1.722	5	
WINCHESTER	01	1975	58	52.0	46	58	1.606	5	
WINCHESTER	01	1976	13*	68.7	47	100	1.886	42	7
WINCHESTER	03	1966	20*	48.7	40	59	1.536	2	
WINCHESTER	03	1967	11*	51.8	39	68	1.524	2	

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

TABLE 7

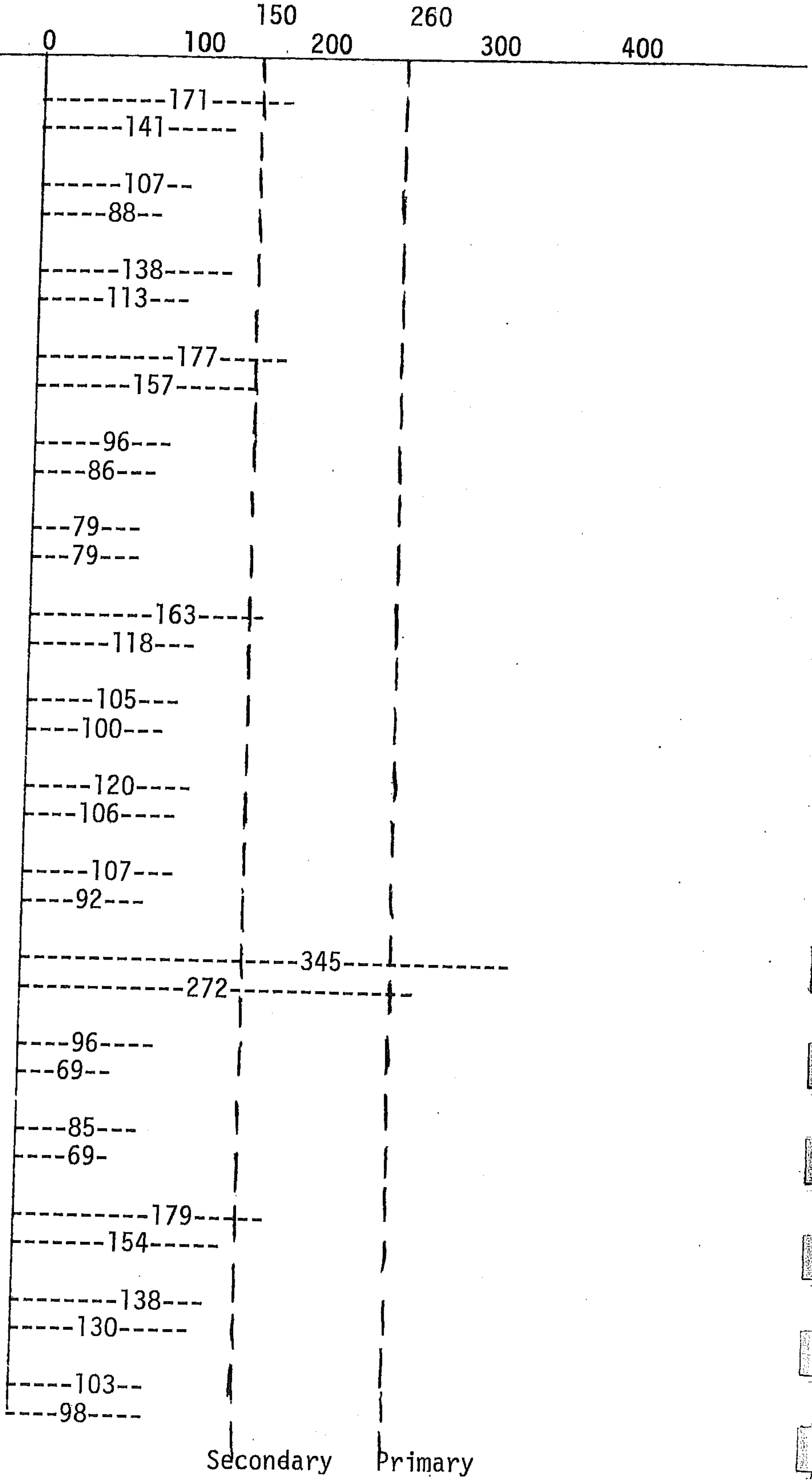
CONFIDENCE OF COMPLIANCE WITH ANNUAL TSP STANDARDS (1979)

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
	Greenwich 08	Bridgeport 123	Danbury 123
	New Haven 123	Hartford 123	Greenwich 08
		New Haven 123	Hartford 03
		Waterbury 123	Meriden 05
			New Haven 02
			Norwalk 05
			Stamford 07
			Stamford 123
			Stratford 05
			Torrington 123
			Willimantic 02

TABLE 8

1979 MAXIMUM 24-HOUR TSP CONCENTRATIONS*

SITE	1ST HIGH	2ND HIGH		
Ansonia-003	3/1	2/20	171	141
Berlin-001	5/9	7/14	107	88
Bridgeport-001	5/9	11/29	138	113
Bridgeport-123	5/9	3/1	177	157
Bristol-001	5/9	7/14	96	86
Burlington-001	7/23	8/1	79	79
Danbury-123	2/14	12/11	163	118
E. Hartford-002	5/9	7/20	105	100
Enfield-123	5/9	8/1	120	106
Greenwich-04	5/9	7/14	107	92
Greenwich-08	9/6	6/26	345	272
Groton-123	3/22	5/9	96	69
Haddam-002	5/9	7/14	85	69
Hartford-003	3/1	2/20	179	154
Hartford-123	5/9	2/20	138	130
Manchester-001	5/9	7/14	103	98



* Units in $\mu g/m^3$

TABLE 8, cont.

SITE	1ST HIGH	2ND HIGH	0 100 150 200 260 300 400
Meriden-002	3/22		130
		5/9	125
Meriden-005	9/12		292
		5/9	170
Middletown-003	2/20		119
		12/11	107
Milford-002	6/26		217
		5/9	130
Morris-001	7/14		100
		5/9	83
Naugatuck-001	2/20		111
		5/9	107
N. Britain-123	9/6		142
		3/1	129
N. Haven-002	7/1		158
		10/18	128
N. Haven-123	3/1		251
		11/23	167
Norwalk-005	5/9		148
		3/1	125
Norwich-001	11/5		119
		5/9	91
O. Saybrook-001	1/9		179
		2/20	126
Stamford-007	5/9		129
		7/14	113
Stamford-123	5/9		164
		12/11	124
Stratford-005	5/9		164
		2/14	111
Torrington-123	3/22		230
		3/16	159
Voluntown-001	7/23		78
		2/5	77

150 Secondary

260 Primary

TABLE 8, cont.

SITE	1ST HIGH	2ND HIGH	0 100 150 200 260 300 400
Wallingford-001	5/9		120
		7/14	102
Waterbury-002	5/9		110
		12/11	102
Waterbury-123	3/1		243
		1/9	174
Waterford-001	7/20		83
		5/9	68
Willimantic-002	12/11		77
		10/18	75

Secondary Primary

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

YEAR	SITES WITH $\geq$ 2 DAYS EXCEEDING THE SECONDARY STANDARD (150 $\mu g/m^3$)		SITES WITH $\geq$ 2 DAYS EXCEEDING THE PRIMARY STANDARD (260 $\mu g/m^3$)		TOTAL # OF HI-VOL SITES
	Number of Sites	% of Total Sites	Number of Sites	% of Total 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

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          CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981          PAGE    1
              AIR COMPLIANCE MONITORING    QUARTERLY COMPOSITES

               YEAR    TOWN NAME                  AREA    SITE   AGENCY    PROJECT
               1979    ANSONIA                    0008    C03       F         01

     **--------**--------**--------**--------**--------** METALS **--------**--------**--------**--------**--------**
QUARTER      AL        BE        CD        CR        CU        FE        PB        MN        NI         V        ZN
          12101/92  12105/92  12110/92  12112/92  12114/92  12126/92  12128/92  12132/92  12136/92  12164/92  12167/92
           UG/M3     UG/M3     UG/M3     UG/M3     UG/M3     UG/M3     UG/M3     UG/M3     UG/M3     UG/M3     UG/M3

 FIRST      0.47       BDL    0.0960     0.007     0.26      1.07      0.75     0.024     0.011      0.04      1.52
 SECOND     0.21       BDL    0.0085     0.003     0.25      0.71      0.85     0.016     0.014      0.03      0.70
 THIRD                 BDL    0.0833     0.004     0.24      0.78      0.80     0.024     0.013      0.02      0.85
 FOURTH                BDL    0.0178     0.014     0.20      0.90      1.61     0.025     0.022      0.03      0.92

YEAR AVG    0.33    0.0000    0.0522     0.007     0.24      0.86      0.97     0.022     0.015      0.03      0.98
 COUNT        15        29        29        29        29        29        29        29        29        29        29

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

QUARTER   NITRATE   SULFATE   AMMONIUM   SODIUM      PH                TOTAL              ARITH AV              APPROX
          12306/92  12403/92  12301/91  12184/92  12602/91            11103/91            11101/91              SAMPLE
           UG/M3     UG/M3     UG/M3     UG/M3    PH-UNITS             UG/M3               UG/M3                COUNT

 FIRST      3.63      9.33      0.07                9.50                                     64                    7
 SECOND     3.26     11.35      0.04                9.20                                     53                    8
 THIRD      4.18     11.49      0.05                9.50                                     63                    8
 FOURTH     3.65      7.05      0.12                9.60                                     .64                   6

YEAR AVG    3.68     10.01      0.07                9.44                                     61
 COUNT        29        29        29                  29                                     29
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TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTICN 01/26/1981 PAGE 2
AIR COMPLIANCE MONITCRING QUARTERLY COMPOSITES

YEAR 1979 TOWN NAME BERLIN AREA 0028 SITE C01 AGENCY F PROJECT 03

QUARTER	METALS										
	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	0.02	BDL	0.0008	BDL	0.19	0.31	0.3C	0.010	0.006	0.02	0.C7
SECOND	0.11	BDL	0.0012	0.002	0.27	0.33	0.35	0.012	0.006	0.02	0.11
THIRD		BDL	0.0014	BDL	0.24	0.24	0.36	0.008	0.008	0.02	0.C8
FOURTH		BDL	0.0015	0.013	0.40	0.53	0.46	0.016	0.016	C.03	0.17
YEAR AVG	0.07	0.0000	0.0012	0.004	0.27	0.35	0.37	0.012	0.009	0.02	0.11
COUNT	15	29	29	29	29	29	29	29	29	29	29

QUARTER	WATER SOLUBLES					BENZ SCL	TSP	
	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	2.42	8.61	0.04		9.60		28	7
SECOND	2.39	10.42	0.C2		9.50		37	8
THIRD	1.63	7.11	0.C2		9.60		41	7
FOURTH	5.38	7.21	0.C8		9.60		32	7
YEAR AVG	2.94	8.41	0.C4		9.57		35	
COUNT	29	29	29		29		29	

TABLE [illegible], cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	BRIDGEPORT	0060	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	0.28	BDL	0.0028	0.003	0.18	0.75	0.90	0.019	0.015	0.05	0.22
SECOND	0.33	BDL	0.0044	0.007	0.31	0.86	1.01	0.023	0.019	0.05	1.13
THIRD		BDL	0.0027	0.007	0.26	0.81	1.05	0.022	0.016	0.02	0.40
FOURTH		BDL	0.0026	0.014	0.39	0.98	1.39	0.026	0.017	0.03	0.67
YEAR AVG	0.30	0.0000	0.0031	0.008	0.28	0.85	1.09	0.022	0.017	0.04	0.59
COUNT	15	31	31	31	31	31	31	31	31	31	31

QUARTER	WATER SOLUBLES					BENZ SOL	TSP	
	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	3.66	11.28	0.07		9.40		58	8
SECOND	3.84	14.67	0.05		9.20		56	7
THIRD	4.75	12.02	0.03		9.60		60	8
FOURTH	4.32	7.51	0.09		9.40		.66	8
YEAR AVG	4.15	11.26	0.06		9.41		60	
COUNT	31	31	31		31		31	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.48	BDL	0.0031	0.005	0.22	1.39	1.13	0.050	0.017	0.05	0.56
SECOND	0.46	BDL	0.0055	0.011	0.13	1.61	1.28	0.040	0.025	0.05	0.39
THIRD	0.45	BDL	0.0027	0.006	0.13	1.27	0.99	0.035	0.020	0.01	0.28
FOURTH		BDL	0.0037	0.016	0.17	1.11	1.64	0.038	0.028	0.05	0.79
YEAR AVG	0.46	0.0000	0.0038	0.009	0.16	1.35	1.25	0.041	0.022	0.04	0.49
COUNT	23	30	30	30	30	30	30	30	30	30	30

	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	3.76	10.85	0.07		9.40		74	7
SECOND	3.91	14.92	0.22		9.20		77	8
THIRD	3.89	10.58	0.05		9.70		77	8
FOURTH	4.79	8.98	0.24		8.50		69	7
YEAR AVG	4.07	11.43	0.14		9.22		74	
COUNT	30	30	30		30		30	

TABLE 10, cont.

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                    CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
                          AIR COMPLIANCE MONITORING   QUARTERLY COMPOSITES          PAGE    5

                      YEAR    TOWN NAME                  AREA    SITE   AGENCY    PROJECT
                      1979    BRISTOL                    0070    C01      F          01

       **---------**---------**---------**---------**---------** METALS **---------**---------**---------**---------**---------**
QUARTER      AL         BE         CD         CR         CU         FE         PB         MN         NI         V          ZN
          12101/92   12105/92   12110/92   12112/92   12114/92   12126/92   12128/92   12132/92   12136/92   12164/92   12167/92
           UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3

FIRST       0.21       BDL      0.0078       BDL       0.12       0.75       0.44      0.016      0.006      0.02       0.07
SECOND      0.20       BDL      0.0987      0.002      0.13       0.54       0.50      0.015      0.006      0.02       0.24
THIRD                  BDL      0.0052      0.005      0.24       0.47       0.46      0.013      0.010      0.03       0.11
FOURTH                 BDL      0.0171      0.013      0.25       0.62       1.07      0.021      0.014      0.02       0.24

YEAR AVG    0.20      0.0000    0.0354      0.005      0.19       0.58       0.62      0.016      0.009      0.02       0.17
COUNT         13         28         28         28         28         28         28         28         28         28         28

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

QUARTER   NITRATE    SULFATE    AMMONIUM   SODIUM       PH               TOTAL            ARITH. AV
          12306/92   12403/92   12301/91   12184/92   12602/91          11103/91           11101/91             APPROX
           UG/M3      UG/M3      UG/M3      UG/M3     PH-UNITS           UG/M3              UG/M3               SAMPLE
                                                                                                                COUNT
FIRST       0.94       8.04       0.04                  9.60                                 38                   5
SECOND      1.08      11.70       0.02                  9.30                                 46                   8
THIRD       2.66       9.77       0.09                  9.60                                 51                   8
FOURTH      2.75      10.12       0.12                  9.00                                 48                   7

YEAR AVG    1.92      10.10       0.07                  9.36                                 47
COUNT         28         28         28                    28                                 28
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TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	BURLINGTON	0085	C01	F	03

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

QUARTER	AL 12101/92 UG/M3	BE 12105/92 UG/M3	CD 12110/92 UG/M3	CP 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	0.03	BDL	0.0007	BDL	0.19	0.23	0.17	0.006	0.005	0.02	0.07
SECOND	0.19	BDL	0.0007	BDL	0.28	0.33	0.19	0.009	0.004	0.01	0.05
THIRD		BDL	0.0015	BDL	0.23	0.24	0.29	0.007	0.006	0.01	0.04
FOURTH		BDL	0.0011	0.010	0.27	0.50	0.32	0.009	0.012	0.01	0.17
YEAR AVG	0.12	0.0000	0.0010	0.003	0.24	0.33	0.24	0.008	0.007	0.01	0.08
COUNT	15	29	29	29	29	29	29	29	29	29	29

------------------**- 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	1.85	8.47	0.04		9.70		20	7
SECOND	1.32	8.23	0.05		9.30		30	8
THIRD	2.66	9.66	0.09		9.60		46	7
FOURTH	2.61	5.16	0.09		9.20		27	7
YEAR AVG	2.08	7.89	0.07		9.44		31	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	EAST HARTFORD	0220	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	0.18	BDL	0.0022	0.003	0.13	0.58	0.69	0.013	0.013	0.04	0.08
SECOND	0.40	BDL	0.0023	0.003	0.16	0.72	0.63	0.023	0.010	0.02	0.21
THIRD		BDL	0.0018	0.009	0.27	0.68	0.54	0.019	0.017	0.01	0.09
FOURTH		BDL	0.0021	0.012	0.14	0.53	1.12	0.017	0.015	0.03	0.21
YEAR AVG	0.30	0.0000	0.0021	0.007	0.18	0.64	0.72	0.018	0.014	0.02	0.15
COUNT	15	29	29	29	29	29	29	29	29	29	29

QUARTER	WATER SOLUBLES 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	APPROX SAMPLE COUNT
FIRST	3.57	8.28	0.04		9.50		38	7
SECOND	3.06	11.11	0.02		9.20		53	8
THIRD	3.31	11.37	0.17		9.50		58	8
FOURTH	2.37	7.26	0.11		9.40		67	6
YEAR AVG	3.11	9.70	0.08		9.40		54	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 9
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.11	BDL	0.0007	0.001	0.12	0.36	0.36	0.008	0.005	0.02	0.02
SECOND	0.30	BDL	0.0010	0.002	0.07	0.58	0.42	0.014	0.006	0.02	0.10
THIRD		BDL	0.0013	BDL	0.05	0.55	0.47	0.013	0.005	0.01	0.11
FOURTH		BDL	0.0024	0.009	0.25	0.34	0.82	0.011	0.015	0.02	0.29
YEAR AVG	0.21	0.0000	0.0014	0.003	0.12	0.46	0.52	0.012	0.008	0.02	0.13
COUNT	13	28	28	28	28	28	28	28	28	28	28

--------------------**- 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	1.15	7.18	0.02		9.40		31	6
SECOND	1.09	10.66	0.02		9.20		50	7
THIRD	2.80	7.41	0.02		9.40		54	8
FOURTH	3.56	3.56	0.15		9.60		43	7
YEAR AVG	2.21	7.21	0.05		9.40		45	
COUNT	28	28	28		28		28	

TABLE 10, cont.

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           CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
                AIR COMPLIANCE MONITORING   QUARTERLY COMPOSITES                    PAGE  10
                  YEAR   TOWN NAME
                  1979   GREENWICH                AREA    SITE   AGENCY   PROJECT
                                                  0330    C04      F        01
      **---------**---------**---------**---------**---------** METALS **---------**---------**---------**---------**---------**
QUARTER     AL        BE         CD         CR         CU         FE         PB         MN         NI         V          ZN
         12101/92  12105/92   12110/92   12112/92   12114/92   12126/92   12128/92   12132/92   12136/92   12164/92   12167/92
          UG/M3     UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3      UG/M3
FIRST      0.05      BDL      0.0011      BDL        0.15       0.37       0.35       0.011      0.008      0.02       0.08
SECOND     0.15      BDL      0.0013     0.002       0.16       0.45       0.45       0.012      0.008      0.02       0.07
THIRD                BDL      0.0020     0.010       0.22       0.64       0.58       0.017      0.018      0.02       0.11
FOURTH               BDL      0.0019     0.010       0.23       0.45       0.57       0.014      0.015      0.04       0.09
YEAR AVG   0.11     0.0000    0.0016     0.006       0.19       0.48       0.49       0.014      0.012      0.02       0.09
COUNT        14        28         28         28         28         28         28         28         28         28         28

     **---------**---------**- WATER SOLUBLES -**---------**        **BENZ SOL**      **- TSP -**        **---------**
QUARTER  NITRATE   SULFATE   AMMONIUM   SODIUM       PH              TOTAL          ARITH AV           APPROX
         12306/92  12403/92  12301/91   12184/92   12602/91         11103/91        11101/91           SAMPLE
          UG/M3     UG/M3     UG/M3      UG/M3     PH-UNITS          UG/M3           UG/M3             COUNT
FIRST      4.24     10.22      0.04                  9.40                             34                  6
SECOND     4.15     11.86      0.12                  9.30                             48                  8
THIRD      4.82     13.14      0.08                  9.60                             56                  7
FOURTH     3.97     10.49      0.16                  9.40                             42                  7
YEAR AVG   4.29     11.49      0.10                  9.42                             46
COUNT        28        28        28                    28                             28
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TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.43	BDL	0.0011	0.002	0.18	1.15	0.80	0.021	0.008	0.02	0.11
SECOND	0.82	BDL	0.0023	0.005	0.26	1.55	0.83	0.023	0.014	0.05	0.15
THIRD		BDL	0.0022	0.003	0.29	1.53	0.54	0.022	0.013	0.03	0.13
FOURTH		BDL	0.0019	0.011	0.18	1.07	1.15	0.026	0.016	0.03	0.18
YEAR AVG	0.64	0.0000	0.0019	0.005	0.23	1.33	0.83	0.023	0.013	0.03	0.14
COUNT	15	29	29	29	29	29	29	29	29	29	29

------------------**- 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	1.91	9.54	0.07		9.40		59	7
SECOND	1.67	13.04	0.23		9.20		87	8
THIRD	3.91	11.03	0.05		9.40		128	7
FOURTH	7.43	10.14	0.23		9.30		63	7
YEAR AVG	3.66	11.01	0.15		9.32		84	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTICN 01/26/1981
AIR COMPLIANCE MONITCRING QUARTERLY COMPCSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	GRCTON	035C	123	F	01

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

QUARTER	AL 12101/92 UG/M3	BE 121C5/92 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	0.20	BDL	0.0012	0.003	0.08	0.76	0.40	0.022	0.018	0.02	0.C8
SECCND	0.26	BDL	0.00C7	0.006	0.09	0.76	0.36	0.031	0.024	0.03	0.C8
THIRD											
FOURTH											
YEAR AVG	0.23	0.C000	0.0009	0.005	0.09	0.76	0.38	0.027	0.021	0.03	0.C8
COUNT	15	15	15	15	15	15	15	15	15	15	15

	------------------**- WATER	SOLUBLES	-**---------**			**BENZ SOL**	**- TSP -**	**---------**
QUARTER	NITRATE 12306/92 UG/M3	SULFATE 124C3/92 UG/M3	AMMONIUM 12301/91 UG/M3	SOCIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TCTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COLNT
FIRST	2.39	8.50	0.04		9.50		43	7
SECOND	2.02	12.55	0.C2		9.50		37	8
THIRD								
FOURTH								
YEAR AVG	2.19	10.66	0.03		9.50		40	
COUNT	15	15	15		15		15	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.18	BDL	0.0010	0.001	0.16	0.45	0.29	0.013	0.006	0.02	0.04
SECOND	0.12	BDL	0.0009	0.003	0.16	0.38	0.37	0.011	0.015	0.02	0.09
THIRD		BDL	0.0011	0.001	0.20	0.37	0.31	0.009	0.007	0.01	0.07
FOURTH		BDL	0.0011	0.009	0.08	0.21	0.38	0.007	0.011	0.02	0.09
YEAR AVG	0.15	0.0000	0.0010	0.003	0.15	0.35	0.34	0.010	0.010	0.02	0.07
COUNT	15	29	29	29	29	29	29	29	29	29	29

---------- WATER SOLUBLES ---------- / BENZ SCL / 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	1.02	7.92	0.04		9.60		31	7
SECOND	0.94	8.31	0.02		9.50		37	8
THIRD	2.64	7.05	0.05		9.40		41	7
FOURTH	7.34	2.54	0.34		9.00		32	7
YEAR AVG	2.91	6.52	0.11		9.38		35	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.50	BDL	0.0011	0.005	0.25	1.17	0.93	0.026	0.016	0.08	0.08
SECOND	0.44	BDL	0.0018	0.006	0.26	1.14	1.07	0.024	0.012	0.03	0.18
THIRD		BDL	0.0018	0.001	0.19	0.72	0.72	0.017	0.009	0.02	0.11
FOURTH		BDL	0.0017	0.016	0.17	0.77	1.54	0.022	0.021	0.04	0.19
YEAR AVG	0.47	0.0000	0.0016	0.006	0.22	0.95	1.02	0.022	0.014	0.04	0.14
COUNT	14	27	27	27	27	27	27	27	27	27	27

--------------**- 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	2.66	8.19	0.04		9.50		64	7
SECOND	2.56	12.03	0.02		9.60		70	7
THIRD	3.95	12.79	0.05		9.70		64	8
FOURTH	3.67	7.05	0.12		9.30		57	5
YEAR AVG	3.20	10.34	0.05		9.55		64	
COUNT	27	27	27		27		27	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.40	BDL	0.0013	0.003	0.10	1.14	0.94	0.024	0.012	0.06	0.07
SECOND	0.48	BDL	0.0015	0.007	0.11	1.02	0.84	0.025	0.011	0.04	0.13
THIRD		BDL	0.0019	0.005	0.18	0.93	0.70	0.020	0.011	0.03	0.12
FOURTH		BDL	0.0029	0.017	0.16	0.95	1.39	0.026	0.020	0.05	0.20
YEAR AVG	0.45	0.0000	0.0019	0.008	0.14	1.00	0.95	0.024	0.013	0.04	0.13
COUNT	14	29	29	29	29	29	29	29	29	29	29

------------------**- 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	2.90	8.90	0.07		9.70		76	6
SECOND	2.45	13.60	0.04		9.50		66	8
THIRD	4.81	10.56	0.05		9.70		72	8
FOURTH	2.41	7.37	0.11		9.70		66	7
YEAR AVG	3.18	10.29	0.07		9.64		70	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MCNITCRING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.12	BDL	0.0010	0.001	0.19	0.39	0.27	0.009	0.003	0.02	0.03
SECOND	0.11	BDL	0.0038	0.002	0.16	0.26	0.24	0.007	0.004	C.01	0.04
THIRD		BDL	0.0013	0.001	0.29	0.40	0.26	0.010	0.007	0.01	0.12
FOURTH		BDL	0.0016	0.011	0.30	0.38	0.39	0.013	0.013	0.03	0.16
YEAR AVG	0.11	0.0000	0.0020	0.003	0.23	0.35	0.28	0.010	0.006	0.02	0.08
COUNT	15	29	29	29	29	29	29	29	29	29	29

— WATER SOLUBLES — / **BENZ SCL** / **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	0.93	6.54	0.02		9.80		25	7
SECOND	0.70	9.59	0.02		9.60		32	8
THIRD	2.09	9.60	0.05		9.70		37	8
FOURTH	3.23	3.09	0.05		9.90		28	6
YEAR AVG	1.66	7.51	0.03		9.74		31	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.19	BDL	0.0010	BDL	0.11	0.57	0.47	0.013	0.006	0.03	0.05
SECOND	0.14	BDL	0.0012	0.001	0.23	0.46	0.53	0.013	0.008	0.02	0.09
THIRD		BDL	0.0014	BDL	0.32	0.48	0.47	0.012	0.012	0.02	0.06
FOURTH		BDL	0.0010	0.010	0.24	0.36	0.79	0.010	0.012	0.03	0.08
YEAR AVG	0.16	0.0000	0.0012	0.003	0.23	0.47	0.56	0.012	0.009	0.02	0.07
COUNT	15	29	29	29	29	29	29	29	29	29	29

--------------------**- 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	1.73	8.14	0.07		9.70		42	7
SECOND	1.21	9.39	0.02		9.40		45	8
THIRD	2.30	9.62	0.02		9.40		51	7
FOURTH	3.78	7.56	0.16		10.00		38	7
YEAR AVG	2.22	8.70	0.07		9.62		44	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR 1979
TOWN NAME MERIDEN
AREA 0540
SITE C02
AGENCY F
PROJECT 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	0.42	BDL	0.0014	0.002	0.11	1.05	0.88	0.024	0.013	0.05	0.29
SECOND	0.46	BDL	0.0026	0.003	0.16	0.94	0.78	0.022	0.014	0.03	0.21
THIRD		BDL	0.0015	0.005	0.06	0.83	0.67	0.023	0.020	0.03	0.24
FOURTH		BDL	0.0019	0.010	0.14	0.44	1.14	0.013	0.023	0.02	0.23
YEAR AVG	0.44	0.0000	0.0018	0.005	0.12	0.82	0.86	0.021	0.018	0.03	0.24
COUNT	14	29	29	29	29	29	29	29	29	29	29

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	1.24	7.99	0.04		9.70		63	7
SECOND	2.06	10.59	0.04		9.50		55	7
THIRD	4.11	11.31	0.05		9.70		53	8
FOURTH	2.47	7.55	0.12		9.80		54	7
YEAR AVG	2.53	9.43	0.06		9.68		56	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.23	BDL	0.0022	0.003	0.18	0.73	0.66	0.020	0.011	0.03	3.60
SECOND	0.43	BDL	0.0042	0.003	0.29	0.77	0.65	0.023	0.014	0.03	4.53
THIRD		BDL	0.0065	0.005	0.37	0.84	0.76	0.023	0.021	0.02	10.66
FOURTH		BDL	0.0054	0.010	0.39	0.94	1.44	0.022	0.026	0.02	14.72
YEAR AVG	0.34	0.0000	0.0046	0.005	0.31	0.82	0.87	0.022	0.018	0.02	8.33
COUNT	15	30	30	30	30	30	30	30	30	30	30

--------------------**- WATER SOLUBLES -**----------** **BENZ SCL** **- 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	2.59	8.30	0.07		9.50		50	7
SECOND	2.18	9.98	0.02		9.20		65	8
THIRD	4.12	10.95	0.02		9.60		78	8
FOURTH	3.01	6.74	0.23		9.80		70	7
YEAR AVG	2.99	9.09	0.08		9.52		66	
COUNT	30	30	30		30		30	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTICN 01/26/1981 PAGE 20
AIR COMPLIANCE MCNITCRING QUARTERLY COMPCSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	MIDDLETOWN	0570	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	0.20	BDL	0.0015	0.001	0.13	0.65	0.65	0.016	0.006	0.03	0.06
SECOND	0.42	BDL	0.0018	0.003	0.17	0.74	0.65	0.023	0.017	0.03	0.37
THIRD		BDL	0.0014	0.002	0.08	0.71	0.61	0.018	0.009	0.02	0.12
FOURTH		BDL	0.0014	0.011	0.11	0.56	1.08	0.015	0.014	0.03	0.14
YEAR AVG	0.32	0.0000	0.0015	0.004	0.12	0.67	0.73	0.018	0.012	0.03	0.18
CCUNT	15	29	29	29	29	29	29	29	29	29	29

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

QUARTER	NITRATE 12306/92 UG/M3	SULFATE 12403/92 UG/M3	AMMONIUM 12301/91 UG/M3	SOCIUM 12184/92 UG/M3	PH 12602/91 PH-UNITS	TCTAL 11103/91 UG/M3	ARITH AV 11101/91 UG/M3	APPROX SAMPLE COUNT
FIRST	1.97	8.61	0.08		9.70		49	7
SECOND	1.72	10.18	0.02		9.40		52	8
THIRD	1.36	4.22	0.02		9.00		58	8
FOURTH	3.30	7.21	0.12		9.90		58	6
YEAR AVG	2.01	7.54	0.06		9.47		54	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 21
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR 1979 TOWN NAME MILFORD AREA 0590 SITE C02 AGENCY F PROJECT 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	0.39	BDL	0.0021	0.004	0.13	1.06	0.75	0.024	0.043	0.05	0.13
SECOND	0.21	BDL	0.0025	0.001	0.14	0.64	0.83	0.017	0.010	0.03	0.20
THIRD		BDL	0.0029	0.004	0.17	0.83	0.75	0.017	0.014	0.03	0.33
FOURTH		BDL	0.0032	0.011	0.15	0.57	1.19	0.014	0.018	0.04	0.18
YEAR AVG	0.29	0.0000	0.0027	0.005	0.15	0.77	0.88	0.018	0.021	0.04	0.21
COUNT	15	29	29	29	29	29	29	29	29	29	29

WATER SOLUBLES — **BENZ SCL** — **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	4.75	10.76	0.11		9.70		56	7
SECOND	3.71	11.08	0.02		9.30		76	8
THIRD	4.56	8.65	0.09		9.10		59	7
FOURTH	3.39	10.29	0.13		9.80		52	7
YEAR AVG	4.09	10.23	0.09		9.47		61	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	NAUGATUCK	066C	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	0.26	BDL	0.0019	0.008	0.13	0.88	0.76	0.024	0.006	0.02	0.10
SECOND	0.20	BDL	0.0019	0.003	0.22	0.84	0.68	0.027	0.011	0.02	0.16
THIRD		BDL	0.0019	0.005	0.17	0.93	0.70	0.025	0.008	0.02	0.15
FOURTH		BDL	0.0054	0.011	0.20	0.82	1.30	0.022	0.019	0.03	0.31
YEAR AVG	0.23	0.0000	0.0027	0.007	0.18	0.87	0.85	0.025	0.011	0.02	0.18
COUNT	14	29	29	29	29	29	29	29	29	29	29

------------------**- 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	0.93	8.29	0.07		9.50		53	6
SECOND	2.52	11.38	0.04		9.40		50	8
THIRD	3.23	4.78	0.04		9.30		53	8
FOURTH	3.40	6.58	0.04		9.90		47	7
YEAR AVG	2.60	7.76	0.05		9.51		51	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 23
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR 1979 TOWN NAME NEW BRITAIN AREA 0680 SITE 123 AGENCY F PROJECT 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	0.20	BDL	0.0003	0.006	0.07	0.68	0.49	0.013	0.008	0.03	0.05
SECOND	0.24	BDL	0.0015	0.003	0.13	0.56	0.60	0.013	0.010	0.02	0.10
THIRD		BDL	0.0014	0.005	0.17	0.65	0.63	0.015	0.009	0.02	0.17
FOURTH		BDL	0.0016	0.013	0.26	0.56	1.39	0.014	0.019	0.03	0.15
YEAR AVG	0.23	0.0000	0.0013	0.007	0.17	0.60	0.80	0.014	0.012	0.02	0.12
COUNT	12	26	26	26	26	26	26	26	26	26	26

WATER SOLUBLES — **BENZ SCL** — **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	1.56	4.67	0.04		9.70		40	4
SECOND	1.47	8.48	0.02		9.50		50	8
THIRD	3.06	8.90	0.05		9.20		65	7
FOURTH	7.06	4.32	0.11		9.90		43	7
YEAR AVG	3.42	6.89	0.06		9.56		51	
COUNT	26	26	26		26		26	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 24
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.47	BDL	0.0016	0.004	0.22	1.34	1.42	0.028	0.026	0.07	0.14
SECOND	0.28	BDL	0.0015	0.003	0.25	1.10	0.89	0.018	0.024	0.03	0.16
THIRD		BDL	0.0016	0.004	0.19	0.97	0.71	0.024	0.012	0.04	0.11
FOURTH		BDL	0.0013	0.018	0.20	0.67	1.48	0.017	0.027	0.03	0.13
YEAR AVG	0.36	0.0000	0.0015	0.007	0.22	1.01	1.09	0.021	0.022	0.04	0.13
COUNT	14	29	29	29	29	29	29	29	29	29	29

------------------**- 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	5.20	10.97	0.20		9.60		56	6
SECOND	4.32	9.96	0.02		9.30		56	8
THIRD	6.05	9.89	0.02		9.20		66	8
FOURTH	4.15	9.57	0.13		9.10		62	7
YEAR AVG	4.94	10.06	0.08		9.29		60	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 25
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.71	BDL	0.0019	0.007	0.10	1.77	1.24	0.033	0.025	0.08	0.13
SECOND	0.61	BDL	0.0036	0.004	0.08	1.50	1.29	0.026	0.022	0.04	0.15
THIRD		BDL	0.0012	0.005	0.09	1.61	1.25	0.041	0.012	0.04	0.15
FOURTH		BDL	0.0015	0.013	0.19	1.72	1.60	0.047	0.020	0.03	0.18
YEAR AVG	0.66	0.0000	0.0020	0.007	0.11	1.65	1.33	0.037	0.019	0.05	0.15
COUNT	14	28	28	28	28	28	28	28	28	28	28

	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	3.64	10.00	0.21		9.60		80	7
SECOND	3.29	11.49	0.04		9.10		78	7
THIRD	2.47	7.13	0.02		9.30		83	8
FOURTH	2.87	9.33	0.12		9.80		91	6
YEAR AVG	3.05	9.41	0.09		9.43		83	
COUNT	28	28	28		28		28	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 26
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	NORWALK	0820	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	0.50	BDL	0.0024	0.004	0.25	1.17	0.94	0.029	0.010	0.06	0.20
SECOND	0.43	BDL	0.0030	0.002	0.14	0.95	1.00	0.019	0.010	0.03	0.21
THIRD		BDL	0.0022	0.005	0.15	1.10	0.93	0.026	0.008	0.01	0.20
FOURTH		BDL	0.0013	0.010	0.24	0.74	1.42	0.019	0.015	0.03	0.16
YEAR AVG	0.46	0.0000	0.0022	0.005	0.19	0.99	1.07	0.023	0.011	0.03	0.19
COUNT	15	30	30	30	30	30	30	30	30	30	30

------------------**- 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	2.19	9.30	0.33		9.50		68	7
SECOND	2.34	10.69	0.02		9.40		61	8
THIRD	5.87	12.03	0.05		9.70		63	8
FOURTH	4.35	7.38	0.16		9.80		65	7
YEAR AVG	3.72	9.95	0.13		9.60		64	
COUNT	30	30	30		30		30	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 27
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	NORWICH	084C	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	0.28	BDL	0.0013	0.001	0.13	0.69	0.51	0.013	0.007	0.05	0.06
SECOND	0.24	BDL	0.0005	0.001	0.14	0.56	0.39	0.009	0.011	0.02	0.03
THIRD		BDL	0.0008	0.001	0.13	0.67	0.40	0.013	0.009	0.02	0.08
FOURTH		BDL	0.0009	0.009	0.16	0.35	0.80	0.007	0.012	0.02	0.06
YEAR AVG	0.26	0.0000	0.0008	0.003	0.14	0.56	0.52	0.010	0.010	0.03	0.06
COUNT	14	28	28	28	28	28	28	28	28	28	28

------------------**- 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	2.61	8.35	0.04		9.70		56	6
SECOND	2.72	5.99	0.02		9.50		41	8
THIRD	4.00	12.03	0.13		9.70		62	7
FOURTH	2.46	8.89	0.12		9.80		59	7
YEAR AVG	2.95	8.73	0.08		9.67		54	
COUNT	28	28	28		28		28	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 28
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	OLD SAYBROOK	0850	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	0.54	BDL	0.0010	0.004	0.33	1.29	0.83	0.025	0.005	0.02	0.09
SECOND	0.31	BDL	0.0008	0.002	0.20	0.79	0.90	0.013	0.007	0.01	0.06
THIRD		BDL	0.0008	BDL	0.13	0.74	1.04	0.013	0.005	0.01	0.13
FOURTH											
YEAR AVG	0.42	0.0000	0.0009	0.002	0.22	0.92	0.93	0.017	0.006	0.01	0.09
COUNT	15	23	23	23	23	23	23	23	23	23	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	0.88	5.59	0.02		9.60		70	7
SECOND	0.81	9.22	0.02		9.60		51	8
THIRD	3.81	10.47	0.02		9.70		54	8
FOURTH								
YEAR AVG	1.87	8.55	0.02		9.63		58	
COUNT	23	23	23		23		23	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 29
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.30	BDL	0.0042	0.C01	0.27	0.86	0.66	0.041	0.010	0.03	0.34
SECOND	0.30	BDL	0.0026	0.003	0.48	0.86	0.65	0.018	0.020	0.03	0.18
THIRD		BDL	0.0024	0.003	0.32	0.97	0.6C	0.022	0.009	0.03	0.20
FOURTH		BDL	0.0021	0.010	0.37	0.61	1.02	0.020	0.017	0.02	0.19
YEAR AVG	0.30	0.C000	0.0027	0.004	0.37	0.83	0.73	0.024	0.014	0.03	0.22
COUNT	13	28	28	28	28	28	28	28	28	28	28

------------------**- 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	1.09	9.90	0.08		9.50		60	5
SECOND	1.98	10.93	0.12		9.70		64	8
THIRD	5.20	9.41	0.02		9.80		67	8
FOURTH	2.18	7.54	0.16		9.80		57	7
YEAR AVG	2.79	9.46	0.09		9.72		62	
COUNT	28	28	28		28		28	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 30
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.37	BDL	0.0014	0.003	0.41	0.87	0.86	0.023	0.010	0.06	0.13
SECOND	0.37	BDL	0.0025	0.002	0.21	1.00	0.93	0.018	0.016	0.04	0.17
THIRD		BDL	0.0020	0.003	0.19	0.89	0.78	0.021	0.010	0.01	0.15
FOURTH		BDL	0.0022	0.010	0.26	0.68	1.51	0.018	0.017	0.02	0.14
YEAR AVG	0.37	0.0000	0.0020	0.004	0.26	0.87	1.01	0.020	0.013	0.03	0.15
COUNT	15	30	30	30	30	30	30	30	30	30	30

--------------------**- 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	1.65	9.93	0.04		9.70		59	7
SECOND	1.63	12.74	0.11		9.50		60	8
THIRD	7.45	14.76	0.16		9.80		65	8
FOURTH	1.70	9.91	0.16		9.80		68	7
YEAR AVG	3.20	11.96	0.12		9.70		63	
COUNT	30	30	30		30		30	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 31
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR 1979 TOWN NAME STRATFORD AREA 1110 SITE C05 AGENCY F PROJECT 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	0.49	BDL	0.0024	0.005	0.38	1.20	0.89	0.028	0.010	0.03	0.14
SECOND	0.29	BDL	0.0034	0.008	0.29	0.90	1.05	0.019	0.023	0.03	0.23
THIRD		BDL	0.0028	0.004	0.22	0.85	0.76	0.020	0.010	0.03	0.38
FOURTH		BDL	0.0023	0.012	0.39	0.53	1.48	0.018	0.018	0.02	0.23
YEAR AVG	0.37	0.0000	0.0028	0.007	0.31	0.84	1.05	0.021	0.015	0.03	0.26
COUNT	12	27	27	27	27	27	27	27	27	27	27

	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	0.70	8.90	0.02		9.60		81	5
SECOND	0.31	15.42	0.12		9.50		69	7
THIRD	6.51	11.40	0.02		9.20		60	8
FOURTH	1.33	7.69	0.24		9.90		55	7
YEAR AVG	2.48	11.02	0.10		9.53		65	
COUNT	27	27	27		27		27	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	TORRINGTON	1160	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	0.83	BDL	0.0010	0.004	0.16	2.25	0.81	0.039	0.006	0.03	0.08
SECOND	0.45	BDL	0.0011	0.003	0.26	0.87	0.57	0.018	0.007	0.02	0.06
THIRD		BDL	0.0010	0.004	0.20	0.93	0.53	0.021	0.007	0.02	0.13
FOURTH		BDL	0.0013	0.012	0.31	0.79	1.70	0.022	0.012	0.03	0.13
YEAR AVG	0.64	0.0000	0.0011	0.005	0.23	1.21	0.86	0.025	0.008	0.02	0.10
COUNT	14	28	28	28	28	28	28	28	28	28	28

	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	0.96	8.44	0.02		9.70		99	7
SECOND	0.83	5.83	0.02		9.40		55	7
THIRD	3.88	6.61	0.02		9.40		59	8
FOURTH	1.78	9.74	0.34		10.00		68	6
YEAR AVG	1.94	7.54	0.09		9.60		70	
COUNT	28	28	28		28		28	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.12	BDL	0.0010	0.001	0.10	0.27	0.13	0.007	0.003	0.03	0.04
SECOND	0.14	BDL	0.0005	BDL	0.10	0.28	0.15	0.007	0.006	0.02	0.02
THIRD		BDL	0.0005	0.002	0.04	0.46	0.13	0.013	0.005	0.01	0.09
FOURTH		BDL	0.0004	0.010	0.17	0.22	0.16	0.008	0.010	0.01	0.10
YEAR AVG	0.13	0.0000	0.0006	0.003	0.10	0.31	0.14	0.009	0.006	0.02	0.06
COUNT	15	30	30	30	30	30	30	30	30	30	30

	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	1.45	5.28	0.04		9.60		21	7
SECOND	1.38	7.45	0.02		9.30		30	8
THIRD	4.06	8.52	0.02		9.70		38	8
FOURTH	1.95	6.30	0.05		9.90		25	7
YEAR AVG	2.24	6.96	0.03		9.62		29	
COUNT	30	30	30		30		30	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 34
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.37	BDL	0.0013	0.002	0.09	0.94	0.88	0.021	0.008	0.04	0.14
SECOND	0.29	BDL	0.0016	0.002	0.10	0.72	0.82	0.015	0.017	0.03	0.13
THIRD		BDL	0.0013	0.001	0.18	0.66	0.69	0.017	0.017	0.03	0.08
FOURTH		BDL	0.0015	0.013	0.12	0.66	1.16	0.020	0.023	0.03	0.18
YEAR AVG	0.32	0.0000	0.0014	0.005	0.12	0.73	0.89	0.018	0.017	0.03	0.13
COUNT	13	27	27	27	27	27	27	27	27	27	27

QUARTER	WATER SOLUBLES					BENZ SOL	TSP	
	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	1.07	6.40	0.07		9.70		60	5
SECOND	0.96	10.76	0.02		9.40		55	8
THIRD	6.65	12.63	0.05		9.70		59	7
FOURTH	2.38	5.58	0.23		9.90		55	7
YEAR AVG	2.73	8.37	0.12		9.71		57	
COUNT	34	34	34		34		34	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 35
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	WATERBURY	1240	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	0.40	BDL	0.0098	0.022	0.25	1.66	0.78	0.029	0.023	0.02	0.29
SECOND	0.31	BDL	0.0046	0.007	0.71	0.71	0.66	0.022	0.014	0.02	0.16
THIRD		BDL	0.0031	0.006	0.59	0.73	0.63	0.022	0.016	0.02	0.13
FOURTH		BDL	0.0058	0.014	0.48	0.83	1.10	0.021	0.020	0.02	0.27
YEAR AVG	0.35	0.0000	0.0056	0.012	0.52	0.95	0.79	0.023	0.018	0.02	0.21
COUNT	14	28	28	28	28	28	28	28	28	28	28

--------------------**- 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	1.80	7.77	0.04		9.50		59	6
SECOND	1.64	11.63	0.11		9.40		49	8
THIRD	3.68	10.62	0.05		9.70		61	7
FOURTH	1.26	9.10	0.04		10.00		52	7
YEAR AVG	2.09	9.92	0.06		9.65		55	
COUNT	28	28	28		28		28	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.81	BDL	0.0025	0.014	0.23	2.11	1.51	0.048	0.015	0.05	0.25
SECOND	0.50	BDL	0.0036	0.012	0.15	1.16	1.11	0.023	0.012	0.03	0.65
THIRD		BDL	0.0045	0.016	0.13	1.12	1.27	0.024	0.010	0.02	0.32
FOURTH		BDL	0.0044	0.033	0.22	1.91	1.92	0.034	0.024	0.02	0.38
YEAR AVG	0.67	0.0000	0.0037	0.018	0.18	1.58	1.45	0.032	0.015	0.03	0.39
COUNT	15	30	30	30	30	30	30	30	30	30	30

	WATER SOLUBLES					BENZ SCL	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	1.61	9.38	0.22		9.40		101	8
SECOND	1.63	11.18	0.04		9.50		65	7
THIRD	3.23	8.30	0.08		9.70		66	8
FOURTH	1.68	7.32	0.05		10.00		71	7
YEAR AVG	2.06	9.03	0.10		9.64		76	
COUNT	30	30	30		30		30	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 37
AIR COMPLIANCE MONITORING QUARTERLY COMPOSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	WATERFORD	1260	C01	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	0.08	BDL	0.0010	0.002	0.20	0.32	0.18	0.008	0.005	0.02	0.05
SECOND	0.24	BDL	0.0006	0.002	0.21	0.36	0.20	0.006	0.005	0.01	0.03
THIRD		BDL	0.0013	0.002	0.08	0.64	0.24	0.012	0.007	0.01	0.06
FOURTH		BDL	0.0005	0.009	0.07	0.31	0.17	0.010	0.010	0.02	0.07
YEAR AVG	0.17	0.0000	0.0009	0.004	0.14	0.42	0.20	0.009	0.007	0.01	0.05
COUNT	14	29	29	29	29	29	29	29	29	29	29

----------------**- 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	1.95	8.27	0.02		9.50		30	6
SECOND	1.96	12.62	0.11		9.70		36	8
THIRD	1.55	6.21	0.02		9.70		50	8
FOURTH	1.59	8.32	0.04		10.00		28	7
YEAR AVG	1.76	8.91	0.05		9.73		37	
COUNT	29	29	29		29		29	

TABLE 10, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTICN 01/26/1981 PAGE 38
AIR COMPLIANCE MONITCRING QUARTERLY COMPCSITES

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	WILLIMANTIC	1410	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											
SECOND											
THIRD											
FOURTH		BDL	0.0008	0.011	0.13	0.55	0.84	0.011	0.014	0.03	0.10
YEAR AVG		0.0000	0.0008	0.011	0.13	0.55	0.84	0.011	0.014	0.03	0.10
COUNT		7	7	7	7	7	7	7	7	7	7

	WATER SOLUBLES					BENZ SCL	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								
SECOND								
THIRD								
FOURTH	1.78	4.54	0.13		10.00		45	7
YEAR AVG	1.78	4.54	0.13		10.00		45	
COUNT	7	7	7		7		7	

TABLE 11 QUARTERLY CHEMICAL CHARACTERIZATION OF LO-VOL TSP, 1979

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 1
AIR COMPLIANCE MONITORING LO VOL TSP DATA EDIT

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	HARTFORD	0420	003	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	0.47	BDL	0.0014	0.005	0.02	1.32	1.17	0.030	0.021	0.10	0.11
FEBRUARY	0.49	BDL	0.0013	0.003	0.02	1.34	0.90	0.030	0.017	0.07	0.09
MARCH	0.70	BDL	0.0013	0.005	0.03	3.89	2.15	0.037	0.014	0.05	0.28
APRIL											
MAY											
JUNE											
JULY											
AUGUST											
SEPTEMBER											
OCTOBER											
NOVEMBER											
DECEMBER											
YEAR AVG	0.55	0.0000	0.0013	0.004	0.02	2.18	1.41	0.032	0.017	0.07	0.16
COUNT	3	3	3	3	3	3	3	3	3	3	3

	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	3.25	6.49	0.04		8.50		70	1
FEBRUARY	2.94	10.01	0.04		9.10		75	1
MARCH	3.63	7.84	0.04		9.00		91	1
APRIL								
MAY								
JUNE								
JULY								
AUGUST								
SEPTEMBER								
OCTOBER								
NOVEMBER								
DECEMBER								
YEAR AVG	3.27	8.11	0.04		8.87		79	
COUNT	3	3	3		3		3	

TABLE 11, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 2
AIR COMPLIANCE MONITORING LO VOL TSP DATA EDIT

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	KENT	0447	001	F	03

------------------ 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	BDL	0.0006	BDL	BDL	0.10	0.11	0.006	0.004	0.02	0.03
FEBRUARY	BDL	BDL	0.0006	BDL	BDL	0.14	0.07	0.005	0.002	0.01	0.02
MARCH	0.06	BDL	0.0006	0.001	BDL	0.20	0.12	0.006	0.003	0.01	0.03
APRIL	0.08	BDL	0.0013	BDL	BDL	0.25	0.12	0.006	0.004	0.01	0.10
MAY	0.09	BDL	BDL	0.001	0.01	0.25	0.08	0.006	0.002	0.01	0.02
JUNE											
JULY											
AUGUST	BDL	BDL	0.0004	BDL	BDL	0.13	0.08	0.004	0.002	BDL	0.01
SEPTEMBER											
OCTOBER											
NOVEMBER											
DECEMBER											
YEAR AVG	0.04	0.0000	0.0006	0.001	0.01	0.18	0.10	0.005	0.003	0.01	0.03
COUNT	6	6	6	6	6	6	6	6	6	6	6

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
	--- WATER SOLUBLES ---					**BENZ SOL**	**- TSP -**	
JANUARY	2.80	4.87	0.02		9.00		12	1
FEBRUARY	2.32	5.83	0.02		9.50		15	1
MARCH	2.45	6.34	0.03		9.30		17	1
APRIL	2.10	7.23	0.01		9.50		19	1
MAY	1.68	4.59	0.01		9.50		21	1
JUNE								
JULY							9999	1
AUGUST	0.64	5.08	0.01		8.60		23	1
SEPTEMBER								
OCTOBER								
NOVEMBER								
DECEMBER								
YEAR AVG	2.00	5.66	0.02		9.23		1444	
COUNT	6	6	6		6		7	

TABLE 11, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING LO VOL TSP DATA EDIT

PAGE 3

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	MANSFIELD	0520	001	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	0.20	BDL	0.0006	0.001	BDL	0.47	0.28	0.009	0.006	0.03	0.04
FEBRUARY	0.17	BDL	0.0005	0.001	BDL	0.36	0.19	0.007	0.006	0.03	0.03
MARCH	0.46	BDL	0.0006	0.004	BDL	0.88	0.27	0.016	0.007	0.05	0.04
APRIL	0.30	BDL	0.0006	0.005	0.02	0.65	0.36	0.010	0.011	0.02	0.06
MAY	0.17	BDL	0.0006	0.001	0.01	0.40	0.22	0.010	0.007	0.01	0.04
JUNE	0.21	BDL	0.0005	0.001	BDL	0.41	0.20	0.009	0.008	0.01	0.03
JULY	0.42	BDL	0.0007	0.001	BDL	0.41	0.24	0.008	0.008	0.01	0.03
AUGUST	0.81	BDL	0.0006	0.001	BDL	0.33	0.23	0.008	0.006	0.01	0.04
SEPTEMBER	0.30	BDL	0.0002	0.001	0.01	0.13	0.15	0.004	0.003	0.01	0.01
OCTOBER		BDL	0.0011	0.011	0.02	0.66	0.71	0.019	0.019	0.03	0.10
NOVEMBER		BDL	0.0007	0.004	0.01	0.27	0.28	0.007	0.007	0.01	0.05
DECEMBER		BDL	0.0004	0.005	0.01	0.37	0.21	0.008	0.008	0.01	0.03
YEAR AVG	0.34	0.0000	0.0006	0.003	0.01	0.44	0.28	0.010	0.008	0.02	0.04
COUNT	9	12	12	12	12	12	12	12	12	12	12

--------------------**- 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	1.59	4.67	0.09		9.00		35	1
FEBRUARY	1.57	6.82	0.11		9.50		35	1
MARCH	2.24	5.72	0.03		9.20		55	1
APRIL	1.46	5.01	0.05		9.20		37	1
MAY	1.97	6.40	0.05		9.20		41	1
JUNE	1.56	7.41	0.05		9.20		34	1
JULY	0.92	7.41	0.07		9.10		46	1
AUGUST	2.38	7.47	0.01		9.30		38	1
SEPTEMBER	3.19	7.77	0.03		9.60		20	1
OCTOBER	3.18	10.04	0.20		9.70		73	1
NOVEMBER	1.44	3.98	0.04		9.50		30	1
DECEMBER	1.06	1.29	0.07		9.50		29	1
YEAR AVG	1.88	6.17	0.07		9.33		39	
COUNT	12	12	12		12		12	

TABLE 11, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 4
AIR COMPLIANCE MONITORING LO VOL TSP DATA EDIT

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	NORWALK	0820	005	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	0.70	BDL	0.0014	0.005	0.01	1.61	0.92	0.037	0.012	0.05	0.13
FEBRUARY	0.57	BDL	0.0018	0.003	0.01	1.38	0.73	0.031	0.010	0.04	0.09
MARCH	0.70	BDL	0.0013	0.004	0.02	1.82	1.01	0.039	0.011	0.03	0.17
APRIL											
MAY											
JUNE											
JULY											
AUGUST											
SEPTEMBER											
OCTOBER											
NOVEMBER											
DECEMBER											
YEAR AVG	0.66	0.0000	0.0015	0.004	0.01	1.60	0.89	0.036	0.011	0.04	0.13
COUNT	3	3	3	3	3	3	3	3	3	3	3

----------------------**- 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	2.45	8.38	0.06		9.00		37	1
FEBRUARY	3.93	9.57	0.04		9.30		82	1
MARCH	4.17	10.13	0.07		9.30		93	1
APRIL								
MAY								
JUNE								
JULY								
AUGUST								
SEPTEMBER								
OCTOBER								
NOVEMBER								
DECEMBER								
YEAR AVG	3.52	9.36	0.06		9.20		71	
COUNT	3	3	3		3		3	

TABLE 11, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 5
AIR COMPLIANCE MONITORING LO VOL TSP DATA EDIT

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	OLD SAYBROOK	0850	001	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	0.39	BDL	0.0016	0.004	0.02	1.32	0.81	0.025	0.008	0.03	0.11
FEBRUARY	0.47	BDL	0.0011	0.003	0.02	1.09	0.65	0.024	0.008	0.03	0.09
MARCH	0.44	BDL	0.0009	0.003	0.02	1.29	0.91	0.024	0.005	0.02	0.10
APRIL											
MAY											
JUNE											
JULY											
AUGUST											
SEPTEMBER											
OCTOBER											
NOVEMBER											
DECEMBER											
YEAR AVG	0.43	0.0000	0.0012	0.003	0.02	1.23	0.79	0.024	0.007	0.03	0.10
COUNT	3	3	3	3	3	3	3	3	3	3	3

--------------------------**- 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	3.52	6.63	0.03		9.50		89	1
FEBRUARY	2.01	7.41	0.02		9.40		81	1
MARCH	2.00	8.19	0.02		9.30		87	1
APRIL								
MAY								
JUNE								
JULY								
AUGUST								
SEPTEMBER								
OCTOBER								
NOVEMBER								
DECEMBER								
YEAR AVG	2.51	7.41	0.02		9.40		86	
COUNT	3	3	3		3		3	

TABLE 11, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981 PAGE 6
AIR COMPLIANCE MONITORING LO VOL TSP DATA EDIT

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	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	0.32	BDL	0.0007	0.002	BDL	0.56	0.34	0.013	0.007	0.04	0.04
FEBRUARY	0.39	BDL	0.0007	0.002	0.01	0.71	0.24	0.015	0.005	0.04	0.03
MARCH	0.35	BDL	0.0005	0.003	BDL	0.83	0.23	0.011	0.004	0.02	0.03
APRIL	0.24	BDL	0.0005	0.002	BDL	0.44	0.26	0.009	0.006	0.04	0.03
MAY	0.16	BDL	0.0003	0.001	BDL	0.27	0.18	0.008	0.006	0.02	0.02
JUNE	0.22	BDL	0.0007	0.002	BDL	0.40	0.23	0.010	0.008	0.03	0.04
JULY	0.76	BDL	0.0005	0.001	BDL	0.27	0.21	0.008	0.004	0.01	0.02
AUGUST	0.49	BDL	0.0004	0.001	BDL	0.22	0.24	0.006	0.005	0.02	0.03
SEPTEMBER	0.30	BDL	0.0002	0.001	0.01	0.13	0.15	0.004	0.003	0.01	0.01
OCTOBER		BDL	0.0004	0.010	0.03	0.55	0.50	0.014	0.013	0.02	0.07
NOVEMBER		BDL	0.0003	0.006	0.01	0.26	0.32	0.006	0.007	0.01	0.05
DECEMBER		BDL	0.0006	0.007	0.01	0.54	0.36	0.010	0.009	0.01	0.05
YEAR AVG	0.36	0.0000	0.0005	0.003	0.01	0.43	0.27	0.009	0.006	0.02	0.03
COUNT	9	12	12	12	12	12	12	12	12	12	12

	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	1.73	4.76	0.02		9.40		41	1
FEBRUARY	1.85	6.03	0.04		9.40		53	1
MARCH	2.87	5.73	0.14		9.20		49	1
APRIL	2.26	6.61	0.01		9.30		33	1
MAY	2.04	7.64	0.01		9.10		33	1
JUNE	1.50	7.64	0.01		9.10		33	1
JULY	1.62	8.18	BDL		9.50		39	1
AUGUST	3.06	8.41	0.02		9.40		38	1
SEPTEMBER	0.98	3.90	BDL		9.70		129	1
OCTOBER	1.97	5.11	0.04		9.50		59	1
NOVEMBER	1.78	2.79	0.02		9.30		29	1
DECEMBER	1.13	2.37	0.05		9.30		44	1
YEAR AVG	1.90	5.76	0.03		9.35		48	
COUNT	12	12	12		12		12	

TABLE 11, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 01/26/1981
AIR COMPLIANCE MONITORING LO VOL TSP DATA EDIT

PAGE 7

YEAR	TOWN NAME	AREA	SITE	AGENCY	PROJECT
1979	WILLIMANTIC	1410	001	F	01

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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	0.23	BDL	0.0008	0.003	0.02	0.53	0.48	0.014	0.008	0.04	0.06
FEBRUARY	0.25	BDL	0.0008	0.001	0.01	0.61	0.39	0.011	0.006	0.03	0.05
MARCH	0.32	BDL	0.0004	0.002	0.01	0.80	0.39	0.012	0.005	0.02	0.04
APRIL	0.22	BDL	0.0005	0.001	0.02	0.51	0.35	0.009	0.007	0.03	0.04
MAY	0.13	BDL	0.0003	0.001	0.01	0.28	0.19	0.008	0.004	0.01	0.02
JUNE	0.27	BDL	0.0006	0.001	0.02	0.54	0.36	0.011	0.006	0.02	0.05
JULY	0.60	BDL	0.0006	0.001	0.02	0.42	0.36	0.010	0.004	0.01	0.03
AUGUST	0.70	BDL	0.0004	0.001	0.02	0.35	0.32	0.008	0.003	0.01	0.04
SEPTEMBER	0.87	BDL	0.0005	0.001	0.02	0.49	0.43	0.010	0.004	0.01	0.04
OCTOBER											
NOVEMBER											
DECEMBER											
YEAR AVG	0.40	0.0000	0.0005	0.001	0.02	0.50	0.36	0.010	0.005	0.02	0.04
COUNT	9	9	9	9	9	9	9	9	9	9	9

------------------------**- 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	2.37	5.57	0.03		9.20		36	1
FEBRUARY	3.44	6.61	0.04		8.40		54	1
MARCH	3.22	6.57	0.02		8.50		43	1
APRIL	2.76	6.74	0.01		9.10		33	1
MAY	1.95	2.53	0.01		9.10		28	1
JUNE	2.94	7.47	0.01		9.20		39	1
JULY	1.61	7.65	BDL		9.40		44	1
AUGUST	1.87	6.89	0.01		9.40		40	1
SEPTEMBER	1.34	5.61	BDL		9.60		41	1
OCTOBER								
NOVEMBER								
DECEMBER								
YEAR AVG	2.39	6.18	0.02		9.10		40	
COUNT	9	9	9		9		9	

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TABLE 12

1979 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	116		171	141	134	124	124	110	107	104	103	102
			DATE	3/ 1/79	2/20/79	5/ 9/79	12/11/79	8/10/79	2/14/79	2/17/79	11/20/79	3/25/79	7/23/79
METEOROLOGICAL SITE			DIR (DEG)	100	230	230	220	240	300	340	200	160	190
NEWARK			VEL (MPH)	4.5	8.1	13.4	7.6	12.9	11.9	19.4	1.5	2.9	8.7
			SPD (MPH)	6.5	10.1	13.9	7.9	14.7	12.8	19.7	8.3	8.5	9.5
			RATIO	0.688	0.806	0.963	0.961	0.881	0.931	0.984	0.180	0.339	0.914
METEOROLOGICAL SITE			DIR (DEG)	90	170	190	190	260	320	340	190	160	220
BRADLEY			VEL (MPH)	0.5	4.7	7.5	8.3	4.8	8.0	11.4	3.7	9.8	4.2
			SPD (MPH)	2.4	5.3	8.6	8.5	6.3	8.8	11.6	3.7	10.6	5.2
			RATIO	0.208	0.889	0.874	0.983	0.756	0.915	0.978	0.989	0.918	0.813
METEOROLOGICAL SITE			DIR (DEG)	70	260	230	240	230	300	320	90	160	210
BRIDGEPORT			VEL (MPH)	5.8	8.4	13.0	8.8	12.5	14.6	18.8	2.7	7.6	6.7
			SPD (MPH)	6.9	11.4	13.7	9.8	13.2	15.2	19.1	7.8	10.6	7.3
			RATIO	0.836	0.738	0.952	0.904	0.942	0.955	0.985	0.351	0.716	0.915
METEOROLOGICAL SITE			DIR (DEG)	60	270	260	230	260	310	320	230	150	280
WORCESTER			VEL (MPH)	5.0	8.3	10.7	10.4	6.4	13.7	15.3	6.4	6.6	5.8
			SPD (MPH)	6.5	8.9	11.1	10.6	8.9	14.4	15.5	6.8	6.8	6.0
			RATIO	0.777	0.933	0.970	0.976	0.713	0.951	0.987	0.953	0.972	0.963
BERLIN	1	59		107	88	64	63	60	58	57	53	51	50
			DATE	5/ 9/79	7/14/79	7/26/79	5/ 3/79	2/20/79	12/11/79	11/23/79	5/21/79	5/27/79	8/25/79
METEOROLOGICAL SITE			DIR (DEG)	230	120	220	170	230	220	160	220	190	220
NEWARK			VEL (MPH)	13.4	5.2	10.9	9.3	8.1	7.6	5.1	7.0	12.8	7.4
			SPD (MPH)	13.9	6.2	11.4	10.6	10.1	7.9	5.9	7.2	13.9	9.1
			RATIO	0.963	0.839	0.961	0.876	0.806	0.961	0.859	0.976	0.921	0.817
METEOROLOGICAL SITE			DIR (DEG)	190	160	190	190	170	190	180	230	190	210
BRADLEY			VEL (MPH)	7.5	4.2	8.8	5.9	4.7	8.3	7.1	3.9	11.4	7.1
			SPD (MPH)	8.6	6.5	9.3	7.0	5.3	8.5	7.2	5.9	11.8	9.5
			RATIO	0.874	0.651	0.942	0.832	0.889	0.983	0.987	0.659	0.964	0.748
METEOROLOGICAL SITE			DIR (DEG)	230	130	220	170	260	240	160	240	200	220
BRIDGEPORT			VEL (MPH)	13.0	3.8	9.4	4.9	8.4	8.8	0.6	9.7	13.9	11.4
			SPD (MPH)	13.7	6.5	9.9	9.6	11.4	9.8	4.2	9.9	15.7	12.2
			RATIO	0.952	0.589	0.946	0.510	0.738	0.904	0.152	0.974	0.885	0.937
METEOROLOGICAL SITE			DIR (DEG)	260	200	200	210	270	230	240	240	210	220
WORCESTER			VEL (MPH)	10.7	2.4	6.6	3.1	8.3	10.4	6.0	1.3	9.7	7.5
			SPD (MPH)	11.1	4.3	6.8	5.5	8.9	10.6	6.5	4.7	10.1	8.3
			RATIO	0.970	0.557	0.974	0.567	0.933	0.976	0.923	0.273	0.967	0.899
BRIDGEPORT	1	60		138	113	113	104	101	101	99	99	81	80
			DATE	5/ 9/79	7/20/79	11/29/79	3/22/79	10/18/79	12/11/79	7/14/79	2/20/79	11/23/79	5/ 3/79
METEOROLOGICAL SITE			DIR (DEG)	230	170	270	230	200	220	120	230	160	170
NEWARK			VEL (MPH)	13.4	4.9	13.4	6.3	2.3	7.6	5.2	8.1	5.1	9.3
			SPD (MPH)	13.9	7.5	13.7	7.2	3.6	7.9	6.2	10.1	5.9	10.6
			RATIO	0.963	0.657	0.978	0.879	0.632	0.961	0.839	0.806	0.859	0.876
METEOROLOGICAL SITE			DIR (DEG)	190	220	300	10	300	190	160	170	180	190
BRADLEY			VEL (MPH)	7.5	3.9	10.9	1.1	2.7	8.3	4.2	4.7	7.1	5.9
			SPD (MPH)	8.6	4.2	11.1	2.2	4.2	8.5	6.5	5.3	7.2	7.0
			RATIO	0.874	0.942	0.982	0.493	0.655	0.983	0.651	0.889	0.937	0.832

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 5 AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES 1979 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT		DIR (DEG)	230	220	300	250	300	240	130	260	160	170
		VEL (MPH)	13.0	5.5	14.4	6.4	2.6	8.8	3.8	8.4	0.6	4.9
		SPD (MPH)	13.7	8.2	14.7	9.1	3.3	9.8	6.5	11.4	4.2	9.6
		RATIO	0.952	0.667	0.982	0.706	0.774	0.904	0.589	0.738	0.152	0.510
METEOROLOGICAL SITE WORCESTER		DIR (DEG)	260	260	280	300	290	230	200	270	240	210
		VEL (MPH)	10.7	4.8	11.3	5.8	3.0	10.4	2.4	8.3	6.0	3.1
		SPD (MPH)	11.1	4.9	11.5	7.5	4.7	10.6	4.3	8.9	6.5	5.5
		RATIO	0.970	0.980	0.984	0.777	0.622	0.976	0.557	0.933	0.923	0.567
BRIDGEPORT	123	120	177	157	142	139	126	123	115	113	113	112
		DATE	5/ 9/79	3/ 1/79	3/22/79	7/23/79	2/14/79	12/11/79	10/18/79	3/31/79	8/10/79	7/26/79
METEOROLOGICAL SITE NEWARK		DIR (DEG)	230	100	230	190	300	220	200	80	240	220
		VEL (MPH)	13.4	4.5	6.3	8.7	11.9	7.6	2.3	0.6	12.9	10.9
		SPD (MPH)	13.9	6.5	7.2	9.5	12.8	7.9	3.6	8.8	14.7	11.4
		RATIO	0.963	0.688	0.879	0.914	0.931	0.961	0.632	0.063	0.881	0.961
METEOROLOGICAL SITE BRADLEY		DIR (DEG)	190	90	10	220	320	190	300	60	260	190
		VEL (MPH)	7.5	0.5	1.1	4.2	8.0	8.3	2.7	1.6	4.8	8.8
		SPD (MPH)	8.6	2.4	2.2	5.2	8.8	8.5	4.2	3.2	6.3	9.3
		RATIO	0.874	0.208	0.493	0.813	0.915	0.983	0.655	0.516	0.756	0.942
METEOROLOGICAL SITE BRIDGEPORT		DIR (DEG)	230	70	250	210	300	240	300	90	230	220
		VEL (MPH)	13.0	5.8	6.4	6.7	14.6	8.8	2.6	6.3	12.5	9.4
		SPD (MPH)	13.7	6.9	9.1	7.3	15.2	9.8	3.3	7.6	13.2	9.9
		RATIO	0.952	0.836	0.706	0.915	0.955	0.904	0.774	0.823	0.942	0.946
METEOROLOGICAL SITE WORCESTER		DIR (DEG)	260	60	300	280	310	230	290	90	260	200
		VEL (MPH)	10.7	5.0	5.8	5.8	13.7	10.4	3.0	2.0	6.4	6.6
		SPD (MPH)	11.1	6.5	7.5	6.0	14.4	10.6	4.7	3.6	8.9	6.8
		RATIO	0.970	0.777	0.777	0.963	0.951	0.976	0.622	0.549	0.713	0.974
BRISTOL	1	58	96	86	79	79	74	74	74	71	70	70
		DATE	5/ 9/79	7/14/79	7/20/79	12/11/79	2/20/79	7/26/79	11/23/79	3/22/79	10/18/79	3/16/79
METEOROLOGICAL SITE NEWARK		DIR (DEG)	230	120	170	220	230	220	160	230	200	270
		VEL (MPH)	13.4	5.2	4.9	7.6	8.1	10.9	5.1	6.3	2.3	11.6
		SPD (MPH)	13.9	6.2	7.5	7.9	10.1	11.4	5.9	7.2	3.6	13.2
		RATIO	0.963	0.839	0.657	0.961	0.806	0.961	0.859	0.879	0.632	0.878
METEOROLOGICAL SITE BRADLEY		DIR (DEG)	190	160	220	190	170	190	180	10	300	290
		VEL (MPH)	7.5	4.2	3.9	8.3	4.7	8.8	7.1	1.1	2.7	5.8
		SPD (MPH)	8.6	6.5	4.2	8.5	5.3	9.3	7.2	2.2	4.2	5.9
		RATIO	0.874	0.651	0.942	0.983	0.889	0.942	0.987	0.493	0.655	0.976
METEOROLOGICAL SITE BRIDGEPORT		DIR (DEG)	230	130	220	240	260	220	160	250	300	260
		VEL (MPH)	13.0	3.8	5.5	8.8	8.4	9.4	0.6	6.4	2.6	11.0
		SPD (MPH)	13.7	6.5	8.2	9.8	11.4	9.9	4.2	9.1	3.3	12.2
		RATIO	0.952	0.589	0.667	0.904	0.738	0.946	0.152	0.706	0.774	0.897
METEOROLOGICAL SITE WORCESTER		DIR (DEG)	260	200	260	230	270	200	240	300	290	280
		VEL (MPH)	10.7	2.4	4.8	10.4	8.3	6.6	6.0	5.8	3.0	6.8
		SPD (MPH)	11.1	4.3	4.9	10.6	8.9	6.8	6.5	7.5	4.7	7.0
		RATIO	0.970	0.557	0.980	0.976	0.933	0.974	0.923	0.777	0.622	0.967

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 6 AIR COMPLIANCE ENGINEERING

1979 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	79	79	78	66	65	62	60	59	58	56
		DATE	7/23/79	8/ 1/79	5/ 9/79	7/14/79	10/21/79	7/20/79	5/27/79	3/31/79	7/26/79	11/20/79
METEOROLOGICAL SITE		DIR (DEG)	190	180	230	120	210	170	190	80	220	200
NEWARK		VEL (MPH)	8.7	7.7	13.4	5.2	8.2	4.9	12.8	0.6	10.9	1.5
		SPD (MPH)	9.5	9.2	13.9	6.2	8.8	7.5	13.9	8.8	11.4	8.3
		RATIO	0.914	0.840	0.963	0.839	0.935	0.657	0.921	0.063	0.961	0.180
METEOROLOGICAL SITE		DIR (DEG)	220	180	190	160	190	220	190	60	190	190
BRADLEY		VEL (MPH)	4.2	5.4	7.5	4.2	9.0	3.9	11.4	1.6	8.8	3.7
		SPD (MPH)	5.2	6.9	8.6	6.5	9.2	4.2	11.8	3.2	9.3	3.7
		RATIO	0.813	0.783	0.874	0.651	0.981	0.942	0.964	0.516	0.942	0.989
METEOROLOGICAL SITE		DIR (DEG)	210	200	230	130	250	220	200	30	220	90
BRIDGEPORT		VEL (MPH)	6.7	8.2	13.0	3.8	7.3	5.5	13.9	6.3	9.4	2.7
		SPD (MPH)	7.3	8.9	13.7	6.5	8.2	8.2	15.7	7.6	9.9	7.8
		RATIO	0.915	0.923	0.952	0.589	0.895	0.667	0.885	0.823	0.946	0.351
METEOROLOGICAL SITE		DIR (DEG)	280	230	260	200	240	260	210	90	200	230
WORCESTER		VEL (MPH)	5.8	6.2	10.7	2.4	9.4	4.8	9.7	2.0	6.6	6.4
		SPD (MPH)	6.0	6.3	11.1	4.3	9.6	4.9	10.1	3.6	6.8	6.8
		RATIO	0.963	0.977	0.970	0.557	0.975	0.980	0.967	0.549	0.974	0.953
DANBURY	123	56	163	118	113	98	97	96	92	90	86	82
		DATE	2/14/79	12/11/79	5/ 9/79	10/18/79	3/16/79	1/ 9/79	3/10/79	5/ 3/79	7/26/79	7/20/79
METEOROLOGICAL SITE		DIR (DEG)	300	220	230	200	270	280	140	170	220	170
NEWARK		VEL (MPH)	11.9	7.6	13.4	2.3	11.6	13.0	2.0	9.3	10.9	4.9
		SPD (MPH)	12.8	7.9	13.9	3.6	13.2	14.5	7.6	10.6	11.4	7.5
		RATIO	0.931	0.961	0.963	0.632	0.878	0.895	0.262	0.876	0.961	0.657
METEOROLOGICAL SITE		DIR (DEG)	320	190	190	300	290	300	170	190	190	220
BRADLEY		VEL (MPH)	8.0	8.3	7.5	2.7	5.8	6.8	5.5	5.9	8.8	3.9
		SPD (MPH)	8.8	8.5	8.6	4.2	5.9	9.1	5.8	7.0	9.3	4.2
		RATIO	0.915	0.983	0.874	0.655	0.976	0.747	0.959	0.832	0.942	0.942
METEOROLOGICAL SITE		DIR (DEG)	300	240	230	300	260	290	180	170	220	220
BRIDGEPORT		VEL (MPH)	14.6	8.3	13.0	2.6	11.0	12.7	4.2	4.9	9.4	5.5
		SPD (MPH)	15.2	9.8	13.7	3.3	12.2	13.8	6.3	9.6	9.9	8.2
		RATIO	0.955	0.904	0.952	0.774	0.897	0.920	0.670	0.510	0.946	0.667
METEOROLOGICAL SITE		DIR (DEG)	310	230	260	290	280	280	210	210	200	260
WORCESTER		VEL (MPH)	13.7	10.4	10.7	3.0	6.8	11.8	7.1	3.1	6.6	4.8
		SPD (MPH)	14.4	10.6	11.1	4.7	7.0	12.8	7.3	5.5	6.8	4.9
		RATIO	0.951	0.976	0.970	0.622	0.967	0.924	0.963	0.567	0.974	0.980
EAST HARTFORD	2	57	105	100	99	85	85	80	79	68	67	67
		DATE	5/ 9/79	7/20/79	7/14/79	6/26/79	9/18/79	2/20/79	7/26/79	8/ 1/79	12/11/79	5/27/79
METEOROLOGICAL SITE		DIR (DEG)	230	170	120	90	220	230	220	180	220	190
NEWARK		VEL (MPH)	13.4	4.9	5.2	4.6	11.8	8.1	10.9	7.7	7.6	12.8
		SPD (MPH)	13.9	7.5	6.2	9.3	11.9	10.1	11.4	9.2	7.9	13.9
		RATIO	0.963	0.657	0.839	0.488	0.986	0.806	0.961	0.840	0.961	0.921
METEOROLOGICAL SITE		DIR (DEG)	190	220	160	180	220	170	190	180	190	190
BRADLEY		VEL (MPH)	7.5	3.9	4.2	4.3	8.8	4.7	8.8	5.4	8.3	11.4
		SPD (MPH)	8.6	4.2	6.5	7.5	9.2	5.3	9.3	6.9	8.5	11.8
		RATIO	0.874	0.942	0.651	0.577	0.954	0.889	0.942	0.783	0.983	0.964

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES

1979 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	230	220	130	100	240	260	220	200	240	200
			VEL (MPH)	13.0	5.5	3.8	3.5	14.9	8.4	9.4	8.2	8.8	13.9
			SPD (MPH)	13.7	8.2	6.5	10.2	16.4	11.4	9.9	8.9	9.8	15.7
			RATIO	0.952	0.667	0.589	0.343	0.911	0.738	0.946	0.923	0.904	0.885
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	260	200	230	240	270	200	230	230	210
			VEL (MPH)	10.7	4.8	2.4	3.9	8.8	8.3	6.6	6.2	10.4	9.7
			SPD (MPH)	11.1	4.9	4.3	5.2	9.3	8.9	6.8	6.3	10.6	10.1
			RATIO	0.970	0.980	0.557	0.746	0.937	0.933	0.974	0.977	0.976	0.967
ENFIEL.	123	59		120	106	99	86	70	69	69	68	65	62
			DATE	5/ 9/79	8/ 1/79	7/14/79	2/20/79	7/20/79	7/26/79	9/18/79	10/18/79	12/11/79	11/23/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	180	120	230	170	220	220	200	220	160
			VEL (MPH)	13.4	7.7	5.2	8.1	4.9	10.9	11.8	2.3	7.6	5.1
			SPD (MPH)	13.9	9.2	6.2	10.1	7.5	11.4	11.9	3.6	7.9	5.9
			RATIO	0.963	0.840	0.839	0.806	0.657	0.961	0.986	0.632	0.961	0.859
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	190	180	160	170	220	190	220	300	190	180
			VEL (MPH)	7.5	5.4	4.2	4.7	3.9	8.8	8.8	2.7	8.3	7.1
			SPD (MPH)	8.6	6.9	6.5	5.3	4.2	9.3	9.2	4.2	8.5	7.2
			RATIO	0.874	0.783	0.651	0.889	0.942	0.942	0.954	0.655	0.923	0.987
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	230	200	130	260	220	220	240	300	240	150
			VEL (MPH)	13.0	8.2	3.8	8.4	5.5	9.4	14.9	2.6	8.8	0.6
			SPD (MPH)	13.7	8.9	6.5	11.4	8.2	9.9	16.4	3.3	9.8	4.2
			RATIO	0.952	0.923	0.589	0.738	0.667	0.946	0.911	0.774	0.904	0.152
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	230	200	270	260	200	240	290	230	240
			VEL (MPH)	10.7	6.2	2.4	8.3	4.8	6.6	8.8	3.0	10.4	6.0
			SPD (MPH)	11.1	6.3	4.3	8.9	4.9	6.8	9.3	4.7	10.6	6.5
			RATIO	0.970	0.977	0.557	0.933	0.980	0.974	0.937	0.622	0.976	0.923
GREENWICH	4	56		107	92	81	80	79	75	74	66	66	64
			DATE	5/ 9/79	7/14/79	7/26/79	12/11/79	9/18/79	5/21/79	5/ 3/79	8/25/79	11/23/79	6/ 8/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	120	220	220	220	220	170	220	160	120
			VEL (MPH)	13.4	5.2	10.9	7.6	11.8	7.0	9.3	7.4	5.1	7.6
			SPD (MPH)	13.9	6.2	11.4	7.9	11.9	7.2	10.6	9.1	5.9	8.2
			RATIO	0.963	0.839	0.961	0.961	0.986	0.976	0.876	0.817	0.859	0.925
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	190	160	190	190	220	230	190	210	180	180
			VEL (MPH)	7.5	4.2	8.8	8.3	8.8	3.9	5.9	7.1	7.1	8.8
			SPD (MPH)	8.6	6.5	9.3	8.5	9.2	5.9	7.0	9.5	7.2	9.3
			RATIO	0.874	0.651	0.942	0.983	0.954	0.659	0.832	0.748	0.987	0.942
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	230	130	220	240	240	240	170	220	160	120
			VEL (MPH)	13.0	3.8	9.4	8.8	14.9	9.7	4.9	11.4	0.6	8.1
			SPD (MPH)	13.7	6.5	9.9	9.8	16.4	9.9	9.6	12.2	4.2	8.5
			RATIO	0.952	0.589	0.946	0.904	0.911	0.974	0.510	0.937	0.152	0.954
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	200	200	230	240	240	210	220	240	200
			VEL (MPH)	10.7	2.4	6.6	10.4	8.8	1.3	3.1	7.5	6.0	7.4
			SPD (MPH)	11.1	4.3	6.8	10.6	9.3	4.7	5.5	8.3	6.5	7.6
			RATIO	0.970	0.557	0.974	0.976	0.937	0.273	0.567	0.899	0.923	0.970

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 8 AIR COMPLIANCE ENGINEERING

1979 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	8	60	345	272	211	181	175	163	142	140	135	133
		DATE	9/ 6/79	6/26/79	5/ 9/79	5/27/79	8/ 1/79	7/26/79	3/22/79	12/11/79	9/18/79	7/14/79
METEOROLOGICAL SITE		DIR (DEG)	190	90	230	190	180	220	230	220	220	120
NEWARK		VEL (MPH)	12.2	4.6	13.4	12.8	7.7	10.9	6.3	7.6	11.8	5.2
		SPD (MPH)	20.4	9.3	13.9	13.9	9.2	11.4	7.2	7.9	11.9	6.2
		RATIO	0.600	0.488	0.963	0.921	0.840	0.961	0.879	0.961	0.986	0.839
METEOROLOGICAL SITE		DIR (DEG)	200	180	190	190	180	190	10	190	220	160
BRADLEY		VEL (MPH)	8.6	4.3	7.5	11.4	5.4	8.8	1.1	8.3	8.8	4.2
		SPD (MPH)	15.0	7.5	8.6	11.8	6.9	9.3	2.2	8.5	9.2	6.5
		RATIO	0.578	0.577	0.874	0.964	0.783	0.942	0.493	0.983	0.954	0.651
METEOROLOGICAL SITE		DIR (DEG)	190	100	230	200	200	220	250	240	240	130
BRIDGEPORT		VEL (MPH)	14.4	3.5	13.0	13.9	8.2	9.4	6.4	8.8	14.9	3.8
		SPD (MPH)	22.6	10.2	13.7	15.7	8.9	9.9	9.1	9.8	16.4	6.5
		RATIO	0.636	0.343	0.952	0.885	0.923	0.946	0.706	0.904	0.911	0.589
METEOROLOGICAL SITE		DIR (DEG)	210	230	260	210	230	200	300	230	240	200
WORCESTER		VEL (MPH)	8.9	3.9	10.7	9.7	6.2	6.6	5.8	10.4	8.8	2.4
		SPD (MPH)	13.2	5.2	11.1	10.1	6.3	6.8	7.5	10.6	9.3	4.3
		RATIO	0.674	0.746	0.970	0.967	0.977	0.974	0.777	0.976	0.937	0.557
GROTON	123	29	90	69	62	60	52	51	49	45	43	42
		DATE	3/22/79	5/ 9/79	5/ 3/79	3/10/79	5/21/79	1/ 9/79	5/15/79	5/27/79	2/ 8/79	6/14/79
METEOROLOGICAL SITE		DIR (DEG)	230	230	170	140	220	280	160	190	290	230
NEWARK		VEL (MPH)	6.3	13.4	9.3	2.0	7.0	13.0	3.7	12.8	11.8	6.9
		SPD (MPH)	7.2	13.9	10.6	7.6	7.2	14.5	7.2	13.9	13.4	8.6
		RATIO	0.879	0.963	0.876	0.262	0.976	0.895	0.515	0.921	0.883	0.803
METEOROLOGICAL SITE		DIR (DEG)	10	190	190	170	230	300	200	190	310	250
BRADLEY		VEL (MPH)	1.1	7.5	5.9	5.5	3.9	6.8	2.1	11.4	7.1	3.8
		SPD (MPH)	2.2	8.6	7.0	5.8	5.9	9.1	4.6	11.8	9.2	4.7
		RATIO	0.493	0.874	0.832	0.959	0.659	0.747	0.461	0.964	0.774	0.793
METEOROLOGICAL SITE		DIR (DEG)	250	230	170	180	240	290	140	200	290	220
BRIDGEPORT		VEL (MPH)	6.4	13.0	4.9	4.2	9.7	12.7	2.9	13.9	14.9	6.7
		SPD (MPH)	9.1	13.7	9.6	6.3	9.9	13.8	7.5	15.7	15.8	10.1
		RATIO	0.706	0.952	0.510	0.670	0.974	0.920	0.391	0.885	0.939	0.666
METEOROLOGICAL SITE		DIR (DEG)	300	260	210	210	240	280	200	210	290	280
WORCESTER		VEL (MPH)	5.8	10.7	3.1	7.1	1.3	11.8	0.8	9.7	9.9	7.0
		SPD (MPH)	7.5	11.1	5.5	7.3	4.7	12.8	2.9	10.1	11.8	8.2
		RATIO	0.777	0.970	0.567	0.963	0.273	0.924	0.293	0.967	0.844	0.854
HADDAM	2	60	85	69	61	59	55	54	54	54	52	50
		DATE	5/ 9/79	7/14/79	2/20/79	9/18/79	5/ 3/79	10/18/79	8/ 1/79	5/27/79	5/21/79	3/22/79
METEOROLOGICAL SITE		DIR (DEG)	230	120	230	220	170	200	180	190	220	230
NEWARK		VEL (MPH)	13.4	5.2	8.1	11.8	9.3	2.3	7.7	12.8	7.0	6.3
		SPD (MPH)	13.9	6.2	10.1	11.9	10.6	3.6	9.2	13.9	7.2	7.2
		RATIO	0.963	0.839	0.806	0.985	0.876	0.632	0.840	0.921	0.976	0.879
METEOROLOGICAL SITE		DIR (DEG)	190	160	170	220	190	300	180	190	230	10
BRADLEY		VEL (MPH)	7.5	4.2	4.7	8.8	5.9	2.7	5.4	11.4	3.9	1.1
		SPD (MPH)	8.6	6.5	5.3	9.2	7.0	4.2	6.9	11.8	5.9	2.2
		RATIO	0.874	0.651	0.889	0.954	0.832	0.655	0.783	0.964	0.659	0.493

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 9 AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES 1979 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE	DIR (DEG)	230	130	260	240	170	300	200	200	240	250
BRIDGEPORT	VEL (MPH)	13.0	3.8	8.4	14.9	4.9	2.6	8.2	13.9	9.7	6.4
	SPD (MPH)	13.7	6.5	11.4	16.4	9.6	3.3	8.9	15.7	9.9	9.1
	RATIO	0.952	0.589	0.738	0.911	0.510	0.774	0.923	0.885	0.974	0.706
METEOROLOGICAL SITE	DIR (DEG)	260	200	270	240	210	290	230	210	240	300
WORCESTER	VEL (MPH)	10.7	2.4	8.3	8.8	3.1	3.0	6.2	9.7	1.3	5.8
	SPD (MPH)	11.1	4.3	8.9	9.3	5.5	4.7	6.3	10.1	4.7	7.5
	RATIO	0.970	0.557	0.933	0.937	0.567	0.622	0.977	0.967	0.273	0.777
HARTFORD	3 116	179	154	143	139	127	115	111	102	102	101
	DATE	3/ 1/79	2/20/79	7/23/79	5/ 9/79	7/14/79	11/20/79	3/22/79	3/31/79	2/23/79	5/ 3/79
METEOROLOGICAL SITE	DIR (DEG)	100	230	190	230	120	200	230	80	80	170
NEWARK	VEL (MPH)	4.5	8.1	8.7	13.4	5.2	1.5	6.3	0.6	9.4	9.3
	SPD (MPH)	6.5	10.1	9.5	13.9	6.2	8.3	7.2	8.8	11.5	10.6
	RATIO	0.688	0.806	0.914	0.963	0.839	0.180	0.879	0.063	0.822	0.876
METEOROLOGICAL SITE	DIR (DEG)	90	170	220	190	160	190	10	60	120	190
BRADLEY	VEL (MPH)	0.5	4.7	4.2	7.5	4.2	3.7	1.1	1.6	3.0	5.9
	SPD (MPH)	2.4	5.3	5.2	8.6	6.5	3.7	2.2	3.2	5.2	7.0
	RATIO	0.208	0.889	0.813	0.874	0.651	0.989	0.493	0.516	0.588	0.832
METEOROLOGICAL SITE	DIR (DEG)	70	260	210	230	130	90	250	90	60	170
BRIDGEPORT	VEL (MPH)	5.8	8.4	6.7	13.0	3.8	2.7	6.4	6.3	14.6	4.9
	SPD (MPH)	6.9	11.4	7.3	13.7	6.5	7.8	9.1	7.6	15.1	9.6
	RATIO	0.836	0.738	0.915	0.952	0.589	0.351	0.706	0.823	0.967	0.510
METEOROLOGICAL SITE	DIR (DEG)	60	270	280	260	200	230	300	90	90	210
WORCESTER	VEL (MPH)	5.0	8.3	5.8	10.7	2.4	6.4	5.8	2.0	6.0	3.1
	SPD (MPH)	6.5	8.9	6.0	11.1	4.3	6.8	7.5	3.6	7.3	5.5
	RATIO	0.777	0.933	0.963	0.970	0.557	0.953	0.777	0.549	0.814	0.567
HARTFORD	123 51	138	130	128	104	102	101	99	98	97	87
	DATE	5/ 9/79	2/20/79	7/14/79	5/ 3/79	11/ 5/79	8/ 1/79	10/18/79	9/18/79	7/20/79	12/11/79
METEOROLOGICAL SITE	DIR (DEG)	230	230	120	170	20	180	200	220	170	220
NEWARK	VEL (MPH)	13.4	8.1	5.2	9.3	2.2	7.7	2.3	11.8	4.9	7.6
	SPD (MPH)	13.9	10.1	6.2	10.6	6.6	9.2	3.6	11.9	7.5	7.9
	RATIO	0.963	0.806	0.839	0.876	0.335	0.840	0.632	0.986	0.657	0.961
METEOROLOGICAL SITE	DIR (DEG)	190	170	160	190	50	180	300	220	220	190
BRADLEY	VEL (MPH)	7.5	4.7	4.2	5.9	1.6	5.4	2.7	8.8	3.9	8.3
	SPD (MPH)	8.6	5.3	6.5	7.0	3.0	6.9	4.2	9.2	4.2	8.5
	RATIO	0.874	0.889	0.651	0.832	0.534	0.783	0.655	0.954	0.942	0.983
METEOROLOGICAL SITE	DIR (DEG)	230	260	130	170	20	200	300	240	220	240
BRIDGEPORT	VEL (MPH)	13.0	8.4	3.8	4.9	3.7	8.2	2.6	14.9	5.5	8.8
	SPD (MPH)	13.7	11.4	6.5	9.6	7.6	8.9	3.3	16.4	8.2	9.8
	RATIO	0.952	0.738	0.589	0.510	0.484	0.923	0.774	0.911	0.667	0.904
METEOROLOGICAL SITE	DIR (DEG)	260	270	200	210	330	230	290	240	260	230
WORCESTER	VEL (MPH)	10.7	8.3	2.4	3.1	3.7	6.2	3.0	8.8	4.8	10.4
	SPD (MPH)	11.1	8.9	4.3	5.5	4.6	6.3	4.7	9.3	4.9	10.6
	RATIO	0.970	0.933	0.557	0.567	0.813	0.977	0.622	0.937	0.980	0.976

TABLE 12, cont.

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CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION              PAGE   10                  AIR COMPLIANCE ENGINEERING

                                    1979 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   119   100       83       75       71       64       63       60       58       57       54
                               DATE 7/14/79  5/ 9/79  7/23/79 11/20/79  8/28/79  7/26/79  3/31/79  8/ 1/79  7/20/79  5/21/79
      METEOROLOGICAL SITE DIR (DEG)   120      230      190      200      210      220       80      180      170      220
                   NEWARK VEL (MPH)   5.2     13.4      8.7      1.5      7.0     10.9      0.6      7.7      4.9      7.0
                          SPD (MPH)   6.2     13.9      9.5      8.3      9.3     11.4      8.8      9.2      7.5      7.2
                          RATIO     0.839    0.963    0.914    0.180    0.744    0.961    0.063    0.840    0.657    0.976
      METEOROLOGICAL SITE DIR (DEG)   160      190      220      190      190      190       60      160      220      230
                  BRADLEY VEL (MPH)   4.2      7.5      4.2      3.7      3.2      8.8      1.6      5.4      3.9      3.9
                          SPD (MPH)   6.5      8.6      5.2      3.7      4.2      9.3      3.2      6.9      4.2      5.9
                          RATIO     0.651    0.874    0.813    0.989    0.777    0.942    0.516    0.783    0.942    0.659
      METEOROLOGICAL SITE DIR (DEG)   130      230      210       90      190      220       90      200      220      240
               BRIDGEPORT VEL (MPH)   3.8     13.0      6.7      2.7      2.6      9.4      6.3      8.2      5.5      9.7
                          SPD (MPH)   6.5     13.7      7.3      7.8      6.8      9.9      7.6      8.9      8.2      9.9
                          RATIO     0.589    0.952    0.915    0.351    0.388    0.946    0.823    0.923    0.667    0.974
      METEOROLOGICAL SITE DIR (DEG)   200      260      280      230      300      200       90      230      260      240
                WORCESTER VEL (MPH)   2.4     10.7      5.8      6.4      1.6      6.6      2.0      6.2      4.8      1.3
                          SPD (MPH)   4.3     11.1      6.0      6.8      4.6      6.8      3.6      6.3      4.9      4.7
                          RATIO     0.557    0.970    0.963    0.953    0.345    0.974    0.549    0.977    0.980    0.273

   MANCHESTER               1    59   103       98       83       73       69       67       66       66       64       64
                               DATE 5/ 9/79  7/14/79  2/20/79  7/20/79  5/15/79  7/26/79  5/21/79  5/ 3/79 10/18/79 11/23/79
      METEOROLOGICAL SITE DIR (DEG)   230      120      230      170      160      220      220      170      200      160
                   NEWARK VEL (MPH)  13.4      5.2      8.1      4.9      3.7     10.9      7.0      9.3      2.3      5.1
                          SPD (MPH)  13.9      6.2     10.1      7.5      7.2     11.4      7.2     10.6      3.6      5.9
                          RATIO     0.963    0.839    0.806    0.657    0.515    0.961    0.976    0.876    0.632    0.859
      METEOROLOGICAL SITE DIR (DEG)   190      160      170      220      200      190      230      190      300      180
                  BRADLEY VEL (MPH)   7.5      4.2      4.7      3.9      2.1      8.8      3.9      5.9      2.7      7.1
                          SPD (MPH)   8.6      6.5      5.3      4.2      4.6      9.3      5.9      7.0      4.2      7.2
                          RATIO     0.874    0.651    0.889    0.942    0.461    0.942    0.659    0.832    0.655    0.987
      METEOROLOGICAL SITE DIR (DEG)   230      130      260      220      140      220      240      170      300      160
               BRIDGEPORT VEL (MPH)  13.0      3.8      8.4      5.5      2.9      9.4      9.7      4.9      2.6      0.6
                          SPD (MPH)  13.7      6.5     11.4      8.2      7.5      9.9      9.9      9.6      3.3      4.2
                          RATIO     0.952    0.589    0.738    0.667    0.391    0.946    0.974    0.510    0.774    0.152
      METEOROLOGICAL SITE DIR (DEG)   260      200      270      260      200      200      240      210      290      240
                WORCESTER VEL (MPH)  10.7      2.4      8.3      4.8      0.8      6.6      1.3      3.1      3.0      6.0
                          SPD (MPH)  11.1      4.3      8.9      4.9      2.9      6.8      4.7      5.5      4.7      6.5
                          RATIO     0.970    0.557    0.933    0.980    0.293    0.974    0.273    0.567    0.622    0.923

   MERIDEN                  2    59   130      125      102      101       87       86       85       85       82       75
                               DATE 3/22/79  5/ 9/79  7/14/79  2/20/79 10/18/79 12/11/79  5/ 3/79  2/ 2/79  7/26/79  9/18/79
      METEOROLOGICAL SITE DIR (DEG)   230      230      120      230      200      220      170      310      220      220
                   NEWARK VEL (MPH)   6.3     13.4      5.2      8.1      2.3      7.6      9.3     23.6     10.9     11.8
                          SPD (MPH)   7.2     13.9      6.2     10.1      3.6      7.9     10.6     23.7     11.4     11.9
                          RATIO     0.879    0.963    0.839    0.806    0.632    0.961    0.876    0.994    0.961    0.986
      METEOROLOGICAL SITE DIR (DEG)    10      190      160      170      300      190      190      320      190      220
                  BRADLEY VEL (MPH)   1.1      7.5      4.2      4.7      2.7      8.3      5.9     15.2      8.8      8.8
                          SPD (MPH)   2.2      8.6      6.5      5.3      4.2      8.5      7.0     15.4      9.3      9.2
                          RATIO     0.493    0.874    0.651    0.889    0.655    0.983    0.832    0.988    0.942    0.954
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TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

PAGE 11

AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES

1979 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	250	230	130	260	300	240	170	320	220	240
			VEL (MPH)	6.4	13.0	3.8	8.4	2.6	8.8	4.9	22.7	9.4	14.9
			SPD (MPH)	9.1	13.7	6.5	11.4	3.3	9.9	9.6	22.9	9.9	16.4
			RATIO	0.706	0.952	0.589	0.738	0.774	0.904	0.510	0.994	0.946	0.911
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	300	260	200	270	290	230	210	310	200	240
			VEL (MPH)	5.8	10.7	2.4	8.3	3.0	10.4	3.1	22.2	6.6	8.8
			SPD (MPH)	7.5	11.1	4.3	8.9	4.7	10.6	5.5	22.4	6.8	9.3
			RATIO	0.777	0.970	0.557	0.933	0.622	0.976	0.567	0.989	0.974	0.937
MERIDEN	5	60		292	170	168	126	120	110	107	107	105	104
			DATE	9/12/79	5/ 9/79	12/11/79	8/ 1/79	9/18/79	8/25/79	7/26/79	12/ 5/79	7/14/79	2/20/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	80	230	220	180	220	220	220	200	120	230
			VEL (MPH)	2.9	13.4	7.6	7.7	11.8	7.4	10.9	9.9	5.2	8.1
			SPD (MPH)	8.9	13.9	7.9	9.2	11.9	9.1	11.4	10.8	6.2	10.1
			RATIO	0.327	0.963	0.961	0.840	0.986	0.817	0.961	0.914	0.839	0.806
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	280	190	190	180	220	210	190	200	160	170
			VEL (MPH)	0.0	7.5	8.3	5.4	8.8	7.1	8.8	6.5	4.2	4.7
			SPD (MPH)	4.5	8.6	8.5	6.9	9.2	9.5	9.3	8.8	6.5	5.3
			RATIO	0.011	0.874	0.963	0.783	0.954	0.748	0.942	0.742	0.651	0.889
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	260	230	240	200	240	220	220	240	130	260
			VEL (MPH)	2.7	13.0	8.8	8.2	14.9	11.4	9.4	15.6	3.8	8.4
			SPD (MPH)	10.5	13.7	9.8	8.9	16.4	12.2	9.9	16.8	6.5	11.4
			RATIO	0.262	0.952	0.904	0.923	0.911	0.937	0.946	0.925	0.589	0.738
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	300	260	230	230	240	220	200	240	200	270
			VEL (MPH)	5.2	10.7	10.4	6.2	8.8	7.5	6.6	7.7	2.4	8.3
			SPD (MPH)	5.9	11.1	10.6	6.3	9.3	8.3	6.8	8.8	4.3	8.9
			RATIO	0.880	0.970	0.976	0.977	0.937	0.899	0.974	0.879	0.557	0.933
MIDDLETOWN	3	59		119	107	106	100	95	91	88	84	77	76
			DATE	2/20/79	12/11/79	5/ 9/79	3/22/79	7/14/79	3/16/79	9/18/79	10/18/79	8/ 1/79	5/21/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	220	230	230	120	270	220	200	180	220
			VEL (MPH)	8.1	7.6	13.4	6.3	5.2	11.6	11.8	2.3	7.7	7.0
			SPD (MPH)	10.1	7.9	13.9	7.2	6.2	13.2	11.9	3.6	9.2	7.2
			RATIO	0.806	0.961	0.963	0.879	0.839	0.878	0.986	0.632	0.840	0.976
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	170	190	190	10	160	290	220	300	180	230
			VEL (MPH)	4.7	8.3	7.5	1.1	4.2	5.8	8.8	2.7	5.4	3.9
			SPD (MPH)	5.3	8.5	8.6	2.2	6.5	5.9	9.2	4.2	6.9	5.9
			RATIO	0.889	0.983	0.874	0.493	0.651	0.976	0.954	0.655	0.783	0.659
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	260	240	230	250	130	260	240	300	200	240
			VEL (MPH)	8.4	8.8	13.0	6.4	3.8	11.0	14.9	2.6	8.2	9.7
			SPD (MPH)	11.4	9.8	13.7	9.1	6.5	12.2	16.4	3.3	8.9	9.9
			RATIO	0.738	0.904	0.952	0.706	0.589	0.897	0.911	0.774	0.923	0.974
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	270	230	260	300	200	280	240	290	230	240
			VEL (MPH)	8.3	10.4	10.7	5.8	2.4	6.8	8.8	3.0	6.2	1.3
			SPD (MPH)	8.9	10.6	11.1	7.5	4.3	7.0	9.3	4.7	6.3	4.7
			RATIO	0.933	0.976	0.970	0.777	0.557	0.967	0.937	0.622	0.977	0.273

TABLE 12, cont.

1979 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	60	217	130	99	98	94	86	85	84	83	76
		DATE	6/26/79	5/ 9/79	10/18/79	9/18/79	7/14/79	2/20/79	3/22/79	7/20/79	12/11/79	5/21/79
METEOROLOGICAL SITE		DIR (DEG)	90	230	200	220	120	230	230	170	220	220
NEWARK		VEL (MPH)	4.6	13.4	2.3	11.8	5.2	8.1	6.3	4.9	7.6	7.0
		SPD (MPH)	9.3	13.9	3.6	11.9	6.2	10.1	7.2	7.5	7.9	7.2
		RATIO	0.488	0.963	0.632	0.986	0.839	0.806	0.879	0.657	0.961	0.976
METEOROLOGICAL SITE		DIR (DEG)	180	190	300	220	160	170	10	220	190	230
BRADLEY		VEL (MPH)	4.3	7.5	2.7	8.8	4.2	4.7	1.1	3.9	8.3	3.9
		SPD (MPH)	7.5	8.6	4.2	9.2	6.5	5.3	2.2	4.2	8.5	5.9
		RATIO	0.577	0.874	0.655	0.954	0.651	0.889	0.493	0.942	0.983	0.659
METEOROLOGICAL SITE		DIR (DEG)	100	230	300	240	130	260	250	220	240	240
BRIDGEPORT		VEL (MPH)	3.5	13.0	2.6	14.9	3.9	8.4	6.4	5.5	8.8	9.7
		SPD (MPH)	10.2	13.7	3.3	16.4	6.5	11.4	9.1	8.2	9.8	9.9
		RATIO	0.343	0.952	0.774	0.911	0.589	0.738	0.706	0.667	0.904	0.974
METEOROLOGICAL SITE		DIR (DEG)	230	260	290	240	200	270	300	260	230	240
WORCESTER		VEL (MPH)	3.9	10.7	3.0	8.8	2.4	8.3	5.8	4.8	10.4	1.3
		SPD (MPH)	5.2	11.1	4.7	9.3	4.3	8.9	7.5	4.9	10.6	4.7
		RATIO	0.746	0.970	0.622	0.937	0.557	0.933	0.777	0.980	0.976	0.273
NAUGATUCK	1	60	111	107	107	93	90	85	82	77	76	75
		DATE	2/20/79	5/ 9/79	12/11/79	10/18/79	3/22/79	7/26/79	7/14/79	5/ 3/79	7/20/79	11/23/79
METEOROLOGICAL SITE		DIR (DEG)	230	230	220	200	230	220	120	170	170	160
NEWARK		VEL (MPH)	8.1	13.4	7.6	2.3	6.3	10.9	5.2	9.3	4.9	5.1
		SPD (MPH)	10.1	13.9	7.9	3.6	7.2	11.4	6.2	10.6	7.5	5.9
		RATIO	0.806	0.963	0.961	0.632	0.879	0.961	0.839	0.876	0.657	0.859
METEOROLOGICAL SITE		DIR (DEG)	170	190	190	300	10	190	160	190	220	180
BRADLEY		VEL (MPH)	4.7	7.5	8.3	2.7	1.1	8.8	4.2	5.9	3.9	7.1
		SPD (MPH)	5.3	8.6	8.5	4.2	2.2	9.3	6.5	7.0	4.2	7.2
		RATIO	0.889	0.874	0.983	0.655	0.493	0.942	0.651	0.832	0.942	0.987
METEOROLOGICAL SITE		DIR (DEG)	260	230	240	300	250	220	130	170	220	160
BRIDGEPORT		VEL (MPH)	8.4	13.0	8.8	2.6	6.4	9.4	3.8	4.9	5.5	0.6
		SPD (MPH)	11.4	13.7	9.8	3.3	9.1	9.9	6.5	9.6	8.2	4.2
		RATIO	0.738	0.952	0.904	0.774	0.706	0.946	0.589	0.510	0.667	0.152
METEOROLOGICAL SITE		DIR (DEG)	270	260	230	290	300	200	200	210	260	240
WORCESTER		VEL (MPH)	8.3	10.7	10.4	3.0	5.8	6.6	2.4	3.1	4.8	6.0
		SPD (MPH)	8.9	11.1	10.6	4.7	7.5	6.8	4.3	5.5	4.9	6.5
		RATIO	0.933	0.970	0.976	0.622	0.777	0.974	0.557	0.567	0.980	0.923
NEW BRITAIN	123	110	142	129	115	115	97	95	91	89	89	85
		DATE	9/ 6/79	3/ 1/79	5/ 9/79	7/23/79	11/20/79	7/14/79	7/ 2/79	2/20/79	12/20/79	2/ 5/79
METEOROLOGICAL SITE		DIR (DEG)	190	100	230	190	200	120	250	230	30	300
NEWARK		VEL (MPH)	12.2	4.5	13.4	8.7	1.5	5.2	9.9	8.1	13.8	21.8
		SPD (MPH)	20.4	6.5	13.9	9.5	8.3	6.2	10.5	10.1	13.9	22.6
		RATIO	0.600	0.688	0.963	0.914	0.180	0.839	0.947	0.806	0.986	0.964
METEOROLOGICAL SITE		DIR (DEG)	200	90	190	220	190	160	240	170	20	300
BRADLEY		VEL (MPH)	8.6	0.5	7.5	4.2	3.7	4.2	6.9	4.7	8.4	14.4
		SPD (MPH)	15.0	2.4	8.6	5.2	3.7	6.5	8.6	5.3	8.8	15.1
		RATIO	0.578	0.208	0.874	0.813	0.989	0.651	0.802	0.889	0.954	0.951

TABLE 12, cont.

1979 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)	190	70	230	210	90	130	240	260	50	300
BRIDGEPORT	VEL (MPH)	14.4	5.8	13.0	6.7	2.7	3.8	13.9	8.4	16.6	26.8
	SPD (MPH)	22.6	6.9	13.7	7.3	7.8	6.5	14.5	11.4	16.7	26.9
	RATIO	0.636	0.836	0.952	0.915	0.351	0.589	0.959	0.738	0.993	0.997
METEOROLOGICAL SITE	DIR (DEG)	210	60	260	280	230	200	250	270	40	290
WORCESTER	VEL (MPH)	8.9	5.0	10.7	5.8	6.4	2.4	7.1	8.3	7.2	22.7
	SPD (MPH)	13.2	6.5	11.1	6.0	6.8	4.3	7.5	8.9	7.5	23.0
	RATIO	0.674	0.777	0.970	0.963	0.953	0.557	0.955	0.933	0.968	0.985
NEW HAVEN	2 62	158	128	121	104	103	92	91	88	87	85
	DATE	7/ 2/79	10/18/79	5/ 9/79	1/15/79	2/20/79	8/13/79	1/ 9/79	6/14/79	12/11/79	7/14/79
METEOROLOGICAL SITE	DIR (DEG)	250	200	230	270	230	310	280	230	220	120
NEWARK	VEL (MPH)	9.9	2.3	13.4	16.0	8.1	9.2	13.0	6.9	7.6	5.2
	SPD (MPH)	10.5	3.6	13.9	17.4	10.1	14.7	14.5	8.6	7.9	6.2
	RATIO	0.947	0.632	0.963	0.919	0.806	0.630	0.895	0.803	0.961	0.639
METEOROLOGICAL SITE	DIR (DEG)	240	300	190	300	170	360	300	250	190	160
BRADLEY	VEL (MPH)	6.9	2.7	7.5	7.8	4.7	8.6	6.8	3.8	8.3	4.2
	SPD (MPH)	8.6	4.2	8.6	8.6	5.3	9.9	9.1	4.7	8.5	6.5
	RATIO	0.802	0.655	0.874	0.900	0.889	0.864	0.747	0.793	0.983	0.651
METEOROLOGICAL SITE	DIR (DEG)	240	300	230	280	260	320	290	220	240	130
BRIDGEPORT	VEL (MPH)	13.9	2.6	13.0	18.6	8.4	11.7	12.7	6.7	8.8	3.8
	SPD (MPH)	14.5	3.3	13.7	19.1	11.4	13.7	13.8	10.1	9.8	6.5
	RATIO	0.959	0.774	0.952	0.974	0.738	0.857	0.920	0.666	0.904	0.589
METEOROLOGICAL SITE	DIR (DEG)	250	290	260	290	270	340	280	280	230	200
WORCESTER	VEL (MPH)	7.1	3.0	10.7	15.1	8.3	7.5	11.8	7.0	10.4	2.4
	SPD (MPH)	7.5	4.7	11.1	15.5	8.9	9.2	12.8	8.2	10.6	4.3
	RATIO	0.955	0.622	0.970	0.970	0.933	0.814	0.924	0.854	0.976	0.557
NEW HAVEN	123 119	251	167	165	152	150	145	145	141	138	137
	DATE	3/ 1/79	11/23/79	4/18/79	10/18/79	11/20/79	3/22/79	12/14/79	5/ 9/79	1/ 9/79	4/ 6/79
METEOROLOGICAL SITE	DIR (DEG)	100	160	320	200	200	230	320	230	280	250
NEWARK	VEL (MPH)	4.5	5.1	17.4	2.3	1.5	6.3	14.2	13.4	13.0	18.1
	SPD (MPH)	6.5	5.9	18.3	3.6	8.3	7.2	14.7	13.9	14.5	21.6
	RATIO	0.688	0.859	0.955	0.632	0.180	0.879	0.967	0.963	0.895	0.841
METEOROLOGICAL SITE	DIR (DEG)	90	180	350	300	190	10	320	190	300	250
BRADLEY	VEL (MPH)	0.5	7.1	6.5	2.7	3.7	1.1	8.8	7.5	6.8	13.1
	SPD (MPH)	2.4	7.2	7.0	4.2	3.7	2.2	9.3	8.6	9.1	16.4
	RATIO	0.208	0.987	0.924	0.655	0.989	0.493	0.938	0.874	0.747	0.798
METEOROLOGICAL SITE	DIR (DEG)	70	160	330	300	90	250	340	230	290	270
BRIDGEPORT	VEL (MPH)	5.8	0.6	16.7	2.6	2.7	6.4	11.6	13.0	12.7	18.9
	SPD (MPH)	6.9	4.2	17.1	3.3	7.8	9.1	12.1	13.7	13.8	24.7
	RATIO	0.836	0.152	0.978	0.774	0.351	0.706	0.962	0.952	0.920	0.765
METEOROLOGICAL SITE	DIR (DEG)	60	240	330	290	230	300	310	260	280	270
WORCESTER	VEL (MPH)	5.0	6.0	9.8	3.0	6.4	5.8	9.8	10.7	11.8	15.4
	SPD (MPH)	6.5	6.5	10.4	4.7	6.8	7.5	10.4	11.1	12.8	17.4
	RATIO	0.777	0.923	0.945	0.622	0.953	0.777	0.948	0.970	0.924	0.884

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 14 AIR COMPLIANCE ENGINEERING

1979 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	116	148	125	123	114	110	106	105	104	98	94
		DATE	5/ 9/79	3/ 1/79	1/ 6/79	2/20/79	12/11/79	8/10/79	3/22/79	11/20/79	9/18/79	1/ 9/79
METEOROLOGICAL SITE	DIR (DEG)		230	100	50	230	220	240	230	200	220	280
NEWARK	VEL (MPH)		13.4	4.5	2.8	8.1	7.6	12.9	6.3	1.5	11.8	13.0
	SPD (MPH)		13.9	6.5	6.2	10.1	7.9	14.7	7.2	8.3	11.9	14.5
	RATIO		0.963	0.688	0.447	0.806	0.961	0.881	0.879	0.180	0.986	0.895
METEOROLOGICAL SITE	DIR (DEG)		190	90	350	170	190	260	10	190	220	300
BRADLEY	VEL (MPH)		7.5	0.5	3.1	4.7	8.3	4.8	1.1	3.7	8.8	6.8
	SPD (MPH)		8.6	2.4	3.3	5.3	8.5	6.3	2.2	3.7	9.2	9.1
	RATIO		0.874	0.208	0.942	0.889	0.983	0.756	0.493	0.989	0.954	0.747
METEOROLOGICAL SITE	DIR (DEG)		230	70	40	260	240	230	250	90	240	290
BRIDGEPORT	VEL (MPH)		13.0	5.8	8.5	8.4	8.8	12.5	6.4	2.7	14.9	12.7
	SPD (MPH)		13.7	6.9	9.2	11.4	9.8	13.2	9.1	7.8	16.4	13.8
	RATIO		0.952	0.836	0.929	0.738	0.904	0.942	0.706	0.351	0.911	0.920
METEOROLOGICAL SITE	DIR (DEG)		260	60	110	270	230	260	300	230	240	280
WORCESTER	VEL (MPH)		10.7	5.0	1.9	8.3	10.4	6.4	5.8	6.4	8.8	11.8
	SPD (MPH)		11.1	6.5	2.9	8.9	10.6	8.9	7.5	6.8	9.3	12.8
	RATIO		0.970	0.777	0.648	0.933	0.976	0.713	0.777	0.953	0.937	0.924
NORWICH	1	58	119	91	87	85	81	72	69	68	68	67
		DATE	11/ 5/79	5/ 9/79	2/20/79	7/14/79	10/18/79	9/18/79	7/20/79	12/ 5/79	3/10/79	12/11/79
METEOROLOGICAL SITE	DIR (DEG)		20	230	230	120	200	220	170	200	140	220
NEWARK	VEL (MPH)		2.2	13.4	8.1	5.2	2.3	11.8	4.9	9.9	2.0	7.6
	SPD (MPH)		6.6	13.9	10.1	6.2	3.6	11.9	7.5	10.8	7.6	7.9
	RATIO		0.335	0.963	0.806	0.839	0.632	0.986	0.657	0.914	0.262	0.961
METEOROLOGICAL SITE	DIR (DEG)		50	190	170	160	300	220	220	200	170	190
BRADLEY	VEL (MPH)		1.6	7.5	4.7	4.2	2.7	8.8	3.9	6.5	5.5	8.3
	SPD (MPH)		3.0	8.6	5.3	6.5	4.2	9.2	4.2	8.8	5.8	8.5
	RATIO		0.534	0.874	0.889	0.651	0.655	0.954	0.942	0.742	0.959	0.983
METEOROLOGICAL SITE	DIR (DEG)		20	230	260	130	300	240	220	240	180	240
BRIDGEPORT	VEL (MPH)		3.7	13.0	8.4	3.8	2.6	14.9	5.5	15.6	4.2	8.8
	SPD (MPH)		7.6	13.7	11.4	6.5	3.3	16.4	8.2	16.8	6.3	9.8
	RATIO		0.484	0.952	0.738	0.589	0.774	0.911	0.667	0.925	0.670	0.904
METEOROLOGICAL SITE	DIR (DEG)		330	260	270	200	290	240	260	240	210	230
WORCESTER	VEL (MPH)		3.7	10.7	8.3	2.4	3.0	8.8	4.8	7.7	7.1	10.4
	SPD (MPH)		4.6	11.1	8.9	4.3	4.7	9.3	4.9	8.8	7.3	10.6
	RATIO		0.813	0.970	0.933	0.557	0.622	0.937	0.980	0.879	0.963	0.976
OLD SAYBROOK	1	49	179	126	97	84	75	75	74	71	70	70
		DATE	1/ 9/79	2/20/79	5/ 9/79	3/10/79	7/14/79	2/ 2/79	3/22/79	9/18/79	1/ 3/79	7/26/79
METEOROLOGICAL SITE	DIR (DEG)		280	230	230	140	120	310	230	220	290	220
NEWARK	VEL (MPH)		13.0	8.1	13.4	2.0	5.2	23.6	6.3	11.8	18.3	10.9
	SPD (MPH)		14.5	10.1	13.9	7.6	6.2	23.7	7.2	11.9	19.4	11.4
	RATIO		0.895	0.806	0.963	0.262	0.839	0.994	0.879	0.986	0.941	0.961
METEOROLOGICAL SITE	DIR (DEG)		300	170	190	170	160	320	10	220	300	190
BRADLEY	VEL (MPH)		6.8	4.7	7.5	5.5	4.2	15.2	1.1	8.8	11.7	8.8
	SPD (MPH)		9.1	5.3	8.6	5.8	6.5	15.4	2.2	9.2	12.4	9.3
	RATIO		0.747	0.889	0.874	0.959	0.651	0.988	0.493	0.954	0.950	0.942

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 15 AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES 1979 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME		SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
	METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	290	260	230	180	130	320	250	240	300	220
				VEL (MPH)	12.7	8.4	13.0	4.2	3.8	22.7	6.4	14.9	17.6	9.4
				SPD (MPH)	13.8	11.4	13.7	6.3	6.5	22.9	9.1	16.4	17.8	9.9
				RATIO	0.920	0.738	0.952	0.670	0.589	0.994	0.706	0.911	0.987	0.946
	METEOROLOGICAL SITE WORCESTER			DIR (DEG)	280	270	260	210	200	310	300	240	290	200
				VEL (MPH)	11.8	8.3	10.7	7.1	2.4	22.2	5.8	8.6	18.0	6.6
				SPD (MPH)	12.8	8.9	11.1	7.3	4.3	22.4	7.5	9.3	18.3	6.8
				RATIO	0.924	0.933	0.970	0.963	0.557	0.989	0.777	0.937	0.956	0.974
STAMFORD		7	58		129	113	111	107	107	97	97	90	90	88
				DATE	5/ 9/79	7/14/79	3/22/79	10/18/79	5/21/79	9/18/79	5/ 3/79	2/20/79	12/11/79	7/ 8/79
	METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	120	230	200	220	220	170	230	220	210
				VEL (MPH)	13.4	5.2	6.3	2.3	7.0	11.8	9.3	8.1	7.6	5.2
				SPD (MPH)	13.9	6.2	7.2	3.6	7.2	11.9	10.6	10.1	7.9	7.2
				RATIO	0.963	0.839	0.879	0.632	0.976	0.986	0.876	0.806	0.961	0.719
	METEOROLOGICAL SITE BRADLEY			DIR (DEG)	190	160	10	300	230	220	190	170	190	250
				VEL (MPH)	7.5	4.2	1.1	2.7	3.9	8.8	5.9	4.7	8.3	2.9
				SPD (MPH)	8.6	6.5	2.2	4.2	5.9	9.2	7.0	5.3	8.5	3.7
				RATIO	0.874	0.651	0.493	0.655	0.659	0.954	0.832	0.889	0.983	0.775
	METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	230	130	250	300	240	240	170	260	240	220
				VEL (MPH)	13.0	3.8	6.4	2.6	9.7	14.9	4.9	8.4	8.8	7.2
				SPD (MPH)	13.7	6.5	9.1	3.3	9.9	16.4	9.6	11.4	9.8	8.6
				RATIO	0.952	0.589	0.706	0.774	0.974	0.911	0.510	0.738	0.904	0.831
	METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	200	300	290	240	240	210	270	230	280
				VEL (MPH)	10.7	2.4	5.8	3.0	1.3	8.8	3.1	8.3	10.4	7.3
				SPD (MPH)	11.1	4.3	7.5	4.7	4.7	9.3	5.5	8.9	10.6	7.5
				RATIO	0.970	0.557	0.777	0.622	0.273	0.937	0.567	0.933	0.976	0.970
STAMFORD		123	60		164	124	122	120	99	98	98	96	94	93
				DATE	5/ 9/79	12/11/79	2/20/79	3/22/79	5/21/79	9/13/79	10/18/79	7/26/79	7/14/79	11/23/79
	METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	220	230	230	220	220	200	220	120	160
				VEL (MPH)	13.4	7.6	8.1	6.3	7.0	11.8	2.3	10.9	5.2	5.1
				SPD (MPH)	13.9	7.9	10.1	7.2	7.2	11.9	3.6	11.4	6.2	5.9
				RATIO	0.963	0.961	0.806	0.879	0.976	0.986	0.632	0.961	0.839	0.859
	METEOROLOGICAL SITE BRADLEY			DIR (DEG)	190	190	170	10	230	220	300	190	160	180
				VEL (MPH)	7.5	8.3	4.7	1.1	3.9	8.8	2.7	8.8	4.2	7.1
				SPD (MPH)	8.6	8.5	5.3	2.2	5.9	9.2	4.2	9.3	6.5	7.2
				RATIO	0.874	0.983	0.889	0.493	0.659	0.954	0.655	0.942	0.651	0.987
	METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	230	240	260	250	240	240	300	220	130	160
				VEL (MPH)	13.0	8.8	8.4	6.4	9.7	14.9	2.6	9.4	3.8	0.6
				SPD (MPH)	13.7	9.8	11.4	9.1	9.9	16.4	3.3	9.9	6.5	4.2
				RATIO	0.952	0.904	0.738	0.706	0.974	0.911	0.774	0.946	0.589	0.152
	METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	230	270	300	240	240	290	200	200	240
				VEL (MPH)	10.7	10.4	8.3	5.8	1.3	8.8	3.0	6.6	2.4	6.0
				SPD (MPH)	11.1	10.6	8.9	7.5	4.7	9.3	4.7	6.8	4.3	6.[illegible]
				RATIO	0.970	0.976	0.933	0.777	0.273	0.937	0.622	0.974	0.557	0.923

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 16 AIR COMPLIANCE ENGINEERING

1979 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
STRATFORD	5	58		164	111	110	106	105	93	93	90	90	83
			DATE	5/ 9/79	2/14/79	1/ 9/79	3/22/79	2/20/79	5/21/79	9/18/79	10/18/79	12/11/79	7/14/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	300	280	230	230	220	220	200	220	120
			VEL (MPH)	13.4	11.9	13.0	6.3	8.1	7.0	11.8	2.3	7.6	5.2
			SPD (MPH)	13.9	12.8	14.5	7.2	10.1	7.2	11.9	3.6	7.9	6.2
			RATIO	0.963	0.931	0.895	0.879	0.806	0.976	0.986	0.632	0.961	0.839
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	190	320	300	10	170	230	220	300	190	160
			VEL (MPH)	7.5	8.0	6.8	1.1	4.7	3.9	8.8	2.7	8.3	4.2
			SPD (MPH)	8.6	8.8	9.1	2.2	5.3	5.9	9.2	4.2	8.5	6.5
			RATIO	0.874	0.915	0.747	0.493	0.889	0.659	0.954	0.655	0.983	0.651
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	230	300	290	250	260	240	240	300	240	130
			VEL (MPH)	13.0	14.6	12.7	6.4	8.4	9.7	14.9	2.6	8.8	3.8
			SPD (MPH)	13.7	15.2	13.8	9.1	11.4	9.9	16.4	3.3	9.8	6.5
			RATIO	0.952	0.955	0.920	0.706	0.738	0.974	0.911	0.774	0.904	0.589
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	260	310	280	300	270	240	240	290	230	200
			VEL (MPH)	10.7	13.7	11.8	5.8	8.3	1.3	8.8	3.0	10.4	2.4
			SPD (MPH)	11.1	14.4	12.8	7.5	8.9	4.7	9.3	4.7	10.6	4.3
			RATIO	0.970	0.951	0.924	0.777	0.933	0.273	0.937	0.622	0.976	0.557
TORRINGTON	123	116		230	159	158	151	141	129	125	124	121	119
			DATE	3/22/79	3/16/79	1/ 3/79	1/ 9/79	3/28/79	11/20/79	3/19/79	4/ 6/79	7/23/79	5/ 9/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	270	290	280	240	200	360	250	190	230
			VEL (MPH)	6.3	11.6	18.3	13.0	3.6	1.5	12.0	18.1	8.7	13.4
			SPD (MPH)	7.2	13.2	19.4	14.5	11.9	8.3	12.2	21.6	9.5	13.9
			RATIO	0.879	0.873	0.941	0.895	0.299	0.180	0.985	0.841	0.914	0.963
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	10	290	300	300	280	190	350	250	220	190
			VEL (MPH)	1.1	5.8	11.7	6.8	3.7	3.7	7.6	13.1	4.2	7.5
			SPD (MPH)	2.2	5.9	12.4	9.1	8.5	3.7	8.5	16.4	5.2	8.6
			RATIO	0.493	0.976	0.950	0.747	0.433	0.989	0.893	0.798	0.813	0.874
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	250	260	300	290	250	90	330	270	210	230
			VEL (MPH)	6.4	11.0	17.6	12.7	5.9	2.7	12.5	18.9	6.7	13.0
			SPD (MPH)	9.1	12.2	17.8	13.8	11.5	7.8	13.4	24.7	7.3	13.7
			RATIO	0.706	0.897	0.987	0.920	0.512	0.351	0.938	0.765	0.915	0.952
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	300	280	290	280	280	230	360	270	280	260
			VEL (MPH)	5.8	6.8	18.0	11.8	5.6	6.4	9.9	15.4	5.8	10.7
			SPD (MPH)	7.5	7.0	18.3	12.8	6.8	6.8	10.8	17.4	6.0	11.1
			RATIO	0.777	0.967	0.986	0.924	0.832	0.953	0.915	0.884	0.963	0.970
VOLUNTOWN	1	117		78	77	76	64	60	57	52	51	48	47
			DATE	7/23/79	2/ 5/79	6/ 5/79	7/14/79	5/ 9/79	7/20/79	4/30/79	5/21/79	9/18/79	2/20/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	190	300	260	120	230	170	290	220	220	230
			VEL (MPH)	8.7	21.8	5.3	5.2	13.4	4.9	2.5	7.0	11.8	8.1
			SPD (MPH)	9.5	22.6	8.9	6.2	13.9	7.5	9.2	7.2	11.9	10.1
			RATIO	0.914	0.964	0.593	0.839	0.963	0.657	0.271	0.976	0.986	0.806
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	220	300	230	160	190	220	210	230	220	170
			VEL (MPH)	4.2	14.4	0.6	4.2	7.5	3.9	2.0	3.9	8.3	4.7
			SPD (MPH)	5.2	15.1	5.3	6.5	8.6	4.2	6.0	5.9	9.2	5.3
			RATIO	0.813	0.951	0.105	0.651	0.874	0.942	0.327	0.659	0.954	0.889

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 17 AIR COMPLIANCE ENGINEERING

POLLUTANT--TOTAL SUSPENDED PARTICULATES 1979 TEN HIGHEST 24 HR AVG TSP DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE	DIR (DEG)		210	300	210	130	230	220	240	240	240	260
BRIDGEPORT	VEL (MPH)		6.7	26.8	3.1	3.8	13.0	5.5	6.6	9.7	14.9	8.4
	SPD (MPH)		7.3	26.9	8.5	6.5	13.7	8.2	10.8	9.9	16.4	11.4
	RATIO		0.915	0.997	0.370	0.589	0.952	0.667	0.609	0.974	0.911	0.738
METEOROLOGICAL SITE	DIR (DEG)		280	290	30	200	260	260	290	240	240	270
WORCESTER	VEL (MPH)		5.8	22.7	1.3	2.4	10.7	4.8	4.5	1.3	8.8	8.3
	SPD (MPH)		6.0	23.0	6.3	4.3	11.1	4.9	5.6	4.7	9.3	8.9
	RATIO		0.963	0.985	0.205	0.557	0.970	0.980	0.810	0.273	0.937	0.933
WALLINGFORD	1	54	120	102	88	87	87	86	85	84	78	77
		DATE	5/ 9/79	7/14/79	12/11/79	5/21/79	1/ 3/79	7/26/79	10/18/79	2/20/79	9/18/79	5/ 3/79
METEOROLOGICAL SITE	DIR (DEG)		230	120	220	220	290	220	200	230	220	170
NEWARK	VEL (MPH)		13.4	5.2	7.6	7.0	18.3	10.9	2.3	8.1	11.8	9.3
	SPD (MPH)		13.9	6.2	7.9	7.2	19.4	11.4	3.6	10.1	11.9	10.6
	RATIO		0.963	0.839	0.961	0.976	0.941	0.961	0.632	0.806	0.986	0.876
METEOROLOGICAL SITE	DIR (DEG)		190	160	190	230	300	190	300	170	220	190
BRADLEY	VEL (MPH)		7.5	4.2	8.3	3.9	11.7	8.8	2.7	4.7	8.8	5.9
	SPD (MPH)		8.6	6.5	8.5	5.9	12.4	9.3	4.2	5.3	9.2	7.0
	RATIO		0.874	0.651	0.983	0.659	0.950	0.942	0.655	0.889	0.954	0.832
METEOROLOGICAL SITE	DIR (DEG)		230	130	240	240	300	220	300	260	240	170
BRIDGEPORT	VEL (MPH)		13.0	3.8	8.8	9.7	17.6	9.4	2.6	8.4	14.9	4.9
	SPD (MPH)		13.7	6.5	9.8	9.9	17.8	9.9	3.3	11.4	16.4	9.6
	RATIO		0.952	0.589	0.904	0.974	0.987	0.946	0.774	0.738	0.911	0.510
METEOROLOGICAL SITE	DIR (DEG)		260	200	230	240	290	200	290	270	240	210
WORCESTER	VEL (MPH)		10.7	2.4	10.4	1.3	18.0	6.6	3.0	8.3	8.8	3.1
	SPD (MPH)		11.1	4.3	10.6	4.7	18.3	6.8	4.7	8.9	9.3	5.5
	RATIO		0.970	0.557	0.976	0.273	0.986	0.974	0.622	0.933	0.937	0.567
WATERBURY	2	59	110	102	89	89	83	82	79	75	74	73
		DATE	5/ 9/79	12/11/79	7/14/79	10/18/79	1/ 9/79	7/26/79	3/22/79	8/ 1/79	7/20/79	3/10/79
METEOROLOGICAL SITE	DIR (DEG)		230	220	120	200	280	220	230	180	170	140
NEWARK	VEL (MPH)		13.4	7.6	5.2	2.3	13.0	10.9	6.3	7.7	4.9	2.0
	SPD (MPH)		13.9	7.9	6.2	3.6	14.5	11.4	7.2	9.2	7.5	7.6
	RATIO		0.963	0.961	0.839	0.632	0.895	0.961	0.879	0.840	0.657	0.262
METEOROLOGICAL SITE	DIR (DEG)		190	190	160	300	300	190	10	180	220	170
BRADLEY	VEL (MPH)		7.5	8.3	4.2	2.7	6.8	8.8	1.1	5.4	3.9	5.5
	SPD (MPH)		8.6	8.5	6.5	4.2	9.1	9.3	2.2	6.9	4.2	5.8
	RATIO		0.874	0.983	0.651	0.655	0.747	0.942	0.493	0.783	0.942	0.959
METEOROLOGICAL SITE	DIR (DEG)		230	240	130	300	290	220	250	200	220	180
BRIDGEPORT	VEL (MPH)		13.0	8.8	3.8	2.6	12.7	9.4	6.4	8.2	5.5	4.2
	SPD (MPH)		13.7	9.8	6.5	3.3	13.8	9.9	9.1	8.9	8.2	6.3
	RATIO		0.952	0.904	0.589	0.774	0.920	0.946	0.706	0.923	0.667	0.670
METEOROLOGICAL SITE	DIR (DEG)		260	230	200	290	280	200	300	230	260	210
WORCESTER	VEL (MPH)		10.7	10.4	2.4	3.0	11.8	6.6	5.8	6.2	4.8	7.1
	SPD (MPH)		11.1	10.6	4.3	4.7	12.8	6.8	7.5	6.3	4.9	7.3
	RATIO		0.970	0.976	0.557	0.622	0.924	0.974	0.777	0.977	0.980	0.963

TABLE 12, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 18 AIR COMPLIANCE ENGINEERING

1979 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
WATERBURY	123	117		243	174	154	152	146	140	133	130	128	127
			DATE	3/ 1/79	1/ 9/79	11/20/79	1/ 3/79	2/20/79	12/11/79	12/14/79	7/23/79	2/23/79	1/15/79
METEOROLOGICAL SITE			DIR (DEG)	100	280	200	290	230	220	320	190	80	270
NEWARK			VEL (MPH)	4.5	13.0	1.5	18.3	8.1	7.6	14.2	8.7	9.4	16.0
			SPD (MPH)	6.5	14.5	8.3	19.4	10.1	7.9	14.7	9.5	11.5	17.4
			RATIO	0.688	0.895	0.180	0.941	0.806	0.961	0.967	0.914	0.822	0.919
METEOROLOGICAL SITE			DIR (DEG)	90	300	190	300	170	190	320	220	120	300
BRADLEY			VEL (MPH)	0.5	6.8	3.7	11.7	4.7	8.3	8.8	4.2	3.0	7.8
			SPD (MPH)	2.4	9.1	3.7	12.4	5.3	8.5	9.3	5.2	5.2	8.6
			RATIO	0.208	0.747	0.989	0.950	0.889	0.983	0.938	0.813	0.588	0.900
METEOROLOGICAL SITE			DIR (DEG)	70	290	90	300	260	240	340	210	60	280
BRIDGEPORT			VEL (MPH)	5.8	12.7	2.7	17.6	8.4	8.8	11.6	6.7	14.6	18.6
			SPD (MPH)	6.9	13.8	7.8	17.8	11.4	9.8	12.1	7.3	15.1	19.1
			RATIO	0.836	0.920	0.351	0.987	0.738	0.904	0.962	0.915	0.967	0.974
METEOROLOGICAL SITE			DIR (DEG)	60	280	230	290	270	230	310	280	90	290
WORCESTER			VEL (MPH)	5.0	11.8	6.4	18.0	8.3	10.4	9.8	5.8	6.0	15.1
			SPD (MPH)	6.5	12.8	6.8	18.3	8.9	10.6	10.4	6.0	7.3	15.5
			RATIO	0.777	0.924	0.953	0.986	0.933	0.976	0.948	0.963	0.814	0.970
WATERFORD	1	58		83	68	66	64	64	64	63	56	53	50
			DATE	7/20/79	5/ 9/79	9/18/79	10/18/79	7/26/79	7/ 8/79	8/ 1/79	7/14/79	7/ 2/79	5/ 3/79
METEOROLOGICAL SITE			DIR (DEG)	170	230	220	200	220	210	180	120	250	170
NEWARK			VEL (MPH)	4.9	13.4	11.8	2.3	10.9	5.2	7.7	5.2	9.9	9.3
			SPD (MPH)	7.5	13.9	11.9	3.6	11.4	7.2	9.2	6.2	10.5	10.6
			RATIO	0.657	0.963	0.986	0.632	0.961	0.719	0.840	0.839	0.947	0.876
METEOROLOGICAL SITE			DIR (DEG)	220	190	220	300	190	250	180	160	240	190
BRADLEY			VEL (MPH)	3.9	7.5	8.8	2.7	8.8	2.9	5.4	4.2	6.9	5.9
			SPD (MPH)	4.2	8.6	9.2	4.2	9.3	3.7	6.9	6.5	8.6	7.0
			RATIO	0.942	0.874	0.954	0.655	0.942	0.775	0.783	0.651	0.802	0.832
METEOROLOGICAL SITE			DIR (DEG)	220	230	240	300	220	220	200	130	240	170
BRIDGEPORT			VEL (MPH)	5.5	13.0	14.9	2.6	9.4	7.2	8.2	3.8	13.9	4.9
			SPD (MPH)	8.2	13.7	16.4	3.3	9.9	8.6	8.9	6.5	14.5	9.6
			RATIO	0.667	0.952	0.911	0.774	0.946	0.831	0.923	0.589	0.959	0.510
METEOROLOGICAL SITE			DIR (DEG)	260	260	240	290	200	280	230	200	250	210
WORCESTER			VEL (MPH)	4.8	10.7	8.8	3.0	6.6	7.3	6.2	2.4	7.1	3.1
			SPD (MPH)	4.9	11.1	9.3	4.7	6.8	7.5	6.3	4.3	7.5	5.5
			RATIO	0.980	0.970	0.937	0.622	0.974	0.970	0.977	0.557	0.955	0.567
WILLIMANTIC	2	15		77	75	59	54	53	51	46	45	43	41
			DATE	12/11/79	10/18/79	11/23/79	12/23/79	11/17/79	12/ 5/79	12/17/79	10/12/79	11/ 5/79	10/30/79
METEOROLOGICAL SITE			DIR (DEG)	220	200	160	250	240	200	300	200	20	350
NEWARK			VEL (MPH)	7.6	2.3	5.1	3.9	14.2	9.9	20.2	5.0	2.2	9.8
			SPD (MPH)	7.9	3.6	5.9	5.0	14.5	10.8	22.6	8.5	6.6	10.2
			RATIO	0.961	0.632	0.859	0.766	0.981	0.914	0.894	0.595	0.335	0.965
METEOROLOGICAL SITE			DIR (DEG)	190	300	180	200	240	200	320	90	50	10
BRADLEY			VEL (MPH)	8.3	2.7	7.1	4.0	5.1	6.5	18.7	0.3	1.6	4.7
			SPD (MPH)	8.5	4.2	7.2	4.0	8.2	8.8	19.1	3.3	3.0	5.5
			RATIO	0.983	0.655	0.987	0.996	0.620	0.742	0.979	0.099	0.534	0.863

TABLE 12, cont.

1979 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)	240	300	160	250	270	240	330	210	20	350
BRIDGEPORT	VEL (MPH)	8.8	2.6	0.6	2.2	15.2	15.6	20.6	4.0	3.7	9.7
	SPD (MPH)	9.8	3.3	4.2	6.5	15.5	16.8	21.4	12.9	7.6	10.5
	RATIO	0.904	0.774	0.152	0.342	0.978	0.925	0.960	0.311	0.484	0.921
METEOROLOGICAL SITE	DIR (DEG)	230	290	240	230	270	240	300	160	330	350
WORCESTER	VEL (MPH)	10.4	3.0	6.0	9.6	14.9	7.7	17.9	2.6	3.7	6.2
	SPD (MPH)	10.6	4.7	6.5	8.6	15.1	8.8	18.5	5.2	4.6	6.5
	RATIO	0.976	0.622	0.923	0.994	0.986	0.879	0.967	0.496	0.813	0.954

III. SULFUR DIOXIDE

Conclusions:

None of the air quality standards for sulfur dioxide (SO_2) were exceeded in Connecticut in 1979. Measured concentrations were substantially below the 80 $\mu g/m^3$ primary annual standard, the 365 $\mu g/m^3$ primary 24-hour standard, and the 1300 $\mu g/m^3$ secondary 3-hour standard. Measured concentrations were closer to, but also below, the 60 $\mu g/m^3$ secondary annual standard and the 260 $\mu g/m^3$ secondary 24-hour standard.

According to the results from the Wilcoxon Test (which made use of sulfation rate data) there was a significant improvement in SO2 levels from 1978 to 1979 (see Table 3). This general improvement (shown by the Wilcoxon test) of SO_2 levels was probably a result of decreased heating requirements due to the warmer temperatures experienced during 1979. Dilution caused by an increase of average wind speed (this enhances vertical mixing) may also be considered a factor in the lower values. An increased conservation effort by consumers must have also contributed to the improved SO_2 levels.

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

Method of Measurement:

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

Philips monitoring instruments were used at the following sites in 1979:

Bridgeport 001
Greenwich 004
(2 months)
Milford 002
Stamford 123
(3 months)

Teco instruments were used at the following sites in 1979:

Bridgeport 123
Danbury 123
Enfield 123
Greenwich 004
(10 months)
Groton 123
(6 months)
Hartford 123
Stamford 123
(9 months)
New Britain 123
New Haven 123
Waterbury 123

Discussion of Data:

Monitoring Network - A total of 12 continuous SO_2 monitors recorded data in 10 towns in 1979 (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 11 sites. The averages for the remainder of the sites represent 50-75% of the possible sampling hours.

Annual Averages - SO_2 levels were below the annual standards at all sites in 1979 (see Table 13). The annual average SO_2 levels decreased from 1978 to 1979 at 8 of the 12 SO_2 monitoring sites. The decrease at five of these sites equaled or exceeded 5 $\mu g/m^3$. Annual average SO_2 levels increased from 1978 to 1979 at only 2 monitoring sites, down from eight last year, with the largest increase being 2 $\mu g/m^3$. The annual average SO_2 level remained the same at one site (Stamford, site 123). These changes indicate a significant downward trend when compared to 1978.

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

It is important to note that these statistical tests require random data to be valid. This means that an equal number of samples must be collected in each season of the year and on each day of the week. The distribution and quantity of SO_2 data were far better in 1979 than in 1978. The data indicate with reasonable assurance that there were no violations of the secondary or primary SO_2 standards in Connecticut. For example, the statistical prediction of one day exceeding the secondary 24-hour SO_2 standard (260 $\mu g/m^3$) 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 - In 1979, no sites recorded SO_2 levels in excess of the 24-hour standards (see Table 15). The second high 24-hour concentrations increased from 1978 to 1979 at 2 of the 12 SO_2 monitoring sites. The increase exceeded 25 $\mu g/m^3$ at only one site, Milford 002. The second high 24-hour concentration decreased at 10 sites, eight of which were greater than 25 $\mu g/m^3$.

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

3-Hour Averages - Measured SO_2 concentrations were far below the 3-hour SO_2 standard at all DEP monitoring sites in Connecticut in 1979, but 2nd highs at 8 of 12 sites increased from 78 to 79. (see Table 17).

10-High Days with Wind Data - Table 18 lists the 10 highest 24-hour calendar day SO_2 averages (with the dates of occurrence) for each SO_2 site in Connecticut for 1979. This table also shows the average wind conditions which occurred on each of these dates. (The origin and use of these wind data are described in the discussion of Table 12 in the TSP section.)

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

Using the data in Table 18, a tally was made, by date, of the frequency of occurrence of high levels. If a given date recurred at 5 or more sites in this tally, the SO_2 levels and associated meteorological conditions were investigated further (there were 10 such days). A close look at these 10 days revealed some important points. First, all 10 days occurred during the winter months. This can be attributed to more fuel being burned during the cold weather. Second, 5 of the 10 days had persistent west or southwest winds for that calendar day. Third, 3 of the remaining 5 days had persistent southwest winds for at least the 24 hours prior to the highest *running* 24-hour average on that date.

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

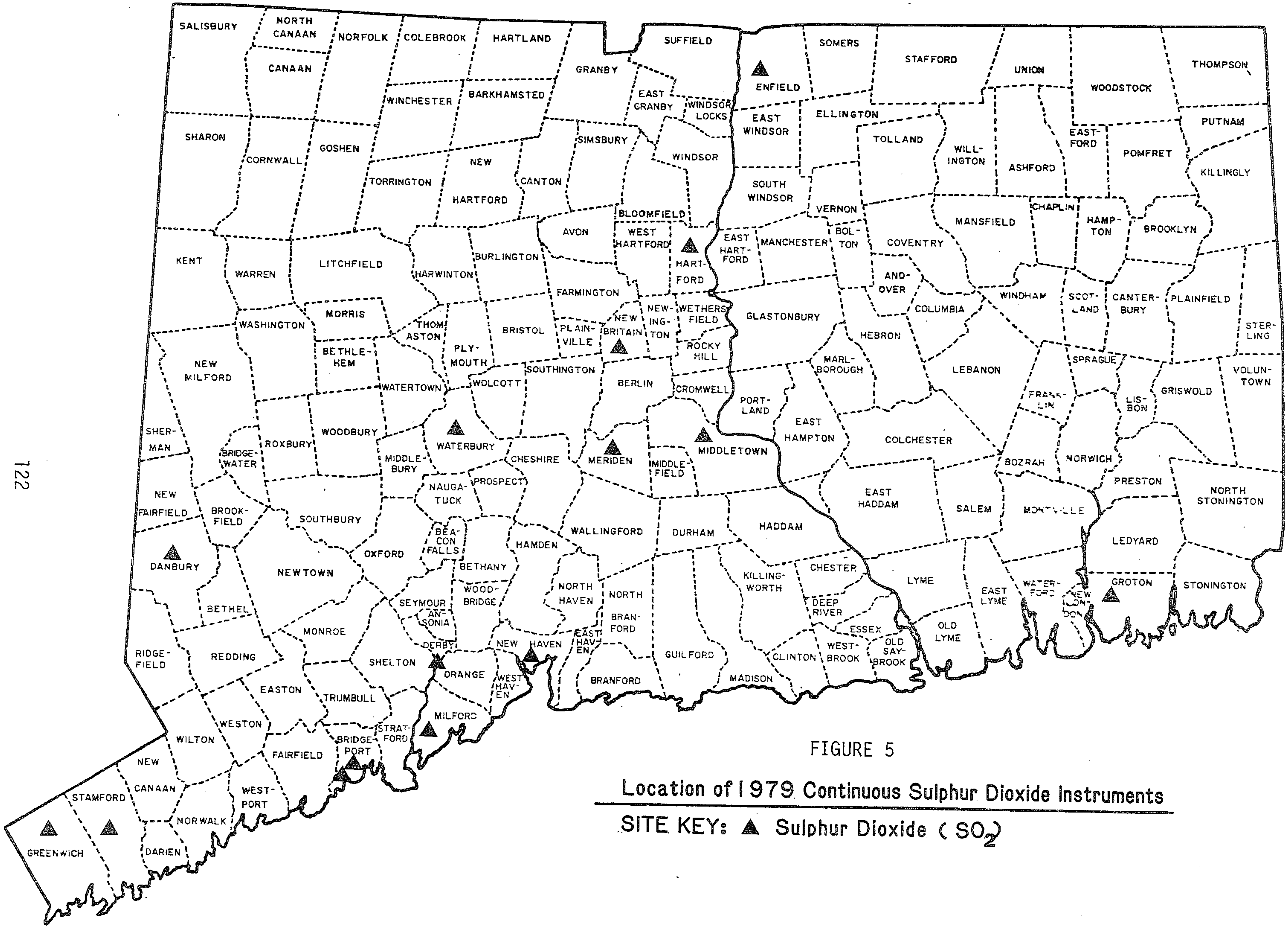


FIGURE 5

Location of 1979 Continuous Sulphur Dioxide Instruments

SITE KEY: ▲ Sulphur Dioxide (SO_2)

TABLE 13

1979
ANNUAL ARITHMETIC AVERAGES OF SULFUR DIOXIDE AT SITES WITH CONTINUOUS MONITORS

PRIMARY NAAQS 80 $\mu g/m^3$
SECONDARY NAAQS 60 $\mu g/m^3$ (a)

TOWN	SITE NAME	1979 ANNUAL AVERAGE
Bridgeport-001	City Hall	24
Bridgeport-123	Hallett Street	39
Danbury-123	Western Conn. State College	29
Enfield-123	Kosciusko Junior High School	21
Greenwich-004	Bruce Golf Course	27
Groton-123	Fort Griswold State Park	--[1]
Hartford-123	State Office Building	37
Milford-002	Devon Community Center	29
New Britain-123	Lake Street	21
New Haven-123	State Street	42
Stamford-123	Health Department	29
Waterbury-123	Bank Street	26

(a) State of Connecticut Air Quality Standard

[1] Insufficient data for valid annual average or estimate (less than 6 months)

TABLE 14 1979 SO_2 ANNUAL AVERAGES AND STATISTICAL PROJECTIONS

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PRCTECTION 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	1979	273	24.5	23	25	16.563		
BRIDGEPORT	123	1979	351	39.2	39	40	23.478		
DANBURY	123	1979	359	27.7	27	28	21.808		
ENFIELD	123	1979	356	20.3	20	21	15.967		
GREENWICH	04	1979	306*	27.6	27	28	15.521		
GROTON	123	1979	139*	23.8	22	26	13.795		
HARTFORD	123	1979	353	37.2	37	38	27.025		
MILFORD	02	1979	276	28.8	27	30	22.125		
NEW BRITAIN	123	1979	364	22.3	22	22	17.414		
NEW HAVEN	123	1979	350	42.0	41	43	28.437		
STAMFORD	123	1979	356	29.5	29	30	26.008		
WATERBURY	123	1979	316	26.1	25	27	18.902		

* SAMPLING NOT RANDCM CR OF INSUFFICIENT SIZE FCR REPRESENTATIVE ANNUAL STATISTICS.

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

TABLE 15

1979 MAXIMUM 24-HOUR SULFUR DIOXIDE CONCENTRATIONS

SITE	DATE 1ST HIGH	DATE 2ND HIGH	Concentration (µg/m³)
Bridgeport-001	2/21/17		197
		3/30/15	104
Bridgeport	2/21/09[a]		207
		2/22/02	156
Danbury-123	2/21/14		161
		1/7/13	148
Enfield-123	2/21/13		126
		2/19/24	108
Greenwich-004	12/12/14[b]		116
		12/12/03	103
Groton-123	2/21/09		102
		2/23/08	74
Hartford-123	2/21/15		178
		2/20/10	163
Milford-002	2/21/15		162
		1/18/19	157
New Britain-123	2/21/13		163
		2/22/02	107
New Haven-123	2/21/07		207
		3/1/17	178
Stamford-123	2/21/11[c]		231
		2/20/24	179
Waterbury-123	2/21/15		163
		1/7/14	111

0 100 200 300 400

260 Secondary

365 Primary

* Date is month/day/ending hour of occurrence

[a] Non-overlapping maximum on 02/21/02 = 166 µg/m^3

[b] Non-overlapping maximum on 12/12/03 = 103 µg/m^3

[c] Non-overlapping maximum on 2/21/24 = 180 µg/m^3

TABLE 16

COMPARISONS OF 1979 FIRST AND SECOND HIGH RUNNING AND CALENDAR DAY 24-HOUR SO_2 AVERAGES

units = µg/m3

Site	1st High Running Avg.	1st High Calendar Day	2nd High Running Avg.	2nd High Calendar Day
Bridgeport 001	197	113	104	93
Bridgeport 123	207	176	156	148
Danbury 123	161	133	148	125
Enfield 123	126	108	108	97
Greenwich 004	116	112	103	103
Groton 123	102	75	74	66
Hartford 123	178	153	163	148
Milford 002	162	153	157	150
New Britain 123	163	118	107	97
New Haven 123	207	189	178	152
Stamford 123	231	180	179	179
Waterbury 123	163	118	111	107

TABLE 17

1979 MAXIMUM 3-HOUR SULFUR DIOXIDE CONCENTRATIONS

SITE	DATE* 1st HIGH	DATE* 2ND HIGH	CONCENTRATION ($\mu g/m^3$) 0 100 200 300 400 1300
Bridgeport-001	2/21/06		262
		2/21/03	253
Bridgeport-123	2/21/05		338
		2/21/06	320
Danbury-123	2/21/10		225
		1/7/04	190
Enfield-123	2/13/09		231
		3/1/2	214
Greenwich-004	5/8/13		153
		12/12/10	153
Groton-123	2/21/05[a]		188
		2/21/03	146
Hartford-123	2/12/10		261
		2/21/10	253
Milford-002	1/18/14		280
		2/21/05	262
New Britain-123	2/21/10[b]		259
		2/21/08	209
New Haven-123	2/21/05[c]		359
		2/21/07	329
Stamford-123	2/21/02		365
		2/21/05	325
Waterbury-123	2/21/10		244
		2/21/10	217

Secondary Standard

* Date is month/day/ending hour of occurrence

[a] non-overlapping maximum on 02/21/06 = 172 $\mu g/m^3$

[b] non-overlapping maximum on 02/21/11 = 238 $\mu g/m^3$

[c] non-overlapping maximum on 02/21/04 = 349 $\mu g/m^3$

TABLE 18

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 4 AIR COMPLIANCE ENGINEERING

POLLUTANT--SULFUR DIOXIDE

1979 TEN HIGHEST 24 HR AVG SO2 DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	1	273	113	93	92	86	85	82	81	79	71	64
		DATE	2/20/79	3/30/79	3/ 1/79	1/16/79	3/23/79	1/17/79	1/10/79	1/ 7/79	1/ 4/79	11/25/79
METEOROLOGICAL SITE	DIR (DEG)		230	110	100	260	170	320	270	70	250	140
NEWARK	VEL (MPH)		8.1	5.8	4.5	10.0	6.9	1.9	10.0	3.2	12.0	4.9
	SPD (MPH)		10.1	6.0	6.5	13.7	9.8	7.3	10.5	5.0	12.9	6.3
	RATIO		0.806	0.961	0.688	0.736	0.708	0.265	0.956	0.638	0.930	0.776
METEOROLOGICAL SITE	DIR (DEG)		170	10	90	270	180	360	260	30	230	180
BRADLEY	VEL (MPH)		4.7	2.4	0.5	4.8	6.6	2.4	5.2	1.2	7.4	6.5
	SPD (MPH)		5.3	2.4	2.4	8.2	8.1	3.7	5.5	1.9	8.1	6.6
	RATIO		0.889	0.984	0.208	0.586	0.816	0.639	0.952	0.634	0.919	0.984
METEOROLOGICAL SITE	DIR (DEG)		260	80	70	290	180	50	290	110	280	110
BRIDGEPORT	VEL (MPH)		8.4	4.5	5.8	12.3	4.5	4.8	13.3	3.5	18.1	6.2
	SPD (MPH)		11.4	5.5	6.9	14.1	6.2	10.6	13.5	10.1	18.1	8.2
	RATIO		0.738	0.817	0.836	0.872	0.730	0.453	0.987	0.350	0.998	0.758
METEOROLOGICAL SITE	DIR (DEG)		270	70	60	260	230	40	280	210	250	220
WORCESTER	VEL (MPH)		8.3	3.0	5.0	7.7	6.3	2.9	9.2	1.9	8.2	4.3
	SPD (MPH)		8.9	5.5	6.5	8.3	6.9	5.3	9.5	5.3	8.5	5.5
	RATIO		0.933	0.549	0.777	0.924	0.917	0.549	0.973	0.363	0.969	0.793
BRIDGEPORT	123	351	176	148	122	121	117	112	109	103	95	95
		DATE	2/21/79	2/20/79	1/16/79	12/12/79	12/11/79	12/16/79	1/17/79	12/ 1/79	12/10/79	2/ 4/79
METEOROLOGICAL SITE	DIR (DEG)		210	230	260	220	220	10	320	230	220	260
NEWARK	VEL (MPH)		5.1	8.1	10.0	12.1	7.6	1.7	1.9	5.4	9.6	10.2
	SPD (MPH)		6.9	10.1	13.7	12.2	7.9	3.0	7.3	8.3	10.5	10.3
	RATIO		0.736	0.806	0.736	0.986	0.961	0.562	0.265	0.650	0.915	0.985
METEOROLOGICAL SITE	DIR (DEG)		200	170	270	210	190	180	360	240	260	290
BRADLEY	VEL (MPH)		8.2	4.7	4.8	6.3	8.3	4.0	2.4	2.7	3.4	3.3
	SPD (MPH)		8.3	5.3	8.2	9.9	8.5	4.9	3.7	4.5	4.9	5.0
	RATIO		0.979	0.889	0.586	0.639	0.983	0.811	0.639	0.609	0.698	0.649
METEOROLOGICAL SITE	DIR (DEG)		240	260	290	250	240	340	50	280	270	280
BRIDGEPORT	VEL (MPH)		6.3	8.4	12.3	10.7	8.8	2.2	4.8	7.5	10.3	10.5
	SPD (MPH)		8.3	11.4	14.1	11.2	9.8	4.2	10.6	9.3	13.7	13.2
	RATIO		0.756	0.738	0.872	0.955	0.904	0.521	0.453	0.806	0.758	0.792
METEOROLOGICAL SITE	DIR (DEG)		240	270	260	250	230	230	40	250	270	290
WORCESTER	VEL (MPH)		10.5	8.3	7.7	10.0	10.4	7.6	2.9	3.7	8.1	10.3
	SPD (MPH)		10.9	8.9	8.3	10.8	10.6	7.9	5.3	4.3	9.1	10.6
	RATIO		0.958	0.933	0.924	0.929	0.976	0.967	0.549	0.848	0.893	0.967
DANBURY	123	359	133	125	122	120	113	109	97	97	92	89
		DATE	2/20/79	2/21/79	1/ 7/79	1/16/79	1/ 6/79	1/17/79	12/11/79	1/10/79	2/ 8/79	1/ 4/79
METEOROLOGICAL SITE	DIR (DEG)		230	210	70	260	50	320	220	270	290	250
NEWARK	VEL (MPH)		8.1	5.1	3.2	10.0	2.8	1.9	7.6	10.0	11.8	12.0
	SPD (MPH)		10.1	6.9	5.0	13.7	6.2	7.3	7.9	10.5	13.4	12.9
	RATIO		0.806	0.736	0.638	0.736	0.447	0.265	0.961	0.956	0.883	0.930
METEOROLOGICAL SITE	DIR (DEG)		170	200	30	270	350	360	190	260	310	230
BRADLEY	VEL (MPH)		4.7	8.2	1.2	4.8	3.1	2.4	8.3	5.2	7.1	7.4
	SPD (MPH)		5.3	8.3	1.9	8.2	3.3	3.7	8.5	5.5	9.2	8.1
	RATIO		0.889	0.979	0.634	0.586	0.942	0.639	0.983	0.952	0.774	0.919

TABLE 18, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 5 AIR COMPLIANCE ENGINEERING

1979 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	110	290	40	50	240	290	290	280
			VEL (MPH)	8.4	6.3	3.5	12.3	8.5	4.8	8.8	13.3	14.9	18.1
			SPD (MPH)	11.4	8.3	10.1	14.1	9.2	10.6	9.8	13.5	15.8	18.1
			RATIO	0.738	0.756	0.350	0.872	0.929	0.453	0.904	0.987	0.939	0.998
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	270	240	210	260	110	40	230	280	290	250
			VEL (MPH)	8.3	10.5	1.9	7.7	1.9	2.9	10.4	9.2	9.9	8.2
			SPD (MPH)	8.9	10.9	5.3	8.3	2.9	5.3	10.6	9.5	11.8	8.5
			RATIO	0.933	0.958	0.363	0.924	0.648	0.549	0.976	0.973	0.844	0.969
ENFIELD	123	356		108	97	93	90	87	76	72	70	70	67
			DATE	2/19/79	2/21/79	1/ 7/79	12/21/79	1/20/79	2/20/79	1/ 6/79	1/17/79	3/ 1/79	2/13/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	20	210	70	10	40	230	50	320	100	330
			VEL (MPH)	15.3	5.1	3.2	11.6	7.6	8.1	2.8	1.9	4.5	13.9
			SPD (MPH)	16.0	6.9	5.0	11.6	8.0	10.1	6.2	7.3	6.5	15.4
			RATIO	0.959	0.736	0.638	0.996	0.950	0.806	0.447	0.265	0.688	0.907
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	360	200	30	10	10	170	350	360	90	330
			VEL (MPH)	7.7	8.2	1.2	4.6	3.3	4.7	3.1	2.4	0.5	7.2
			SPD (MPH)	7.8	8.3	1.9	4.9	3.7	5.3	3.3	3.7	2.4	7.8
			RATIO	0.986	0.979	0.634	0.933	0.879	0.889	0.942	0.639	0.208	0.931
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	30	240	110	40	40	260	40	50	70	330
			VEL (MPH)	14.3	6.3	3.5	11.4	7.0	8.4	8.5	4.8	5.8	14.3
			SPD (MPH)	15.5	8.3	10.1	11.8	8.5	11.4	9.2	10.6	6.9	15.1
			RATIO	0.920	0.756	0.350	0.970	0.823	0.738	0.929	0.453	0.836	0.947
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	30	240	210	360	90	270	110	40	60	340
			VEL (MPH)	3.9	10.5	1.9	0.9	0.7	8.3	1.9	2.9	5.0	12.4
			SPD (MPH)	5.6	10.9	5.3	3.3	4.2	8.9	2.9	5.3	6.5	12.7
			RATIO	0.701	0.958	0.363	0.266	0.176	0.933	0.648	0.549	0.777	0.979
GREENWICH	4	306		112	103	89	88	72	70	64	63	62	62
			DATE	12/12/79	12/11/79	5/ 8/79	12/ 1/79	3/30/79	12/ 6/79	7/21/79	8/14/79	1/10/79	1/ 7/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	220	220	190	230	110	200	220	240	270	70
			VEL (MPH)	12.1	7.6	9.2	5.4	5.8	9.4	8.7	13.3	10.0	3.2
			SPD (MPH)	12.2	7.9	11.2	8.3	6.0	9.8	9.3	13.8	10.5	5.0
			RATIO	0.986	0.961	0.817	0.650	0.961	0.962	0.931	0.967	0.956	0.638
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	210	190	190	240	10	200	220	270	260	30
			VEL (MPH)	6.3	8.3	6.2	2.7	2.4	9.6	7.1	9.5	5.2	1.2
			SPD (MPH)	9.9	8.5	7.3	4.5	2.4	10.1	7.8	10.5	5.5	1.9
			RATIO	0.639	0.983	0.841	0.609	0.984	0.950	0.910	0.901	0.952	0.634
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	250	240	170	280	80	240	240	260	290	110
			VEL (MPH)	10.7	8.8	2.6	7.5	4.5	13.2	7.5	13.8	13.3	3.5
			SPD (MPH)	11.2	9.8	9.6	9.3	5.5	14.1	8.5	14.4	13.5	10.1
			RATIO	0.955	0.904	0.272	0.806	0.817	0.938	0.884	0.962	0.987	0.350
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	250	230	180	250	70	230	250	250	280	210
			VEL (MPH)	10.0	10.4	2.1	3.7	3.0	8.7	5.6	7.7	9.2	1.9
			SPD (MPH)	10.8	10.6	6.2	4.3	5.5	8.8	6.2	7.9	9.5	5.3
			RATIO	0.929	0.976	0.340	0.848	0.549	0.988	0.914	0.973	0.973	0.363

TABLE 18, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 6 AIR COMPLIANCE ENGINEERING

POLLUTANT--SULFUR DIOXIDE

1979 TEN HIGHEST 24 HR AVG SO2 DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
GROTON	123	139	75	66	61	60	56	54	51	50	49	49
		DATE	2/21/79	2/22/79	3/ 1/79	3/ 6/79	3/ 5/79	3/29/79	3/30/79	5/27/79	5/28/79	3/23/79
METEOROLOGICAL SITE NEWARK		DIR (DEG)	210	300	100	150	130	180	110	190	200	170
		VEL (MPH)	5.1	6.9	4.5	4.3	6.9	6.1	5.8	12.8	6.6	6.9
		SPD (MPH)	6.9	11.6	6.5	7.9	8.8	7.3	6.0	13.9	8.3	9.8
		RATIO	0.736	0.593	0.688	0.538	0.788	0.834	0.961	0.921	0.793	0.708
METEOROLOGICAL SITE BRADLEY		DIR (DEG)	200	290	90	180	190	200	10	190	170	180
		VEL (MPH)	8.2	7.7	0.5	9.9	5.8	7.7	2.4	11.4	8.4	6.6
		SPD (MPH)	8.3	9.8	2.4	10.1	6.5	7.9	2.4	11.8	8.5	8.1
		RATIO	0.979	0.791	0.208	0.982	0.891	0.980	0.984	0.964	0.990	0.816
METEOROLOGICAL SITE BRIDGEPORT		DIR (DEG)	240	290	70	200	190	200	80	200	200	180
		VEL (MPH)	6.3	10.4	5.8	12.4	11.4	6.8	4.5	13.9	11.1	4.5
		SPD (MPH)	8.3	13.4	6.9	13.2	13.1	7.3	5.5	15.7	11.8	6.2
		RATIO	0.756	0.777	0.836	0.941	0.872	0.924	0.817	0.885	0.941	0.730
METEOROLOGICAL SITE WORCESTER		DIR (DEG)	240	290	60	200	200	220	70	210	190	230
		VEL (MPH)	10.5	12.6	5.0	11.2	9.1	8.2	3.0	9.7	7.9	6.3
		SPD (MPH)	10.9	13.7	6.5	11.4	9.2	8.5	5.5	10.1	8.1	6.9
		RATIO	0.958	0.926	0.777	0.990	0.994	0.966	0.549	0.967	0.985	0.917
HARTFORD	123	353	153	148	144	139	130	119	117	116	114	110
		DATE	2/20/79	2/21/79	12/21/79	2/19/79	1/ 7/79	3/ 1/79	1/17/79	3/30/79	1/20/79	2/12/79
METEOROLOGICAL SITE NEWARK		DIR (DEG)	230	210	10	20	70	100	320	110	40	360
		VEL (MPH)	8.1	5.1	11.6	15.3	3.2	4.5	1.9	5.8	7.6	5.8
		SPD (MPH)	10.1	6.9	11.6	16.0	5.0	6.5	7.3	6.0	8.0	7.9
		RATIO	0.806	0.736	0.996	0.959	0.638	0.688	0.265	0.961	0.950	0.737
METEOROLOGICAL SITE BRADLEY		DIR (DEG)	170	200	10	360	30	90	360	10	10	280
		VEL (MPH)	4.7	8.2	4.6	7.7	1.2	0.5	2.4	2.4	3.3	0.6
		SPD (MPH)	5.3	8.3	4.9	7.8	1.9	2.4	3.7	2.4	3.7	2.2
		RATIO	0.889	0.979	0.933	0.986	0.634	0.208	0.639	0.984	0.879	0.290
METEOROLOGICAL SITE BRIDGEPORT		DIR (DEG)	260	240	40	30	110	70	50	80	40	300
		VEL (MPH)	8.4	6.3	11.4	14.3	3.5	5.8	4.8	4.5	7.0	4.7
		SPD (MPH)	11.4	8.3	11.8	15.5	10.1	6.9	10.6	5.5	8.5	7.0
		RATIO	0.738	0.756	0.970	0.920	0.350	0.836	0.453	0.817	0.823	0.661
METEOROLOGICAL SITE WORCESTER		DIR (DEG)	270	240	360	30	210	60	40	70	90	310
		VEL (MPH)	8.3	10.5	0.9	3.9	1.9	5.0	2.9	3.0	0.7	8.0
		SPD (MPH)	8.9	10.9	3.3	5.6	5.3	6.5	5.3	5.5	4.2	8.2
		RATIO	0.933	0.958	0.266	0.701	0.363	0.777	0.549	0.549	0.176	0.974
MILFORD	2	276	153	150	143	117	101	100	90	89	87	78
		DATE	1/16/79	1/18/79	2/21/79	1/10/79	2/20/79	1/11/79	2/22/79	1/17/79	2/ 9/79	10/18/79
METEOROLOGICAL SITE NEWARK		DIR (DEG)	260	320	210	270	230	340	300	320	320	200
		VEL (MPH)	10.0	18.2	5.1	10.0	8.1	12.4	6.9	1.9	18.2	2.3
		SPD (MPH)	13.7	21.4	6.9	10.5	10.1	13.5	11.6	7.3	18.5	3.6
		RATIO	0.736	0.852	0.736	0.956	0.806	0.919	0.593	0.265	0.983	0.632
METEOROLOGICAL SITE BRADLEY		DIR (DEG)	270	340	200	260	170	280	290	360	320	300
		VEL (MPH)	4.8	10.2	8.2	5.2	4.7	7.4	7.7	2.4	9.5	2.7
		SPD (MPH)	8.2	10.5	8.3	5.5	5.3	8.2	9.8	3.7	10.9	4.2
		RATIO	0.586	0.974	0.979	0.952	0.889	0.903	0.791	0.639	0.874	0.655

TABLE 18, cont.

1979 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)	290	310	240	290	260	320	290	50	320	300
BRIDGEPORT			VEL (MPH)	12.3	18.9	6.3	13.3	8.4	14.4	10.4	4.8	16.7	2.6
			SPD (MPH)	14.1	21.3	8.3	13.5	11.4	15.2	13.4	10.6	17.3	3.3
			RATIO	0.872	0.887	0.756	0.987	0.738	0.943	0.777	0.453	0.966	0.774
METEOROLOGICAL SITE			DIR (DEG)	260	320	240	230	270	310	290	40	300	290
WORCESTER			VEL (MPH)	7.7	16.4	10.5	9.2	8.3	5.9	12.6	2.9	11.9	3.0
			SPD (MPH)	8.3	17.4	10.9	9.5	8.9	6.3	13.7	5.3	12.4	4.7
			RATIO	0.924	0.945	0.958	0.973	0.933	0.935	0.926	0.549	0.960	0.622
NEW BRITAIN	123	364		118	97	95	93	79	74	72	71	71	70
			DATE	2/21/79	2/20/79	1/10/79	1/ 7/79	1/17/79	1/16/79	1/ 4/79	12/11/79	3/30/79	1/ 5/79
METEOROLOGICAL SITE			DIR (DEG)	210	230	270	70	320	260	250	220	110	50
NEWARK			VEL (MPH)	5.1	8.1	10.0	3.2	1.9	10.0	12.0	7.6	5.8	2.8
			SPD (MPH)	6.9	10.1	10.5	5.0	7.3	13.7	12.9	7.9	6.0	6.2
			RATIO	0.736	0.806	0.956	0.638	0.265	0.736	0.930	0.961	0.961	0.447
METEOROLOGICAL SITE			DIR (DEG)	200	170	260	30	360	270	230	190	10	350
BRADLEY			VEL (MPH)	8.2	4.7	5.2	1.2	2.4	4.8	7.4	8.3	2.4	3.1
			SPD (MPH)	8.3	5.3	5.5	1.9	3.7	8.2	8.1	8.5	2.4	3.3
			RATIO	0.979	0.889	0.952	0.634	0.639	0.586	0.919	0.983	0.984	0.942
METEOROLOGICAL SITE			DIR (DEG)	240	260	290	110	50	290	280	240	80	40
BRIDGEPORT			VEL (MPH)	6.3	8.4	13.3	3.5	4.8	12.3	18.1	8.8	4.5	8.5
			SPD (MPH)	8.3	11.4	13.5	10.1	10.6	14.1	18.1	9.8	5.5	9.2
			RATIO	0.756	0.738	0.987	0.350	0.453	0.872	0.998	0.904	0.817	0.929
METEOROLOGICAL SITE			DIR (DEG)	240	270	280	210	40	260	250	230	70	110
WORCESTER			VEL (MPH)	10.5	8.3	9.2	1.9	2.9	7.7	8.2	10.4	3.0	1.9
			SPD (MPH)	10.9	8.9	9.5	5.3	5.3	8.3	8.5	10.6	5.5	2.9
			RATIO	0.958	0.933	0.973	0.363	0.549	0.924	0.969	0.976	0.549	0.648
NEW HAVEN	123	350		189	152	150	150	124	122	122	113	111	110
			DATE	2/21/79	2/20/79	3/ 1/79	12/16/79	1/10/79	11/18/79	1/16/79	3/30/79	2/ 8/79	12/11/79
METEOROLOGICAL SITE			DIR (DEG)	210	230	100	10	270	260	260	110	290	220
NEWARK			VEL (MPH)	5.1	8.1	4.5	1.7	10.0	3.8	10.0	5.8	11.8	7.6
			SPD (MPH)	6.9	10.1	6.5	3.0	10.5	4.6	13.7	6.0	13.4	7.9
			RATIO	0.736	0.806	0.688	0.562	0.956	0.832	0.736	0.961	0.883	0.961
METEOROLOGICAL SITE			DIR (DEG)	200	170	90	180	260	330	270	10	310	190
BRADLEY			VEL (MPH)	8.2	4.7	0.5	4.0	5.2	5.5	4.8	2.4	7.1	8.3
			SPD (MPH)	8.3	5.3	2.4	4.9	5.5	5.6	8.2	2.4	9.2	8.5
			RATIO	0.979	0.889	0.208	0.811	0.952	0.982	0.586	0.984	0.774	0.983
METEOROLOGICAL SITE			DIR (DEG)	240	260	70	340	290	290	290	80	290	240
BRIDGEPORT			VEL (MPH)	6.3	8.4	5.8	2.2	13.3	1.8	12.3	4.5	14.9	8.8
			SPD (MPH)	8.3	11.4	6.9	4.2	13.5	5.8	14.1	5.5	15.8	9.8
			RATIO	0.756	0.738	0.836	0.521	0.987	0.308	0.872	0.817	0.939	0.904
METEOROLOGICAL SITE			DIR (DEG)	240	270	60	230	280	300	260	70	290	230
WORCESTER			VEL (MPH)	10.5	8.3	5.0	7.6	9.2	5.2	7.7	3.0	9.9	10.4
			SPD (MPH)	10.9	8.9	6.5	7.9	9.5	5.9	8.3	5.5	11.8	10.6
			RATIO	0.958	0.933	0.777	0.967	0.973	0.879	0.924	0.549	0.844	0.976

TABLE 18, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION AIR COMPLIANCE ENGINEERING

POLLUTANT--SULFUR DIOXIDE

1979 TEN HIGHEST 24 HR AVG SO2 DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
STAMFORD	123	356	180	179	146	134	111	105	103	103	98	97
		DATE	2/21/79	2/20/79	12/12/79	12/11/79	1/ 6/79	1/17/79	12/ 1/79	2/22/79	12/16/79	1/ 7/79
METEOROLOGICAL SITE NEWARK		DIR (DEG)	210	230	220	220	50	320	230	300	10	70
		VEL (MPH)	5.1	8.1	12.1	7.6	2.8	1.9	5.4	6.9	1.7	3.2
		SPD (MPH)	6.9	10.1	12.2	7.9	6.2	7.3	8.3	11.6	3.0	5.0
		RATIO	0.736	0.806	0.986	0.961	0.447	0.265	0.650	0.593	0.562	0.538
METEOROLOGICAL SITE BRADLEY		DIR (DEG)	200	170	210	190	350	360	240	290	180	30
		VEL (MPH)	8.2	4.7	6.3	8.3	3.1	2.4	2.7	7.7	4.0	1.2
		SPD (MPH)	8.3	5.3	9.9	8.5	3.3	3.7	4.5	9.8	4.9	1.9
		RATIO	0.979	0.889	0.639	0.983	0.942	0.639	0.609	0.791	0.811	0.634
METEOROLOGICAL SITE BRIDGEPORT		DIR (DEG)	240	260	250	240	40	50	280	290	340	110
		VEL (MPH)	6.3	8.4	10.7	8.8	8.5	4.8	7.5	10.4	2.2	3.5
		SPD (MPH)	8.3	11.4	11.2	9.8	9.2	10.6	9.3	13.4	4.2	10.1
		RATIO	0.756	0.738	0.955	0.904	0.929	0.453	0.806	0.777	0.521	0.350
METEOROLOGICAL SITE WORCESTER		DIR (DEG)	240	270	250	230	110	40	250	290	230	210
		VEL (MPH)	10.5	8.3	10.0	10.4	1.9	2.9	3.7	12.6	7.6	1.9
		SPD (MPH)	10.9	8.9	10.8	10.6	2.9	5.3	4.3	13.7	7.9	5.3
		RATIO	0.958	0.933	0.929	0.976	0.648	0.549	0.848	0.926	0.967	0.363
WATERBURY	123	316	116	107	100	97	93	89	87	83	81	77
		DATE	2/21/79	2/20/79	3/30/79	1/10/79	1/ 7/79	12/12/79	12/11/79	1/ 6/79	1/17/79	1/16/79
METEOROLOGICAL SITE NEWARK		DIR (DEG)	210	230	110	270	70	220	220	50	320	260
		VEL (MPH)	5.1	8.1	5.8	10.0	3.2	12.1	7.6	2.8	1.9	10.0
		SPD (MPH)	6.9	10.1	6.0	10.5	5.0	12.2	7.9	6.2	7.3	13.7
		RATIO	0.736	0.806	0.961	0.956	0.638	0.986	0.961	0.447	0.265	0.736
METEOROLOGICAL SITE BRADLEY		DIR (DEG)	200	170	10	260	30	210	190	350	360	270
		VEL (MPH)	8.2	4.7	2.4	5.2	1.2	6.3	8.3	3.1	2.4	4.8
		SPD (MPH)	8.3	5.3	2.4	5.5	1.9	9.9	8.5	3.3	3.7	8.2
		RATIO	0.979	0.889	0.984	0.952	0.634	0.639	0.983	0.942	0.639	0.586
METEOROLOGICAL SITE BRIDGEPORT		DIR (DEG)	240	260	80	290	110	250	240	40	50	290
		VEL (MPH)	6.3	8.4	4.5	13.3	3.5	10.7	8.8	8.5	4.8	12.3
		SPD (MPH)	8.3	11.4	5.5	13.5	10.1	11.2	9.8	9.2	10.6	14.1
		RATIO	0.756	0.738	0.817	0.987	0.350	0.955	0.904	0.929	0.453	0.872
METEOROLOGICAL SITE WORCESTER		DIR (DEG)	240	270	70	280	210	250	230	110	40	260
		VEL (MPH)	10.5	8.3	3.0	9.2	1.9	10.0	10.4	1.9	2.9	7.7
		SPD (MPH)	10.9	8.9	5.5	9.5	5.3	10.8	10.6	2.9	5.3	8.3
		RATIO	0.958	0.933	0.549	0.973	0.363	0.929	0.976	0.648	0.549	0.924

IV. OZONE

Conclusions:

As in past years, Connecticut experienced very high concentrations of ozone in the summer months of 1979. At each of the nine monitored sites, levels in excess of the new one-hour NAAQS of 0.12 ppm were frequently recorded, with one-hour average concentrations occasionally exceeding 0.20 ppm.

The frequency and magnitude of levels in excess of the 0.12 ppm ozone standard increased from 1978 to 1979. Year-to-year changes of regional weather conditions most likely contributed a great deal to the increase. Federal emission controls on motor vehicles should be bringing about a yearly reduction in ozone precursor emissions, but these emission reductions have not been large enough for improvement in ozone levels. Increased conservation of gasoline (4.4% less than in 1978, has not yet helped to decrease the problem).

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 southwest. The increased frequency of levels in excess of the ozone standard is at least partially attributable to the increased frequency of the southwesterly transport winds. Likewise, the increased magnitude of the high ozone levels can be associated with yearly variatins of meteorology. Ozone production is greatest at high temperatures and in strong sunlight. In 1979, temperatures averaged between 1.5°F and 2.5°F higher than in 1978. More importantly, the daily high temperatures in the summertime were higher in 1979 than in 1978, as exemplified by an increase in the number of days exceeding 90°F from 12 in 1978 to 19 in 1979 at the Bradley Airport National Weather Service station.

Method of Measurement:

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

Discussion of Data:

Monitoring Network - In order to gather information which will further the understanding of ozone production and transport, as well as to provide real-time data for the daily Pollutant Standards Index, DEP operated in 1979 a state-wide ozone monitoring network consisting of four types of sites (see Figure 6):

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

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

1-Hour Averages - The new 1-hour ozone standard was exceeded at all the DEP monitoring sites in 1979. The 2nd highest 1-hour average ozone concentrations were lower in 1979 than in 1978 at 6 of the 9 DEP ozone sites in Connecticut. Only one of these decreases exceeded 0.04 ppm. The 2nd highest hourly average increased at 3 sites from 1978 to 1979, with one of these increases being greater than 0.04 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 maximum 1-hour ozone averages (and date of occurrence) from the 10-highest days for each ozone site in Connecticut for 1979. The wind data associated with these high readings are also presented. (See the discussion of Table 12 in the TSP section for a description of the origin and use of these wind data.)

Even more of the high O_3 levels occurred on days with southwest winds than was the case with TSP and SO_2. This is expected because there are no local sources of ozone; it is all produced by photochemical reactions in the atmosphere. Since 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.

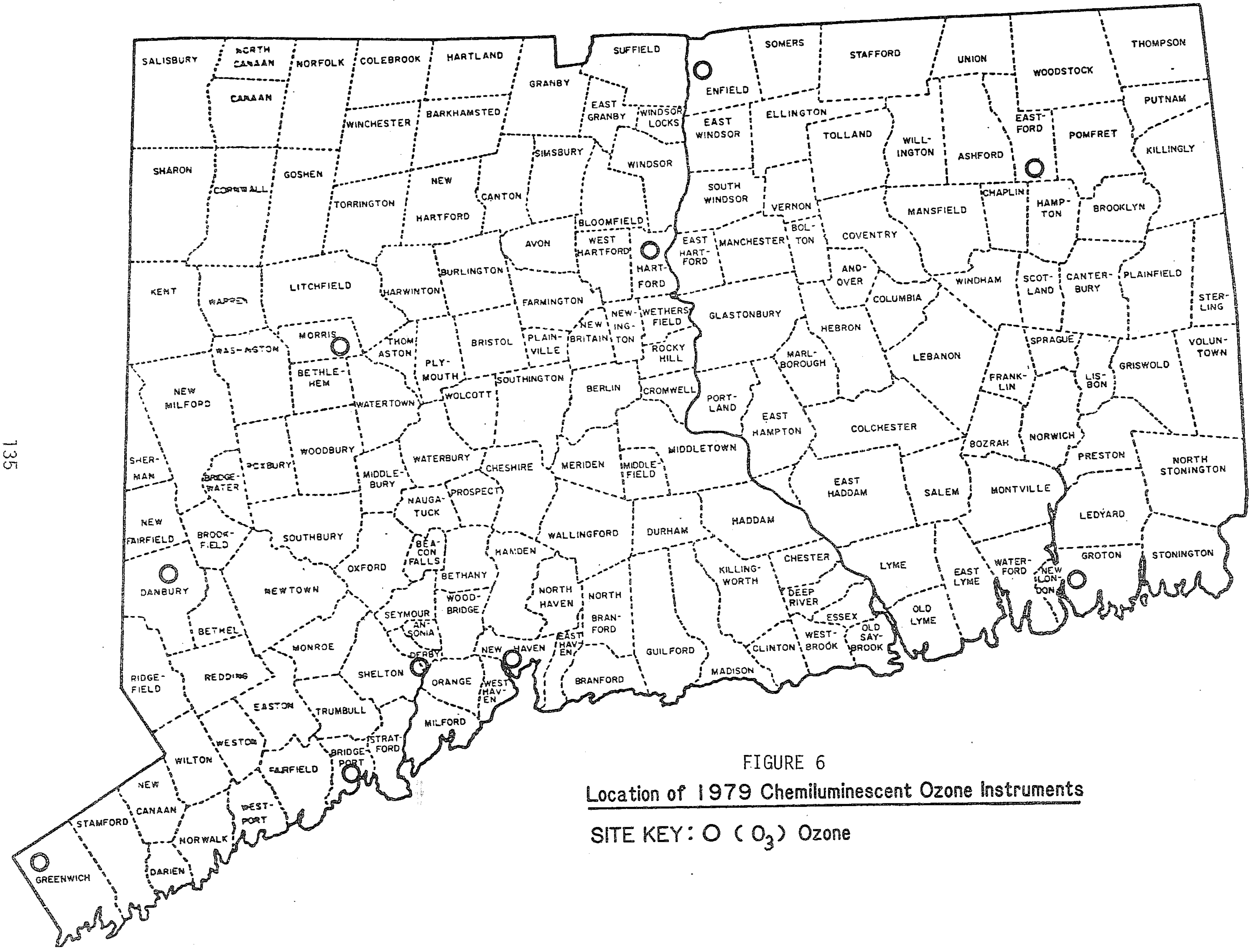


FIGURE 6

Location of 1979 Chemiluminescent Ozone Instruments

SITE KEY: O (O_3) Ozone

TABLE 19

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

1979

SITE	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	TOTAL
Bridgeport-123	0	1	4	8	3	0	16
Danbury-123	-	0*	3	8	3	0	14
Derby-123	0	2	3	5	4	1	15
Enfield-123	0*	1	1	5	3	1	11
Greenwich-004	0	3	4	8	2	0	17
Groton-123	0*	3	3	-	-	-	6*
Hartford-123	0	1	2	8	3	1	15
Morris-001	**	**	4	9*	5	1	19
New Haven-123	0	1	3	7	1	0	12

* < 75% of the data available

** No data available

TABLE 20

1979 HIGHEST 1-HOUR OZONE VALUES BY MONTH, PPM

SITE	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	# OF TIMES STANDARD EXCEEDED
Bridgeport-123	.056	.137	.195	.153	.201	.100	39
Danbury-123	**	.110*	.180	.170	.182	.094	40
Derby-123	.063	.181*	.233	.182	.190	.138	47
Enfield-123	.085*	.140	.142	.162	.165	.127	30
Greenwich-004	.082	.125	.185	.204	.155	.090	47
Groton-123	.092	.160	.186	**	**	**	24*
Hartford-123	.075	.170	.235	.148	.203	.132	34
Morris-001	**	**	.22	.230*	.310	.130	86
New Haven-123	.059	.177	.205	.165	.162	.118	34

* < 75% of the data available

** No data available

TABLE 21

1979 MAXIMUM 1-HOUR OZONE CONCENTRATIONS

SITE	DATE* 1ST HIGH	DATE* 2ND HIGH	CONCENTRATION (parts per million) 0 .100 (.12) .200 .300 .400
Bridgeport-123	8/1/15		.201
		6/16/14	.195
Danbury-123	8/1/17		.182
		6/5/16	.180
Derby-123	6/16/15		.233
		8/1/14	.190
Enfield-123	7/14/12		.165
		8/1/17	.162
Greenwich-004	7/13/17		.204
		7/13/18	.200
Groton-123	6/15/16		.186
		6/15/16	.182
Hartford-123	6/16/18		.235
		8/1/17	.203
Morris-001	8/1/18		.310
		8/1/17	.255
New Haven-123	6/16/15		.205
		5/9/15	.177

.12 Primary Standard

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

TABLE 22

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION   PAGE 4   AIR COMPLIANCE ENGINEERING

1979 TEN HIGHEST 1 HR AVG O3 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	184	0.201	0.195	0.165	0.153	0.150	0.147	0.146	0.139	0.137	0.135
		DATE	8/ 1/79	6/16/79	8/ 5/79	7/25/79	7/ 9/79	7/22/79	7/20/79	6/15/79	5/ 9/79	7/28/79
METEOROLOGICAL SITE		DIR (DEG)	180	220	250	200	200	220	170	230	230	300
NEWARK		VEL (MPH)	7.7	11.5	5.3	7.8	8.1	8.3	4.9	13.7	13.4	8.0
		SPD (MPH)	9.2	11.9	8.0	8.8	9.9	8.8	7.5	13.8	13.9	10.8
		RATIO	0.840	0.968	0.653	0.889	0.812	0.947	0.657	0.994	0.963	0.743
METEOROLOGICAL SITE		DIR (DEG)	180	240	310	210	200	210	220	230	190	320
BRADLEY		VEL (MPH)	5.4	7.7	2.0	5.4	4.8	3.0	3.9	6.5	7.5	2.1
		SPD (MPH)	6.9	8.6	3.2	5.9	5.0	5.2	4.2	7.9	8.6	4.7
		RATIO	0.783	0.893	0.645	0.911	0.945	0.582	0.942	0.818	0.874	0.441
METEOROLOGICAL SITE		DIR (DEG)	200	240	240	220	230	230	220	230	230	300
BRIDGEPORT		VEL (MPH)	8.2	14.1	5.8	7.6	10.3	8.7	5.5	12.7	13.0	4.1
		SPD (MPH)	8.9	14.4	8.9	8.2	10.9	9.1	8.2	13.7	13.7	10.1
		RATIO	0.923	0.983	0.646	0.923	0.946	0.960	0.667	0.929	0.952	0.412
METEOROLOGICAL SITE		DIR (DEG)	230	260	280	230	270	250	260	260	260	320
WORCESTER		VEL (MPH)	6.2	7.9	5.7	4.6	6.4	6.4	4.8	9.5	10.7	1.4
		SPD (MPH)	6.3	8.6	6.2	5.6	6.6	6.6	4.9	10.1	11.1	3.9
		RATIO	0.977	0.921	0.926	0.818	0.969	0.969	0.980	0.940	0.970	0.352
DANBURY	123	141	0.182	0.180	0.170	0.162	0.160	0.158	0.152	0.149	0.148	0.147
		DATE	8/ 1/79	6/ 5/79	7/ 9/79	7/30/79	7/24/79	7/25/79	8/21/79	6/29/79	7/14/79	6/28/79
METEOROLOGICAL SITE		DIR (DEG)	180	260	200	170	220	200	200	140	120	180
NEWARK		VEL (MPH)	7.7	5.3	8.1	4.0	6.9	7.8	6.5	7.4	5.2	6.9
		SPD (MPH)	9.2	8.9	9.9	6.0	8.5	8.8	7.9	8.5	6.2	8.5
		RATIO	0.840	0.593	0.812	0.656	0.817	0.889	0.816	0.875	0.839	0.814
METEOROLOGICAL SITE		DIR (DEG)	180	230	200	150	200	210	310	180	160	180
BRADLEY		VEL (MPH)	5.4	0.6	4.8	3.7	4.9	5.4	2.6	7.3	4.2	7.5
		SPD (MPH)	6.9	5.3	5.0	6.3	5.9	5.9	4.2	7.6	6.5	7.8
		RATIO	0.783	0.105	0.945	0.592	0.838	0.911	0.629	0.960	0.651	0.963
METEOROLOGICAL SITE		DIR (DEG)	200	210	230	200	210	220	230	170	130	230
BRIDGEPORT		VEL (MPH)	8.2	3.1	10.3	3.8	7.3	7.6	8.3	7.0	3.8	8.1
		SPD (MPH)	8.9	8.5	10.9	6.6	8.3	8.2	9.2	8.1	6.5	8.8
		RATIO	0.923	0.370	0.946	0.581	0.872	0.923	0.899	0.875	0.589	0.923
METEOROLOGICAL SITE		DIR (DEG)	230	30	270	210	200	230	330	220	200	240
WORCESTER		VEL (MPH)	6.2	1.3	6.4	2.9	2.9	4.6	1.9	5.5	2.4	7.6
		SPD (MPH)	6.3	6.3	6.6	5.2	4.3	5.6	4.0	6.2	4.3	8.6
		RATIO	0.977	0.205	0.969	0.566	0.676	0.818	0.480	0.884	0.557	0.877
DERBY	123	154	0.233	0.190	0.182	0.181	0.167	0.162	0.147	0.147	0.141	0.138
		DATE	6/16/79	8/ 1/79	7/22/79	5/ 9/79	6/15/79	7/ 9/79	8/10/79	7/20/79	5/10/79	9/18/79
METEOROLOGICAL SITE		DIR (DEG)	220	180	220	230	230	200	240	170	220	220
NEWARK		VEL (MPH)	11.5	7.7	8.3	13.4	13.7	8.1	12.9	4.9	11.6	11.8
		SPD (MPH)	11.9	9.2	8.8	13.9	13.8	9.9	14.7	7.5	12.1	11.9
		RATIO	0.968	0.840	0.947	0.963	0.994	0.812	0.881	0.657	0.962	0.986
METEOROLOGICAL SITE		DIR (DEG)	240	180	210	190	230	200	260	220	250	220
BRADLEY		VEL (MPH)	7.7	5.4	3.0	7.5	6.5	4.8	4.8	3.9	6.5	8.8
		SPD (MPH)	8.6	6.9	5.2	8.6	7.9	5.0	6.3	4.2	6.9	9.2
		RATIO	0.893	0.783	0.582	0.874	0.818	0.945	0.756	0.942	0.946	0.954

TABLE 22, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 5 AIR COMPLIANCE FNGINEERING

POLLUTANT--OZONE 1979 TEN HIGHEST 1 HR AVG O3 DAYS WITH WIND DATA

UNITS : PAR↓ᴟ PER MILLION

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE		DIR (DEG)	240	200	230	230	230	230	230	220	240	240
BRIDGEPORT		VEL (MPH)	14.1	8.2	8.7	13.0	12.7	10.3	12.5	5.5	12.2	14.9
		SPD (MPH)	14.4	8.9	9.1	13.7	13.7	10.9	13.2	8.2	12.8	16.4
		RATIO	0.983	0.923	0.960	0.952	0.929	0.946	0.942	0.667	0.957	0.911
METEOROLOGICAL SITE		DIR (DEG)	260	230	250	260	260	270	260	260	290	240
WORCESTER		VEL (MPH)	7.9	6.2	6.4	10.7	9.5	6.4	6.4	4.8	7.2	8.8
		SPD (MPH)	8.6	6.3	6.6	11.1	10.1	6.6	8.9	4.9	9.9	9.3
		RATIO	0.921	0.977	0.969	0.970	0.940	0.969	0.713	0.980	0.722	0.937
ENFIELD	123	172	0.165	0.162	0.146	0.144	0.143	0.142	0.140	0.133	0.130	0.127
		DATE	8/ 1/79	7/14/79	7/25/79	7/21/79	7/ 9/79	6/16/79	5/ 9/79	8/10/79	7/24/79	9/18/79
METEOROLOGICAL SITE		DIR (DEG)	180	120	200	220	200	220	230	240	220	220
NEWARK		VEL (MPH)	7.7	5.2	7.8	8.7	8.1	11.5	13.4	12.9	6.9	11.8
		SPD (MPH)	9.2	6.2	8.8	9.3	9.9	11.9	13.9	14.7	8.5	11.9
		RATIO	0.840	0.839	0.889	0.931	0.812	0.968	0.963	0.881	0.817	0.986
METEOROLOGICAL SITE		DIR (DEG)	180	160	210	220	200	240	190	260	200	220
BRADLEY		VEL (MPH)	5.4	4.2	5.4	7.1	4.8	7.7	7.5	4.8	4.9	8.8
		SPD (MPH)	6.9	6.5	5.9	7.8	5.0	8.6	8.6	6.3	5.9	9.2
		RATIO	0.783	0.651	0.911	0.910	0.945	0.893	0.874	0.756	0.838	0.954
METEOROLOGICAL SITE		DIR (DEG)	200	130	220	240	230	240	230	230	210	240
BRIDGEPORT		VEL (MPH)	8.2	3.8	7.6	7.5	10.3	14.1	13.0	12.5	7.3	14.9
		SPD (MPH)	8.9	6.5	8.2	8.5	10.9	14.4	13.7	13.2	8.3	16.4
		RATIO	0.923	0.589	0.923	0.884	0.946	0.983	0.952	0.942	0.872	0.911
METEOROLOGICAL SITE		DIR (DEG)	230	200	230	250	270	260	260	260	200	240
WORCESTER		VEL (MPH)	6.2	2.4	4.6	5.6	6.4	7.9	10.7	6.4	2.9	8.8
		SPD (MPH)	6.3	4.3	5.6	6.2	6.6	8.6	11.1	8.9	4.3	9.3
		RATIO	0.977	0.557	0.818	0.914	0.969	0.921	0.970	0.713	0.676	0.937
GREENWICH	4	360	0.204	0.185	0.176	0.168	0.162	0.155	0.151	0.147	0.143	0.140
		DATE	7/13/79	6/16/79	6/ 5/79	7/25/79	7/24/79	8/ 1/79	7/23/79	7/20/79	6/15/79	6/ 1/79
METEOROLOGICAL SITE		DIR (DEG)	190	220	260	200	220	180	190	170	230	110
NEWARK		VEL (MPH)	2.3	11.5	5.3	7.8	6.9	7.7	8.7	4.9	13.7	2.2
		SPD (MPH)	6.9	11.9	8.9	8.8	8.5	9.2	9.5	7.5	13.8	8.8
		RATIO	0.334	0.968	0.593	0.889	0.817	0.840	0.914	0.657	0.994	0.246
METEOROLOGICAL SITE		DIR (DEG)	200	240	230	210	200	180	220	220	230	10
BRADLEY		VEL (MPH)	2.1	7.7	0.6	5.4	4.9	5.4	4.2	3.9	6.5	0.6
		SPD (MPH)	3.4	8.6	5.3	5.9	5.9	6.9	5.2	4.2	7.9	5.5
		RATIO	0.613	0.893	0.105	0.911	0.838	0.783	0.813	0.942	0.818	0.114
METEOROLOGICAL SITE		DIR (DEG)	220	240	210	220	210	200	210	220	230	100
BRIDGEPORT		VEL (MPH)	5.6	14.1	3.1	7.6	7.3	8.2	6.7	5.5	12.7	7.7
		SPD (MPH)	7.8	14.4	8.5	8.2	8.3	8.9	7.3	8.2	13.7	9.8
		RATIO	0.720	0.983	0.370	0.923	0.872	0.923	0.915	0.667	0.929	0.786
METEOROLOGICAL SITE		DIR (DEG)	290	260	30	230	200	230	280	260	260	60
WORCESTER		VEL (MPH)	5.5	7.9	1.3	4.6	2.9	6.2	5.8	4.8	9.5	1.8
		SPD (MPH)	6.3	8.6	6.3	5.6	4.3	6.3	6.0	4.9	10.1	4.7
		RATIO	0.865	0.921	0.205	0.818	0.676	0.977	0.963	0.980	0.940	0.388

TABLE 22, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 6 AIR COMPLIANCE ENGINEERING

1979 TEN HIGHEST 1 HR AVG O3 DAYS WITH WIND DATA

POLLUTANT--OZONE UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
GROTON	123	79	0.186	0.166	0.163	0.160	0.151	0.150	0.103	0.099	0.093	0.092
		DATE	6/15/79	6/18/79	6/16/79	5/11/79	5/10/79	5/ 9/79	6/ 5/79	5/31/79	6/20/79	4/23/79
METEOROLOGICAL SITE		DIR (DEG)	230	310	220	90	220	230	260	190	270	350
NEWARK		VEL (MPH)	13.7	7.8	11.5	6.6	11.6	13.4	5.3	3.8	1.0	6.7
		SPD (MPH)	13.8	12.2	11.9	11.1	12.1	13.9	8.9	6.0	8.0	9.9
		RATIO	0.994	0.641	0.968	0.592	0.962	0.963	0.593	0.635	0.128	0.674
METEOROLOGICAL SITE		DIR (DEG)	230	60	240	150	250	190	230	250	30	310
BRADLEY		VEL (MPH)	6.5	2.3	7.7	1.7	6.5	7.5	0.6	5.0	4.0	7.9
		SPD (MPH)	7.9	8.1	8.6	6.8	6.9	8.6	5.3	5.8	4.9	8.1
		RATIO	0.818	0.284	0.893	0.258	0.946	0.874	0.105	0.871	0.828	0.983
METEOROLOGICAL SITE		DIR (DEG)	230	260	240	80	240	230	210	240	210	320
BRIDGEPORT		VEL (MPH)	12.7	5.2	14.1	14.1	12.2	13.0	3.1	7.7	4.6	5.5
		SPD (MPH)	13.7	10.9	14.4	15.1	12.8	13.7	8.5	8.6	6.8	9.3
		RATIO	0.929	0.479	0.983	0.935	0.957	0.952	0.370	0.891	0.682	0.591
METEOROLOGICAL SITE		DIR (DEG)	260	340	260	90	290	260	30	270	40	310
WORCESTER		VEL (MPH)	9.5	2.6	7.9	5.6	7.2	10.7	1.3	7.6	2.1	10.7
		SPD (MPH)	10.1	5.9	8.6	6.9	9.9	11.1	6.3	7.8	6.2	11.4
		RATIO	0.940	0.447	0.921	0.817	0.722	0.970	0.205	0.981	0.338	0.946
HARTFORD	123	361	0.235	0.203	0.170	0.148	0.145	0.139	0.137	0.137	0.136	0.135
		DATE	6/16/79	8/ 1/79	5/ 9/79	7/21/79	8/10/79	7/25/79	7/23/79	6/15/79	7/14/79	7/ 9/79
METEOROLOGICAL SITE		DIR (DEG)	220	180	230	220	240	200	190	230	120	200
NEWARK		VEL (MPH)	11.5	7.7	13.4	8.7	12.9	7.8	8.7	13.7	5.2	8.1
		SPD (MPH)	11.9	9.2	13.9	9.3	14.7	8.8	9.5	13.8	6.2	9.9
		RATIO	0.968	0.840	0.963	0.931	0.881	0.889	0.914	0.994	0.839	0.812
METEOROLOGICAL SITE		DIR (DEG)	240	180	190	220	260	210	220	230	160	200
BRADLEY		VEL (MPH)	7.7	5.4	7.5	7.1	4.8	5.4	4.2	6.5	4.2	4.8
		SPD (MPH)	8.6	6.9	8.6	7.8	6.3	5.9	5.2	7.9	6.5	5.0
		RATIO	0.893	0.783	0.874	0.910	0.756	0.911	0.813	0.818	0.651	0.945
METEOROLOGICAL SITE		DIR (DEG)	240	200	230	240	230	220	210	230	130	230
BRIDGEPORT		VEL (MPH)	14.1	8.2	13.0	7.5	12.5	7.6	6.7	12.7	3.8	10.3
		SPD (MPH)	14.4	8.9	13.7	8.5	13.2	8.2	7.3	13.7	6.5	10.9
		RATIO	0.983	0.923	0.952	0.884	0.942	0.923	0.915	0.929	0.589	0.946
METEOROLOGICAL SITE		DIR (DEG)	260	230	260	250	260	230	280	260	200	270
WORCESTER		VEL (MPH)	7.9	6.2	10.7	5.6	6.4	4.6	5.8	9.5	2.4	6.4
		SPD (MPH)	8.6	6.3	11.1	6.2	8.9	5.6	6.0	10.1	4.3	6.6
		RATIO	0.921	0.977	0.970	0.914	0.713	0.818	0.963	0.940	0.557	0.969
LTCH CTY(MORRIS DAM)	1	107	0.310	0.230	0.220	0.210	0.205	0.197	0.182	0.175	0.165	0.140
		DATE	8/ 1,79	7/25/79	6/16/79	7/20/79	7/24/79	7/26/79	7/30/79	7/31/79	7/14/79	6/28/79
METEOROLOGICAL SITE		DIR (DEG)	180	200	220	170	220	220	170	140	120	180
NEWARK		VEL (MPH)	7.7	7.8	11.5	4.9	6.9	10.9	4.0	5.9	5.2	6.9
		SPD (MPH)	9.2	8.8	11.9	7.5	8.5	11.4	6.0	7.5	6.2	8.5
		RATIO	0.840	0.889	0.968	0.657	0.817	0.961	0.656	0.788	0.839	0.814
METEOROLOGICAL SITE		DIR (DEG)	180	210	240	220	200	190	150	180	160	180
BRADLEY		VEL (MPH)	5.4	5.4	7.7	3.9	4.9	8.8	3.7	5.3	4.2	7.5
		SPD (MPH)	6.9	5.9	8.6	4.2	5.9	9.3	6.3	6.3	6.5	7.8
		RATIO	0.783	0.911	0.893	0.942	0.838	0.942	0.592	0.838	0.651	0.963

TABLE 22, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

PAGE 7

AIR COMPLIANCE ENGINEERING

POLLUTANT--OZONE

1979 TEN HIGHEST 1 HR AVG O3 DAYS WITH WIND DATA

UNITS : PARTS PER MILLION

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE			DIR (DEG)	200	220	240	220	210	220	200	120	130	230
BRIDGEPORT			VEL (MPH)	8.2	7.6	14.1	5.5	7.3	9.4	3.8	5.8	3.8	8.1
			SPD (MPH)	8.9	8.2	14.4	8.2	8.3	9.9	6.6	8.9	6.5	8.8
			RATIO	0.923	0.923	0.983	0.667	0.872	0.946	0.581	0.650	0.589	0.923
METEOROLOGICAL SITE			DIR (DEG)	230	230	260	260	200	200	210	220	200	240
WORCESTER			VEL (MPH)	6.2	4.6	7.9	4.8	2.9	6.6	2.9	5.3	2.4	7.6
			SPD (MPH)	6.3	5.6	8.6	4.9	4.3	6.8	5.2	5.5	4.3	8.6
			RATIO	0.977	0.818	0.921	0.980	0.676	0.974	0.566	0.970	0.557	0.977
NEW HAVEN	123	178		0.205	0.177	0.175	0.165	0.162	0.155	0.153	0.139	0.135	0.135
			DATE	6/16/79	5/ 9/79	6/15/79	7/22/79	8/ 1/79	7/25/79	7/ 9/79	7/21/79	7/24/79	6/18/79
METEOROLOGICAL SITE			DIR (DEG)	220	230	230	220	180	200	200	220	220	310
NEWARK			VEL (MPH)	11.5	13.4	13.7	8.3	7.7	7.8	8.1	8.7	6.9	7.8
			SPD (MPH)	11.9	13.9	13.8	8.8	9.2	8.8	9.9	9.3	8.5	12.2
			RATIO	0.968	0.963	0.994	0.947	0.840	0.889	0.812	0.931	0.817	0.641
METEOROLOGICAL SITE			DIR (DEG)	240	190	230	210	180	210	200	220	200	61
BRADLEY			VEL (MPH)	7.7	7.5	6.5	3.0	5.4	5.4	4.8	7.1	4.9	2.3
			SPD (MPH)	8.6	8.6	7.9	5.2	6.9	5.9	5.0	7.8	5.9	8.1
			RATIO	0.893	0.874	0.818	0.582	0.783	0.911	0.945	0.910	0.838	0.284
METEOROLOGICAL SITE			DIR (DEG)	240	230	230	230	200	220	230	240	210	260
BRIDGEPORT			VEL (MPH)	14.1	13.0	12.7	8.7	8.2	7.6	10.3	7.5	7.3	5.2
			SPD (MPH)	14.4	13.7	13.7	9.1	8.9	8.2	10.9	8.5	8.3	10.9
			RATIO	0.983	0.952	0.929	0.960	0.923	0.923	0.946	0.884	0.872	0.479
METEOROLOGICAL SITE			DIR (DEG)	260	260	260	250	230	230	270	250	200	340
WORCESTER			VEL (MPH)	7.9	10.7	9.5	6.4	6.2	4.6	6.4	5.6	2.9	2.6
			SPD (MPH)	8.6	11.1	10.1	6.6	6.3	5.6	6.6	6.2	4.3	5.9
			RATIO	0.921	0.970	0.940	0.969	0.977	0.818	0.969	0.914	0.676	0.447

V. NITROGEN DIOXIDE

Conclusions:

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

There was no significant change in NO_2 levels between 1978 and 1979 (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. However, much of the lack of improvement is probably due to the meteorological changes noted in the discussions of the other pollutants.

Sample Collection and Analysis:

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

Discussion of Data:

Monitoring Network - There were 20 nitrogen dioxide sites in 1979 as compared to 22 in 1978. The sites were distributed in a network which covers urban, residential and suburban locations (see Figure 7).

Historical Data - The DEP's historical file of annual average nitrogen dioxide data for 1973-1979 is presented in Table 23. The complete historical file is presented because some minor corrections have been made to some of the data published in earlier Annual Summaries. The data presented in this 1979 Annual Summary replace all previous compilations. Also, if minimum EPA sampling requirements were not met in a given year at a given site, an asterisk now appears next to the number of samples taken at that site.

Annual Averages - The annual average NO_2 standard was not exceeded in 1979 at any site in Connecticut. In 1979, of the sites that had sufficient data to compute valid arithmetic means, 9 sites showed higher annual means than in 1978, with 4 of these increases being greater than 5 $\mu g/m^3$. In 1979, 10 sites showed lower annual means than in 1978, with 2 of these decreases being greater than 5 $\mu g/m^3$. Thus, these results indicate that there has been no general statewide decrease in NO_2 levels.

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 µg/m^3 and 282 µg/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 µg/m^3 level was selected for this presentation because at this level a 1st stage air pollution alert is to be declared according to the State of Connecticut's Administrative Regulations for the Abatement of Air Pollution. The 100 µg/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.

<u>10 High Days With Wind Data</u> - Table 24 contains the 10 highest daily NO_2 readings for each site in 1979 along with the associated wind conditions. (See the discussion of Table 12 in the TSP section for a description of the origin and use of these wind data.)

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

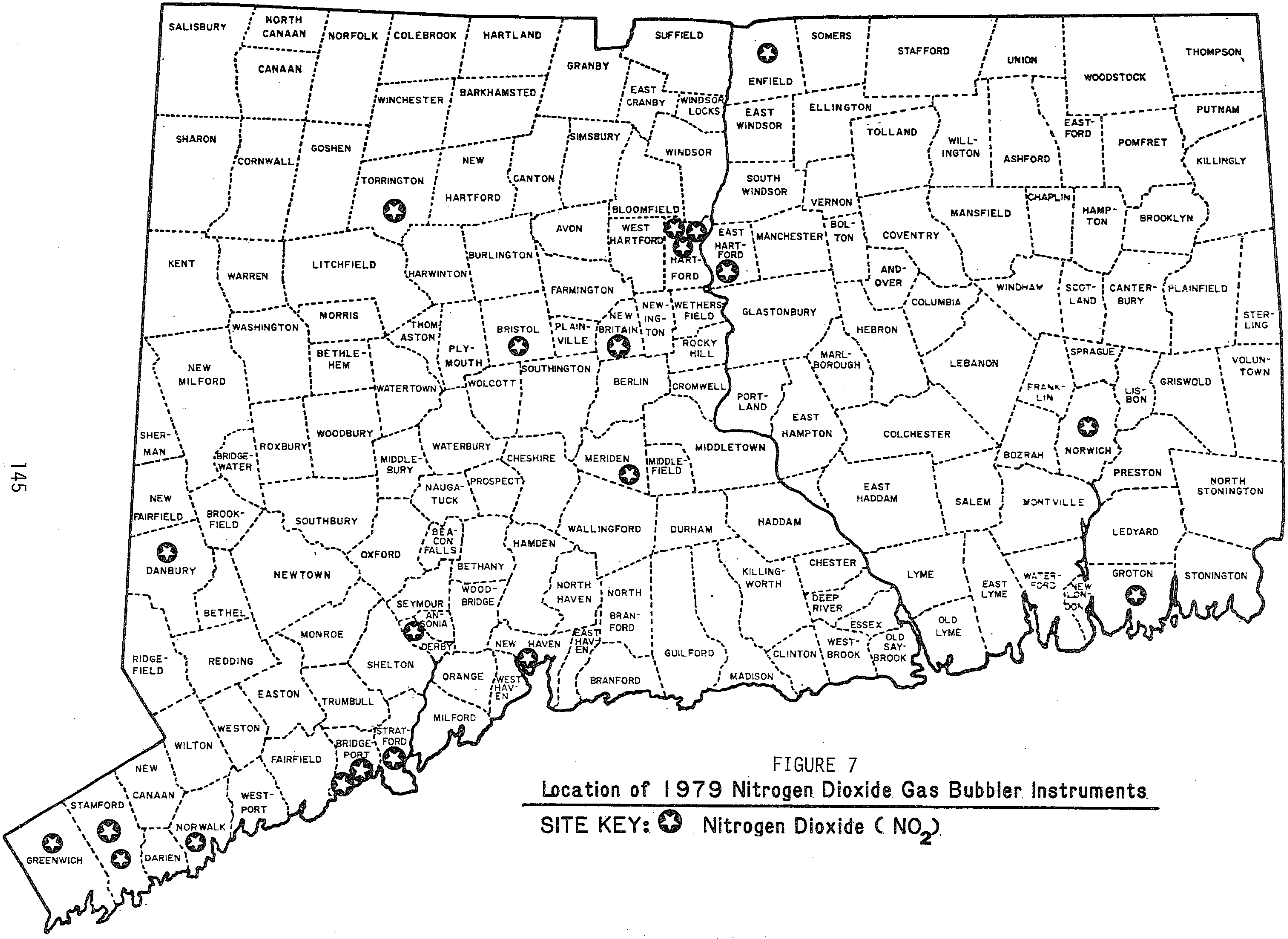


FIGURE 7

Location of 1979 Nitrogen Dioxide Gas Bubbler Instruments

SITE KEY: ✪ Nitrogen Dioxide (NO_2)

TABLE 23 1973-1979 NO_2 ANNUAL AVERAGES AND STATISTICAL PROJECTIONS

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 1 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
BERLIN	01	1973	58	42.4	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	28.066	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	61	
BRIDGEPORT	01	1979	60	72.5	65	80	29.751	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	28.034	50	
BRIDGEPORT	123	1979	59	74.2	65	83	37.035	67	
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	02	1973	19*	36.7	30	43	14.094		
BRISTOL	02	1974	56	26.8	22	32	20.149	13	1

TABLE 23, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 2 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
BRISTOL	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	27.935	35	1
BRISTOL	04	1976	14*	11.1	7	16	7.770		
BURLINGTON	01	1973	46*	12.8	10	16	11.466		
BURLINGTON	01	1974	58	12.3	9	15	13.214	2	
BURLINGTON	01	1975	51	18.0	14	22	14.770	2	
BURLINGTON	01	1976	9*	9.8	3	17	8.802		
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*	33.5	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	15	
DANBURY C1/	123	1975	57	47.5	41	54	25.326	10	
DERBY	123	1976	56	52.1	46	56	23.071	24	
DERBY	123	1977	60	56.4	53	64	21.756	24	
DERBY	123	1978	44*	53.7	48	59	18.992	13	
EAST HARTFORD	01	1974	43*	57.7	52	63	19.828	16	

TABLE 23, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 3 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
EAST HARTFORD	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	46	57	19.256	10	
EAST HARTFORD	02	1975	52	54.5	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	56	22.779	20	
ENFIELD	123	1979	59	49.2	44	54	21.131	16	
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	87	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	46	60	26.323	35	
GREENWICH	04	1977	59	48.8	43	54	22.671	20	
GREENWICH	04	1978	60	39.4	35	44	18.012	8	
GREENWICH	04	1979	60	55.1	43	62	28.619	24	
GREENWICH	06	1976	54	35.9	32	40	15.819	2	

TABLE 23, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 4 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
GREENWICH	03	1977	14*	36.9	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	41.5	38	45	14.171	4	
GROTON	123	1977	61	49.7	45	54	18.152	10	
GROTON	123	1978	61	46.2	41	51	21.707	15	
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	123	1975	34*	75.5	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	
HARTFORD	123	1979	60	71.3	65	78	28.060	50	
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

TABLE 23, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 7 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
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	75	27.097	56	
OLD SAYBROOK	01	1976	11*	50.9	36	64	19.934	8	
PUTNAM	02	1973	44*	42.6	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	75	17.835	7	
STAMFORD	07	1974	49*	29.0	20	36	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	60.5	53	68	31.198	50	1
STAMFORD	07	1979	61	50.8	54	67	28.421	50	1
STAMFORD	123	1974	48*	63.6	55	72	30.799	35	
STAMFORD	123	1975	57	71.6	64	77	31.400	67	
STAMFORD	123	1976	56	62.6	57	68	23.375	42	
STAMFORD	123	1977	51	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	
STRATFORD	05	1973	52*	70.4	65	97	41.360	77	
STRATFORD	05	1974	60	67.0	61	75	26.728	35	
STRATFORD	05	1975	60	72.0	65	78	27.511	58	
STRATFORD	05	1976	58	59.1	62	76	27.554	58	
STRATFORD	05	1977	56	53.6	47	60	27.490	42	1
STRATFORD	05	1978	61	56.7	51	66	33.257	50	1
STRATFORD	05	1979	59	71.8	65	76	26.617	50	

TABLE 23, cont

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 8 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
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 1/	123	1975	57	47.8	43	53	20.180	10	
VOLUNTOWN	01	1973	54	25.4	19	31	23.477	5	
VOLUNTOWN	01	1974	58	17.7	15	20	11.103		
VOLUNTOWN	01	1975	42	20.7	16	26	16.769	1	
VOLUNTOWN	01	1976	12*	22.8	17	28	8.899		
WATERBURY	01	1973	28*	64.0	55	73	23.192	58	
WATERBURY	01	1974	58	63.7	57	70	25.709	67	7
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	56.5	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	
WILLIMANTIC	01	1973	50*	54.2	47	61	26.978	29	

TABLE 23, cont.

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION PAGE 9 AIR COMPLIANCE MONITORING

POLLUTANT--NITROGEN DIOXIDE

DISTRIBUTION--LOGNORMAL

TOWN NAME	SITE	YEAR	SAMPLES	ARI. MEAN	95-PCT-LIMITS LOWER	95-PCT-LIMITS UPPER	STD DEVIATION	PREDICTED DAYS OVER 100 UG/M3	PREDICTED DAYS OVER 282 UG/M3
WILLIMANTIC	01	1974	61	42.0	37	47	19.570	13	
WILLIMANTIC	01	1975	59	43.3	40	47	15.860	2	
WILLIMANTIC	01	1976	10*	41.9	30	53	16.208	8	

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

TABLE 24

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE

1979 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
BRIDGEPORT	1	60		151	146	137	130	122	120	115	103	102	99
			DATE	3/22/79	5/ 9/79	10/18/79	2/20/79	12/11/79	11/23/79	7/20/79	5/21/79	5/ 3/79	11/ 5/79
METEOROLOGICAL SITE			DIR (DEG)	230	230	200	230	220	160	170	220	170	20
NEWARK			VEL (MPH)	6.3	13.4	2.3	8.1	7.6	5.1	4.9	7.0	9.3	2.2
			SPD (MPH)	7.2	13.9	3.6	10.1	7.9	5.9	7.5	7.2	10.6	6.6
			RATIO	0.879	0.963	0.632	0.806	0.961	0.859	0.657	0.976	0.876	0.335
METEOROLOGICAL SITE			DIR (DEG)	10	190	300	170	190	180	220	230	190	50
BRADLEY			VEL (MPH)	1.1	7.5	2.7	4.7	8.3	7.1	3.9	3.9	5.9	1.6
			SPD (MPH)	2.2	8.6	4.2	5.3	8.5	7.2	4.2	5.9	7.0	3.0
			RATIO	0.493	0.874	0.655	0.889	0.983	0.987	0.942	0.659	0.832	0.534
METEOROLOGICAL SITE			DIR (DEG)	250	230	300	260	240	160	220	240	170	20
BRIDGEPORT			VEL (MPH)	6.4	13.0	2.6	8.4	8.8	0.6	5.5	9.7	4.9	3.7
			SPD (MPH)	9.1	13.7	3.3	11.4	9.8	4.2	8.2	9.9	9.6	7.6
			RATIO	0.706	0.952	0.774	0.738	0.904	0.152	0.667	0.974	0.510	0.484
METEOROLOGICAL SITE			DIR (DEG)	300	260	290	270	230	240	260	240	210	330
WORCESTER			VEL (MPH)	5.8	10.7	3.0	8.3	10.4	6.0	4.8	1.3	3.1	3.7
			SPD (MPH)	7.5	11.1	4.7	8.9	10.6	6.5	4.9	4.7	5.5	4.6
			RATIO	0.777	0.970	0.622	0.933	0.976	0.923	0.980	0.273	0.567	0.813
BRIDGEPORT	123	59		264	162	141	130	126	120	110	105	98	92
			DATE	3/10/79	3/22/79	5/ 9/79	2/20/79	12/11/79	5/21/79	11/23/79	10/18/79	12/23/79	5/ 3/79
METEOROLOGICAL SITE			DIR (DEG)	140	230	230	230	220	220	160	200	250	170
NEWARK			VEL (MPH)	2.0	6.3	13.4	8.1	7.6	7.0	5.1	2.3	3.9	9.3
			SPD (MPH)	7.6	7.2	13.9	10.1	7.9	7.2	5.9	3.6	5.0	10.6
			RATIO	0.262	0.879	0.963	0.806	0.961	0.976	0.859	0.632	0.766	0.876
METEOROLOGICAL SITE			DIR (DEG)	170	10	190	170	190	230	180	300	200	190
BRADLEY			VEL (MPH)	5.5	1.1	7.5	4.7	8.3	3.9	7.1	2.7	4.0	5.9
			SPD (MPH)	5.8	2.2	8.6	5.3	8.5	5.9	7.2	4.2	4.0	7.0
			RATIO	0.959	0.493	0.874	0.889	0.983	0.659	0.987	0.655	0.996	0.832
METEOROLOGICAL SITE			DIR (DEG)	180	250	230	260	240	240	160	300	250	170
BRIDGEPORT			VEL (MPH)	4.2	6.4	13.0	8.4	8.8	9.7	0.6	2.6	2.2	4.9
			SPD (MPH)	6.3	9.1	13.7	11.4	9.8	9.9	4.2	3.3	6.5	9.6
			RATIO	0.670	0.706	0.952	0.738	0.904	0.974	0.152	0.774	0.342	0.510
METEOROLOGICAL SITE			DIR (DEG)	210	300	260	270	230	240	240	290	230	210
WORCESTER			VEL (MPH)	7.1	5.8	10.7	8.3	10.4	1.3	6.0	3.0	8.6	3.1
			SPD (MPH)	7.3	7.5	11.1	8.9	10.6	4.7	6.5	4.7	8.6	5.5
			RATIO	0.963	0.777	0.970	0.933	0.976	0.273	0.923	0.622	0.994	0.567
BRISTOL	1	58		109	108	105	94	86	81	79	78	74	71
			DATE	11/23/79	12/11/79	3/10/79	2/20/79	10/18/79	10/12/79	3/ 1/79	4/ 9/79	3/22/79	4/21/79
METEOROLOGICAL SITE			DIR (DEG)	160	220	140	230	200	200	100	30	230	120
NEWARK			VEL (MPH)	5.1	7.6	2.0	8.1	2.3	5.0	4.5	8.7	6.3	4.4
			SPD (MPH)	5.9	7.9	7.6	10.1	3.6	8.5	6.5	11.6	7.2	7.5
			RATIO	0.859	0.961	0.262	0.806	0.632	0.595	0.688	0.745	0.879	0.591
METEOROLOGICAL SITE			DIR (DEG)	180	190	170	170	300	90	90	360	10	100
BRADLEY			VEL (MPH)	7.1	8.3	5.5	4.7	2.7	0.3	0.5	8.8	1.1	1.3
			SPD (MPH)	7.2	8.5	5.8	5.3	4.2	3.3	2.4	8.9	2.2	5.2

TABLE 24, cont.

1979 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)	160	240	180	260	300	210	70	60	250	110
BRIDGEPORT			VEL (MPH)	0.6	8.8	4.2	8.4	2.6	4.0	5.8	12.1	6.4	5.1
			SPD (MPH)	4.2	9.8	6.3	11.4	3.3	12.9	6.9	15.7	9.1	8.9
			RATIO	0.152	0.904	0.670	0.738	0.774	0.311	0.836	0.770	0.706	0.570
METEOROLOGICAL SITE			DIR (DEG)	240	230	210	270	290	160	60	60	300	30
WORCESTER			VEL (MPH)	6.0	10.4	7.1	8.3	3.0	2.6	5.0	8.6	5.8	3.0
			SPD (MPH)	6.5	10.6	7.3	8.9	4.7	5.2	6.5	9.8	7.5	6.6
			RATIO	0.923	0.976	0.963	0.933	0.622	0.496	0.777	0.875	0.777	0.447
DANBURY	123	61		129	115	101	97	97	90	88	88	84	77
			DATE	12/11/79	11/23/79	2/20/79	10/18/79	3/10/79	3/22/79	12/ 5/79	12/23/79	10/12/79	11/17/79
METEOROLOGICAL SITE			DIR (DEG)	220	160	230	200	140	230	200	250	200	240
NEWARK			VEL (MPH)	7.6	5.1	8.1	2.3	2.0	6.3	9.9	3.9	5.0	14.2
			SPD (MPH)	7.9	5.9	10.1	3.6	7.6	7.2	10.8	5.0	8.5	14.5
			RATIO	0.961	0.859	0.806	0.632	0.262	0.879	0.914	0.766	0.595	0.981
METEOROLOGICAL SITE			DIR (DEG)	190	180	170	300	170	10	200	200	90	240
BRADLEY			VEL (MPH)	8.3	7.1	4.7	2.7	5.5	1.1	6.5	4.0	0.3	5.1
			SPD (MPH)	8.5	7.2	5.3	4.2	5.8	2.2	8.8	4.0	3.3	8.2
			RATIO	0.983	0.987	0.889	0.655	0.959	0.493	0.742	0.996	0.099	0.620
METEOROLOGICAL SITE			DIR (DEG)	240	160	260	300	180	250	240	250	210	270
BRIDGEPORT			VEL (MPH)	8.8	0.6	8.4	2.6	4.2	6.4	15.6	2.2	4.0	15.2
			SPD (MPH)	9.8	4.2	11.4	3.3	6.3	9.1	16.8	6.5	12.9	15.5
			RATIO	0.904	0.152	0.738	0.774	0.670	0.706	0.925	0.342	0.311	0.978
METEOROLOGICAL SITE			DIR (DEG)	230	240	270	290	210	300	240	230	160	270
WORCESTER			VEL (MPH)	10.4	6.0	8.3	3.0	7.1	5.8	7.7	8.6	2.6	14.9
			SPD (MPH)	10.6	6.5	8.9	4.7	7.3	7.5	8.8	8.6	5.2	15.1
			RATIO	0.976	0.923	0.933	0.622	0.963	0.777	0.879	0.994	0.496	0.986
EAST HARTFORD	2	58		114	102	97	91	90	87	85	83	81	78
			DATE	2/20/79	12/11/79	10/12/79	3/10/79	3/22/79	11/23/79	11/17/79	4/21/79	4/ 9/79	12/ 5/79
METEOROLOGICAL SITE			DIR (DEG)	230	220	200	140	230	160	240	120	30	200
NEWARK			VEL (MPH)	8.1	7.6	5.0	2.0	6.3	5.1	14.2	4.4	8.7	9.9
			SPD (MPH)	10.1	7.9	8.5	7.6	7.2	5.9	14.5	7.5	11.6	10.8
			RATIO	0.806	0.961	0.595	0.262	0.879	0.859	0.981	0.591	0.745	0.914
METEOROLOGICAL SITE			DIR (DEG)	170	190	90	170	10	180	240	100	360	200
BRADLEY			VEL (MPH)	4.7	8.3	0.3	5.5	1.1	7.1	5.1	1.3	8.8	6.5
			SPD (MPH)	5.3	8.5	3.3	5.8	2.2	7.2	8.2	5.2	8.9	8.8
			RATIO	0.889	0.983	0.099	0.959	0.493	0.987	0.620	0.251	0.990	0.742
METEOROLOGICAL SITE			DIR (DEG)	260	240	210	180	250	160	270	110	60	240
BRIDGEPORT			VEL (MPH)	8.4	8.8	4.0	4.2	6.4	0.6	15.2	5.1	12.1	15.6
			SPD (MPH)	11.4	9.8	12.9	6.3	9.1	4.2	15.5	8.9	15.7	16.8
			RATIO	0.738	0.904	0.311	0.670	0.706	0.152	0.978	0.570	0.770	0.925
METEOROLOGICAL SITE			DIR (DEG)	270	230	160	210	300	240	270	30	60	240
WORCESTER			VEL (MPH)	8.3	10.4	2.6	7.1	5.8	6.0	14.9	3.0	8.6	7.7
			SPD (MPH)	8.9	10.6	5.2	7.3	7.5	6.5	15.1	6.6	9.8	8.8
			RATIO	0.933	0.976	0.496	0.963	0.777	0.923	0.986	0.447	0.875	0.879

TABLE 24, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 6 AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE

1979 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
ENFIELD	123	59		104	99	89	88	87	85	78	75	72	71
			DATE	2/20/79	12/11/79	3/ 4/79	11/23/79	3/22/79	5/ 9/79	1/21/79	4/15/79	4/ 3/79	11/11/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	220	50	160	230	230	310	300	330	10
			VEL (MPH)	8.1	7.6	5.8	5.1	6.3	13.4	3.9	10.2	6.5	11.2
			SPD (MPH)	10.1	7.9	6.2	5.9	7.2	13.9	13.7	12.8	7.2	11.4
			RATIO	0.806	0.961	0.935	0.859	0.879	0.963	0.283	0.797	0.905	0.984
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	170	190	190	180	10	190	360	320	340	360
			VEL (MPH)	4.7	8.3	1.5	7.1	1.1	7.5	5.4	1.2	3.5	6.2
			SPD (MPH)	5.3	8.5	2.4	7.2	2.2	8.6	9.9	2.2	4.6	6.3
			RATIO	0.889	0.983	0.594	0.987	0.493	0.874	0.542	0.559	0.757	0.984
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	260	240	80	160	250	230	40	310	340	30
			VEL (MPH)	8.4	8.8	8.5	0.6	6.4	13.0	5.9	1.7	3.3	8.1
			SPD (MPH)	11.4	9.8	8.6	4.2	9.1	13.7	22.1	3.4	6.9	8.8
			RATIO	0.738	0.904	0.981	0.152	0.706	0.952	0.267	0.500	0.476	0.921
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	270	230	190	240	300	260	70	20	330	50
			VEL (MPH)	8.3	10.4	2.7	6.0	5.8	10.7	2.3	0.7	3.2	5.7
			SPD (MPH)	8.9	10.6	2.9	6.5	7.5	11.1	11.1	4.5	5.8	6.9
			RATIO	0.933	0.976	0.952	0.923	0.777	0.970	0.209	0.155	0.549	0.829
GREENWICH	4	60		152	144	112	107	100	98	94	87	85	83
			DATE	12/11/79	11/23/79	2/20/79	12/23/79	3/10/79	3/22/79	5/21/79	9/18/79	7/20/79	10/18/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	220	160	230	250	140	230	220	220	170	200
			VEL (MPH)	7.6	5.1	8.1	3.9	2.0	6.3	7.0	11.8	4.9	2.3
			SPD (MPH)	7.9	5.9	10.1	5.0	7.6	7.2	7.2	11.9	7.5	3.6
			RATIO	0.961	0.859	0.806	0.766	0.262	0.879	0.976	0.986	0.657	0.632
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	190	180	170	200	170	10	230	220	220	300
			VEL (MPH)	8.3	7.1	4.7	4.0	5.5	1.1	3.9	8.8	3.9	2.7
			SPD (MPH)	8.5	7.2	5.3	4.0	5.8	2.2	5.9	9.2	4.2	4.2
			RATIO	0.983	0.987	0.889	0.996	0.959	0.493	0.659	0.954	0.942	0.655
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	240	160	260	250	180	250	240	240	220	300
			VEL (MPH)	8.8	0.6	8.4	2.2	4.2	6.4	9.7	14.9	5.5	2.6
			SPD (MPH)	9.8	4.2	11.4	6.5	6.3	9.1	9.9	16.4	8.2	3.3
			RATIO	0.904	0.152	0.738	0.342	0.670	0.706	0.974	0.911	0.667	0.774
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	230	240	270	230	210	300	240	240	260	290
			VEL (MPH)	10.4	6.0	8.3	8.6	7.1	5.8	1.3	8.3	4.8	3.0
			SPD (MPH)	10.6	6.5	8.9	8.6	7.3	7.5	4.7	9.3	4.9	4.7
			RATIO	0.976	0.923	0.933	0.994	0.963	0.777	0.273	0.937	0.980	0.622
GROTON	123	29		86	73	72	61	57	57	56	55	52	49
			DATE	3/22/79	4/ 3/79	2/20/79	2/ 8/79	3/10/79	1/27/79	5/15/79	5/ 3/79	3/16/79	4/ 9/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	230	330	230	290	140	310	160	170	270	30
			VEL (MPH)	6.3	6.5	8.1	11.8	2.0	10.0	3.7	9.3	11.6	8.7
			SPD (MPH)	7.2	7.2	10.1	13.4	7.6	11.8	7.2	10.6	13.2	11.6
			RATIO	0.879	0.905	0.806	0.883	0.262	0.848	0.515	0.876	0.878	0.745
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	10	340	170	310	170	320	200	190	290	360
			VEL (MPH)	1.1	3.5	4.7	7.1	5.5	9.3	2.1	5.9	5.8	8.8
			SPD (MPH)	2.2	4.6	5.3	9.2	5.8	9.5	4.6	7.0	5.9	8.9
			RATIO	0.493	0.757	0 889	0.774	0.959	0.985	0.461	0.832	0.976	0.990

TABLE 24, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 7 AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE 1979 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT	DIR (DEG)		250	340	260	290	180	310	140	170	260	60
	VEL (MPH)		6.4	3.3	8.4	14.9	4.2	15.7	2.9	4.9	11.0	12.1
	SPD (MPH)		9.1	6.9	11.4	15.8	6.3	16.1	7.5	9.6	12.2	15.7
	RATIO		0.706	0.476	0.738	0.939	0.670	0.976	0.391	0.510	0.897	0.770
METEOROLOGICAL SITE WORCESTER	DIR (DEG)		300	330	270	290	210	310	200	210	280	60
	VEL (MPH)		5.8	3.2	8.3	9.9	7.1	17.5	0.8	3.1	6.8	8.6
	SPD (MPH)		7.5	5.8	8.9	11.8	7.3	17.7	2.9	5.5	7.0	9.8
	RATIO		0.777	0.549	0.933	0.844	0.963	0.989	0.293	0.567	0.967	0.875
HARTFORD	3	60	149	141	140	120	120	115	107	107	105	105
		DATE	2/20/79	12/ 5/79	3/22/79	5/ 3/79	4/21/79	3/10/79	11/23/79	10/18/79	11/ 5/79	5/ 9/79
METEOROLOGICAL SITE NEWARK	DIR (DEG)		230	200	230	170	120	140	160	200	20	230
	VEL (MPH)		8.1	9.9	6.3	9.3	4.4	2.0	5.1	2.3	2.2	13.4
	SPD (MPH)		10.1	10.8	7.2	10.6	7.5	7.6	5.9	3.6	6.6	13.9
	RATIO		0.806	0.914	0.879	0.876	0.591	0.262	0.859	0.632	0.335	0.963
METEOROLOGICAL SITE BRADLEY	DIR (DEG)		170	200	10	190	100	170	180	300	50	190
	VEL (MPH)		4.7	6.5	1.1	5.9	1.3	5.5	7.1	2.7	1.6	7.5
	SPD (MPH)		5.3	8.8	2.2	7.0	5.2	5.8	7.2	4.2	3.0	8.6
	RATIO		0.889	0.742	0.493	0.832	0.251	0.959	0.987	0.655	0.534	0.874
METEOROLOGICAL SITE BRIDGEPORT	DIR (DEG)		260	240	250	170	110	180	160	300	20	230
	VEL (MPH)		8.4	15.6	6.4	4.9	5.1	4.2	0.6	2.6	3.7	13.0
	SPD (MPH)		11.4	16.8	9.1	9.6	8.9	6.3	4.2	3.3	7.6	13.7
	RATIO		0.738	0.925	0.706	0.510	0.570	0.670	0.152	0.774	0.484	0.952
METEOROLOGICAL SITE WORCESTER	DIR (DEG)		270	240	300	210	30	210	240	290	330	260
	VEL (MPH)		8.3	7.7	5.8	3.1	3.0	7.1	6.0	3.0	3.7	10.7
	SPD (MPH)		8.9	8.8	7.5	5.5	6.6	7.3	6.5	4.7	4.6	11.1
	RATIO		0.933	0.879	0.777	0.567	0.447	0.963	0.923	0.622	0.813	0.970
HARTFORD	123	60	174	151	130	119	111	110	109	102	100	97
		DATE	2/20/79	8/ 7/79	3/22/79	3/10/79	4/ 9/79	4/21/79	12/11/79	1/21/79	10/18/79	11/ 5/79
METEOROLOGICAL SITE NEWARK	DIR (DEG)		230	110	230	140	30	120	220	310	200	20
	VEL (MPH)		8.1	1.6	6.3	2.0	8.7	4.4	7.6	3.9	2.3	2.2
	SPD (MPH)		10.1	9.2	7.2	7.6	11.6	7.5	7.9	13.7	3.6	6.6
	RATIO		0.806	0.171	0.879	0.262	0.745	0.591	0.961	0.283	0.632	0.335
METEOROLOGICAL SITE BRADLEY	DIR (DEG)		170	220	10	170	360	100	190	360	300	50
	VEL (MPH)		4.7	3.2	1.1	5.5	8.8	1.3	8.3	5.4	2.7	1.6
	SPD (MPH)		5.3	6.3	2.2	5.8	8.9	5.2	8.5	9.9	4.2	3.0
	RATIO		0.889	0.512	0.493	0.959	0.990	0.251	0.983	0.542	0.655	0.534
METEOROLOGICAL SITE BRIDGEPORT	DIR (DEG)		260	150	250	180	60	110	240	40	300	20
	VEL (MPH)		8.4	2.5	6.4	4.2	12.1	5.1	8.8	5.9	2.6	3.7
	SPD (MPH)		11.4	11.2	9.1	6.3	15.7	8.9	9.8	22.1	3.3	7.6
	RATIO		0.738	0.226	0.706	0.670	0.770	0.570	0.904	0.267	0.774	0.484
METEOROLOGICAL SITE WORCESTER	DIR (DEG)		270	270	300	210	60	30	230	70	290	330
	VEL (MPH)		8.3	3.9	5.8	7.1	8.6	3.0	10.4	2.3	3.0	3.7
	SPD (MPH)		8.9	7.5	7.5	7.3	9.8	6.6	10.6	11.1	4.7	4.6
	RATIO		0.933	0.517	0.777	0.963	0.875	0.447	0.976	0.209	0.622	0.813

TABLE 24, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 8 AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE

1979 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES		1	2	3	4	5	6	7	8	9	10
MERIDEN	2	61		132	124	114	102	102	91	88	86	85	77
			DATE	2/20/79	12/11/79	3/22/79	5/ 9/79	11/23/79	5/21/79	10/18/79	12/23/79	3/10/79	4/21/79
METEOROLOGICAL SITE			DIR (DEG)	230	220	230	230	160	220	200	250	140	120
NEWARK			VEL (MPH)	8.1	7.6	6.3	13.4	5.1	7.0	2.3	3.9	2.0	4.4
			SPD (MPH)	10.1	7.9	7.2	13.9	5.9	7.2	3.6	5.0	7.6	7.5
			RATIO	0.806	0.961	0.879	0.963	0.859	0.976	0.632	0.766	0.262	0.591
METEOROLOGICAL SITE			DIR (DEG)	170	190	10	190	180	230	300	200	170	100
BRADLEY			VEL (MPH)	4.7	8.3	1.1	7.5	7.1	3.9	2.7	4.0	5.5	1.3
			SPD (MPH)	5.3	8.5	2.2	8.6	7.2	5.9	4.2	4.0	5.8	5.2
			RATIO	0.889	0.983	0.493	0.874	0.987	0.659	0.655	0.996	0.959	0.251
METEOROLOGICAL SITE			DIR (DEG)	260	240	250	230	160	240	300	250	180	110
BRIDGEPORT			VEL (MPH)	8.4	8.8	6.4	13.0	0.6	9.7	2.6	2.2	4.2	5.1
			SPD (MPH)	11.4	9.8	9.1	13.7	4.2	9.9	3.3	6.5	6.3	8.9
			RATIO	0.738	0.904	0.706	0.952	0.152	0.974	0.774	0.342	0.670	0.570
METEOROLOGICAL SITE			DIR (DEG)	270	230	300	260	240	240	290	230	210	30
WORCESTER			VEL (MPH)	8.3	10.4	5.8	10.7	6.0	1.3	3.0	8.6	7.1	3.0
			SPD (MPH)	8.9	10.6	7.5	11.1	6.5	4.7	4.7	8.6	7.3	6.6
			RATIO	0.933	0.976	0.777	0.970	0.923	0.273	0.622	0.994	0.963	0.447
NEW BRITAIN	123	56		129	108	94	94	86	86	82	77	72	69
			DATE	12/11/79	2/20/79	3/22/79	11/23/79	4/ 9/79	12/ 5/79	3/ 4/79	12/23/79	5/ 3/79	4/21/79
METEOROLOGICAL SITE			DIR (DEG)	220	230	230	160	30	200	50	250	170	120
NEWARK			VEL (MPH)	7.6	8.1	6.3	5.1	8.7	9.9	5.8	3.9	9.3	4.4
			SPD (MPH)	7.9	10.1	7.2	5.9	11.6	10.8	6.2	5.0	10.6	7.5
			RATIO	0.961	0.806	0.879	0.859	0.745	0.914	0.935	0.766	0.876	0.591
METEOROLOGICAL SITE			DIR (DEG)	190	170	10	180	360	200	190	200	190	100
BRADLEY			VEL (MPH)	8.3	4.7	1.1	7.1	8.8	6.5	1.5	4.0	5.9	1.3
			SPD (MPH)	8.5	5.3	2.2	7.2	8.9	8.8	2.4	4.0	7.0	5.2
			RATIO	0.983	0.889	0.493	0.987	0.990	0.742	0.594	0.996	0.832	0.251
METEOROLOGICAL SITE			DIR (DEG)	240	260	250	160	60	240	80	250	170	110
BRIDGEPORT			VEL (MPH)	8.8	8.4	6.4	0.6	12.1	15.6	8.5	2.2	4.9	5.1
			SPD (MPH)	9.8	11.4	9.1	4.2	15.7	16.8	8.6	6.5	9.6	8.9
			RATIO	0.904	0.738	0.706	0.152	0.770	0.925	0.981	0.342	0.510	0.570
METEOROLOGICAL SITE			DIR (DEG)	230	270	300	240	60	240	190	230	210	30
WORCESTER			VEL (MPH)	10.4	8.3	5.8	6.0	8.6	7.7	2.7	8.6	3.1	3.0
			SPD (MPH)	10.6	8.9	7.5	6.5	9.8	8.8	2.9	8.6	5.5	6.6
			RATIO	0.976	0.933	0.777	0.923	0.875	0.879	0.952	0.994	0.567	0.447
NEW HAVEN	123	59		117	103	101	99	98	90	88	86	85	82
			DATE	10/18/79	3/10/79	2/20/79	7/ 8/79	3/22/79	4/ 9/79	9/18/79	12/23/79	12/11/79	3/16/79
METEOROLOGICAL SITE			DIR (DEG)	200	140	230	210	230	30	220	250	220	270
NEWARK			VEL (MPH)	2.3	2.0	8.1	5.2	6.3	8.7	11.8	3.9	7.6	11.6
			SPD (MPH)	3.6	7.6	10.1	7.2	7.2	11.6	11.9	5.0	7.9	13.2
			RATIO	0.632	0.262	0.806	0.719	0.879	0.745	0.986	0.766	0.961	0.878
METEOROLOGICAL SITE			DIR (DEG)	300	170	170	250	10	360	220	200	190	290
BRADLEY			VEL (MPH)	2.7	5.5	4.7	2.9	1.1	8.8	8.8	4.0	8.3	5.8
			SPD (MPH)	4.2	5.8	5.3	3.7	2.2	8.9	9.2	4.0	8.5	5.9
			RATIO	0.655	0.959	0.889	0.775	0.493	0.990	0.954	0.996	0.983	0.976

TABLE 24, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 9 AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE

1979 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
METEOROLOGICAL SITE BRIDGEPORT	DIR (DEG)		300	180	260	220	250	60	240	250	240	260
	VEL (MPH)		2.6	4.2	8.4	7.2	6.4	12.1	14.9	2.2	8.8	11.0
	SPD (MPH)		3.3	6.3	11.4	8.6	9.1	15.7	16.4	6.5	9.8	12.2
	RATIO		0.774	0.670	0.738	0.831	0.706	0.770	0.911	0.342	0.904	0.897
METEOROLOGICAL SITE WORCESTER	DIR (DEG)		290	210	270	280	300	60	240	230	230	280
	VEL (MPH)		3.0	7.1	8.3	7.3	5.8	8.6	8.8	8.6	10.4	6.8
	SPD (MPH)		4.7	7.3	8.9	7.5	7.5	9.8	9.3	8.6	10.6	7.0
	RATIO		0.622	0.963	0.933	0.970	0.777	0.875	0.937	0.994	0.976	0.967
NORWALK	5	60	139	135	134	132	128	120	120	113	108	101
		DATE	5/21/79	3/10/79	12/11/79	5/ 9/79	3/22/79	11/23/79	7/20/79	4/21/79	3/28/79	9/18/79
METEOROLOGICAL SITE NEWARK	DIR (DEG)		220	140	220	230	230	160	170	120	240	220
	VEL (MPH)		7.0	2.0	7.6	13.4	6.3	5.1	4.9	4.4	3.6	11.8
	SPD (MPH)		7.2	7.6	7.9	13.9	7.2	5.9	7.5	7.5	11.9	11.9
	RATIO		0.976	0.262	0.961	0.963	0.879	0.859	0.657	0.591	0.299	0.986
METEOROLOGICAL SITE BRADLEY	DIR (DEG)		230	170	190	190	10	180	220	100	280	220
	VEL (MPH)		3.9	5.5	8.3	7.5	1.1	7.1	3.9	1.3	3.7	8.8
	SPD (MPH)		5.9	5.8	8.5	8.6	2.2	7.2	4.2	5.2	8.5	9.2
	RATIO		0.659	0.959	0.983	0.874	0.493	0.987	0.942	0.251	0.433	0.954
METEOROLOGICAL SITE BRIDGEPORT	DIR (DEG)		240	180	240	230	250	160	220	110	250	240
	VEL (MPH)		9.7	4.2	8.8	13.0	6.4	0.6	5.5	5.1	5.9	14.9
	SPD (MPH)		9.9	6.3	9.8	13.7	9.1	4.2	8.2	8.9	11.5	16.4
	RATIO		0.974	0.670	0.904	0.952	0.706	0.152	0.667	0.570	0.512	0.911
METEOROLOGICAL SITE WORCESTER	DIR (DEG)		240	210	230	260	300	240	260	30	280	240
	VEL (MPH)		1.3	7.1	10.4	10.7	5.8	6.0	4.8	3.0	5.6	8.8
	SPD (MPH)		4.7	7.3	10.6	11.1	7.5	6.5	4.9	6.6	6.8	9.3
	RATIO		0.273	0.963	0.976	0.970	0.777	0.923	0.980	0.447	0.832	0.9[illegible]7
NORWICH	1	59	88	81	78	73	68	67	65		52	61
		DATE	3/10/79	3/22/79	12/23/79	10/18/79	3/16/79	12/ 5/79	4/ 3/79	4/ [illegible]/79	10/12/79	3/28/79
METEOROLOGICAL SITE NEWARK	DIR (DEG)		140	230	250	200	270	200	330	30	200	240
	VEL (MPH)		2.0	6.3	3.9	2.3	11.6	9.9	6.5	8.7	5.0	3.6
	SPD (MPH)		7.6	7.2	5.0	3.6	13.2	10.8	7.2	11.6	8.5	11.9
	RATIO		0.262	0.879	0.766	0.632	0.878	0.914	0.905	0.745	0.595	0.299
METEOROLOGICAL SITE BRADLEY	DIR (DEG)		170	10	200	300	290	200	340	360	90	280
	VEL (MPH)		5.5	1.1	4.0	2.7	5.8	6.5	3.5	8.8	0.3	3.7
	SPD (MPH)		5.8	2.2	4.0	4.2	5.9	8.8	4.6	8.9	3.3	8.5
	RATIO		0.959	0.493	0.996	0.655	0.976	0.742	0.757	0.990	0.099	0.433
METEOROLOGICAL SITE BRIDGEPORT	DIR (DEG)		180	250	250	300	260	240	340	60	210	250
	VEL (MPH)		4.2	6.4	2.2	2.6	11.0	15.6	3.3	12.1	4.0	5.9
	SPD (MPH)		6.3	9.1	6.5	3.3	12.2	16.8	6.9	15.7	12.9	11.5
	RATIO		0.670	0.706	0.342	0.774	0.897	0.925	0.476	0.770	0.311	0.512
METEOROLOGICAL SITE WORCESTER	DIR (DEG)		210	300	230	290	280	240	330	60	160	280
	VEL (MPH)		7.1	5.8	8.6	3.0	6.8	7.7	3.2	8.6	2.6	5.6
	SPD (MPH)		7.3	7.5	8.6	4.7	7.0	8.8	5.8	9.8	5.2	6.8
	RATIO		0.963	0.777	0.994	0.622	0.967	0.879	0.549	0.875	0.496	0.832

TABLE 24, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 10 AIR COMPLIANCE ENGINEERING

POLLUTANT--NITROGEN DIOXIDE 1979 TEN HIGHEST 24 HR AVG NO2 DAYS WITH WIND DATA

UNITS : MICROGRAMS PER CUBIC METER

TOWN NAME	SITE	SAMPLES	1	2	3	4	5	6	7	8	9	10
STAMFORD	7	61	133	132	128	109	106	104	103	103	95	89
		DATE	2/20/79	3/22/79	12/11/79	10/18/79	5/21/79	11/23/79	5/ 9/79	12/23/79	11/17/79	4/21/79
METEOROLOGICAL SITE		DIR (DEG)	230	230	220	200	220	160	230	250	240	120
NEWARK		VEL (MPH)	8.1	6.3	7.6	2.3	7.0	5.1	13.4	3.9	14.2	4.4
		SPD (MPH)	10.1	7.2	7.9	3.6	7.2	5.9	13.9	5.0	14.5	7.5
		RATIO	0.806	0.879	0.961	0.632	0.976	0.859	0.963	0.766	0.981	0.591
METEOROLOGICAL SITE		DIR (DEG)	170	10	190	300	230	180	190	200	240	100
BRADLEY		VEL (MPH)	4.7	1.1	8.3	2.7	3.9	7.1	7.5	4.0	5.1	1.3
		SPD (MPH)	5.3	2.2	8.5	4.2	5.9	7.2	8.6	4.0	8.2	5.2
		RATIO	0.889	0.493	0.983	0.655	0.659	0.987	0.874	0.996	0.620	0.251
METEOROLOGICAL SITE		DIR (DEG)	260	250	240	300	240	160	230	250	270	110
BRIDGEPORT		VEL (MPH)	8.4	6.4	8.8	2.6	9.7	0.6	13.0	2.2	15.2	5.1
		SPD (MPH)	11.4	9.1	9.8	3.3	9.9	4.2	13.7	6.5	15.5	8.9
		RATIO	0.738	0.706	0.904	0.774	0.974	0.152	0.952	0.342	0.978	0.570
METEOROLOGICAL SITE		DIR (DEG)	270	300	230	290	240	240	260	230	270	30
WORCESTER		VEL (MPH)	8.3	5.8	10.4	3.0	1.3	6.0	10.7	8.6	14.9	3.0
		SPD (MPH)	8.9	7.5	10.6	4.7	4.7	6.5	11.1	8.6	15.1	6.6
		RATIO	0.933	0.777	0.976	0.622	0.273	0.923	0.970	0.994	0.986	0.447
STAMFORD	123	61	135	118	116	114	112	110	99	97	95	95
		DATE	2/20/79	3/22/79	5/ 9/79	11/23/79	5/21/79	12/11/79	12/23/79	9/18/79	12/ 5/79	5/ 3/79
METEOROLOGICAL SITE		DIR (DEG)	230	230	230	160	220	220	250	220	200	170
NEWARK		VEL (MPH)	8.1	6.3	13.4	5.1	7.0	7.6	3.9	11.8	9.9	9.3
		SPD (MPH)	10.1	7.2	13.9	5.9	7.2	7.9	5.0	11.9	10.8	10.6
		RATIO	0.806	0.879	0.963	0.859	0.976	0.961	0.766	0.986	0.914	0.876
METEOROLOGICAL SITE		DIR (DEG)	170	10	190	180	230	190	200	220	200	190
BRADLEY		VEL (MPH)	4.7	1.1	7.5	7.1	3.9	8.3	4.0	8.8	6.5	5.9
		SPD (MPH)	5.3	2.2	8.6	7.2	5.9	8.5	4.0	9.2	8.8	7.0
		RATIO	0.889	0.493	0.874	0.987	0.659	0.983	0.996	0.954	0.742	0.832
METEOROLOGICAL SITE		DIR (DEG)	260	250	230	160	240	240	250	240	240	170
BRIDGEPORT		VEL (MPH)	8.4	6.4	13.0	0.6	9.7	8.8	2.2	14.9	15.6	4.9
		SPD (MPH)	11.4	9.1	13.7	4.2	9.9	9.8	6.5	16.4	16.8	9.6
		RATIO	0.738	0.706	0.952	0.152	0.974	0.904	0.342	0.911	0.925	0.510
METEOROLOGICAL SITE		DIR (DEG)	270	300	260	240	240	230	230	240	240	210
WORCESTER		VEL (MPH)	8.3	5.8	10.7	6.0	1.3	10.4	8.6	8.8	7.7	3.1
		SPD (MPH)	8.9	7.5	11.1	6.5	4.7	10.6	8.6	9.3	8.8	5.5
		RATIO	0.933	0.777	0.970	0.923	0.273	0.976	0.994	0.937	0.879	0.567
STRATFORD	5	59	146	137	129	120	119	116	112	108	103	101
		DATE	3/22/79	5/ 9/79	2/20/79	3/10/79	12/11/79	10/18/79	5/21/79	12/ 5/79	9/18/79	11/23/79
METEOROLOGICAL SITE		DIR (DEG)	230	230	230	140	220	200	220	200	220	160
NEWARK		VEL (MPH)	6.3	13.4	8.1	2.0	7.6	2.3	7.0	9.9	11.8	5.1
		SPD (MPH)	7.2	13.9	10.1	7.6	7.9	3.6	7.2	10.8	11.9	5.9
		RATIO	0.879	0.963	0.806	0.262	0.961	0.632	0.976	0.914	0.986	0.859
METEOROLOGICAL SITE		DIR (DEG)	10	190	170	170	190	300	230	200	220	180
BRADLEY		VEL (MPH)	1.1	7.5	4.7	5.5	8.3	2.7	3.9	6.5	8.8	7.1
		SPD (MPH)	2.2	8.6	5.3	5.8	8.5	4.2	5.9	8.8	9.2	7.2
		RATIO	0.493	0.874	0.889	0.959	0.983	0.655	0.659	0.742	0.954	0.987

TABLE 24, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION PAGE 11 AIR COMPLIANCE ENGINEERING

1979 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)	250	230	260	180	240	300	240	240	240	160
			VEL (MPH)	6.4	13.0	8.4	4.2	8.8	2.6	9.7	15.6	14.9	0.6
			SPD (MPH)	9.1	13.7	11.4	6.3	9.8	3.3	9.9	16.8	16.4	4.2
			RATIO	0.706	0.952	0.738	0.670	0.904	0.774	0.974	0.925	0.911	0.152
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	300	260	270	210	230	290	240	240	240	240
			VEL (MPH)	5.8	10.7	8.3	7.1	10.4	3.0	1.3	7.7	8.8	6.0
			SPD (MPH)	7.5	11.1	8.9	7.3	10.6	4.7	4.7	8.8	9.3	6.5
			RATIO	0.777	0.970	0.933	0.963	0.976	0.622	0.273	0.879	0.937	0.923
TORRINGTON	123	61		99	94	88	84	84	78	78	78	76	75
			DATE	3/10/79	12/11/79	3/16/79	10/12/79	11/23/79	2/20/79	12/23/79	10/18/79	3/22/79	12/ 5/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	140	220	270	200	160	230	250	200	230	200
			VEL (MPH)	2.0	7.6	11.6	5.0	5.1	8.1	3.9	2.3	6.3	9.9
			SPD (MPH)	7.6	7.9	13.2	8.5	5.9	10.1	5.0	3.6	7.2	10.8
			RATIO	0.262	0.961	0.878	0.595	0.859	0.806	0.766	0.632	0.879	0.914
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	170	190	290	90	180	170	200	300	10	200
			VEL (MPH)	5.5	8.3	5.8	0.3	7.1	4.7	4.0	2.7	1.1	6.5
			SPD (MPH)	5.8	8.5	5.9	3.3	7.2	5.3	4.0	4.2	2.2	8.8
			RATIO	0.959	0.983	0.976	0.099	0.987	0.889	0.996	0.655	0.493	0.742
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	180	240	260	210	160	260	250	300	250	240
			VEL (MPH)	4.2	8.8	11.0	4.0	0.6	8.4	2.2	2.6	6.4	15.6
			SPD (MPH)	6.3	9.8	12.2	12.9	4.2	11.4	6.5	3.3	9.1	16.8
			RATIO	0.670	0.904	0.897	0.311	0.152	0.738	0.342	0.774	0.706	0.925
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	210	230	280	160	240	270	230	290	300	240
			VEL (MPH)	7.1	10.4	6.8	2.6	6.0	8.3	8.6	3.0	5.8	7.7
			SPD (MPH)	7.3	10.6	7.0	5.2	6.5	8.9	8.6	4.7	7.5	8.9
			RATIO	0.963	0.976	0.967	0.496	0.923	0.933	0.994	0.622	0.777	0.879
WATERBURY	123	60		159	139	137	121	118	115	109	107	99	93
			DATE	10/24/79	12/11/79	2/20/79	11/23/79	3/22/79	3/10/79	10/18/79	4/21/79	5/ 3/79	4/ 9/79
METEOROLOGICAL SITE NEWARK			DIR (DEG)	290	220	230	160	230	140	200	120	170	30
			VEL (MPH)	15.3	7.6	8.1	5.1	6.3	2.0	2.3	4.4	9.3	8.7
			SPD (MPH)	16.1	7.9	10.1	5.9	7.2	7.6	3.6	7.5	10.6	11.6
			RATIO	0.953	0.961	0.806	0.859	0.879	0.262	0.632	0.591	0.876	0.745
METEOROLOGICAL SITE BRADLEY			DIR (DEG)	300	190	170	180	10	170	300	100	190	360
			VEL (MPH)	5.3	8.3	4.7	7.1	1.1	5.5	2.7	1.3	5.9	8.8
			SPD (MPH)	10.5	8.5	5.3	7.2	2.2	5.8	4.2	5.2	7.0	8.9
			RATIO	0.507	0.983	0.889	0.987	0.493	0.959	0.655	0.251	0.832	0.990
METEOROLOGICAL SITE BRIDGEPORT			DIR (DEG)	290	240	260	160	250	180	300	110	170	60
			VEL (MPH)	12.1	8.8	8.4	0.6	6.4	4.2	2.6	5.1	4.9	12.1
			SPD (MPH)	15.7	9.8	11.4	4.2	9.1	6.3	3.3	8.9	9.6	15.7
			RATIO	0.770	0.904	0.738	0.152	0.706	0.670	0.774	0.570	0.510	0.770
METEOROLOGICAL SITE WORCESTER			DIR (DEG)	270	230	270	240	300	210	290	30	210	60
			VEL (MPH)	7.3	10.4	8.3	6.0	5.8	7.1	3.0	3.0	3.1	8.6
			SPD (MPH)	11.6	10.6	8.9	6.5	7.5	7.3	4.7	6.6	5.5	9.8
			RATIO	0.623	0.976	0.933	0.923	0.777	0.963	0.622	0.447	0.567	0.875

VI. CARBON MONOXIDE

Conclusions:

The eight-hour NAAQS of 9 ppm was exceeded at five of the six carbon monoxide monitoring sites in Connecticut during 1979. These sites were: Bridgeport 004, Hartford 012, New Britain 002, Norwalk 005 and Stamford 020. The number of times the 8-hour standard was exceeded ranged from 3 times at the Bridgeport 004 site up to 330 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 seven times at the Stamford 020 site in 1979.

A definite decrease in carbon monoxide levels took place between 1978 and 1979.

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

Method of Measurement:

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

Discussion of Data:

Monitoring Network - The network in 1979 consisted of 6 carbon monoxide monitors. They are located in urban areas. Most sites are located in southern Connecticut, near Long Island Sound (see Figure 8).

8-Hour and 1-Hour Averages - CO levels recorded during 1979 were significantly lower than those measured during 1978. However, all sites except New Haven still exceeded the primary 8-hour standard of 9 ppm. The only station that showed an increase of the maximum 8-hour level was Stamford, site 020. This pattern was also evident in the maximum 1-hour levels, though the

1-hour standard of 35 ppm was exceeded at only one site, Stamford 020. The second high 8-hour levels fell from 1978 at all stations, but the standard was still exceeded at Hartford, 012, New Britain, 002, and Stamford, 020. The second high 1-hour levels also decreased from last year and they were far below the standard with the notable exception of Stamford, 020 (See Table 25). THe total maximum 8-hour average of 13.5 ppm recorded during 1979 was down from 17.9 ppm during 1978.

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

10-High Days With Wind Data - Table 27 lists the maximum 1-hour CO averages (and dates of occurrence) from the 10-highest days for each CO site in Connecticut for 1979. The wind data associated with these high readings are also presented. (See the discussion of Table 12 in the TSP section for a description of the origin and use of these wind data.)

At the 7 CO sites in Connecticut, the high CO levels tend to occur on southwest wind days. Adverse atmospheric mixing or other meteorological conditions may be part of the reason CO levels are high on southwest wind days, but, in this case, another explanation appears more viable. A noteworthy feature of the high CO days is that the winds tend to be more persistent from all directions than on the high days for the other pollutants. Since 95% of the CO emissions in Connecticut come from motor vehicles, it is likely that the high CO levels are caused when persistent winds are blowing CO emissions from the direction of nearby roads toward the monitors. Such appears to be the case especially with the Norwalk 005 and Stamford 020 sites, where the most heavily traveled roads are to the southwest of the monitors.

Another feature of the high CO days is that rarely does more than one site record a high level on the same day (January 17). There was only one day in 1979 when CO levels were relatively high across the state. This is the opposite of the behavior exhibited by all the other pollutants and demonstrates that high levels of CO are much more dependent on local effects than the other pollutants.

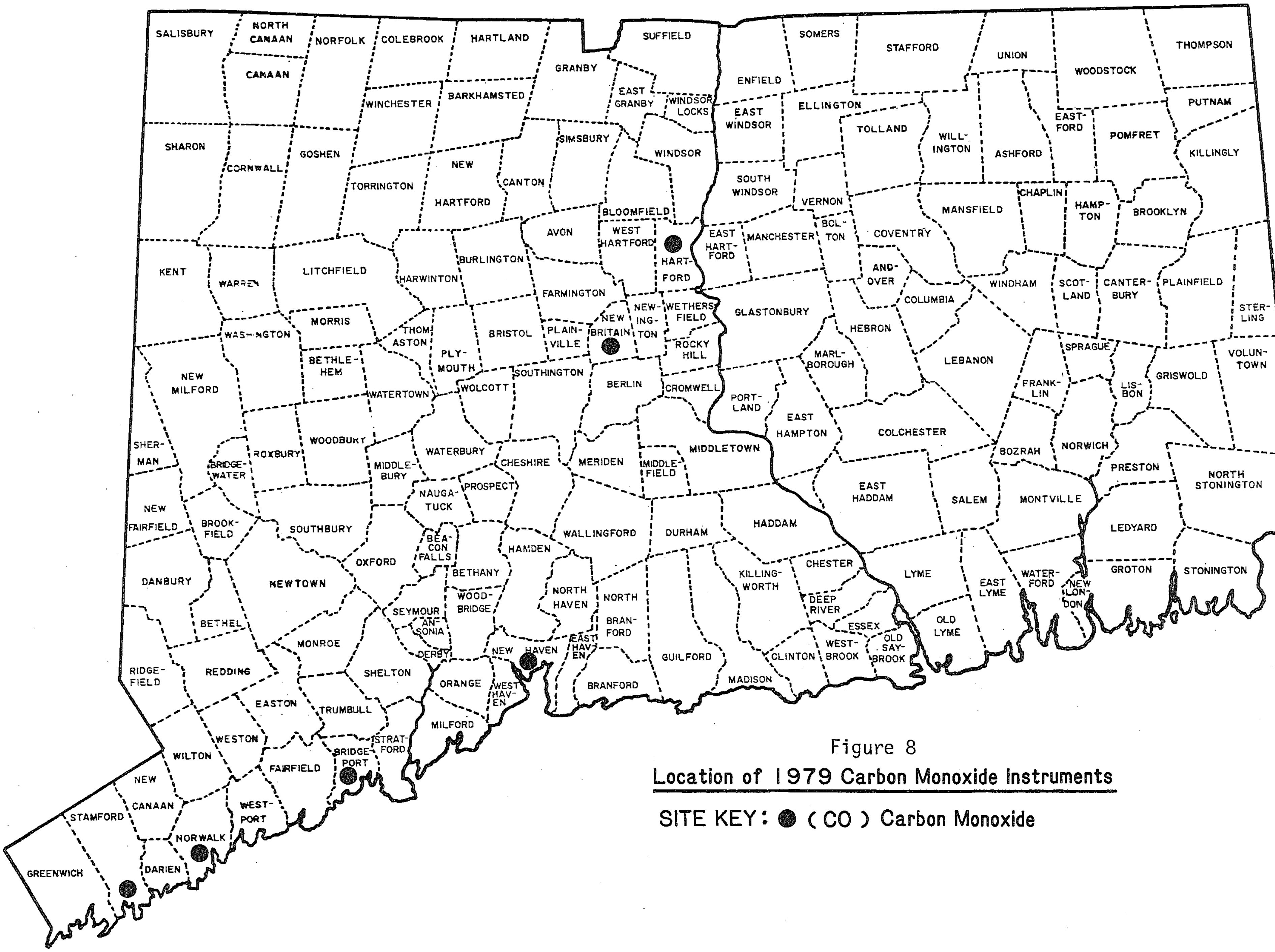


Figure 8

Location of 1979 Carbon Monoxide Instruments

SITE KEY: ● (CO) Carbon Monoxide

TABLE 25

1979 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	10.7	2/21/19	8.0	4/2/19	16.5	8/28/09	14.0	2/21/15
Hartford-012*	11.9	10/12/19	10.0	8/5/04	21.0	10/12/16	19.0	8/5/04
New Britain-002*	10.5	11/22/01	9.8	1/12/21	15.0	1/12/17	15.0	3/1/08
New Haven-007*	8.8	2/7/17	8.6	3/23/13	12.9	3/23/09	12.4	12/10/23
Norwalk-005*	9.5	1/17/23	8.5	3/8/24	17.0	1/23/09	15.2	11/21/09
Stamford-020	29.3	1/10/19	23.6	12/4/19	45.0	1/10/14	42.0	12/12/09

[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

* partial year

TABLE 26

1979 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.	9.0*	14.0*	10.0*	10.0	8.5	8.0	7.9	16.5	9.0	12.4	13.1	9.9	0
	Max-8 hr.	5.7*	10.7*	6.7*	8.0	4.8	6.3	6.8	5.3	6.1	7.5	7.6	7.1	3
Hartford-012	Max-1 hr.	16.0	9.0*	11.0	12.0	9.5	12.0	15.0	19.0*	13.0	21.0	12.0	11.5*	0
	Max-8 hr.	9.4	5.7*	5.9	6.8	5.6	7.6	6.7	10.0*	6.6	11.9	7.3	9.5*	14
New Britain-002	Max-1 hr.	15.0	12.0	15.0	14.0	10.0	8.0	6.0	9.0*	11.0	11.5	13.0	13.0	0
	Max-8 hr.	9.8	8.6	8.6	8.1	8.7	6.4	5.1	7.0*	7.4	8.7	10.5	9.8	25
New Haven-007	Max-1 hr.	10.0*	10.0*	12.9	8.0	9.7	8.5	7.0	7.4	6.0*	9.3*	5.6*	12.4	0
	Max-8 hr.	5.5*	8.8*	8.6	4.8	7.5	5.2	3.4	6.7	4.5*	2.7*	5.1*	7.4	0
Norwalk-005	Max-1 hr.	17.0	10.0*	14.0*	5.0	6.0	7.0	7.0	5.0	10.6	13.5	15.2	--	0
	Max-8 hr.	9.5	6.3*	8.5*	3.5	3.6	2.8	2.8	2.9	4.4	7.0	5.8	--	10
Stamford-020	Max-1 hr.	45.0*	27.0	23.0	21.0	29.0	30.0	32.0	32.0	35.3	33.9	38.0	42.0	7
	Max-8 hr.	29.3*	15.4	15.0	15.0	15.6	20.9	19.0	22.1	18.6	23.2	20.4	23.6	330

* < 75% of Data Available

TABLE 27

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAGE 4

AIR COMPLIANCE ENGINEERING

POLLUTANT--CARBON MONOXIDE

1979 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	300	16.5	14.0	13.1	12.4	12.2	10.7	10.1	10.0	10.0	9.9
		DATE	8/28/79	2/21/79	11/ 2/79	10/17/79	11/23/79	10/ 1/79	11/21/79	3/23/79	4/ 2/79	12/21/79
METEOROLOGICAL SITE	DIR (DEG)		210	210	170	150	160	20	330	170	70	10
NEWARK	VEL (MPH)		7.0	5.1	7.2	1.8	5.1	7.8	1.1	6.9	10.2	11.6
	SPD (MPH)		9.3	6.9	7.5	5.2	5.9	9.9	5.7	9.8	12.1	11.6
	RATIO		0.744	0.736	0.958	0.355	0.859	0.790	0.193	0.708	0.842	0.996
METEOROLOGICAL SITE	DIR (DEG)		190	200	200	200	180	20	360	180	60	10
BRADLEY	VEL (MPH)		3.2	8.2	6.6	2.6	7.1	7.2	4.2	6.6	4.5	4.6
	SPD (MPH)		4.2	8.3	8.8	5.2	7.2	7.9	5.6	8.1	5.9	4.9
	RATIO		0.777	0.979	0.976	0.494	0.987	0.905	0.752	0.816	0.768	0.933
METEOROLOGICAL SITE	DIR (DEG)		190	240	210	210	160	40	260	180	90	40
BRIDGEPORT	VEL (MPH)		2.6	6.3	9.5	5.8	0.6	9.4	1.3	4.5	20.6	11.4
	SPD (MPH)		6.8	8.3	12.4	9.5	4.2	11.2	5.5	6.2	21.6	11.8
	RATIO		0.388	0.756	0.770	0.616	0.152	0.838	0.230	0.730	0.955	0.970
METEOROLOGICAL SITE	DIR (DEG)		300	240	210	200	240	40	320	230	9	360
WORCESTER	VEL (MPH)		1.6	10.5	10.7	5.7	6.0	6.3	4.3	6.3	9.	0.
	SPD (MPH)		4.6	10.9	11.1	6.0	6.5	6.9	6.5	6.9	10.	3.
	RATIO		0.345	0.958	0.967	0.942	0.923	0.919	0.670	0.917	0.938	0.268
HARTFORD	12	329	35.0	21.0	16.0	15.0	14.0	14.0	13.0	12.0	12.0	12.0
		DATE	8/ 5/79	10/12/79	1/22/79	7/25/79	1/17/79	1/ 3/79	9/21/79	9/28/79	6/15/79	11/19/79
METEOROLOGICAL SITE	DIR (DEG)		250	200	280	200	320	290	170	100	230	40
NEWARK	VEL (MPH)		5.3	5.0	15.7	7.8	1.9	18.3	5.2	4.0	13.7	5.0
	SPD (MPH)		8.0	8.5	16.4	8.8	7.3	19.4	6.8	8.2	13.8	6.6
	RATIO		0.653	0.595	0.958	0.889	0.265	0.941	0.769	0.483	0.994	0.752
METEOROLOGICAL SITE	DIR (DEG)		310	90	290	210	360	300	220	200	230	150
BRADLEY	VEL (MPH)		2.0	0.3	12.0	5.4	2.4	11.7	5.0	4.9	6.5	0.1
	SPD (MPH)		3.2	3.3	12.8	5.9	3.7	12.4	5.2	5.0	7.9	2.4
	RATIO		0.645	0.099	0.940	0.911	0.639	0.950	0.959	0.974	0.818	0.056
METEOROLOGICAL SITE	DIR (DEG)		240	210	280	220	50	300	220	130	230	80
BRIDGEPORT	VEL (MPH)		5.8	4.0	19.6	7.6	4.8	17.6	12.0	2.4	12.7	8.3
	SPD (MPH)		8.9	12.9	19.7	8.2	10.6	17.8	13.4	6.9	13.7	10.1
	RATIO		0.646	0.311	0.994	0.923	0.453	0.987	0.901	0.351	0.929	0.826
METEOROLOGICAL SITE	DIR (DEG)		280	160	280	230	40	290	220	230	260	160
WORCESTER	VEL (MPH)		5.7	2.6	17.4	4.6	2.9	18.0	7.0	5.7	9.5	1.4
	SPD (MPH)		6.2	5.2	17.5	5.6	5.3	18.3	7.3	6.0	10.1	3.3
	RATIO		0.926	0.496	0.993	0.818	0.549	0.986	0.950	0.936	0.940	0.415
NEW BRITAIN	2	277	15.0	15.0	14.0	14.0	13.0	13.0	13.0	13.0	12.0	12.0
		DATE	1/12/79	3/ 1/79	4/ 3/79	1/26/79	1/18/79	12/10/79	11/21/79	12/21/79	2/28/79	12/14/79
METEOROLOGICAL SITE	DIR (DEG)		20	100	330	310	320	220	330	10	310	320
NEWARK	VEL (MPH)		11.2	4.5	6.5	14.3	8.	9.6	1.1	11.6	7.6	14.2
	SPD (MPH)		11.6	6.5	7.2	14.9	21.	10.5	5.7	11.6	8.9	14.7
	RATIO		0.963	0.688	0.905	0.956	.85	0.915	0.193	0.996	0.851	0.967
METEOROLOGICAL SITE	DIR (DEG)		10	90	340	350	34	260	360	10	300	320
BRADLEY	VEL (MPH)		4.3	0.5	3.5	7.6	10.2	3.4	4.2	4.6	2.3	8.8
	SPD (MPH)		4.5	2.4	4.6	8.1	10.5	4.9	5.6	4.9	4.0	9.3
	RATIO		0.960	0.208	0.757	0.949	0.974	0.698	0.752	0.933	0.565	0.938

TABLE 27, cont.

1979 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 BRIDGEPORT	DIR (DEG)		40	70	340	320	310	270	260	40	290	340
	VEL (MPH)		10.6	5.8	3.3	15.0	18.9	10.3	1.3	11.4	9.0	11.6
	SPD (MPH)		11.6	6.9	6.9	15.2	21.3	13.7	5.5	11.8	10.2	12.1
	RATIO		0.911	0.836	0.476	0.981	0.887	0.758	0.230	0.970	0.878	0.962
METEOROLOGICAL SITE WORCESTER	DIR (DEG)		30	60	330	10	320	270	320	360	320	310
	VEL (MPH)		2.3	5.0	3.2	8.0	16.4	8.1	4.3	0.9	7.9	9.8
	SPD (MPH)		4.9	6.5	5.8	8.6	17.4	9.1	6.5	3.3	8.8	10.4
	RATIO		0.478	0.777	0.549	0.926	0.945	0.893	0.670	0.266	0.898	0.948
NEW HAVEN	7	272	12.9	12.4	11.0	10.1	10.0	10.0	10.0	9.7	9.3	9.0
		DATE	3/23/79	12/10/79	3/22/79	12/24/79	2/ 7/79	3/ 5/79	1/17/79	5/23/79	10/31/79	5/10/79
METEOROLOGICAL SITE NEWARK	DIR (DEG)		170	220	230	130	10	130	320	40	30	220
	VEL (MPH)		6.9	9.6	6.3	2.3	9.1	6.9	1.9	5.4	2.4	11.6
	SPD (MPH)		9.8	10.5	7.2	5.5	10.8	8.8	7.3	8.0	7.5	12.1
	RATIO		0.708	0.915	0.879	0.430	0.842	0.788	0.265	0.671	0.316	0.962
METEOROLOGICAL SITE BRADLEY	DIR (DEG)		180	260	10	220	350	190	360	360	60	250
	VEL (MPH)		6.6	3.4	1.1	1.5	4.4	5.8	2.4	2.6	1.2	6.5
	SPD (MPH)		8.1	4.9	2.2	3.2	5.5	6.5	3.7	3.9	3.2	6.9
	RATIO		0.816	0.698	0.493	0.489	0.813	0.891	0.639	0.681	0.392	0.946
METEOROLOGICAL SITE BRIDGEPORT	DIR (DEG)		180	270	250	60	10	190	50	70	100	240
	VEL (MPH)		4.5	10.3	6.4	1.7	8.1	11.4	4.8	8.3	3.0	12.2
	SPD (MPH)		6.2	13.7	9.1	7.5	10.5	13.1	10.6	9.5	9.2	12.8
	RATIO		0.730	0.758	0.706	0.230	0.771	0.872	0.453	0.880	0.328	0.957
METEOROLOGICAL SITE WORCESTER	DIR (DEG)		230	270	300	240	320	200	40	70	20	290
	VEL (MPH)		6.3	8.1	5.8	3.7	3.5	9.1	2.9	4.9	1.5	7.2
	SPD (MPH)		6.9	9.1	7.5	5.3	7.6	9.2	5.3	5.8	5.2	9.9
	RATIO		0.917	0.893	0.777	0.696	0.458	0.994	0.549	0.858	0.297	0.722
NORWALK	5	294	17.0	15.2	14.0	14.0	13.5	13.0	12.0	11.7	11.0	11.0
		DATE	1/23/79	11/21/79	3/23/79	1/17/79	10/22/79	3/ 1/79	1/ 2/79	10/18/79	1/18/79	3/ 8/79
METEOROLOGICAL SITE NEWARK	DIR (DEG)		250	330	170	320	190	100	210	200	320	350
	VEL (MPH)		4.2	1.1	6.9	1.9	5.4	4.5	4.8	2.3	18.2	11.1
	SPD (MPH)		8.2	5.7	9.8	7.3	6.5	6.5	13.8	3.6	21.4	11.5
	RATIO		0.512	0.193	0.708	0.265	0.831	0.688	0.348	0.632	0.852	0.965
METEOROLOGICAL SITE BRADLEY	DIR (DEG)		330	360	180	360	180	90	190	300	340	340
	VEL (MPH)		4.1	4.2	6.6	2.4	4.9	0.5	8.8	2.7	10.2	6.8
	SPD (MPH)		5.2	5.6	8.1	3.7	5.2	2.4	11.8	4.2	10.5	7.5
	RATIO		0.799	0.752	0.816	0.639	0.944	0.208	0.743	0.655	0.974	0.905
METEOROLOGICAL SITE BRIDGEPORT	DIR (DEG)		250	260	180	50	250	70	200	300	310	330
	VEL (MPH)		7.3	1.3	4.5	4.8	6.8	5.8	11.3	2.6	18.9	13.9
	SPD (MPH)		10.5	5.5	6.2	10.6	7.9	6.9	19.3	3.3	21.3	14.1
	RATIO		0.693	0.230	0.730	0.453	0.864	0.836	0.584	0.774	0.887	0.990
METEOROLOGICAL SITE WORCESTER	DIR (DEG)		290	320	230	40	270	60	210	290	320	320
	VEL (MPH)		8.7	4.3	6.3	2.9	6.3	5.0	12.9	3.0	16.4	6.1
	SPD (MPH)		8.9	6.5	6.9	5.3	6.8	6.5	13.8	4.7	17.4	7.5
	RATIO		0.978	0.670	0.917	0.549	0.925	0.777	0.938	0.622	0.945	0.814

TABLE 27, cont.

CONNECTICUT DEPARTMENT OF ENVIROMENTAL PROTECTION

AIR COMPLIANCE ENGINEERING

POLLUTANT--CARBON MONOXIDE

1979 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
STAMFORD	20	327	45.0	42.0	38.0	37.0	37.0	35.7	35.3	35.0	34.5	34.0
		DATE	1/10/79	12/12/79	11/ 1/79	12/ 5/79	1/25/79	11/ 6/79	9/28/79	1/31/79	12/ 6/79	1/ 3/79
METEOROLOGICAL SITE		DIR (DEG)	270	220	140	200	270	220	100	310	200	290
NEWARK		VEL (MPH)	10.0	12.1	4.9	9.9	14.0	4.1	4.0	19.1	9.4	18.3
		SPD (MPH)	10.5	12.2	5.2	10.8	17.1	5.9	8.2	19.3	9.8	19.4
		RATIO	0.956	0.986	0.940	0.914	0.817	0.700	0.483	0.993	0.962	0.941
METEOROLOGICAL SITE		DIR (DEG)	260	210	190	200	360	210	200	320	200	300
BRADLEY		VEL (MPH)	5.2	6.3	5.0	6.5	11.8	4.7	4.9	11.9	9.6	11.7
		SPD (MPH)	5.5	9.9	5.2	8.8	12.9	5.0	5.0	12.2	10.1	12.4
		RATIO	0.952	0.639	0.969	0.742	0.915	0.930	0.974	0.971	0.950	0.950
METEOROLOGICAL SITE		DIR (DEG)	290	250	220	240	330	240	130	310	240	300
BRIDGEPORT		VEL (MPH)	13.3	10.7	4.9	15.6	10.3	3.1	2.4	15.0	13.2	17.6
		SPD (MPH)	13.5	11.2	9.3	16.8	14.5	7.0	6.9	15.7	14.1	17.8
		RATIO	0.987	0.955	0.529	0.925	0.708	0.446	0.351	0.955	0.938	0.987
METEOROLOGICAL SITE		DIR (DEG)	280	250	220	240	50	230	230	300	230	290
WORCESTER		VEL (MPH)	9.2	10.0	7.6	7.7	13.2	6.2	5.7	15.5	8.7	18.0
		SPD (MPH)	9.5	10.8	7.9	8.8	13.7	6.6	6.0	15.5	8.8	18.3
		RATIO	0.973	0.929	0.963	0.879	0.968	0.936	0.936	0.998	0.988	0.986

VII. LEAD

Conclusions:

The National Ambient Air Quality Standard (NAAQS) for lead is 1.5 μg/m^3 per calendar quarter average. It was exceeded at only 7 sites in 1979, down from 16 sites in 1978.

A definite downward trend in measured concentrations of lead was noted between 1978 and 1979.

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

Sample Collection And Analysis:

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

Discussion of Data:

Monitoring Network - In 1979, 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 μg/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 μg/m^3.

Quarterly Averages - The calendar quarter lead standard was exceeded at 7 sites in 1979, 9 less than in 1978. Quarterly and annual averages for lead in 1979 are presented in Table 28. The maximum quarterly lead level was lower in 1979 than in 1978 at 25 of the 34 hi-vol sites where the minimum EPA sampling criteria were met. At 10 of these sites the decrease exceeded 0.5 μg/m^3. The maximum quarterly lead level decreased at only 7 sites from 1978 to 1979, while none of those decreases exceeded 0.5 μg/m^3. The maximum quarterly level at the Norwich site 001 was unchanged. Annual average lead concentrations decreased at 27 sites and increased at 10 sites from 1978 to 1979. The annual average lead (Pb) levels for 1979 can be found in Table 10.

TABLE 28

1979 QUARTERLY AND ANNUAL AVERAGE LEAD (Pb) LEVELS BY SITE, $\mu g/m^3$

TOWN	SITE	QUARTERLY AVERAGES				ANNUAL AVERAGE*
		1ST	2ND	3RD	4TH	
Ansonia	003	0.75	0.85	0.80	1.61	0.97
Berlin	001	0.30	0.35	0.36	0.46	0.37
Bridgeport	001	0.90	1.01	1.05	1.39	1.09
Bridgeport	123	1.13	1.28	0.99	1.64	1.25
Bristol	001	0.44	0.50	0.46	1.07	0.62
Burlington	001	0.17	0.19	0.29	0.32	0.24
Danbury	123	0.50	0.58	0.66	1.09	0.70
East Hartford	002	0.69	0.63	0.54	1.12	0.72
Enfield	123	0.36	0.42	0.47	0.82	0.52
Greenwich	004	0.35	0.45	0.58	0.57	0.49
Greenwich	008	0.80	0.83	0.54	1.15	0.83
Groton	123	0.40	0.36	-	-	0.38
Haddam	002	0.29	0.37	0.31	0.38	0.34
Hartford	003	0.93	1.07	0.72	1.54	1.02
Hartford	123	0.94	0.84	0.70	1.39	0.95
Morris	001	0.27	0.24	0.26	0.39	0.28
Manchester	001	0.47	0.53	0.47	0.79	0.56
Meriden	002	0.88	0.78	0.67	1.14	0.86
Meriden	005	0.66	0.65	0.76	1.44	0.87
Middletown	003	0.65	0.65	0.61	1.08	0.73
Milford	002	0.75	0.83	0.75	1.19	0.88
Naugatuck	001	0.76	0.68	0.70	1.30	0.85
New Britain	123	0.49	0.60	0.63	1.39	0.80
New Haven	002	1.42	0.89	0.71	1.48	1.09
New Haven	123	1.24	1.29	1.25	1.60	1.33
Norwalk	005	0.94	1.00	0.93	1.42	1.07
Norwich	001	0.51	0.39	0.40	0.80	0.52
Old Saybrook	001	0.83	0.90	1.04	-	0.93
Stamford	007	0.66	0.65	0.60	1.02	0.73
Stamford	123	0.86	0.93	0.78	1.51	1.01
Stratford	005	0.89	1.05	0.76	1.48	1.05
Torrington	123	0.81	0.57	0.53	1.70	0.86
Voluntown	001	0.13	0.15	0.13	0.16	0.14
Wallingford	001	0.88	0.82	0.69	1.16	0.89
Waterbury	002	0.78	0.66	0.63	1.10	0.79
Waterbury	123	1.51	1.11	1.27	1.92	1.45
Waterford	001	0.18	0.20	0.24	0.17	0.20
Willimantic	002				0.84	0.84

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

VIII. CLIMATOLOGICAL DATA

Weather is often the most significant factor influencing short term changes in air quality and also has an affect on long-term trends. In Tables 29 and 30 monthly and annual averages of the 1979 climatological data from National Weather Service Stations located at Bradley International Airport in Windsor Locks and at Sikorsky Memorial Airport near Bridgeport are compared to "normal" or "mean" values. These comparisons show that 1979 was somewhat warmer than a "normal" year, and that precipitation was 19% above average in Bridgeport and nearly 7% above average in Windsor Locks. Average wind speed at Bradley was 14% below normal while it remained nearly unchanged at Bridgeport. Tables 31 and 32 contain climatological data from Windsor Locks and Bridgeport, respectively, for 1978. More discussion of the meteorological data is included in the discussions of each pollutant in the earlier sections of this 1979 Annual Summary.

Wind roses for Bradley Airport, Sikorsky Airport, and Newark Airport have been developed from 1979 National Weather Service surface observations and are shown in Figures 9, 10 and 11. Wind roses from these stations for 1978 are shown in Figures 12, 13, and 14. The differences between 1978 and 1979 wind roses were discussed earlier in the trend analysis section.

TABLE 29
1979 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)		
	1979	Mean[a]	1979	Mean[b]	1979	Normal[b]	1979	Normal[a]	1979	Mean[c]	1979	Mean[d]	
January	26.6	24.8	0	0	1184	1246	9.12	3.61	15	11	8.4	9.4	Jan.
February	18.0	27.6	0	0	1310	1070	2.83	3.22	10	11	9.1	9.7	Feb.
March	41.2	37.1	0	0	730	911	4.25	3.75	12	11	8.1	10.3	Mar.
April	49.0	48.1	0	*	473	519	5.88	3.70	15	11	8.1	10.5	Apr.
May	64.1	59.0	2	1	81	226	3.48	3.56	12	12	7.4	9.3	May
June	69.0	68.0	4	4	26	24	0.91	3.46	5	11	7.8	8.4	June
July	74.6	73.1	10	8	16	0	1.97	3.54	8	10	6.1	7.8	July
August	70.8	70.9	3	5	30	12	4.44	3.89	18	10	6.6	7.5	Aug.
September	61.6	63.6	0	1	152	106	2.95	3.69	9	10	6.7	7.6	Sept.
October	50.7	53.2	0	*	442	384	4.76	3.13	9	8	6.7	8.1	Oct.
November	45.5	42.1	0	0	578	711	3.46	3.75	11	11	7.4	8.6	Nov.
December	33.6	30.3	0	0	965	1141	2.57	3.83	7	12	8.9	8.9	Dec.
YEAR	50.4	50.0	19	20	5987	6350	46.62	43.13	131	128	7.6	8.8	YEAR

* Less than 1/2

a 1905-1979
b 1959-1979
c 1954-1979
d 1954-1979

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

TABLE 30
1979 CLIMATOLOGICAL DATA
SIKORSKY MEMORIAL AIRPORT
BRIDGEPORT

	AVERAGE TEMPERATURES °F		NUMBER OF DAYS ON WHICH MAX. TEMP. EXCEEDED 90 °F		DEGREE DAYS		PRECIPITATION IN INCHES WATER EQUIVALENT		NUMBER OF DAYS WITH MORE THAN .01 INCHES OF PRECIPITATION		AVERAGE WIND SPEED (MPH)		
	1979	Normal[a]	1979	Mean[b]	1979	Normal[b]	1979	Normal[a]	1979	Mean[c]	1979	Mean[d]	
January	30.6	28.5	0	0	1062	1079	11.20	3.69	13	11	15.7	13.0	Jan.
February	24.6	30.3	0	0	1126	955	3.65	3.34	10	10	15.0	13.5	Feb.
March	43.0	37.9	0	0	675	840	3.70	3.94	9	11	11.9	13.5	Mar.
April	49.5	48.0	0	0	460	498	4.53	3.81	12	11	12.9	13.0	Apr.
May	61.7	58.3	0	*	114	225	4.88	3.70	12	11	11.2	11.7	May
June	66.6	67.8	0	1	23	24	3.29	3.28	10	9	10.0	10.5	June
July	73.8	73.3	0	3	8	0	0.47	3.62	6	8	9.5	10.0	July
August	72.8	71.9	1	2	13	0	4.35	4.10	12	10	11.0	10.0	Aug.
September	64.8	65.2	0	*	84	42	4.46	3.59	8	9	11.8	11.1	Sept.
October	53.2	54.8	0	0	360	261	2.71	3.36	9	7	11.9	11.8	Oct.
November	47.3	44.1	0	0	523	570	2.54	3.78	11	10	11.5	12.7	Nov.
December	37.9	33.1	0	0	833	967	2.24	3.78	9	11	13.3	13.0	Dec.
YEAR	52.2	51.1	1	6	5281	5461	48.02	43.99	121	118	12.3	12.0	YEAR

* Less than 1/2

[a] 1905-1979
[b] 1959-1979
[c] 1949-1979
[d] 1958-1979

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

TABLE 31
1978 CLIMATOLOGICAL DATA
BRADLEY INTERNATIONAL AIRPORT
WINDSOR LOCKS

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

* Less than 1/2

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

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

TABLE 32
1978 CLIMATOLOGICAL DATA
SIKORSKY MEMORIAL AIRPORT
BRIDGEPORT

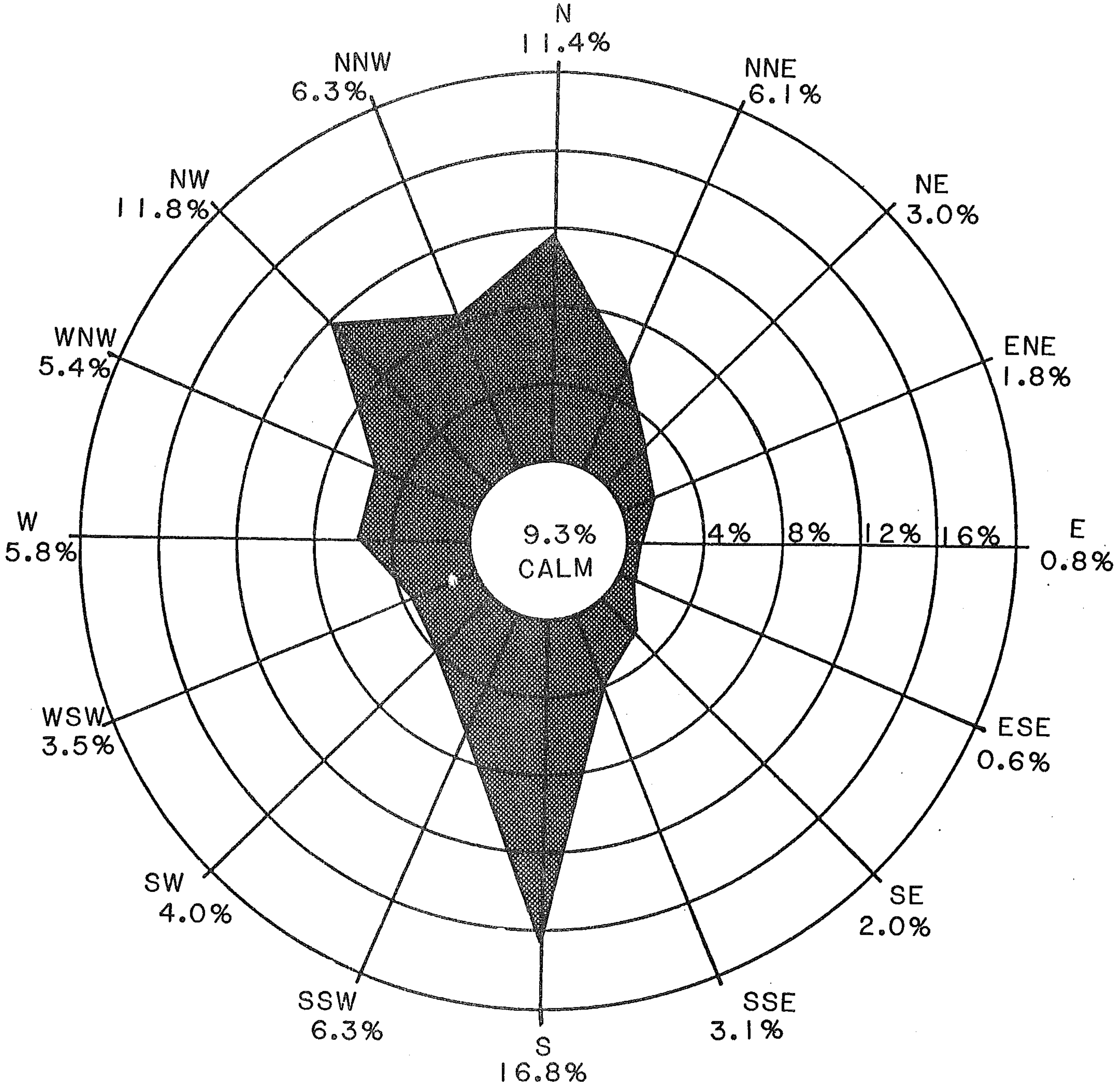
	AVERAGE TEMPERATURES °F		NUMBER OF DAYS ON WHICH MAX. TEMP. EXCEEDED 90 °F		DEGREE DAYS		PRECIPITATION IN INCHES WATER EQUIVALENT		NUMBER OF DAYS WITH MORE THAN .01 INCHES OF PRECIPITATION		AVERAGE WIND SPEED (MPH)		
	1978	Normal[a]	1978	Mean[b]	1978	Normal[a]	1978	Normal[a]	1978	Mean[c]	1978	Mean[d]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

* Less than 1/2

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

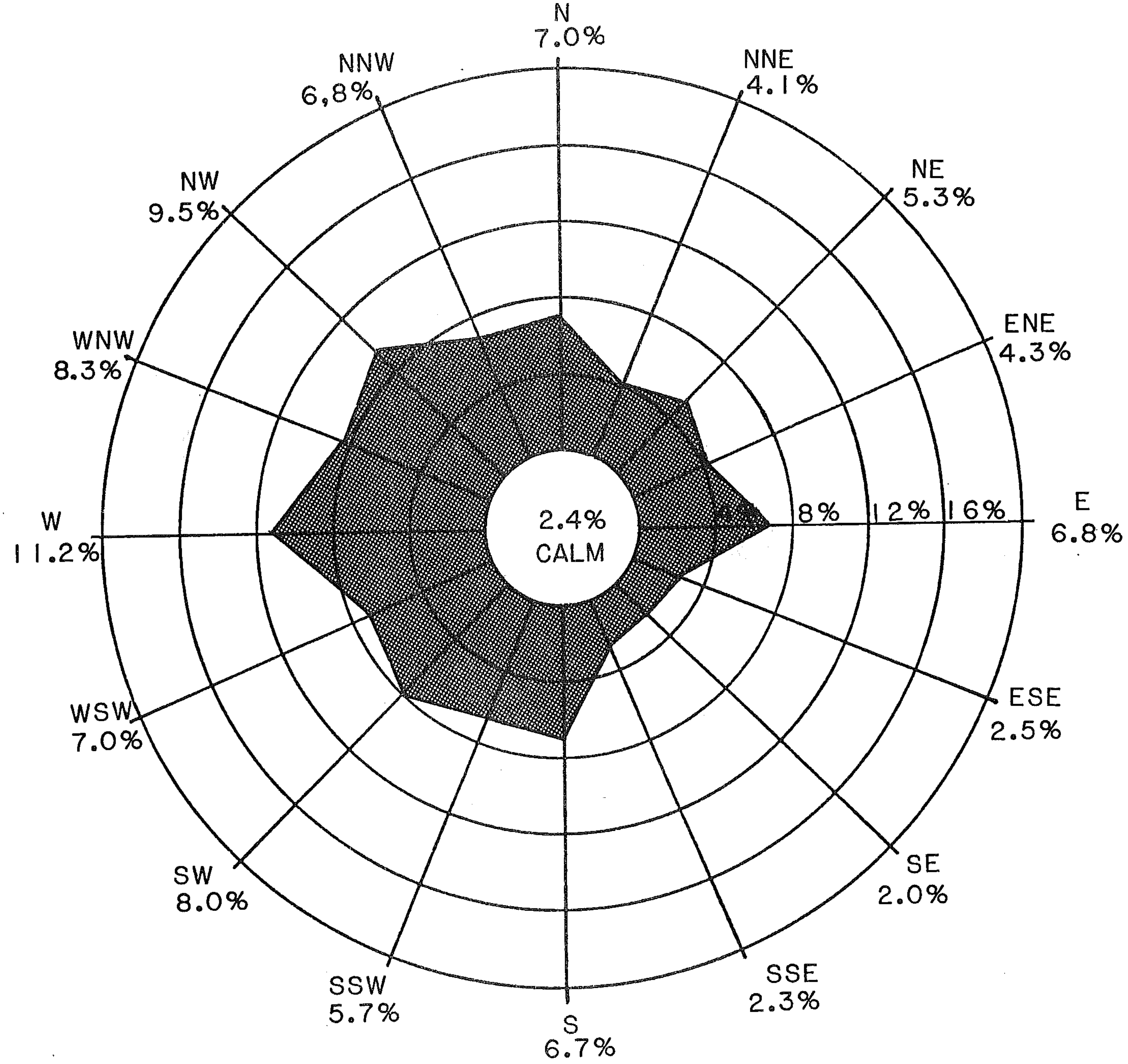
Extracted From: Local Climatological Data Charts
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Data Service

FIGURE 9



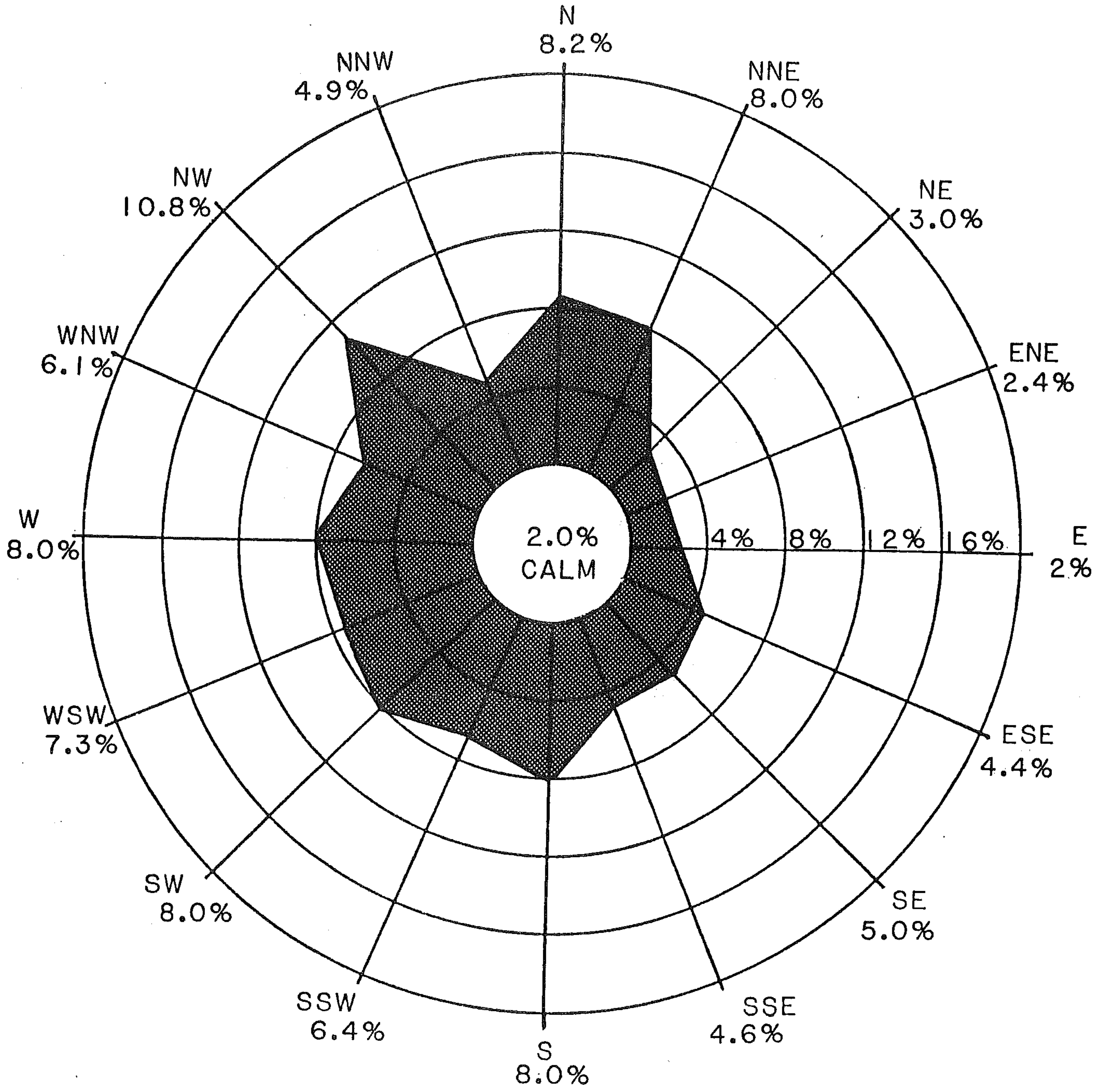
ANNUAL WIND ROSE 1979
BRADLEY INTERNATIONAL AIRPORT
WINDSOR LOCKS, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABREVIATION

FIGURE 10



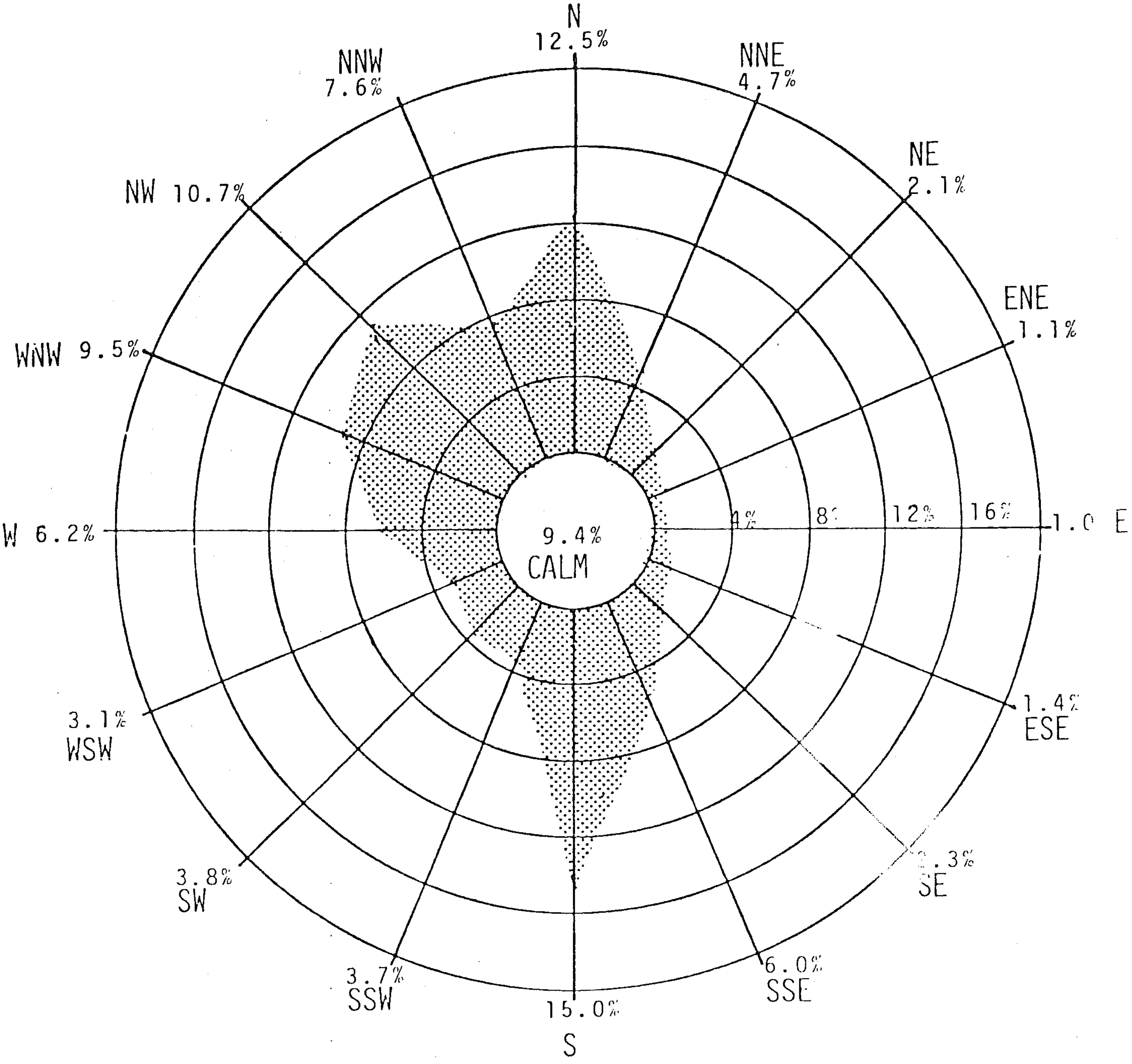
ANNUAL ROSE 1979
SIKORSKY MEMORIAL AIRPORT
STRATFORD/BRIDGEPORT, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABREVIATION

FIGURE 11



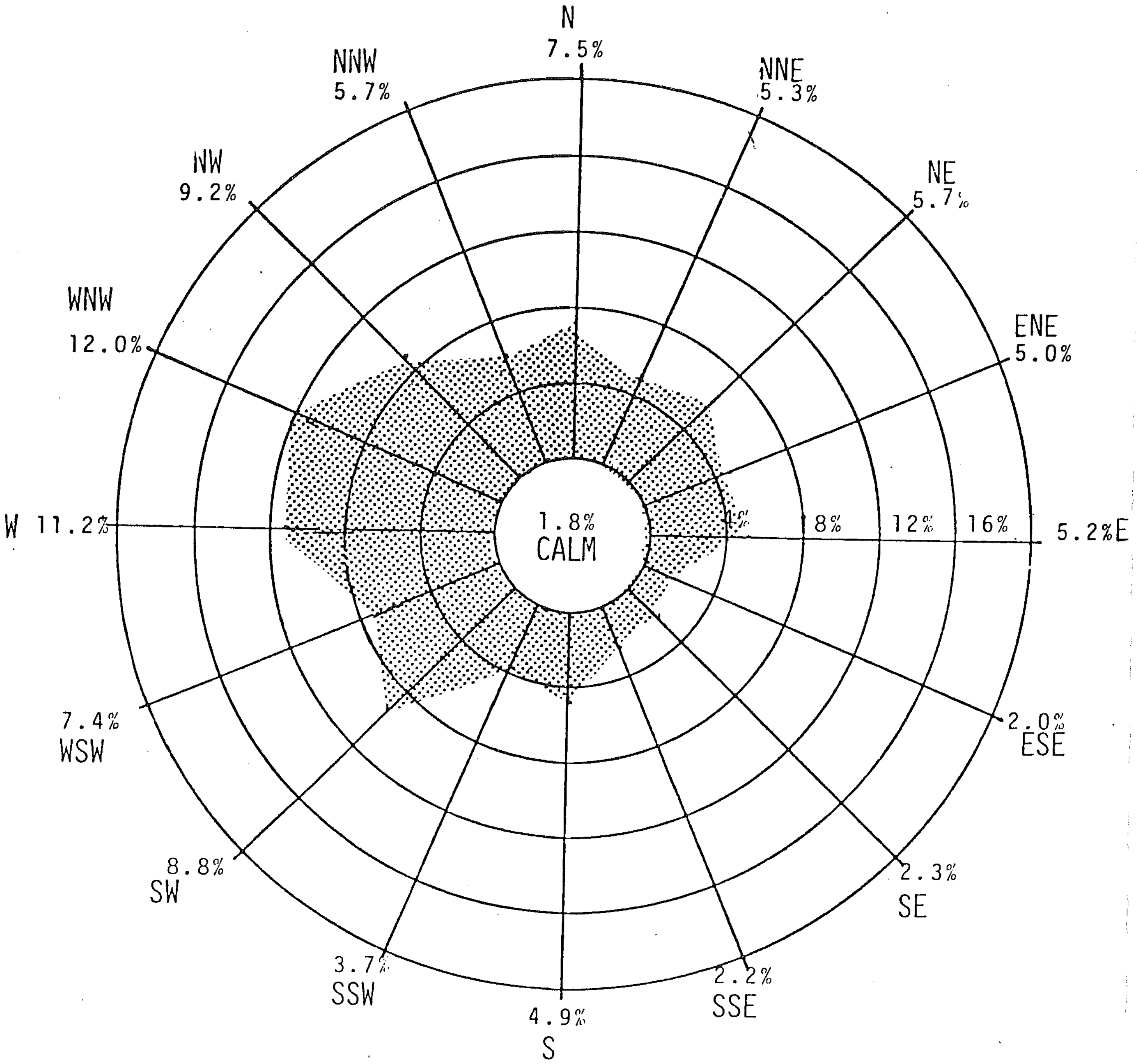
ANNUAL WIND ROSE 1979
NEWARK INTERNATIONAL AIRPORT
NEWARK, NEW JERSEY
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABREVATION

FIGURE 12



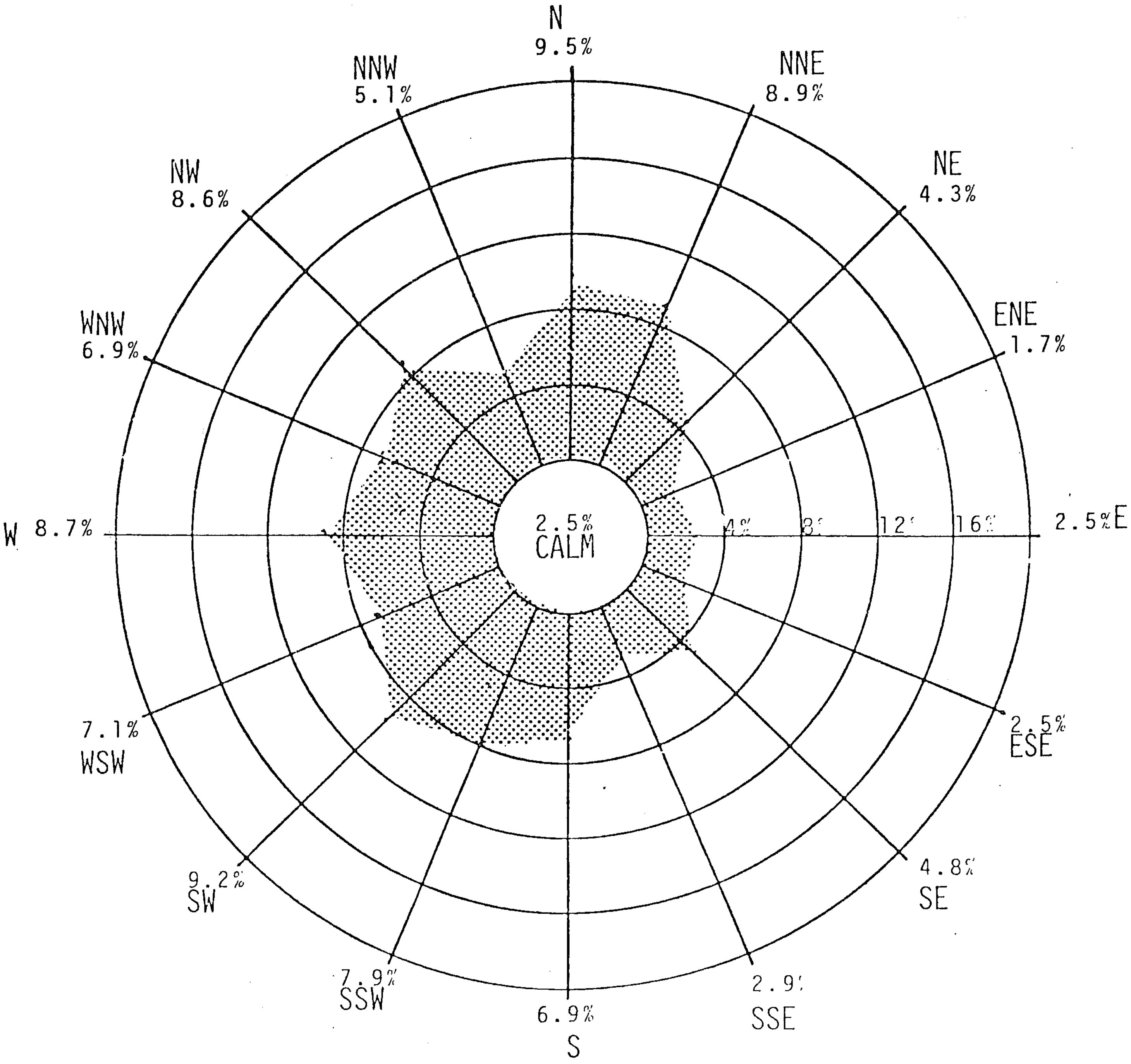
ANNUAL WIND ROSE 1978
BRADLEY INTERNATIONAL AIRPORT
WINDSOR LOCKS, CONNECTICUT
WIND FREQUENCY APPEARS NEXT TO EACH DIRECTIONAL ABBREVIATION

FIGURE 13



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

FIGURE 14



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

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

Connecticut's four Air Quality Control Regions (AQCR's, see Figure 15) have been analyzed for attainment status of National Ambient Air Quality Standards (NAAQS) for the following pollutants: 1) Total Suspended Particulates (TSP); 2) Sulfur Dioxide (SO_2); 3) Ozone (O_3); 4) Nitrogen Dioxide (NO_2); 5) Carbon Monoxide (CO); and 6) Lead (Pb). Table 33 shows the attainment/non-attainment status for the NAAQS's for each pollutant in each AQCR. The regions are classified as attainment, non-attainment or unclassifiable. Regions are non-attainment if the region, or any portion thereof, was in violation of any NAAQS at any time during 1976, 1977, 1978, or 1979. Unclassifiable regions are ones in which there were no monitors with which to determine attainment or non-attainment.

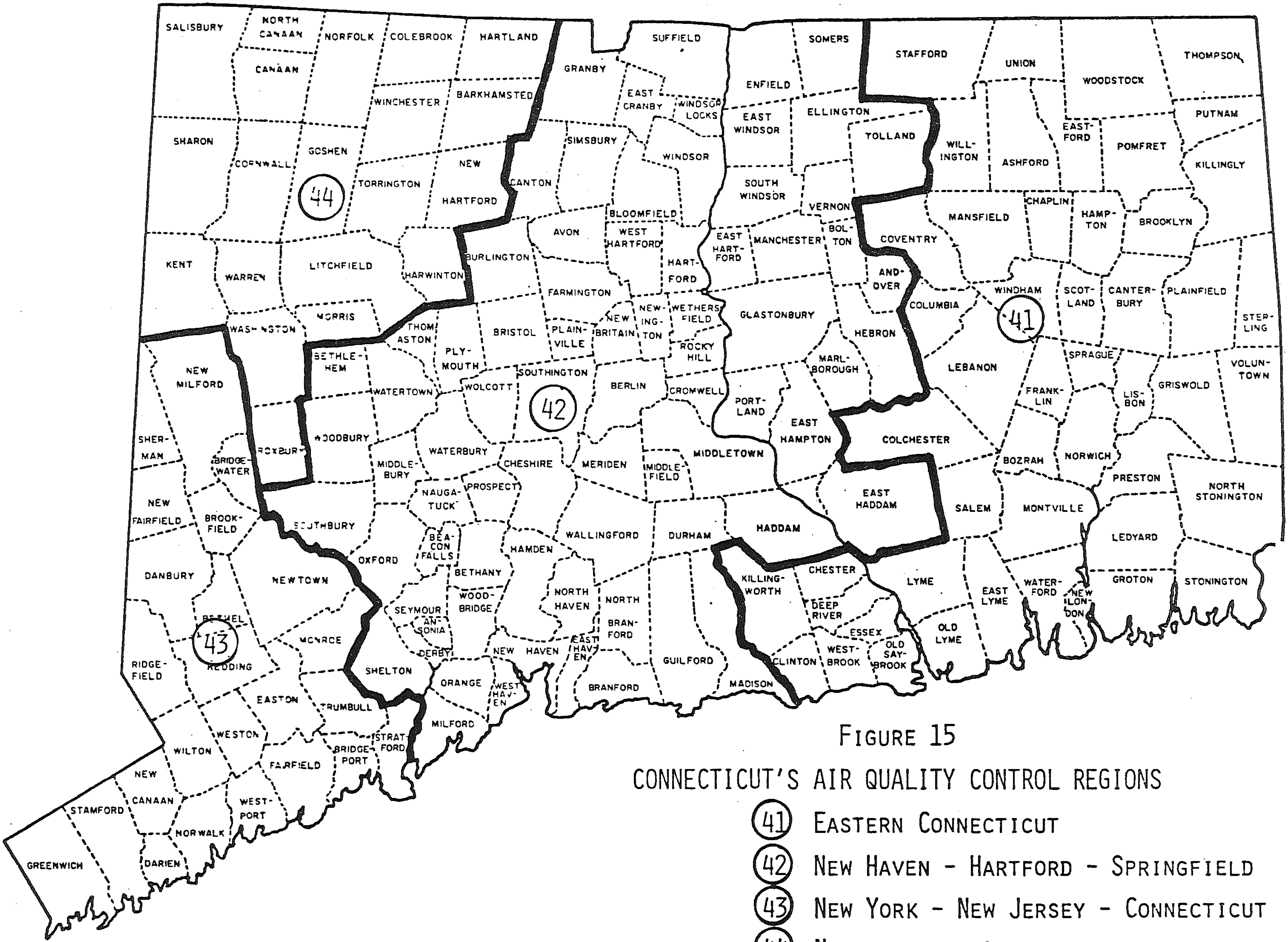


FIGURE 15

CONNECTICUT'S AIR QUALITY CONTROL REGIONS

㊶ EASTERN CONNECTICUT

㊷ NEW HAVEN - HARTFORD - SPRINGFIELD

㊸ NEW YORK - NEW JERSEY - CONNECTICUT

㊹ NORTHWESTERN CONNECTICUT

TABLE 33

CONNECTICUT'S COMPLIANCE WITH THE NAAQS (BY AQCR)

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

X = Non-Attainment
U = Unclassifiable
A = Attainment

* Town of Waterbury only
** Town of Greenwich only

X. SPECIAL STUDIES

A. STATIONARY SOURCE STACK HEIGHT GUIDELINE

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

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

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

B. AMBIENT IMPACT ANALYSIS GUIDELINE

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

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

The Guideline employs a modified version of the atmospheric dispersion model PTMTP. This version allows direct input of x, y and z coordinates of up to 85 point sources and 30 receptors and automatically handles the effects of topography independently for each source-receptor alignment by making specified adjustments to the plume flow (i.e., the distance from the plume centerline to the ground). These adjustments depend upon the magnitude of the terrain differences and the atmospheric stability conditions.

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

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

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

C. PASSIVE SAMPLING ERROR

The current Federal EPA reference method for the determination of Total Suspended Particulate matter (TSP) in the atmosphere is the high volume method (hi-vol). The hi-vol sampler is normally operated for a 24-hour period by drawing air through an 8 x 10 in. glass fiber filter at an air sampling flow rate of between 40-60 cfm (cubic feet per minute). Normally, an expended collection filter is picked-up and replaced with a clean filter some time after each 24-hour sampling interval. Most TSP samples are presently collected in this manner every 6th day (61 samples per year). This sampling schedule allows the filter to remain in the hi-vol for up to 5 days prior to the intended sampling date (the only day when the hi-vol motor is operating) and for up to 5 more days after sampling is completed. Although sheltered from above, these filters are exposed to the air and are therefore able to pick-up material by deposition or chemical reaction (with acid gases such as SO_2 and NO_2) or lose material due to wind erosion.

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

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

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

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

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

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

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

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

TABLE 34 PASSIVE SAMPLING DATA

HARTFORD 003, 1977

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

TABLE 34 (continued)

HARTFORD 003, 1977

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

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

HARTFORD 003, 1978

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

TABLE 34 (continued)

HARTFORD 003, 1978

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

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

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

BERLIN 001, 1978

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

TABLE 34 (continued)

BERLIN 001, 1978

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

4/10/78-1/2/79

Avg. N = 6.07 Avg. N-1 = 5.07 Avg. % Passive = 8.70

BERLIN 001, 1979

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

4/10/78-4/10/79

Avg. N = 5.98 Avg. N-1 = 4.98 Avg. % Passive = 7.86

WATERBURY 123, 1978

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

WATERBURY 123, 1978

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

4/12/78-12/29/78

Avg. N = 5.98   Avg. N-1 = 4.98   Avg. % Passive = 10.97

WATERBURY 123, 1979

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

TABLE 34 (continued)

WATERBURY 123, 1979

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

4/12/78-4/16/79
Avg. N = 5.97 Avg. N-1 = 4.97 Avg. % Passive = 12.46

D. PUBLICATIONS

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

1. Bruckman, L., Asbestos: An Evaluation of Its Environmental Impact in Connecticut, internal report issued by the Connecticut Department of Environmental Protection, Hartford, Connecticut, March 12, 1976.

2. Lepow, M.L., L. Bruckman, R.A. Rubino, S. Markowitz, M. Gillette and J. Kapish, "Role of Airborne Lead in Increased Body Burden of Lead in Hartford Children," Environ. Health Perspect., May, 1974, pp. 99-102.

3. Bruckman, L. and R.A. Rubino, "Rationale Behind a Proposed Asbestos Air Quality Standard," paper presented at the 67th Annual Meeting of the Air Pollution Control Association, Denver, Colorado. June 9-11, 1974, J. Air Pollut. Cntr. Assoc., 25: 1207-15 (1975).

4. Rubino, R.A., L. Bruckman and J. Magyar, "Ozone Transport," paper presented at the 68th Annual Meeting of the Air Pollution Control Association, Boston, Massachusetts, June 15-20, 1975, J. Air Pollut. Cntr. Assoc., 26: 972-5 (1976).

5. Bruckman, L., R.A. Rubino and T. Helfgott, "Rationale Behind a Proposed Cadmium Air Quality Standard," paper presented at the 68th Annual Meeting of the Air Pollution Control Association, Boston, Massachusetts, June 15-20, 1975.

6. Rubino, R.A., L. Bruckman, A. Kramar, W. Keever and P. Sullivan, "Population Density and Its Relationship to Airborne Pollutant Concentrations and Lung Cancer Incidence in Connecticut," paper presented at the 68th Annual Meeting of the Air Pollution Control Association, Boston, Massachusetts, June 15-20, 1975.

7. Lepow, M.L., L. Bruckman, M. Gillette, R.A. Rubino and J. Kapish, "Investigations into Sources of Lead in the Environment of Urban Children," Environ. Res., 10: 415-26 (1975).

8. Bruckman, L., E. Hyne and P. Norton, "A Low Volume Particulate Ambient Air Sampler," paper presented at the APCA Specialty Conference entitled "Measurement Accuracy as it Relates to Regulation Compliance," New Orleans, Louisiana, October 26-28, 1975, APCA publication SP-16, Air Pollution Control Association, Pittsburgh, Pennsylvania, 1976.

9. Bruckman, L. and R.A. Rubino, "High Volume Sampling Errors Incurred During Passive Sample Exposure Periods," J. Air Pollut. Cntr. Assoc., 26: 881-3 (1976).

10. Bruckman, L., R.A. Rubino and B. Christine, "Asbestos and Mesothelioma Incidence in Connecticut," J. Air Pollut. Cntr. Assoc., 27: 121-6 (1977).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

25. Wolff, G.T., P.J. Lioy, G.D. Wight, R.E. Meyers, and R.T. Cederwall, "Transport of Ozone Associated With an Air Mass," In: Proceed. 70 Annual Meeting APCA, Paper #77-20.3, Toronto, Canada, June, 1977.

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

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

28. Wolff, G.T., P.J. Lioy, G.D. Wight, R.E. Meyers, and R.T. Cederwall, "An Investigation of Long-Range Transport of Ozone Across the Midwestern and Eastern U.S.," Atmos. Environ. 11:797 (1977).