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Region I
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1984 Annual Report on Air Quality in New England

1984 ANNUAL REPORT ON AIR QUALITY IN NEW ENGLAND

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1984 ANNUAL REPORT ON AIR QUALITY IN NEW ENGLAND

This report represents 1984 annual air quality information for all states in New England. The majority of the data included in this report was submitted to EPA by the states from their ambient monitoring networks in accordance with 40 CFR 58. The only data from industrial monitors which have been included are from EPA-required networks in New Hampshire and from Maine's licensing program which supplements the state's network.

This report is intended to list potential nonattainment areas for planning purposes. The majority of data used has been evaluated and verified by EPA; however, for the areas listed as nonattainment, the data may require further evaluation by both EPA and the states.

Table 1 is a summary of the status of the National Air Monitoring Sites (NAMS) and the State/Local Air Monitoring Sites (SLAMS) submitting data to Region I. This table lists the number of sites operating, the required number of sites, the number of sites reporting precision and accuracy data, and the number of sites not meeting EPA minimum data capture requirements.

Table 2 shows the number of stations violating the National Ambient Air Quality Standards (NAAQS) and the total number of stations reporting data during 1984. There were no stations in violation of the 24-hour primary SO_2 standard, the 3-hour secondary SO_2 standard, or the annual primary SO_2 standard. For particulates, four stations were in violation of the 24-hour primary standard, and sixteen stations were in violation of the 24-hour secondary standard. The annual primary standard was violated at one station. Nine stations were in violation of the CO 8-hour primary standard, and no stations were in violation of the 1-hour primary standard. For ozone, there were twenty-five stations in violation of the 1-hour primary standard. No stations violated the NO_2 annual standard or the lead quarterly standard.

Table 3 lists every state site in New England. The information presented compares the measured values to each NAAOS. The information included is the number of exceedences, the maximum and second high values, and the annual means (geometric mean for TSP, arithmetic mean or average

for SO_2 and NO_2). Those stations reporting a maximum above the standard, but a second high below the standard are included in this table. For intermittent data, an annual mean is not valid unless there are four valid quarters. To be considered valid, a quarter must have at least five values; and if any one month is missing, each of the other two months must have two or more values. For continuous data, 75 percent of the year must be available to calculate a valid annual average.

Table 4 shows the number of stations violating the NAAQS by Air Quality Control Region (AQCR), as well as the total number of monitors in each AQCR. A map delineating the AQCRs in Region I is included at the end of this table (Figure 1).

Table 5 has been developed to point out areas where air quality levels have exceeded the emergency, warning, or alert episode levels. An air pollution alert (warning or emergency) will be called when specified pollutant concentrations are reached provided that meteorological conditions are such that these levels can be expected to persist for 12 hours or more. In the case of ozone, an alert (warning or emergency) will be called if the situation is likely to reoccur within the next 24 hours. Episode levels were reached or exceeded for particulates at two sites; for CO at one site; and for ozone at eight sites.

Tables 6 and 7 list the precision and accuracy data submitted by the six New England states. The 95% probability limits for five criteria pollutants are given as a network average for each state.

Table 8 lists the results from the Region I audit program for TSP, SO_2, CO, NO_2, and O_3. The results presented on a state-by-state basis give the number of satisfactory, marginal, and unsatisfactory audits.

Tables 9 and 10, respectively, list the nonattainment areas in New England with the last reported violation and the attainment and unclassified areas in which there were recent violations to NAAQS.

Following Table 10 is a discussion of air quality trends in New England for the criteria pollutants. This discussion includes several charts of selected air quality montoring sites which show a linear regression of the deseasonalized monthly means for TSP, SO_2, and CO during the last five years. For ozone, a chart of the number of days exceeding the standard each year for the last five years is used.

NATIONAL AIR QUALITY STANDARDS[a]

Pollutant	Averaging Time	Primary Standards[b]	Secondary Standards[c]	Reference Methods[d]
Sulfur Dioxide	Annual Arithmetic Mean	80 ug/m^3 (0.03 ppm)		Pararosaniline Method
	24 hours	365 ug/m^3 (0.14 ppm)		Pararosaniline Method
	3 hours	--	1300 ug/m^3 (0.5 ppm)	Pararosaniline Method
Particulate Matter	Annual Geometric Mean	75 ug/m^3	60 ug/m^3[e]	High Volume Sampling Method
	24 hours	260 ug/m^3	150 ug/m^3	High Volume Sampling Method
Carbon Monoxide	8 hours	10 mg/m^3 (9 ppm)	Same as Primary Standard	Non-Dispersive Infrared Spectroscopy
	1 hour	40 mg/m^3 (35 ppm)	Same as Primary Standard	Non-Dispersive Infrared Spectroscopy
Ozone	1 hour	0.120 ppm (235 ug/m^3)	Same as Primary Standard	Gas Phase Chemi-luminescent Method
Nitrogen Dioxide	Annual Arithmetic Mean	100 ug/m^3 (0.05 ppm)	Same as Primary Standard	Gas Phase Chemiluminescence
Lead	Calendar Quarter Arithmetic Mean	1.5 ug/m^3	Same as Primary Standard	High Volume Sampling Method

[a]National standards other than those based on annual arithmetic means or annual geometric means are not to be exceeded more than once per year.

[b]National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[c]National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[d]Reference method as described by the EPA. An "equivalent method" means any method of sampling and analysis which can be demonstrated to the EPA to have a "consistent relationship to the reference method."

[e]Guideline to be used in assessing implementation plans.

TABLE 1

1984 SUMMARY OF NEW ENGLAND NAMS/SLAMS

State	NAMS[1] Number Operating[3]	NAMS[1] Number Not Meeting EPA's Minimum Data Capture Requirements[4]	SLAMS[2] Number Operating	SLAMS[2] Number Not Meeting EPA's Minimum Data Capture Requirement	NAMS/SLAMS Percent of Required Precision and Accuracy Data
CT	32/32	0	63/63	0	100
ME	3/3	0	13/13	0	95
MA	46/46	2	24/24	2	100
NH	3/3	0	28/29	1	100
RI	15/15	0	10/10	0	96
VT	2/2	0	10/10	2	100
Totals	101/101	2	148/149	5	

(1) NAMS - National Air Monitoring Sites

(2) SLAMS - State/Local Air Monitoring Sites

(3) x/y: x is the number of sites operating;
y is the total number of sites required to be operated.

(4) Adjusted for seasonal monitoring and site start-ups and terminations

TABLE 2

NUMBER OF STATIONS VIOLATING
NATIONAL AMBIENT AIR QUALITY STANDARDS

Standard		CT	ME	MA	NH	RI	VT
SO_2							
Annual Primary	80 ug/m^3	0/19	0/27	0/19	0/20	0/4	0/3
24-hour Primary*	365 ug/m^3	0/19	0/27	0/19	0/20	0/4	0/3
3-hour Secondary*	1300 ug/m^3	0/19	0/27	0/19	0/20	0/4	0/3
Particulates							
Annual Primary	75 ug/m^3	0/42	0/58	0/24	1/27	0/12	0/6
24-hour Primary*	260 ug/m^3	0/42	3/58	0/24	1/27	0/12	0/6
24-hour Secondary*	150 ug/m^3	0/42	11/58	0/24	3/27	0/12	2/6
CO							
8-hour Primary*	10 ug/m^3	2/5	0/1	4/8	2/2	1/2	0/1
1-hour Primary*	40 ug/m^3	0/5	0/1	0/8	0/2	0/2	0/1
O_3							
1-hour Primary*	0.12 ppm	10/10	2/6	11/14	0/5	2/2	0/2
NO_2							
Annual Primary	100 ug/m^3	0/3	---	0/10	---	0/1	---
Pb							
Quarterly Mean	1.5 ug/m^3	0/20	0/9	0/6	0/9	0/5	---

*Unless the second highest average exceeds the NAAQS, there is no violation.
x/y - x is the number of stations in violation.
y is the total number of stations.
--- This pollutant is not monitored in the state.

ABBREVIATIONS AND SYMBOLS USED IN TABLE 3

Site I.D.	Site identification number
#Obs	Number of observations
Max 24-hr 1st	Highest 24-hour value recorded in the year
Max 24-hr 2nd	Second highest 24-hour value recorded in the year
Obs > 260	Number of 24-hour values greater than 260 ug/m^3 for TSP
Obs > 150	Number of 24-hour values greater than 150 ug/m^3 for TSP
Arit Mean	Arithmetic mean
Geo Mean	Geometric mean
GSD	Geometric standard deviation
Qtrly Arith Mean 1st	First quarter arithmetic mean
Qtrly Arith Mean 2nd	Second quarter arithmetic mean
Qtrly Arith Mean 3rd	Third quarter arithmetic mean
Qtrly Arith Mean 4th	Fourth quarter arithmetic mean
Means > 1.5	Number of quarterly means greater than 1.5 ug/m^3 for lead
Max Values 1st	Highest 24-hour value recorded for the year
Max Values 2nd	Second highest 24-hour value recorded for the year
Meth	Method
Max 1-hr 1st	Highest 1-hour value recorded in the year
Max 1-hr 2nd	Second 1-hour highest value recorded in the year
Obs > 40	Number of observations greater than 40 mg/m^3 for CO
Max 8-hr 1st	Highest 8-hour value recorded in the year
Max 8-hr 2nd	Second 8-hour highest value recorded in the year
Obs > 10	Number of 8-hour averages greater than 10 mg/m^3 for CO
Obs > 365	Number of 24-hour averages greater than 365 ug/m^3 for SO_2
Max 3-hr 1st	Highest 3-hour value recorded in the year
Max 3-hr 2nd	Second highest 3-hour value recorded in the year
Obs > 1300	Number of 3-hour averages greater than 1300 ug/m^3 for SO_2
Valid # Meas	The valid number of days measured
Valid # Req	The valid number of days in the ozone season
Daily Max 1-hr 1st	Maximum hourly ozone value for the highest day
Daily Max 1-hr 2nd	Maximum hourly ozone value for the second highest day
Daily Max 1-hr 3rd	Maximum hourly ozone value for the third highest day

ABBREVIATIONS AND SYMBOLS USED IN TABLE 3 (Continued)

Vals $\geq$ .125 Est	Number of measured daily maximum greater than or equal to 0.125 ppm for O_3
Vals $\geq$ .125 Est	Number of expected violations for O_3
Miss Days Ass < Std	Number of missing days assumed to be less than the standard

TABLE 3

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 CONNECTICUT - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
07 0008 003 F01	Ansonia	New Haven	Martin Building, 166 Main Street	60	94	85			46	43	1.5
07 0060 001 F01	Bridgeport	Fairfield	City Hall, 47 Lyon Terrace	58	98	74			45	43	1.4
07 0060 009 F01	Bridgeport	Fairfield	Bassick High School	58	101	99			46	41	1.6
07 0060 123 F01	Bridgeport	Fairfield	Trailer, Hallet Street and Barnum Avenue	57	127	121			57	52	1.6
07 0070 001 F01	Bristol	Hartford	City Hall, Main Street	56	84	71			38	35	1.6
07 0085 001 F03	Burlington	Hartford	Fish Hatchery, Punch Brook Road	58	86	52			25	20	1.8
07 0175 002 F01	Danbury	Fairfield	Public Library, 170 Main Street	56	92	89			48	44	1.5
07 0175 123 F01	Danbury	Fairfield	Trailer, Connecticut State College	57	96	96			47	43	1.6
07 0220 004 F01	East Hartford	Hartford	City Hall, 740 Main Street	57	102	96			45	41	1.5
07 0330 008 F01	Greenwich	Fairfield	Cos Cob Pumping Station, River Road	61	97	91			44	41	1.5
07 0350 006 F01	Groton	New London	Highway Garage	56	109	90			42	37	1.7
07 0420 003 F01	Hartford	Hartford	Library, Main Street	60	110	107			52	48	1.5
07 0420 013 F01	Hartford	Hartford	401 Flatbush Avenue	57	110	110			48	44	1.5
07 0420 014 F01	Hartford	Hartford	Fire Station, 510 Franklin Avenue	60	95	91			45	42	1.5
07 0478 001 F03	Litchfield	Litchfield	Morris Dam, Route 109, Morris	13	51	48			30?	28?	1.5
07 0510 001 F01	Manchester	Hartford	Town Hall, 41 Center Street	60	91	66			34	31	1.5

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 CONNECTICUT - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
07 0540 002 F01	Meriden	New Haven	Stoddard Building, 165 Miller Street	60	116	92			46	42	1.5
07 0540 008 F01	Meriden	New Haven	Trumbull School	7	56	45			41?	40?	1.2
07 0570 003 F01	Middletown	Middlesex	City Hall, Dekoven Drive	55	95	83			42	39	1.5
07 0590 002 F01	Milford	New Haven	Devon Community Center, Naugatuck Avenue	61	79	71			44	41	1.5
07 0660 001 F01	Naugatuck	New Haven	Town Hall, 229 Church Street	59	100	98			45	41	1.6
07 0680 007 F01	New Britain	Hartford	Fire Station, South Main Street	59	90	87			40	37	1.5
07 0680 008 F01	New Britain	Hartford	Fire Station, Beaver Street	61	101	90			41	37	1.6
07 0680 009 F01	New Britain	Hartford	Chamberlain School, Newington Road	60	94	81			39	36	1.6
07 0700 002 F01	New Haven	New Haven	Clinton School, Clinton Avenue	53	110	87			49	45	1.5
07 0700 013 F01	New Haven	New Haven	Fire Station, Grand Avenue	59	102	78			48	45	1.4
07 0820 001 F01	Norwalk	Fairfield	Board of Education, 105 Main Street	57	108	86			45	42	1.5
07 0820 005 F01	Norwalk	Fairfield	Health Department, 137 East Avenue	56	100	94			49	46	1.5
07 0820 012 F01	Norwalk	Fairfield	Post Office, Washington Street	60	93	89			44	41	1.5
07 0840 001 F01	Norwich	New London	Cisco Building, Main Street	20	70	61			42?	40?	1.5
07 0840 002 F01	Norwich	New London	22 Court House Square	39	98	86			49?	45?	1.5
07 1080 001 F01	Stamford	Fairfield	Fire Station, 653 Main Street	57	117	111			51	45	1.6
07 1080 007 F01	Stamford	Fairfield	Department of Public Works, Magee Avenue	57	116	98			48	45	1.4

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 CONNECTICUT - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
07 1080 021 F01	Stamford	Fairfield	Community Center, Henry Street	58	110	104			53	50	1.5
07 1110 005 F01	Stratford	Fairfield	Health and Welfare Building, Main Street	60	103	92			48	44	1.5
07 1160 001 F01	Torrington	Litchfield	140 Main Street	61	98	93			43	38	1.6
07 1205 001 F03	Voluntown	New London	Pachaug State Forest	59	69	63			27	24	1.7
07 1210 001 F01	Wallingford	New Haven	Town Hall, 350 Center Street	61	95	92			47	43	1.5
07 1240 005 F01	Waterbury	New Haven	Court House, Grand Street	57	99	94			45	41	1.5
07 1240 006 F01	Waterbury	New Haven	Fire Station, Willow Street	58	98	81			41	37	1.6
07 1240 007 F01	Waterbury	New Haven	Fire Station, East Main Street	59	114	106			52	47	1.5
07 1410 002 F01	Willimantic	Windham	Court House, 108 Valley Street	60	83	72			41	38	1.5

TABLE 3 (Continued)

AMBIENT AIR OUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 CONNECTICUT - LEAD (ug/m^3)

Method: Hi Volume, Atomic Absorption-92; Lo Volume, Atomic Absorption-94

Site I.D.	Location	County	Address	# Obs	Qtrly Arith Mean 1st	2nd	3rd	4th	Means > 1.5	Max Values 1st	2nd	Meth
07 0008 003 F01	Ansonia	New Haven	Martin Building, 166 Main Street	60	.29	.26	.24	.32		.37	.36	92
07 0060 009 F01	Bridgeport	Fairfield	Bassick High School	57	.25	.24	.22	.30		.34	.33	92
07 0060 010 F01	Bridgeport	Fairfield	680 Park Avenue	11	.44	.45	.42	.50		.61	.55	94
07 0060 123 F01	Bridgeport	Fairfield	Trailer, Hallet Street and Barnum Avenue	57	.31	.33	.32	.49		.56	.48	92
07 0070 001 F01	Bristol	Hartford	City Hall, Main Street	57	.15	.16	.20	.25		.28	.25	92
07 0175 002 F01	Danbury	Fairfield	Public Library, 170 Main Street	57	.26	.20	.22	.30		.38	.32	92
07 0420 014 F01	Hartford	Hartford	Fire Station, 510 Franklin Street	60	.30	.25	.24	.48		.54	.52	92
07 0420 015 F01	Hartford	Hartford	400 Sheldon Street	12	.53	.40	.40	.67		.80	.73	94
07 0420 016 F01	Hartford	Hartford	151 Farmington Avenue	12	.64	.46	.52	.67		.89	.81	94
07 0540 002 F01	Meriden	New Haven	Stoddard Building, 165 Miller Street	60	.29	.20	.26	.44		.59	.40	92
07 0570 003 F01	Middletown	Middlesex	City Hall, Dekoven Drive	56	.28	.21	.27	.35		.42	.38	92
07 0680 007 F01	New Britain	Hartford	Fire Station, South Main Street	60	.21	.14	.20	.34		.38	.35	92
07 0700 016 F01	New Haven	New Haven	State Street	12	.41	.42	.49	.48		.60	.57	94
07 0700 123 F01	New Haven	New Haven	Trailer, 715 State Street	59	.47	.42	.36	.53		.66	.60	92
07 0820 012 F01	Norwalk	Fairfield	Post Office, Washington Street	60	.33	.28	.24	.36		.49	.42	92
07 1080 001 F01	Stamford	Fairfield	Fire Station, 653 Main Street	58	.27	.26	.23	.29		.43	.36	92
07 1080 022 F01	Stamford	Fairfield	389 Washington Boulevard	12	.35	.35	.38	.37		.45	.45	94
07 1210 001 F01	Wallingford	New Haven	Town Hall, 350 Center Street	60	.25	.22	.24	.40		.49	.42	92

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR OUALITY STANDARDS

1984 CONNECTICUT - LEAD (ug/m^3)

Method: Hi Volume, Atmoic Absorption-92; Lo Volume, Atomic Absorption-94

Site I.D.	Location	County	Address	# Obs	Qtrly Arith Mean 1st	2nd	3rd	4th	Means > 1.5	Max Values 1st	2nd	Meth
07 1240 007 F01	Waterbury	New Haven	Fire Station, East Main Street	59	.35	.35	.38	.56		.74	.48	92
07 1240 123 F01	Waterbury	New Haven	Entrance to I84	60	.42	.43	.44	.71		.88	.69	92

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 CONNECTICUT - CARBON MONOXIDE (mg/m^3)

Method: Hourly Values, Nondispersive Infrared (NDIR) Continuous-11

Site I.D.	Location	County	Address	# Obs	Max 1-hr 1st	Max 1-hr 2nd	Obs >40	Max 8-hr 1st	Max 8-hr 2nd	Obs >10
07 0060 004 F01	Bridgeport	Fairfield	Jasper McLevy Hall, State Street	8622	15.1	13.6		9.8	9.3	
07 0420 017 F01	Hartford	Hartford	221 Asylum Avenue	8047	26.0	24.5		15.4	13.5	13
07 0680 002 F01	New Britain	Hartford	City Hall, 27 West Main Street	8418	17.7	16.7		10.4	9.7	
07 0700 007 F01	New Haven	New Haven	City Hall, 161 Church Street	2084	15.6	13.3		8.7	7.3	
07 1080 020 F01	Stamford	Fairfield	Ferguson Library, 96 Broad Street	8678	21.2	20.6		12.3	12.1	2

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 CONNECTICUT - SULFUR DIOXIDE (ug/m^3)

Method: Hourly Values, Pulsed Fluorescent-20

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean
07 0060 012 F01	Bridgeport	Fairfield	Edison School, 115 Boston Terrace	7871	240	211		357	287		401	383	34
07 0060 123 F01	Bridgeport	Fairfield	Trailer, Hallet Street and Barnum Avenue	8206	204	176		321	274		383	320	32
07 0175 123 F01	Danbury	Fairfield	Trailer, Connecticut State College	8224	136	124		210	181		236	231	18
07 0220 005 F01	East Hartford	Hartford	Fire Station, 300 Main Street	7277	174	156		334	305		472	367	27
07 0225 003 F01	East Haven	New Haven	Animal Shelter, Commerce Street	7954	153	151		253	224		280	252	20
07 0250 005 F03	Enfield	Hartford	Shaker Road	8048	133	109		226	167		257	223	14
07 0330 017 F03	Greenwich	Fairfield	Greenwich Point Park	7982	125	109		173	164		231	223	16
07 0350 007 F01	Groton	New London	Fire Headquarters	7831	120	114		171	171		238	212	21
07 0420 123 F01	Hartford	Hartford	Trailer, West Street and Capitol Avenue	8266	229	211		348	300		372	362	31
07 0590 002 F01	Milford	New Haven	Devon Community Center, Naugatuck Avenue	7955	195	191		450	448		532	532	34
07 0680 011 F01	New Britain	Hartford	National Guard Amory, 531 East Main Street	5337	76	74		121	113		126	123	14?

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 CONNECTICUT - SULFUR DIOXIDE (ug/m^3)

Method: Hourly Values, Pulsed Fluorescent-20

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean
07 0700 017 F01	New Haven	New Haven	Fire Station, Lombard Street	7601	123	120		229	203		265	249	25
07 0700 123 F01	New Haven	New Haven	Trailer, 715 State Street	7949	242	242		398	377		464	432	35
07 0820 013 F01	Norwalk	Fairfield	Ludlow School, Rogers Square	6117	95	83		158	138		165	162	17?
07 0890 002 F01	Preston	New London	Norwich Hospital, Route 12	8028	75	62		121	104		136	126	11
07 1080 025 F01	Stamford	Fairfield	Recreation Department, Cortland Avenue	6953	115	104		215	173		291	259	21
07 1080 123 F01	Stamford	Fairfield	Trailer, North Street	7961	166	147		235	225		291	286	32
07 1240 007 F01	Waterbury	New Haven	Fire Station, East Main Street	8119	228	201		348	314		354	346	29
07 1240 123 F01	Waterbury	New Haven	Entrance to I84	7661	153	136		248	203		278	259	21

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 CONNECTICUT - NITROGEN DIOXIDE (ug/m^3)

Method: Hourly Values, Chemiluminescence-14

Site I.D.	Location	County	Address	#Obs	Max 1-hr		Max 24-hr		Arit Mean(1)
					1st	2nd	1st	2nd	
07 0060 123 F01	Bridgeport	Fairfield	Trailer, Hallet Street	8689	306	241			51
07 0220 003 F01	East Hartford	Hartford	30 Remington Road	8172	211	203			39
07 0700 123 F01	New Haven	New Haven	Trailer, 715 State Street	8530	299	237			56

(1)The primary standard for nitrogen dioxide is 100 ug/m^3, annual arithmetic mean.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 CONNECTICUT - OZONE* (ppm)

Method: Hourly Values Chemiluminescence-11

Site I.D.	Location	County	Address	Valid		Daily Max 1-hr			Vals>.125		Miss Days
				#Meas	#Req	1st	2nd	3rd	Meas	Est	Assm<Std
07 0060 123 F01	Bridgeport	Fairfield	Trailer, Hallet Street and Barnum Avenue	183	214	.197	.177	.168	13	15.2	
07 0175 123 F01	Danbury	Fairfield	Trailer, Connecticut State College	173	214	.215	.169	.152	13	15.9	2
07 0220 003 F01	East Hartford	Hartford	30 Remington Road	175	214	.167	.165	.148	7	8.5	1
07 0330 017 F03	Greenwich	Fairfield	Greenwich Point Park	183	214	.196	.188	.185	17	19.9	
07 0350 005 F01	Groton	New London	University of Connecticut, Avery Point	178	214	.226	.192	.183	22	26.5	
07 0500 002 F05	Madison	New Haven	Hammonasset State Park	161	214	.241	.204	.174	18	23.9	
07 0570 007 F01	Middletown	Middlesex	Connecticut Valley Hospital, Shew Hall, Eastern Drive	183	214	.177	.172	.157	14	16.4	
07 0700 123 F01	New Haven	New Haven	Trailer, 715 State Street	166	214	.218	.162	.156	12	15.5	
07 1060 001 F01	Stafford	Tolland	Shenipsit State Forest, Route 190	178	214	.181	.166	.162	8	9.6	1
07 1110 007 F01	Stratford	Fairfield	USCG Lighthouse, Stratford Point, Prospect Street	176	214	.232	.224	.207	28	34.0	

*Ozone season: April to October (214 days).

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
20 0010 003 F05	Acadia Nat. Park	Hancock	Ranger Headquarters, McFarland Hill	48	72	37			16	13	1.9
20 0060 008 F01	Auburn	Androscoggin	LePage Bakery, 60 Second Street	116	143	116			49	44	1.6
20 0080 001 F01	Augusta	Kennebec	Cony High School, Cony Circle	112	280	208	1	5	60	50	1.8
20 0080 005 J02	Augusta	Kennebec	Fire Station, Hartford Square	262	536	314	4	18	59	46	1.9
20 0080 009 J02	Augusta	Kennebec	Hodgkins School, Malta Street	252	167	142		1	35	29	1.8
20 0100 001 F01	Bangor	Penobscot	31 Central Street	116	128	104			51	46	1.6
20 0100 002 F01	Bangor	Penobscot	Pump Station, Washington Street	111	179	123		1	63	57	1.6
20 0160 002 F05	Biddeford	York	Wastewater Treatment Plant, Water Street	64	112	111			47?	43?	1.5
20 0180 002 F05	Brewer	Penobscot	Brewer Junior High School, Somerset Street	117	132	126			46	41	1.5
20 0190 002 F05	Bridgton	Cumberland	Upper Ridge Road, Route 2	194	124	95			20	15	1.9
20 0315 002 J02	East Millinocket	Penobscot	Katahdin School, Birch Street	115	102	94			31	25	2.0
20 0360 002 F05	Fairfield	Somerset	Nutting Residence, Cottage Street	29	85	58			35?	31?	1.6

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
20 0530 001 J02	Jay	Franklin	International Paper Company, Lagoon Hill	320	187	160		2	44	36	1.9
20 0530 003 J02	Jay	Franklin	Jewell Property, Crash Road	342	119	117			28	22	2.0
20 0530 004 J02	Jay	Franklin	Bomaster Property, Jay Hill	323	150	125			40	33	2.0
20 0530 007 J02	Jay	Franklin	International Paper Comapny, Wastewater Treatment Plant	324	135	90			26	21	1.9
20 0580 001 F02	Kittery	York	Greenfield Street	97	82	72			30	27	1.7
20 0580 002 F02	Kittery	York	Government Street	96	124	101			39	35	1.6
20 0620 005 F01	Lewiston	Androscoggin	Post Office, 49 Ash Street	57	103	99			54?	50?	1.5
20 0640 002 J02	Lincoln	Penobscot	Vocational Education Building West Broadway	348	149	98			39	35	1.6
20 0640 003 J02	Lincoln	Penobscot	Post Office, 50 Fleming Street	357	166	141		1	46	40	1.7
20 0640 007 J02	Lincoln	Penobscot	Thomas Motel Trailer Park, Broadway	342	166	153		2	48	42	1.7
20 0720 003 F02	Madawaska	Aroostook	Madawaska High School, St. Thomas Street	89	120	114			40?	34?	1.8
20 0720 011 F05	Madawaska	Aroostook	St. Jarre's, 11th Avenue	72	205	192		5	61?	51?	1.8
20 0760 003 J02	Mexico	Oxford	Wastewater Treatment Plant	229	136	123			44	40	1.6
20 0760 008 J02	Mexico	Oxford	Labonvilles, Route 2	229	148	146			58	52	1.7
20 0760 010 J02	Mexico	Oxford	Carver's Residence, Fourth Street	228	141	129			43	37	1.8

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
20 0780 009 J05	Millinocket	Penobscot	York Street	341	167	164		4	55	49	1.6
20 0840 003 F02	Old Town	Penobscot	Marsh Island Apartments, South Main Street	117	153	151		2	43	37	1.7
20 0840 005 F05	Old Town	Penobscot	Penobscot Shoe Company, 450 North Main Street	113	111	91			36	32	1.7
20 0885 001 J05	Oxford Co	Oxford	Bessy Motors Company, South Paris	6	164	141		1	111?	104?	1.5
20 0885 004 J05	Oxford Co	Oxford	Reilly Property, Gary Street, South Paris	12	160	152		2	99?	93?	1.4
20 0907 005 F05	Penobscot Co	Penobscot	Newburgh Consolidated School Newburgh	308	75	72			19	16	1.7
20 0907 007 J05	Penobscot Co	Penobscot	Shumway Field, Route 178, Milford	312	105	90			34	29	1.8
20 0960 014 F01	Portland	Cumberland	Oxford and Elm Streets	105	135	111			53	49	1.5
20 0980 005 F05	Presque Isle	Aroostook	Northeastland Hotel, 436 Main Street	140	327	316	3	12	77?	62?	1.9
20 0980 007 F05	Presque Isle	Aroostook	Creasey Ridge Road	206	108	72			15?	12?	2.0
20 1020 005 J02	Rumford	Oxford	Taylor Mountain	221	126	118			42	38	1.6
20 1020 006 J02	Rumford	Oxford	Taylor Mountain	222	135	102			32	28	1.7
20 1020 007 F02	Rumford	Oxford	Village Green, Route 108	114	153	144		1	38	33	1.7
20 1020 007 J02	Rumford	Oxford	Village Green, Route 108	84	108	104			40	35	1.7
20 1100 001 J02	Skowhegan	Somerset	Hinkley Farm School	118	68	64			24	21	1.8
20 1100 002 J02	Skowhegan	Somerset	Scott Paper Company, Eaton Ridge	117	64	62			24	20	1.8

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
20 1140 002 F01	South Portland	Cumberland	Southern Maine Vocational Technical Institute, Hildreth Hall, Ford Road	81	95	76			34	32	1.5
20 1150 001 J05	Thomaston	Knox	Mitchell Property, 2 Dexter Avenue	205	111	90			29	24	1.8
20 1150 003 J05	Thomaston	Knox	Saunders Property, Old Country Road	205	92	89			29	25	1.7
20 1150 004 J05	Thomaston	Knox	Pease Property, Buttermilk Lane	198	97	90			35	31	1.6
20 1150 007 J05	Thomaston	Knox	Marsh Road	209	115	78			29	26	1.6
20 1183 004 F05	Waldo Co	Waldo	Tweedie Residence, Route 139, Thorndike	10	113	89			54?	48?	1.6
20 1205 004 J02	Washington Co	Washington	D Street, Woodland	175	113	106			34?	27?	2.0
20 1205 007 J02	Washington Co	Washington	Georgia Pacific Corporation, Woodland	344	174	149		1	39	31	1.9
20 1205 008 J02	Washington Co	Washington	Woodland High School, Woodland	351	315	266	2	11	47	37	2.0
20 1205 015 J05	Washington Co	Washington	CNS/Waferboard Mill, Woodland	126	149	146			47?	35?	2.4
20 1220 002 F01	Waterville	Kennebec	Corey's Music Store, 99 Main Street	57	95	81			48?	45?	1.5
20 1220 003 F01	Waterville	Kennebec	Stern's Department Store, 93 Main Street	25	103	102			40?	36?	1.6

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
20 1260 002 J05	Westbrook	Cumberland	N.E.T.&T. Company, Ash Street	216	195	142		1	46	41	1.7
20 1260 008 J02	Westbrook	Cumberland	Research Building, Warren Avenue	229	183	151		2	70	63	1.6
20 1260 012 J02	Westbrook	Cumberland	Main Street	238	197	142		1	66	61	1.5

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - LEAD (ug/m^3)

Method: Atomic Absorption-92

Site I.D.	Location	County	Address	# Obs	Qtrly Arith Mean 1st	2nd	3rd	4th	Means > 1.5	Max Values 1st	2nd
20 0060 008 F01	Auburn	Androscoggin	Lepage Bakery, 60 Second Street	23			.12	.24		.77	.48
20 0080 001 F01	Augusta	Kennebec	Cony High School, Cony Circle	56	.17	.11	.18	.24		.91	.56
20 0100 002 F01	Bangor	Penobscot	Pump Station, Washington Street	60	.14	.09	.15	.20		.53	.35
20 0580 001 F02	Kittery	York	Greenfield Street	44	.06	.05	.08	.05		.14	.13
20 0620 005 F01	Lewiston	Androscoggin	Post Office, 49 Ash Street	31	.19	.11	.12?			.44	.24
20 0960 014 F01	Portland	Cumberland	Oxford and Elm Streets	79	.20	.14	.27	.30		.71	.59
20 0960 015 F01	Portland	Cumberland	Tukey's Bridge, Bean Pot Road	74	.39	.40?	.41	.44		1.10	.82
20 0980 005 F05	Presque Isle	Aroostook	Northeastland Hotel, 436 Main Street	48	.16	.11	.11	.08?		.54	.27
20 0980 007 F05	Presque Isle	Aroostook	Creasey Ridge Road	41	.03	.01	.01			.07	.05

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - CARBON MONOXIDE (mg/m^3)

Method: Hourly Values, Nondispersive Infrared (NDIR) Continuous-11

Site I.D.	Location	County	Address	# Obs	Max 1-hr 1st	Max 1-hr 2nd	Obs >40	Max 8-hr 1st	Max 8-hr 2nd	Obs >10
20 0960 018 F01	Portland	Cumberland	529 Congress Street	5543	12.2	11.4		7.9	7.9	

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - SULFUR DIOXIDE (ug/m^3)

Method: Hourly Values, Pulsed Fluorescent-20

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean
20 0080 010 J02	Augusta	Kennebec	Hussey School, Gedney Street	7947	127	102		203	174		288	278	25
20 0080 011 J02	Augusta	Kennebec	Nap's Trading Post, 185 Water Street	8205	104	80		199	169		252	228	20
20 0080 012 F01	Augusta	Penobscot	St. Augustine's Church, Northing Avenue and Washington Street	7439	62	55		147	141		212	181	13
20 0315 002 J02	E. Millinocket	Penobscot	Katahdin School, Birch Street	5495	65	54		196	108		380	194	10?
20 0580 001 F02	Kittery	York	Greenfield Street	5221	70	62		145	141		333	231	13?
20 0580 003 F02	Kittery	York	Masonic Temple, Government Street	7723	118	116		270	245		325	301	22?
20 0620 011 F01	Lewiston	Androscoggin	Parking Lot of Country Kitchen, Canal Street	8159	153	135		342	246		445	341	24
20 0640 007 J02	Lincoln	Penobscot	Thomas Motel Trailer Park, Broadway	8067	155	137		261	252		314	286	18
20 0640 008 J05	Lincoln	Penobscot	Base of Fish Hill	8096	37	34		107	102		168	162	11
20 0640 009 J05	Lincoln	Penobscot	Peak of Fish Hill	7984	66	62		452	234		917	854	11
20 0720 003 J02	Madawaska	Aroostook	Madawaska High School, St. Thomas Street	8365	143	137		627	354		702	605	18

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - SULFUR DIOXIDE (ug/m^3)

Method: Hourly Values, Pulsed Fluorescent-20

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean
20 0720 009 J02	Madawaska	Aroostook	Albert Street	8325	185	164		509	416		681	645	33
20 0720 010 J02	Madawaska	Aroostook	Wastewater Treatment Plant, Eastman Street	8275	92	80		338	250		440	398	20
20 0760 010 J02	Mexico	Oxford	Carver's Residence, Fourth Street	8321	103	52		322	279		616	590	9
20 0760 011 J02	Mexico	Oxford	Hunt's Property, Route 2	8256	125	119		722	578		1171	1024	20
20 0780 006 J02	Millinocket	Penobscot	Great Northern Paper, Wastewater Treatment Plant	8214	124	102		413	302		694	534	20
20 0780 009 J02	Millinocket	Penobscot	York Street	8192	89	82		387	365		893	694	15
20 0960 014 F01	Portland	Cumberland	Oxford and Elm Streets	7939	151	137		255	224		312	272	26
20 1020 005 J02	Rumford	Oxford	Taylor Mountain	7907	225	149		444	390		802	665	32
20 1020 006 J02	Rumford	Oxford	Taylor Mountain	8338	130	130		495	465		812	744	23
20 1020 007 F02	Rumford	Oxford	Village Green, Route 108	7358	124	112		639	510		1024	831	16
20 1020 007 J02	Rumford	Oxford	Village Green, Route 108	709	106	81		155	151		220	199	31?
20 1150 001 J05	Thomaston	Knox	Mitchell Property, 2 Dexter Avenue	7877	125	106		269	266		571	472	10
20 1150 006 J05	Thomaston	Knox	Swamp Marsh Road	3902	53	39		117	114		165	165	8
20 1150 007 J05	Thomaston	Knox	Marsh Road	8021	38	33		62	57		110	92	6
20 1150 008 J05	Thomaston	Knox	Route 1	3806	38	34		65	50		105	68	7?

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - SULFUR DIOXIDE (ug/m^3)

Method: Hourly Values, Pulsed Fluorescent-20

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean
20 1205 007 J02	Washington Co	Washington	Georgia Pacific Corporation, Woodland	7982	154	121		274	264		459	393	15

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MAINE - OZONE* (ppm)

Methods: Hourly Values Chemiluminescence-11, Ultra Violet Dasibi Corporation-14

Site I.D.	Location	County	Address	Valid		Daily Max 1-hr			Vals>.125		Miss Days	Meth
				#Meas	#Req	1st	2nd	3rd	Meas	Est	Assm<Std	
20 0010 003 F05	Acadia Nat. Park	Hancock	Ranger Headquarters, McFarland Hill	187	214	.140	.130	.108	1	1.1	4	14
20 0250 003 F05	Cape Elizabeth	Cumberland	Two Lights State Park	117	214	.140	.133	.122	2	3.6	2	11
20 0250 003 F05	Cape Elizabeth	Cumberland	Two Lights State Park	83	214	.171	.147	.137	4	10.2	2	14
20 0460 001 F05	Gardiner	Kennebec	Gardiner High School, West Hill Road	208	214	.124	.112	.107				11
20 0645 002 F05	Lincoln Co	Lincoln	Westport Island, Ferry Road	178	214	.119	.114	.114			1	14
20 1205 016 F05	Washington Co	Washington	Roque Bluffs, Great Cove	173	214	.133	.132	.110	1	1.2	2	14
20 1325 002 F05	York Co	York	Ocean Avenue, Kennebunkport	168	214	.149	.147	.145	11	14.0		11

*Ozone Season: April to October (214 days).

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MASSACHUSETTS - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
22 0240 012 F01	Boston	Suffolk	Fire Headquarters, 115 Southampton Street	55	134	132			59	56	1.4
22 0240 021 F01	Boston	Suffolk	340 Breman Street, East Boston	59	130	99			56	53	1.4
22 0240 024 F01	Boston	Suffolk	200 Columbus Avenue	47	178	123		1	62?	58?	1.4
22 0320 003 F01	Brockton	Plymouth	Crescent Street (Route 27)	55	78	70			36	34	1.5
22 0380 002 F01	Chelsea	Suffolk	Chestnut and Sixth Streets	57	125	118			59	54	1.5
22 0580 001 F01	Fall River	Bristol	Fire Station, 165 Bedford Street	47	104	72			43	41	1.4
22 0860 007 F01	Holyoke	Hampden	One Court Square	57	134	96			51	47	1.5
22 1000 003 F01	Lawrence	Essex	One Garden Street	38	99	60			42?	39?	1.4
22 1000 005 F01	Lawrence	Essex	Storrow Park, High Street	58	135	96			43	39	1.6
22 1080 006 F01	Lowell	Middlesex	YMCA, 35 YMCA Drive	54	106	89			44	41	1.4
22 1210 001 F01	Medfield	Norfolk	Medfield State Hospital, Route 27	56	360	97	1	1	37	29	1.8
22 1220 002 F01	Medford	Middlesex	Fire Headquarters, 100 to 120 Main Street	56	109	91			48	44	1.5
22 1500 003 F01	New Bedford	Bristol	234 Earle Street	8	55	40			39?	38?	1.2
22 1500 004 F01	New Bedford	Bristol	YMCA, 25 Water Street	43	91	73			40?	38?	1.4
22 1800 006 F01	Pittsfield	Berkshire	Berkshire Commons	51	155	115		1	51	45	1.7
22 1880 007 F01	Quincy	Norfolk	Hancock Street	54	103	75			44	41	1.4
22 2160 011 F01	Springfield	Hampden	59 Howard Street	129	181	126		1	53	49	1.5
22 2160 015 F01	Springfield	Hampden	Springfield Community College, Federal Street	59	110	106			48	45	1.5

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MASSACHUSETTS - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
22 2372 001 F01	Warren	Worcester	Quaboag Regional High School, River Street	36	85	63			30?	26?	1.6
22 2475 003 F01	West Springfield	Hampden	Fire Station, Van Deene Street	58	130	110			49	45	1.5
22 2620 002 F01	Woburn	Middlesex	County Court, Woburn Street and Montvale Avenue	49	90	90			41	38	1.5
22 2640 013 F01	Worcester	Worcester	419 Belmont Street	54	88	79			41	37	1.6
22 2640 016 F01	Worcester	Worcester	2 Washington Street	54	173	147		1	61	55	1.6
22 2640 021 F01	Worcester	Worcester	26 Salisbury Street	42	95	71			44?	41?	1.5

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MASSACHUSETTS - LEAD (ug/m^3)

Method: Atomic Absorption-92

Site I.D.	Location	County	Address	# Obs	Qtrly Arith Mean 1st	2nd	3rd	4th	Means > 1.5	Max Values 1st	2nd
22 0240 002 F01	Boston	Suffolk	Kenmore Square, 590 Commonwealth Avenue	46	.37	.40	.48	.51		1.00	.89
22 0240 027 F01	Boston	Suffolk	One City Square	1				.22?		.22	
22 0380 002 F01	Chelsea	Suffolk	Chestnut and Sixth Streets	57	.27	.26	.27	.34		.95	.58
22 1080 006 F01	Lowell	Middlesex	YMCA, 35 YMCA Drive	54	.20	.20	.22	.28		1.30	.50
22 2160 007 F01	Springfield	Hampden	East Columbus Avenue	60	.64	.68	.60	1.09		3.30	1.40
22 2160 011 F01	Springfield	Hampden	59 Howard Street	61	.31	.35	.32	.47		1.00	.88
22 2640 016 F01	Worcester	Worcester	2 Washington Street	53	.16	.18	.21	.25		.64	.43

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MASSACHUSETTS - CARBON MONOXIDE (mg/m^3)

Method: Hourly values, Nondispersive Infrared (NDIR) Continuous-11

Site I.D.	Location	County	Address	#Obs	Max 1-hr 1st	Max 1-hr 2nd	Obs >40	Max 8-hr 1st	Max 8-hr 2nd	Obs >10
22 0240 002 F01	Boston	Suffolk	Kenmore Square, 590 Commonwealth Avenue	8396	15.0	11.5		9.8	8.9	
22 0240 015 F01	Boston	Suffolk	Kneeland Street	7940	13.8	12.7		7.3	7.0	
22 0240 021 F01	Boston	Suffolk	340 Breman Street, East Boston	8413	16.1	13.8		7.5	7.3	
22 0240 022 F01	Boston	Suffolk	600 Washington Street	8401	21.9	19.6		13.1	11.8	4
22 1080 007 F01	Lowell	Middlesex	Old City Hall, Merrimack Street	8317	31.1	25.3		14.5	12.8	5
22 2160 007 F01	Springfield	Hampden	East Columbus Avenue	8524	25.3	21.9		12.5	11.8	5
22 2160 014 F01	Springfield	Hampden	Fernbank Street	8523	16.1	11.5		8.3	7.3	
22 2640 020 F01	Worcester	Worcester	Fire Station, Central Street	8346	32.2	23.0		13.9	11.1	3

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MASSACHUSETTS - SULFUR DIOXIDE (ug/m^3)

Methods: Hourly Values, Pulsed Fluorescent-20

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean
22 0240 002 F01	Boston	Suffolk	Kenmore Square, 590 Commonwealth Avenue	7963	193	191		278	265		464	335	43
22 0240 015 F01	Boston	Suffolk	Kneeland Street	8433	171	146		297	279		461	388	32
22 0240 021 F01	Boston	Suffolk	340 Breman Street, East Boston	8006	171	141		279	261		343	293	34
22 0240 026 F01	Boston	Suffolk	Deer Island, House of Corrections	895	120	114		198	187		217	210	56?
22 0380 003 F01	Chelsea	Suffolk	Powder Horn Hill	7155	109	102		340	263		524	459	24
22 0400 008 F01	Chicopee	Hampden	Westover Air Force Base, Anderson Road	7752	152	129		240	201		314	301	21
22 0570 002 F01	Fairhaven	Bristol	Leroy Wood School	7806	109	99		164	152		367	259	16
22 0580 004 F01	Fall River	Bristol	Globe Street	8338	182	131		270	242		456	369	28
22 0620 003 F01	Fitchburg	Worcester	Trailer, Summer Street	5829	145	124		249	235		346	341	20?
22 0620 010 F01	Fitchburg	Worcester	5 Summer Street	1350	117	54		228	182		244	225	24?
22 1000 005 F01	Lawrence	Essex	Storrow Park, High Street	8190	163	154		424	267		529	479	30
22 1080 007 F01	Lowell	Middlesex	Old City Hall, Merrimack Street	8375	112	108		190	169		233	220	25
22 1210 001 F01	Medfield	Norfolk	Medfield State Hospital, Route 27	8227	95	90		124	122		178	141	13
22 1800 007 F01	Pittsfield	Berkshire	Birch-Grove Drive	7541	128	118		231	218		380	265	25
22 2160 009 F01	Springfield	Hampden	Longhill Street	8011	162	153		258	245		288	286	28

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MASSACHUSETTS - SULFUR DIOXIDE (ug/m^3)

Methods: Hourly Values, Pulsed Fluorescent-20

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean
22 2160 015 F01	Springfield	Hampden	Springfield Community College, Federal Street	8093	228	179		307	277		325	325	31
22 2380 005 F01	Watertown	Middlesex	Victory Field	8043	172	126		252	246		309	278	23
22 2640 019 F01	Worcester	Worcester	Department of Public Works, Belmont Street	8418	102	93		151	148		252	157	15
22 2640 020 F01	Worcester	Worcester	Fire Station, Central Street	8140	170	145		266	259		314	314	23

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MASSACHUSETTS - NITROGEN DIOXIDE (ug/m^3)

Method: Hourly Values, Colorimetric-Lyshkow-11; Chemiluminescence-14

Site I.D.	Location	County	Address	#Obs	Max 1-hr 1st	Max 1-hr 2nd	Max 24-hr 1st	Max 24-hr 2nd	Arit Mean(1)	Meth
22 0240 002 F01	Boston	Suffolk	Kenmore Square, 590 Commonwealth Avenue	7838	417	384			83	14
22 0240 021 F01	Boston	Suffolk	340 Breman Street, East Boston	7893	333	269			61	14
22 0240 026 F01	Boston	Suffolk	Deer Island, House of Corrections	414	122	115			40?	14
22 0380 003 F01	Chelsea	Suffolk	Powder Horn Hill	200	86	81			32?	11
22 0380 003 F01	Chelsea	Suffolk	Powder Horn Hill	6926	667	517			42	14
22 0400 008 F01	Chicopee	Hampden	Westover Air Force Base, Anderson Road	3846	226	197			37?	14
22 0570 002 F01	Fairhaven	Bristol	Leroy Wood School	127	64	64			24?	14
22 0580 004 F01	Fall River	Bristol	Globe Street	7857	169	160			28	14
22 1000 005 F01	Lawrence	Essex	Storrow Park, High Street	7822	263	258			41	14
22 2160 015 F01	Springfield	Hampden	Springfield Community College, Federal Street	6895	470	385			47	14
22 2640 019 F01	Worcester	Worcester	Department of Public Works, Belmont Street	3317	194	160			31?	14

? Indicates that the mean does not satisfy summary criteria.

(1)The primary standard for nitrogen dioxide is 100 ug/m^3, annual arithmetic mean.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR OUALITY STANDARDS

1984 MASSACHUSETTS - OZONE* (ppm)

Methods: Hourly Values, Chemiluminescence-11, Ultra Violet Dasibi Corporation-14

Site I.D.	Location	County	Address	Valid		Daily Max 1-hr			Vals>.125		Miss Days	Meth
				#Meas	#Req	1st	2nd	3rd	Meas	Est	Assm<Std	
22 0030 003 F01	Agawam	Hampden	152 South Westfield Street, Feeding Hills	183	214	.144	.141	.139	5	5.8		11
22 0060 002 F01	Amherst	Hampshire	Solar Habitat, University of Massachusetts	182	214	.125	.125	.122	2	2.3	5	11
22 0120 004 F01	Attleboro	Bristol	532 Newport Avenue	196	214	.141	.141	.130	4	4.3	1	11
22 0380 003 F01	Chelsea	Suffolk	Powder Horn Hill	200	214	.125	.125	.118	2	2.1		11
22 0400 008 F01	Chicopee	Hampden	Westover Air Force Base, Anderson road	197	214	.209	.168	.133	4	4.1	10	11
22 0535 001 F01	Easton	Bristol	Post Office, 300 Main Street	186	214	.151	.133	.128	4	4.6	1	11
22 0570 002 F01	Fairhaven	Bristol	Leroy Wood School	194	214	.206	.185	.161	9	9.8	3	11
22 1000 005 F01	Lawrence	Essex	Storrow Park, High Street	188	214	.112	.104	.100			11	11
22 1210 001 F01	Medfield	Norfolk	Medfield State Hospital Route 27	213	214	.145	.144	.124	2	2.0		11
22 1520 003 F01	Newburyport	Essex	Plum Island, Parker River	176	214	.136	.120	.119	1	1.2	1	11
22 1520 003 F01	Newburyport	Essex	Plum Island, Parker River	28	214	.115	.090	.075			1	14
22 1800 007 F01	Pittsfield	Berkshire	Birch-Grove Drive	194	214	.117	.116	.104			2	11

*Ozone season: April to October (214 days).

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 MASSACHUSETTS - OZONE* (ppm)

Methods: Hourly Values, Chemiluminescence-11, Ultra Violet Dasibi Corporation-14

Site I.D.	Location	County	Address	Valid		Daily Max 1-hr			Vals>.125		Miss Days	Meth
				#Meas	#Req	1st	2nd	3rd	Meas	Est	Assm<Std	
22 2196 001 F01	Sudbury	Middlesex	Water Row Road, Great Meadows National Wildlife Refuge	185	214	.165	.147	.136	6	6.8	5	11
22 2360 001 F01	Ware	Hampshire	Ware High School, Route 32 and Gould Street	179	214	.204	.150	.135	6	7.1	1	11
22 2640 019 F01	Worcester	Worcester	Department of Public Works, Belmont Street	212	214	.146	.138	.122	2	2.0	1	11

*Ozone season: April to October (214 days).

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 NEW HAMPSHIRE - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
30 0040 001 F01	Berlin	Coos	Sullivan Street	54	142	117			64	59	1.5
30 0040 001 J02	Berlin	Coos	Sullivan Street	115	122	114			63	58	1.5
30 0040 008 J02	Berlin	Coos	Dutil Street	113	224	169		7	64	54	1.8
30 0400 010 J02	Berlin	Coos	Burgess School, School Street	57	99	86			40	37	1.6
30 0400 014 F01	Berlin	Coos	Trailer, Lancaster Street	55	479	359	3	11	108	87	1.9
30 0040 014 J02	Berlin	Coos	Trailer, Lancaster Street	29	183	179		2	89?	79?	1.6
30 0040 016 J02	Berlin	Coos	200 Enman Hill Road	57	93	65			31	25	2.4
30 0040 019 J02	Berlin	Coos	Cates Hill Road	58	58	58			24	19	2.0
30 0120 003 F01	Concord	Merrimack	State House Annex	61	82	75			35	32	1.6
30 0160 001 F01	Dover	Strafford	Central Avenue	61	405	96	1	1	45	37	1.7
30 0308 001 F03	Hollis	Hillsborough	Elementary School, Silver Lake Road (Route 122)	60	104	88			31	26	1.7
30 0360 002 F01	Laconia	Belknap	Beacon Street	37	87	85			48?	43?	1.7
30 0420 008 F01	Manchester	Hillsborough	Notre Dame Avenue	59	100	82			44	41	1.5
30 0420 014 F01	Manchester	Hillsborough	Highland Goffe's Falls School	30	82	79			35?	31?	1.6
30 0420 015 F01	Manchester	Hillsborough	Police Station, 351 Chestnut Street	61	112	108			48	44	1.5
30 0420 015 F09	Manchester	Hillsborough	Police Station, 351 Chestnut Street	60	105	101			47	44	1.5
30 0420 016 F01	Manchester	Hillsborough	Harnett Park Municipal Parking Lot	60	104	95			48	45	1.5
30 0480 007 F01	Nashua	Hillsborough	City Hall, Main Street	56	122	105			44	40	1.5

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 NEW HAMPSHIRE - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
30 0480 007 F09	Nashua	Hillsborough	City Hall, Main Street	60	118	115			46	42	1.5
30 0480 010 F05	Nashua	Hillsborough	Sanders Associates, Parking Lot D	61	101	98			39	36	1.6
30 0512 003 F05	Northumberland	Coos	Brooklyn Street	55	103	90			40	37	1.5
30 0512 005 F01	Northumberland	Coos	St. Francis Hall, State Street	56	80	75			36	33	1.5
30 0512 006 F01	Northumberland	Coos	Wemyss Drive	60	95	72			35	31	1.7
30 0520 003 F05	Pembroke	Merrimack	Pembroke Hill, Brickett Hill Road	55	82	66			27	23	1.8
30 0540 006 F01	Portsmouth	Rockingham	Court Street	61	95	82			42	39	1.5
30 0540 009 F01	Portsmouth	Rockingham	Vaughan Street	58	110	109			55	50	1.6
30 0560 003 F01	Rochester	Strafford	Hansen Street	59	103	100			44	40	1.6

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 NEW HAMPSHIRE - LEAD (ug/m^3)

Method: Atomic Absorption-92

Site I.D.	Location	County	Address	# Obs	Qtrly Arith Mean 1st	2nd	3rd	4th	Means > 1.5	Max Values 1st	2nd
30 0040 001 F01	Berlin	Coos	Sullivan Street	55	.08	.05	.06	.05		.14	.10
30 0120 003 F01	Concord	Merrimack	State House Annex	61	.12	.10	.09	.15		.20	.19
30 0120 004 F01	Concord	Merrimack	Junction of Routes 3 and 93	59	.31	.25	.32	.37		.43	.41
30 0308 001 F03	Hollis	Hillsborough	Elementary School, Silver Lake Road (Route 122)	44		.06	.07	.06		.10	.09
30 0360 002 F01	Laconia	Belknap	Beacon Street	31	.13	.09?	.07?			.21	.12
30 0420 015 F01	Manchester	Hillsborough	Police Station, 351 Chestnut Street	61	.16	.15	.16	.19		.25	.25
30 0480 007 F01	Nashua	Hillsborough	City Hall, Main Street	60	.15	.15	.15	.22		.33	.22
30 0480 010 F01	Nashua	Hillsborough	Sanders Associates, Parking Lot D	45		.35	.12	.10		.83	.17
30 0540 006 F01	Portsmouth	Rockingham	Court Street	60	.13	.11	.13	.17		.23	.17

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 NEW HAMPSHIRE - CARBON MONOXIDE (mg/m^3)

Method: Hourly Values, Nondispersive Infrared (NDIR) Continuous-11

Site I.D.	Location	County	Address	# Obs	Max 1-hr 1st	Max 1-hr 2nd	Obs >40	Max 8-hr 1st	Max 8-hr 2nd	Obs >10
30 0420 013 F01	Manchester	Hillsborough	1157 Elm Street	8353	22.4	21.3		15.1	12.7	9
30 0480 009 F01	Nashua	Hillsborough	Matarazzo Building, 25 Main Street	8491	34.2	32.5		18.1	16.7	22

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 NEW HAMPSHIRE - SULFUR DIOXIDE (ug/m^3)

Methods: Hourly Values, Pulsed Fluorescent-20, Ultra Violet Stimulated Fluorescence-23

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean	Meth
30 0040 011 F01	Berlin	Coos	116 Poplar Street	8013	107	96		302	279		579	445	19	23
30 0040 011 J02	Berlin	Coos	116 Poplar Street	8049	86	86		318	239		612	422	19	20
30 0040 014 F01	Berlin	Coos	Lancaster Street	7335	70	64		208	180		283	275	16	23
30 0040 014 J02	Berlin	Coos	Lancaster Street	7035	79	64		215	205		267	261	16	20
30 0040 016 J02	Berlin	Coos	200 Enman Hill Road	8471	108	73		262	239		474	411	17	20
30 0040 017 J02	Berlin	Coos	East Hill	8453	91	89		288	222		406	404	16	20
30 0040 019 J02	Berlin	Coos	Cates Hill Road	8465	148	107		648	400		963	629	19	20
30 0040 020 J02	Berlin	Coos	Corbin Street	8430	62	62		198	195		312	286	12	20
30 0040 021 J02	Berlin	Coos	Burgess Street Extension	7861	93	88		270	252		524	464	17	20
30 0235 002 J02	Gorham	Coos	Cascade Mill Wastewater Treatment Plant	8583	65	65		191	174		351	320	12	20
30 0420 016 F01	Manchester	Hillsborough	Harnett Park Municipal Parking Lot	8457	169	147		346	292		438	298	28	23
30 0440 006 F05	Merrimack Co	Merrimack	South Bow and Dunbarton Roads, Bow	5429	79	78		248	236		417	341	14?	23
30 0480 005 F01	Nashua	Hillsborough	18 Mulberry Street	8443	138	130		276	244		527	393	28	23
30 0480 010 F05	Nashua	Hillsborough	Sanders Associates, Parking Lot D	8036	130	118		290	257		330	307	24	23

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY SATNDARDS

1984 NEW HAMPSHIRE - SULFUR DIOXIDE (ug/m^3)

Methods: Hourly Values, Pulsed Fluorescent-20, Ultra Violet Stimulated Fluorescence-23

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean	Meth
30 0512 006 F05	Northumberland	Coos	Wemyss Drive	8401	123	94		421	273		461	435	17	23
30 0512 007 F05	Northumberland	Coos	Covered Bridge, Routes 110 and 3	8155	127	108		455	423		610	587	18	23
30 0512 008 F05	Northumberland	Coos	Wemyss Drive	7636	88	79		168	148		367	338	14	23
30 0520 003 F05	Pembroke	Merrimack	Pembroke Hill, Brickett Hill Road	8303	153	124		565	474		820	697	20	23
30 0520 004 F05	Pembroke	Merrimack	Hillcrest Avenue	7661	117	116		382	375		739	697	20	23
30 0540 009 F01	Portsmouth	Rockingham	Vaughan Street	8081	85	78		172	168		244	244	13	23

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 NEW HAMPSHIRE - OZONE* (ppm)

Method: Hourly Values, Chemiluminescence-11

Site I.D.	Location	County	Address	Valid		Daily Max 1-hr			Vals>.125		Miss Days
				#Meas	#Req	1st	2nd	3rd	Meas	Est	Assm<Std
30 0040 014 F01	Berlin	Coos	Trailer, Lancaster Street	159	214	.096	.090	.084			7
30 0420 016 F01	Manchester	Hillsborough	Harnett Park Municipal Parking Lot	175	214	.135	.124	.107	1	1.2	3
30 0480 005 F01	Nashua	Hillsborough	18 Mulberry Street	43	214	.088	.085	.061			1
30 0480 010 F01	Nashua	Hillsborough	Sanders Associates, Parking Lot D	209	214	.125	.122	.117	1	1.0	
30 0540 009 F01	Portsmouth	Rockingham	Vaughan Street	198	214	.081	.075	.075			3

*Ozone Season: April to October (214 days).

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 RHODE ISLAND - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
41 0100 003 F01	Cranston	Providence	Fire Station	61	85	67			39	37	1.5
41 0120 008 F01	East Providence	Providence	Fire Station, North Broadway	55	84	79			45	42	1.4
41 0120 009 F01	East Providence	Providence	Mobil Oil, Pawtucket Avenue	58	90	80			41	38	1.5
41 0140 002 F03	Kent Co	Kent	Alton Jones Campus, University of Rhode Island	61	103	48			23	19	1.9
41 0180 001 F01	Newport	Newport	City Hall	61	75	74			37	34	1.4
41 0280 004 F01	Pawtucket	Providence	Hospital Trust, 215 Main Street	57	112	88			48	45	1.5
41 0300 006 F01	Providence	Providence	187 Westminster Street	55	114	99			57	53	1.5
41 0300 011 F01	Providence	Providence	Health Department Parking Lot, State Street	57	121	97			48	45	1.5
41 0300 012 F01	Providence	Providence	Rockefeller Library, Prospect Street	56	104	87			44	41	1.5
41 0300 017 F01	Providence	Providence	Bonanza Bus Terminal, Sabin Street	61	130	91			52	49	1.5
41 0400 002 F01	Westerly	Washington	Police Department	59	109	93			49	47	1.4
41 0460 002 F01	Woonsocket	Providence	Post Office, 127 Social Street	57	125	90			43	39	1.6

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 RHODE ISLAND - LEAD (ug/m^3)

Method: Atomic Absorption-92

Site I.D.	Location	County	Address	# Obs	Qtrly Arith Mean 1st	2nd	3rd	4th	Means > 1.5	Max Values 1st	2nd
41 0100 003 F01	Cranston	Providence	Fire Station	61	.22	.25	.21	.26		.61	.55
41 0140 002 F03	Kent Co	Kent	Alton Jones Campus, University of Rhode Island	61	.04	.05	.05	.06		.14	.11
41 0300 006 F01	Providence	Providence	187 Westminster Street	55	.27	.28	.25	.33		.58	.52
41 0300 007 F01	Providence	Providence	Trailer, Dyer Street	56	.36	.54	.54	.58		1.43	.81
41 0300 017 F01	Providence	Providence	Bonanza Bus Terminal, 127 Social Street	61	.32	.29	.28	.38		.74	.68

TABLE 3 (Continued)

AMBIENT AIR OUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 RHODE ISLAND - CARBON MONOXIDE (mg/m^3)

Method: Hourly Values, Nondispersive Infrared (NDIR) Continuous-11

Site I.D.	Location	County	Address	# Obs	Max 1-hr 1st	Max 1-hr 2nd	Obs >40	Max 8-hr 1st	Max 8-hr 2nd	Obs >10
41 0300 009 F01	Providence	Providence	76 Dorrance Street	8257	18.7	17.7		13.3	12.3	5
41 0300 012 F01	Providence	Providence	Rockefeller Library, Prospect Street	8476	12.2	11.4		6.5	6.0	

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 RHODE ISLAND - SULFUR DIOXIDE (ug/m^3)

Methods: Hourly Values, Pulsed Fluorescent-20, Ultra Violet Stimulated Fluorescence-23

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean	Meth
41 0120 009 F01	E. Providence	Providence	Mobil Oil, Pawtucket Avenue	8441	139	105		233	203		288	272	21	23
41 0300 009 F01	Providence	Providence	76 Dorrance Street	8436	197	164		338	325		425	412	33	20
41 0300 011 F01	Providence	Providence	Health Department Parking Lot, State Street	8319	204	147		338	336		425	393	29	23
41 0300 012 F01	Providence	Providence	Rockefeller Library, Prospect Street	8092	186	177		372	321		498	436	27	20
41 0300 012 F01	Providence	Providence	Rockefeller Library, Prospect Street	351	38	36		66	65		105	92	20?	23

? Indicates that the mean does not satisfy summary criteria.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 RHODE ISLAND - NITROGEN DIOXIDE (ug/m^3)

Method: Hourly Value, Chemiluminescence-14

Site I.D.	Location	County	Address	#Obs	Max 1-hr 1st	Max 1-hr 2nd	Max 24-hr 1st	Max 24-hr 2nd	Arit Mean(1)
41 0300 012 F01	Providence	Providence	Rockefeller Library, Prospect Street	8460	167	167			47

(1)The annual standard for nitrogen dioxide is 100 ug/m^3, annual arithmetic mean.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 RHODE ISLAND - OZONE* (ppm)

Method: Hourly Values, Chemiluminescence-11

Site I.D.	Location	County	Address	Valid		Daily Max 1-hr			Vals>.125		Miss Days
				#Meas	#Req	1st	2nd	3rd	Meas	Est	Assm<Std
41 0140 002 F03	Kent Co	Kent	Alton Jones Campus, University of Rhode Island	210	214	.215	.195	.180	15	15.1	2
41 0300 012 F01	Providence	Providence	Rockefeller Library, Prospect Street	181	214	.187	.163	.129	5	5.8	3

*Ozone Season: April to October (214 days).

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 VERMONT - SUSPENDED PARTICULATE MATTER (ug/m^3)

Method: Gravimetric, 24-hour Hi-volume Filter Sample-91

Site I.D.	Location	County	Address	# Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 260	Obs> 150	Arit Mean	Geo Mean	GSD
47 0040 003 F01	Barre	Washington	South Seminary Street	57	343	163	1	2	65	52	1.9
47 0080 003 F01	Bennington	Bennington	Armory, Route 7	53	116	98			45	40	1.7
47 0120 003 F01	Brattleboro	Windham	232 Main Street	56	116	78			44	41	1.5
47 0140 005 F01	Burlington	Chittenden	Court House, 39 Pearl Street	54	168	156		2	50	44	1.6
47 0360 001 F03	Randolph	Orange	Vermont Technical College,	60	74	73			28	25	1.7
47 0400 004 F01	Rutland	Rutland	McAuliffe's, 15 to 19 Wales Street	55	150	127			59	54	1.5

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 VERMONT - CARBON MONOXIDE (mg/m^3)

Method: Hourly Values, Nondispersive Infrared (NDIR) Continuous-11

Site I.D.	Location	County	Address	# Obs	Max 1-hr 1st	Max 1-hr 2nd	Obs >40	Max 8-hr 1st	Max 8-hr 2nd	Obs >10
47 0140 003 F01	Burlington	Chittenden	82 South Winooski Avenue	6387	8.2	6.1		4.6	3.6	

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 VERMONT - SULFUR DIOXIDE (ug/m^3)

Method: Hourly Values, Pulsed Fluorescent-20

Site I.D.	Location	County	Address	#Obs	Max 24-hr 1st	Max 24-hr 2nd	Obs> 365	Max 3-hr 1st	Max 3-hr 2nd	Obs> 1300	Max 1-hr 1st	Max 1-hr 2nd	Arit Mean
47 0040 003 F01	Barre	Washington	South Seminary Street(1)	4534	107	107		161	156		227	191	25?
47 0140 003 F01	Burlington	Chittenden	82 South Winooski Avenue	7574	78	78		115	99		141	138	18
47 0400 002 F01	Rutland	Rutland	9 Merchants Row(1)	4329	170	167		279	272		332	298	34?

? Indicates that the mean does not satisfy summary criteria.

(1)Seasonal operation.

TABLE 3 (Continued)

AMBIENT AIR QUALITY DATA INCLUDING STATIONS
THAT EXCEED NATIONAL AIR QUALITY STANDARDS

1984 VERMONT - OZONE* (ppm)

Method: Hourly Values, Ultraviolet Dasibi Corporation-14

Site I.D.	Location	County	Address	Valid		Daily Max 1-hr			Vals>.125		Miss Days
				#Meas	#Req	1st	2nd	3rd	Meas	Est	Assm<Std
47 0120 002 F01	Brattleboro	Windham	Wastewater Treatment Plant, Route 30	191	214	.127	.124	.109	1	1.2	6
47 0140 006 F01	Burlington	Chittenden	Spear Street	196	214	.092	.088	.086			7

*Ozone Season: April to October (214 days).

TABLE 4

NUMBER OF STATIONS VIOLATING NATIONAL AMBIENT AIR QUALITY STANDARDS*
BY AIR QUALITY CONTROL REGION

AQCR	AQCR No.	State	Particulates			CO		SO_2		NO_2	O_3	Pb
			24-hour Secondary 150 ug/m^3	24-hour Primary 260 ug/m^3	Annual Geometric Mean 75 ug/m^3	Hour 40 mg/m^3	8-hour 10 mg/m^3	24-hour 365 ug/m^3	Annual Average 80 ug/m^3	Annual Average 100 ug/m^3	Hour 0.12 ppm	Quarterly Average 1.5 ug/m^3
Eastern Connecticut	041	CT	0/5	0/5	0/5	---	---	0/2	0/2	---	2/2	---
Hartford - New Haven - Springfield	042	CT	0/23	0/23	0/23	0/3	1/3	0/10	0/10	0/2	4/4	0/13
Hartford - New Haven - Springfield	042	MA	0/4	0/4	0/4	0/2	1/2	0/3	0/3	0/2	4/4	0/2
New Jersey - New York - Connecticut	043	CT	0/13	0/13	0/13	0/2	1/2	0/7	0/7	0/1	4/4	0/7
Northwestern Connecticut	044	CT	0/1	0/1	0/1	---	---	---	---	---	---	---
Androscoggin Valley	107	ME	4/28	1/28	0/28	---	---	0/14	0/14	---	0/2	0/3
Androscoggin Valley	107	NH	3/11	1/11	1/11	---	---	0/13	0/13	---	0/1	0/1

*Unless the second highest average exceeds the NAAQS, there is no violation.
x/y: x is the number of stations in violation;
y is the total number of stations reporting data for time period.
--- This pollutant is not monitored in the AQCR (state portion).

TABLE 4 (Continued)

NUMBER OF STATIONS VIOLATING NATIONAL AMBIENT AIR QUALITY STANDARDS*
BY AIR QUALITY CONTROL REGION

			Particulates			CO		SO_2		NO_2	O_3	Pb
AQCR	AQCR No.	State	24-hour Secondary 150 ug/m^3	24-hour Primary 260 ug/m^3	Annual Geometric Mean 75 ug/m^3	Hour 40 mg/m^3	8-hour 10 mg/m^3	24-hour 365 ug/m^3	Annual Average 80 ug/m^3	Annual Average 100 ug/m^3	Hour 0.12 ppm	Quarterly Average 1.5 ug/m^3
Aroostook	108	ME	2/4	1/4	0/4	---	---	0/3	0/3	---	---	0/2
Down East	109	ME	4/17	1/17	0/17	---	---	0/7	0/7	---	0/2	0/1
Metropolitan Portland	110	ME	1/9	0/9	0/9	0/1	0/1	0/3	0/3	---	2/2	0/3
Northwest Maine	111	ME	---	---	---	---	---	---	---	---	---	---
Berkshire	117	MA	0/1	0/1	0/1	---	---	0/1	0/1	---	0/1	---
Central Massachusetts	118	MA	0/4	0/4	0/4	0/1	1/1	0/4	0/4	0/1	1/1	0/1
Metropolitan Boston	119	MA	0/8	0/8	0/8	0/4	1/4	0/7	0/7	0/4	3/3	0/2
Metropolitan Providence	120	MA	0/4	0/4	0/4	---	---	0/2	0/2	0/2	3/3	---
Metropolitan Providence	120	RI	0/12	0/12	0/12	0/2	1/2	0/4	0/4	0/1	2/2	0/5

*Unless the second highest average exceeds the NAAQS, there is no violation.
x/y: x is the number of stations in violation;
y is the total number of stations reporting data for time period.
--- This pollutant is not monitored in the AQCR (state portion).

TABLE 4 (Continued)

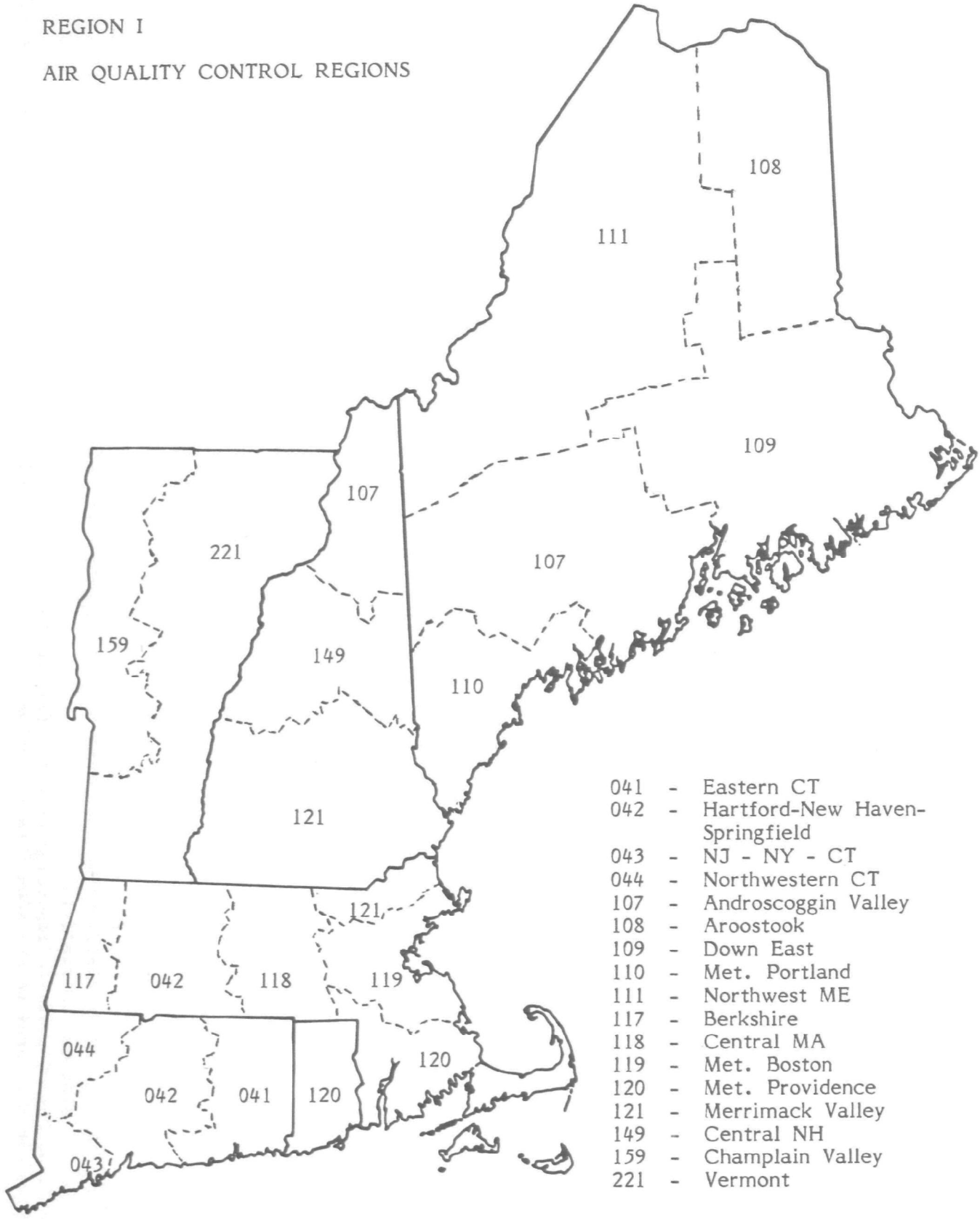
NUMBER OF STATIONS VIOLATING NATIONAL AMBIENT AIR QUALITY STANDARDS*
BY AIR QUALITY CONTROL REGION

			Particulates			CO		SO_2		NO_2	O_3	Pb
AQCR	AQCR No.	State	24-hour Secondary 150 ug/m^3	24-hour Primary 260 ug/m^3	Annual Geometric Mean 75 ug/m^3	Hour 40 mg/m^3	8-hour 10 mg/m^3	24-hour 365 ug/m^3	Annual Average 80 ug/m^3	Annual Average 100 ug/m^3	Hour 0.12 ppm	Quarterly Average 1.5 ug/m^3
Merrimack Valley	121	MA	0/3	0/3	0/3	0/1	1/1	0/2	0/2	0/1	0/2	0/1
Merrimack Valley	121	NH	0/16	0/16	0/16	0/2	2/2	0/7	0/7	---	0/4	0/8
Central New Hampshire	149	NH	---	---	---	---	---	---	---	---	---	---
Champlain Valley	159	VT	1/2	0/2	0/2	0/1	0/1	0/2	0/2	---	0/1	---
Vermont	221	VT	1/4	0/4	0/4	---	---	0/1	0/1	---	0/1	---

*Unless the second highest average exceeds the NAAQS, there is no violation.
x/y: x is the number of stations in violation;
y is the total number of stations reporting data for time period.
- This pollutant is not monitored in the AQCR (state portion).

REGION I

AIR QUALITY CONTROL REGIONS



041 - Eastern CT
042 - Hartford-New Haven-Springfield
043 - NJ - NY - CT
044 - Northwestern CT
107 - Androscoggin Valley
108 - Aroostook
109 - Down East
110 - Met. Portland
111 - Northwest ME
117 - Berkshire
118 - Central MA
119 - Met. Boston
120 - Met. Providence
121 - Merrimack Valley
149 - Central NH
159 - Champlain Valley
221 - Vermont

Figure 1

TABLE 5

STATIONS WHERE READINGS EXCEED EPISODE LEVELS

January-December 1984
Total Suspended Particulates
(ug/m^3)

Standard	State	AQCR	City	Site No.	Mo./Day (Time)	Duration	Highest Level Reached
Emergency 24 hour avg. = 875 ug/m^3	None						
Warning 24 hour avg. = 625 ug/m^3	None						
Alert 24 hour avg. = 375 ug/m^3	ME	107	Augusta Fire Station, Hartford Square	20 0080 005 J02	03/31 (00-23)	24 hours	536
	NH	121	Dover Central Avenue	30 0160 001 F01	02/12 (00-23)	24 hours	405

TABLE 5 (Continued)

STATIONS WHERE READINGS EXCEED EPISODE LEVELS

January-December 1984
Carbon Monoxide
(mg/m^3)

Standard	State	AQCR	City	Site No.	Mo./Day (Time)	Duration	Highest Level Reached
Emergency 8 hour avg. = 46 mg/m^3	None						
Warning 8 hour avg. = 34 mg/m^3	None						
Alert 8 hour avg. = 17 mg/m^3	NH	121	Nashua Matarazzo Building 25 Main Street	30 0480 009 F01	02/02 (16) 02/02 (20)	4 hours	18.1

TABLE 5 (Continued)

STATIONS WHERE READINGS EXCEED EPISODE LEVELS

January-December 1984
Sulfur Dioxide
(ug/m^3)

Standard	State	AQCR	City	Site No.	Mo./Day (Time)	Duration	Highest Level Reached
Emergency 3 hour avg. = 2100 ug/m^3	None						
Warning 3 hour avg. = 1600 ug/m^3	None						
Alert 3 hour avg. = 800 ug/m^3	None						

TABLE 5 (Continued)

STATIONS WHERE READINGS EXCEED EPISODE LEVELS

January-December 1984
Ozone (ppm)

Standard	State	AQCR	City	Site No.	Mo./Day	(Time)	Duration	Highest Level Reached
Alert 1 hour avg. = 0.204 ppm	CT	043	Danbury Trailer, Connecticut State College	07 0175 123 F01	06/08	(15)	1 hour	.215
	CT	041	Groton Avery Point, University of Connecticut	07 0350 005 F01	06/11	(14)	1 hour	.226
	CT	042	New Haven Trailer, 715 State Street	07 0700 123 F01	06/13	(13)	1 hour	.218
	CT	043	Stratford USCG Lighthouse, Stratford Point, Prospect Street	07 1110 007 F01	06/13	(13)	1 hour	.232
	CT	043	Stratford USCG Lighthouse, Stratford Point, Prospect Street	07 1110 007 F01	07/14	(14)	1 hour	.207
	CT	043	Stratford USCG Lighthouse, Stratford Point, Prospect Street	07 1110 007 F01	08/01	(14)	1 hour	.224
	MA	042	Chicopee Westover Air Force Base, Anderson Road	22 0400 008 F01	06/08	(19)	1 hour	.209
	MA	120	Fairhaven Leroy Wood School	22 0570 002 F01	07/14	(16)	1 hour	.206
	MA	042	Ware Ware High School, Route 32 and Gould Street	22 2360 001 F01	06/08	(19)	1 hour	.204
	RI	120	Kent County Alton Jones Campus, University of Rhode Island	41 0140 002 F03	06/13	(15)	1 hour	.215

1984 PRECISION AND ACCURACY DATA

Current Federal Regulations require that each State report both precision and accuracy data for all data from National Air Monitoring sites (NAMS), and State/Local Monitoring Sites (SLAMS). Tables 9 and 10 list the precision and accuracy data submitted by the six New England States. The data listed in these tables are the upper and lower 95% probability limits in percent difference from a known standard reported as a network average. The accuracy data in Table 9 are only for the lowest reported concentration range. For TSP, the accuracy limits apply only to the flow measurement, and the precision limits are the 95% confidence limits between co-located monitors.

From these tables, CO has the lowest probability limits. All the other pollutants reported are, in general, within approximately $\pm$ 15%. Although no acceptance criteria have been set by EPA to date, Region I expects this type of performance to be satisfactory. For comparison, the 1984 national statistics are included on Tables 9 and 10.

Generally, precision and accuracy values were slightly worse than those in 1983, possibly reflecting aging equipment and the increased size of the networks. Significant improvements were noted, however, in the TSP and lead precision data from Connecticut and the lead precision data from New Hampshire and Rhode Island. Areas where the total range exceeds 25% and improvements are needed include: Connecticut's precision data for SO_2 and NO_2 and accuracy data for CO, SO_2, and NO_2; Maine's precision data for TSP; Massachusetts' precision data for NO_2, O_3, and TSP and accuracy data for NO_2 and O_3. In addition, Maine failed to report any accuracy audits for CO for 1984, although their precision data is satisfactory. Similarly, Rhode Island submitted no accuracy data for NO_2 during 1984 due to failures in their audit equipment.

TABLE 6

1984 PRECISION DATA FOR NEW ENGLAND

ANNUAL AVERAGE PROBABILITY LIMITS IN PERCENT

	CT	ME	MA	NH	RI	VT
CO	-10 to +11	-9 to +8	-4 to +6	-9 to +4	-7 to +5	-6 to +4
SO_2	-15 to +11	-7 to +5	-12 to +9	-12 to +9	-8 to +8	-12 to +4
NO_2	-17 to +13	-	-18 to +13	-	0 to +12	-
O_3	-10 to +6	-8 to +10	-17 to +10	-15 to +9	-9 to +8	-6 to +9
TSP	-10 to +10	-10 to +18	-13 to +21	-10 to +8	-8 to +8	-8 to +8
Pb	-9 to +10	-5 to +7	-8 to +6	-8 to +9	-8 to +6	-

1984 NATIONAL STATISTICS

CO	-8 to +7
SO_2	-12 to +9
NO_2	-12 to +12
O_3	-10 to +8
TSP	-11 to +12
Pb	-13 to +14

TABLE 7

1984 ACCURACY DATA FOR NEW ENGLAND ANNUAL AVERAGE PROBABILITY LIMITS FOR THE LOWEST CONCENTRATION (CONTINUOUS METHODS), FLOW RATE (TP, Pb), AND ANALYSIS (Pb) REPORTED IN PERCENT

	CT	ME	MA	NH	RI	VT
CO	-14 to +21	(1)	-3 to +5	-4 to +8	-3 to +6	-9 to +7
SO_2	-13 to +11	-3 to +11	-8 to +9	-5 to +10	-13 to +5	-10 to +1
NO_2	-22 to +12	-	-43 to +50	-	(1)	-
O_3	-1 to +7	-2 to +13	-21 to +8	-9 to +10	-3 to +10	-11 to +7
TSP (Flow)	-5 to +5	-5 to +9	-8 to +11	-10 to +8	-8 to +8	-4 to +5
Pb (Analysis)	-7 to +9	-8 to +7	-8 to +6	-8 to +9	-11 to +7	-

1984 NATIONAL STATISTICS

CO	-9 to +8
SO_2	-13 to +10
NO_2	-15 to +14
O_3	-11 to +9
TSP (flow)	-6 to +6
Pb (analysis)	-7 to +6

(1) No accuracy audits were reported for this pollutant.

REGION I 1984 PERFORMANCE AUDIT PROGRAM

Region I conducts an audit program to determine the performance of ambient air monitoring systems and to provide their operators with technical assistance in improving data quality. Continuous air monitors are audited by allowing them to sample gas mixtures containing known concentrations of specific pollutants and noting the analyzers' responses. High-volume air samplers for TSP and lead are audited by attaching a flow reference device and comparing a known air flow rate with the rate recorded or indicated by the sampler.

A total of 143 audits were conducted in the six New England States for TSP, SO_2, CO, NO_2, and O_3 by personnel from Region I. In general, the results were very good with 133 audits (93%) satisfactory, 8 audits (6%) marginal, and only 2 audits (1%) unsatisfactory. This indicates a slight decline from the 1983 results.

TSP audit results showed a substantial decline over 1983 during which 2% of the audits were marginal. In 1984, 7% were marginal, although none were unsatisfactory. One possible reason for the decline may be the inconsistencies in some of the State procedures for computing flow rates which were permitted under the earlier TSP Reference Method regulations. All of the States in Region I have adopted or are planning to adopt revised TSP procedures consistent with the current EPA requirements which should yield better results.

Performance on NO_2 audits improved again with all completed audits meeting satisfactory criteria.

Ozone audit results were generally good with only one marginal audit in Massachusetts.

SO_2 audit results were satisfactory with the exception of two failures in Maine and two marginal audits in Massachusetts. Region I provided Maine with assistance in diagnosing the possible cause of failure.

Results for CO were generally good in all States audited. The remainder were all satisfactory. Table 8 summarizes the results of the audit program on a state-by-state basis.

TABLE 8

REGION I PERFORMANCE AUDIT PROGRAM[1] - 1984

Pollutant/Parameter	CT	ME	MA	NH	RI	VT
TSP[2]						
Number of Audits	15	12	15	15	5	12
Number of Satisfactory Audits	12	11	14	15	5	12
Number of Marginal Audits	3	1	1	0	0	0
Number of Unsatisfactory Audits	0	0	0	0	0	0
SO_2						
Number of Audits	0	2	9	6	0	5
Number of Satisfactory Audits	0	0	7	6	0	5
Number of Marginal Audits	0	0	2	0	0	0
Number of Unsatisfactory Audits	0	2	0	0	0	0
CO						
Number of Audits	1	0	4	1	0	1
Number of Satisfactory Audits	1	0	4	1	0	1
Number of Marginal Audits	0	0	0	0	0	0
Number of Unsatisfactory Audits	0	0	0	0	0	0
NO_2						
Number of Audits	2	0	3	0	3	0
Number of Satisfactory Audits	2	0	3	0	3	0
Number of Marginal Audits	0	0	0	0	0	0
Number of Unsatisfactory Audits	0	0	0	0	0	0
O_3						
Number of Audits	5	2	6	3	5	2
Number of Satisfactory Audits	5	2	5	3	5	2
Number of Marginal Audits	0	0	1	0	0	0
Number of Unsatisfactory Audits	0	0	0	0	0	0

[1]Includes only State-operated NAMS, SLAMS, and special study monitors.

[2]Flow rate audits of high-volume air samplers including those sampling for lead and TSP.

Satisfactory audit is defined as an average percent difference less than 6% for TSP; 10% for SO_2, CO, and O_3; and 15% for NO_2.

Marginal audit is defined as an average percent difference between 6-10% for TSP; 10-15% for SO_2, CO, and O_3; and 15-20% for NO_2.

Unsatisfactory audit is defined as an average percent difference of greater than 10% for TSP; greater than 15% for SO_2, CO, and O_3; and greater than 20% for NO_2.

TABLE 9

REGION I NONATTAINMENT AREAS
AS OF DECEMBER 31, 1984

	Date and Magnitude of Last Reported Violation to NAAQS[1]	
Connecticut		
Secondary Standards for TSP		
AQCR 41	1973	156 ug/m^3
AQCR 42	1981	209 ug/m^3
AQCR 43	1980	160 ug/m^3
AQCR 44	1979	159 ug/m^3
Primary Standards for CO		
AQCR 42	1984	13.5 mg/m^3
AQCR 43	1984	12.1 mg/m^3
Primary Standards for O_3		
AQCR 41	1984	0.192 ppm
AQCR 42	1984	0.172 ppm
AQCR 43	1984	0.224 ppm
AQCR 44	1980	0.211 ppm
Maine		
Primary Standards for TSP		
AQCR 109		
Lincoln	1982	289 ug/m^3
Secondary Standards for TSP		
AQCR 107		
Augusta	1984	314 ug/m^3
Thomaston	1982	184 ug/m^3
AQCR 109		
Woodland (Baileyville)	1984	226 ug/m^3
Bangor-Brewer	1983	269 ug/m^3
Lincoln	1984	153 ug/m^3
Primary Standards for SO_2		
AQCR 109		
Millinocket[2]	1980	548 ug/m^3
Primary Standards for O_3		
AQCR 107	1983	0.140 ppm
AQCR 110	1984	0.147 ppm

[1] All values listed are the second highest values reported. Only data currently in the EPA system are listed.

TABLE 9 (Continued)

REGION I NONATTAINMENT AREAS
AS OF DECEMBER 31, 1984

	Date and Magnitude of Last Reported Violation to NAAQS[1]	
Massachusetts		
Secondary Standards for TSP		
AQCR 042		
Springfield[3]	1984	181 ug/m^3
AQCR 117		
Adams[3]	1977	178 ug/m^3
North Adams[3]	1977	197 ug/m^3
Pittsfield[3]	1984	155 ug/m^3
AQCR 118		
Athol[3]	1980	158 ug/m^3
Worcester	1981	156 ug/m^3
AQCR 119		
Cambridge	1972	174 ug/m^3
Danvers[3]	1975	185 ug/m^3
Framingham[3]	1973	151 ug/m^3
Lynn	1971	168 ug/m^3
Marblehead[3]	1975	171 ug/m^3
Medford	1976	164 ug/m^3
Norwood[3]	1973	235 ug/m^3
Peabody[3]	1977	190 ug/m^3
Quincy[3]	1982	182 ug/m^3
Revere[3]	1980	166 ug/m^3
Swampscott[4]		
Waltham	1978	184 ug/m^3
AQCR 120		
Fall River	1975	188 ug/m^3
AQCR 121		
Haverhill	1975	163 ug/m^3
Lawrence	1972	156 ug/m^3

---

(1) All values listed are the second highest values reported. Only data currently in the EPA system are listed.

(2) Attainment designation requested by state.

(3) Exceedence only; no violations in the last five years.

(4) No sites at this location.

TABLE 9 (Continued)

REGION I NONATTAINMENT AREAS
AS OF DECEMBER 31, 1984

	Date and Magnitude of Last Reported Violation to NAAQS[1]	
Massachusetts (Continued)		
Primary Standards for CO		
AQCR 042		
Springfield	1984	11.8 mg/m^3
AQCR 118		
Worcester	1984	11.1 mg/m^3
AQCR 119		
Boston	1984	11.8 mg/m^3
Cambridge	1978	10.9 mg/m^3
Medford	1980	12.2 mg/m^3
Quincy	1977	10.9 mg/m^3
Waltham	1978	10.6 mg/m^3
AQCR 121		
Lowell	1984	12.8 mg/m^3
Primary Standards for O_3		
AQCR 042	1984	0.168 ppm
AQCR 117	1983	0.135 ppm
AQCR 118	1984	0.138 ppm
AQCR 119	1984	0.147 ppm
AQCR 120	1984	0.185 ppm
AQCR 121	1983	0.127 ppm
New Hampshire		
Primary Standards for TSP		
AQCR 107		
Metropolitan Berlin	1984	359 ug/m^3
Secondary Standards for TSP		
AQCR 121		
Metropolitan Manchester	1980	156 ug/m_3
Primary Standards for CO		
AQCR 121		
City of Manchester	1984	12.7 mg/m^3
Nashua	1984	16.7 mg/m^3

[1]All values listed are the second highest values reported. Only data currently in the EPA system are listed.

TABLE 9 (Continued)

REGION I NONATTAINMENT AREAS
AS OF DECEMBER 31, 1984

	Date and Magnitude of Last Reported Violation to NAAQS[1]	
New Hampshire (Continued)		
Primary Standards for SO_2		
AQCR 107		
Berlin	1980	666 ug/m^3
Primary Standards for O_3		
AQCR 121	1984	0.124 ppm
Rhode Island		
Secondary Standards for TSP		
AQCR 120		
Providence[3]	1983	153 ug/m^3
Primary Standards for CO		
AQCR 120		
Providence	1984	12.3 mg/m^3
Primary Standards for O_3		
AQCR 120	1984	0.195 ppm
Vermont		
Secondary Standards for TSP		
AQCR 159		
Burlington and adjacent cities and towns	1984	185 ug/m^3
AQCR 221		
City of Barre	1984	163 ug/m^3

[1]All values listed are the second highest daily reported. Only data currently in the EPA system are listed.

[3]Exceedence only; no violations in the last five years.

TABLE 10

REGION I ATTAINMENT AND UNCLASSIFIED AREAS AS OF DECEMBER 31, 1984 WITH RECENT VIOLATIONS

	Second Highest Values	Year
Maine		
o Primary Standards for TSP		
- AQCR 107		
Augusta	314 ug/m^3	1984
- AQCR 108		
Madawaska	310 ug/m^3	1983
Presque Isle	316 ug/m^3	1984
- AQCR 109		
Bangor	269 ug/m^3	1983
o Secondary Standards for TSP		
- AQCR 107		
Lewiston-Auburn	160 ug/m^3	1983
Oxford County	152 ug/m^3	1984
- AQCR 108		
Fort Kent	203 ug/m^3	1983
Madawaska	192 ug/m^3	1984
- AQCR 109		
Millinocket	164 ug/m^3	1984
Old Town	151 ug/m^3	1984
- AQCR 110		
Westbrook	151 ug/m^3	1984
- AQCR 111		
Jay	160 ug/m^3	1984
Madison	167 ug/m^3	1983
o Primary Standards for O_3		
- AQCR 109		
Acadia National Park	0.135 ppm	1983

AIR QUALITY SUMMARIES AND TRENDS

The next several pages contain a discussion of the air quality and selected trends for each of the New England States. The data for these analyses were collected by the New England States and were submitted to EPA in fulfillment of the Federal monitoring requirements.

In evaluating the five-year urban air quality trends throughout New England, a statistical program package developed by Region 5 was used to help characterize the trends for TSP, CO, and SO_2 sites. Due to an insufficient data base, these programs were not employed for Pb, O_3, and NO_2. This statistical program segments the data at each site into monthly cells, produces monthly means, deseasonalizes these monthly means by aligning the data for various years (in this case, five years 1980-1984) for each common month, performs a linear regression on these deseasonalized monthly means, and finally computes two test statistics which indicate the relative significance of any trends identified. To be consistent with the appropriate National Ambient Air Quality Standards (NAAQS), geometric means are used for TSP, while arithmetic means are used for the other pollutants. TSP, CO and SO_2 trend lines for selected air monitoring sites are presented in Figures 2 through 4.

A different approach was used to present ozone trends. Ozone violations only occur during the late spring and summer months in New England. Monitoring is conducted from April through October only; consequently, the deseasonalized linear regression lines would be of little value. Figure 5 shows a plot of the number of days over the standard for selected sites in Bridgeport and Stratford, Connecticut; Cape Elizabeth, Maine; Medfield, Massachusetts; Manchester, New Hampshire; and Kent County, Rhode Island. The sites selected for this figure show both increasing and decreasing trends. When using the ozone trend lines, please remember that meteorology plays a very important and complex role in the formation of ozone. Given the yearly variation in meteorology, it is possible that the apparent fluctuations in ozone levels are a result of normal variations due to meteorology rather than actual reductions in emissions.

1984 CONNECTICUT AMBIENT AIR QUALITY SUMMARY

TSP

There were no violations or exceedences of either the primary or secondary National Ambient Air Quality Standards (NAAQS). The highest annual geometric mean was measured in Bridgeport and was 52 ug/m^3 or 69% of the primary NAAQS. Annual geometric means were 67% of the standard in Stamford, 64% in Hartford, and 63% in Waterbury. The maximum second highest daily average was measured in Bridgeport and was 46% of the primary daily NAAQS. The second maximum daily average in the larger urban areas ranged from 24% to 46% of the primary daily NAAQS. Rural background levels were approximately 31% of the annual primary standard and 48% of the secondary daily standard. In general, the 1984 TSP levels were approximately the same as those reported in 1982 and 1983.

The five-year trend lines were prepared for 19 sites and are considered representative of the entire State. Ten sites had decreasing trends between the 90% and 100% confidence level. Nine sites had no significant trends but did show a definite negative slope. The trend lines for both Bridgeport and Hartford are shown in Figure 2.

Lead

There were no violations to the NAAQS reported in 1984. The highest quarterly average was measured in Waterbury and was only 47% of the NAAQS. Maximum quarterly averages in other urban areas ranged from 10% to 45% of the standard. In general, lead levels are slightly lower than those reported in 1982 or 1983.

CO

There were no exceedences or violations to the one-hour NAAQS reported in 1984. Both Hartford and Stamford reported violations of the 8-hour NAAQS. The levels for CO were slightly lower in 1984 than in 1983 or 1982 in New Britain and New Haven. Bridgeport CO levels in 1984 were slightly lower than those reported in 1983 and slightly higher than in 1982. Stamford recorded higher CO values in 1984 than in 1983 and slightly lower levels than in 1982. A new microscale site in Hartford has reported 13 exceedences of the 8-hour NAAQS during 1984 compared to three in 1983 and two in 1984 at the old CO site.

Five-year trend lines for New Britain and Stamford show a significant decreasing trend. The Bridgeport, New Haven, and Hartford five-year trends show a significant increasing trend. The Stamford CO site is included in Figure 3.

SO_2

No violations or exceedences to the NAAQS were measured in 1984. The maximum SO_2 annual averages occurred in Bridgeport, Milford, and New Haven and were approximately 43% of the NAAQS. Annual averages were 39% of the annual NAAQS in Hartford, 40% in Stamford, and 36% in Waterbury. The highest daily SO_2 levels were measured in New Haven, the maximum being 67% of the NAAQS. The second highest daily averages measured in the major urban areas were approximately 55% of the daily NAAQS. In general, the 1984 SO_2 annual averages were approximately the same or slightly lower than in 1982 or 1983; also, the maximum and second highest daily averages in general were somewhat higher in 1984 than in either 1982 or 1983. The five year trends for seven sites were analyzed. Sites in Danbury, Bridgeport (Hallet Street), Hartford, New Haven, and Waterbury showed a significant decreasing trend. The Milford site showed a slightly positive nonsignificant trend, while Stamford showed a negative nonsignificant trend plot. Figure 4 shows the Bridgeport (Hallet Street) trend line.

NO_2

The three NO_2 SLAMS sites which are located in Bridgeport, East Hartford, and New Haven reported values of 52%, 40%, and 58%, respectively of the annual standard. NO_2 values at these three sites are slightly down from those values recorded in 1983. The five-year trend plots for the three NO_2 sites were analyzed. Bridgeport showed a significant decreasing trend, while New Haven showed a slightly negative nonsignificant trend, and East Hartford's four-year trend plot showed a positive nonsignificant trend.

O_3

Every site in Connecticut reported between 7 days and 28 days over the primary NAAQS. The maximum daily reading was .232 ppm in Stratford during 1984. In general, the ozone levels were lower in 1984 than in 1983 and slightly higher than the 1982 values. Figure 5 shows a plot of the number of days over the standard for the Bridgeport and Stratford sites.

1984 MAINE AMBIENT AIR QUALITY SUMMARY

TSP

Primary National Ambient Air Quality Standards (NAAQS) violations were measured in Augusta, Presque Isle, and Washington County. Secondary standards violations were reported in Augusta, Jay, Lincoln, Madawaska, Millinocket, Old Town, Oxford County, Presque Isle, Washington County, and Westbrook. An exceedence was reported in Bangor and Rumford. There were no violations of the annual standard. The annual geometric mean was 84% of the NAAQS in Westbrook, 67% in Augusta, 65% in Millinocket, 48% in Jay and 56% in Lincoln. The TSP site with the best air quality was Acadia National Park which reported levels 17% of the annual NAAQS.

The five-year trend analysis was performed on 47 TSP sites in Maine. Of these 47 sites, four showed significant increasing trends. Twelve sites showed no significant trends, and the remaining 31 sites showed a significant downward trend. Although the majority of the regression lines show a downward trend, the number of lines with no significant and increasing trends indicate that particulate values may be leveling off after continuous decreases over the past several years. Several sites showed higher values than those reported last year. Figure 2A shows decreasing five-year trend lines for Augusta and Lincoln.

Lead

There were no violations of the quarterly lead NAAQS. The highest statewide concentration was measured in Portland (microscale site) and was 73% of the standard. Last year's maximum level was 96% of the NAAQS at the Portland site. Maximum levels measured in Augusta were 61% of the standard in 1984, while levels in Auburn were 51% of the standard. Although maximum values increased slightly in Augusta since last year, lead levels generally followed a decreasing trend throughout the State.

CO

The only CO monitoring site in the State was located in Portland. The site was moved from Bangor in 1984. Reported CO levels in Portland were slightly higher than the levels meassured in Bangor last year. The

highest concentration was 31% of the 1-hour NAAQS, and for the 8-hour NAAQS, the highest concentration was 79% of the standard. These levels occurred with less than a full year of monitoring data. CO levels statewide generally show a decreasing trend, assuming maximum values do not increase once a full year of monitoring data is collected.

SO_2

The highest daily SO_2 levels were monitored in Rumford. The values were approximately 62% of the 24-hour standard. Monitored values in Portland were 41% of the standard, while Lewiston, Lincoln, and Washington County showed values of approximately 42% of the daily standard. The highest 3-hour levels were monitored in Mexico at 56% of the standard. Rumford measured values 49% of the standard, and levels in Madawaska were 48% of the standard. Although maximum SO_2 values in Maine are only 62% of the NAAQS, a review of the historical data base shows mixed trends.

The five-year trend analysis was conducted for 13 sites. Seven sites showed decreasing trends, while four showed no significant trends, and two sites (Lincoln and Mexico) showed increasing trends. The trend lines for Millinocket show a 46% reduction over the five-year period. This resulted from the installation of control equipment at a local paper mill. Levels in Madawaska show up to 80% reduction as a result of reduced fuel burning activity at a local mill. Figure 4 shows a reducing trend line for Madawaska.

NO_2

Maine is not required to monitor NO_2; however, at present, one special purpose NO_2 site is operating in Portland. This site is gathering information for an ozone study.

O_3

Of the six sites operated in Maine, only two monitors measured NAAQS violations. The Cape Elizabeth site measured six days over the standard, while the York County site measured eleven days over the standard. Acadia

National Park and the Washington County sites measured one day over the standard. The Gardiner and Lincoln county sites had no monitored or predicted violations in 1984. The highest value recorded (.171 ppm) was measured at the Cape Elizabeth site. The site measuring the lowest values was located in Lincoln County. This site measured a maximum value of .119 ppm or 91% of the NAAQS.

In general, ozone values and the number of days over the standard decreased from 1983 results. However, the frequency of violations at the York County site increased from seven in 1983 to eleven in 1984. Figure 5 shows a plot of the number of days over the standard for the Cape Elizabeth site.

1984 MASSACHUSETTS AMBIENT AIR QUALITY SUMMARY

TSP

There were no reported violations to the primary or secondary National Ambient Air Quality Standards (NAAQS) in 1984, although secondary NAAQS exceedences were reported for four sites: Boston, Pittsfield, Springfield, and Worcester. TSP sites with the highest annual geometric means were located in Boston at 75% of NAAQS, Chelsea at 72% of NAAQS, Springfield at 65% of NAAQS, and Worcester at 73% of NAAQS. The highest second-high daily TSP values were measured in Boston at 88% of the secondary NAAQS, in Chelsea at 79% of the NAAQS, in Pittsfield at 77% of the NAAQS, in Springfield at 84% of the NAAQS, and in Worcester at 98% of the NAAQS. Rural background levels were 39% of the primary annual, 37% of the primary daily, and 65% of the secondary daily standards.

In general, TSP levels in 1984 showed a continued downward trend for most sites in the State. A total of 22 sites were analyzed for five-year trends. Of these, 16 sites (73%) showed a significant downward trend, one site (5%) showed a significant upward trend and five sites exhibited no significant trends.

The five-year trend lines for the Southampton Street site in Boston and Howard Street site in Springfield are presented in Figure 2A. These two center city urban sites are representative of the significant downward trend that most TSP sites are experiencing in Massachusetts.

Lead

Routine monitoring for lead began in 1982 with sites established in Boston, Chelsea, Lowell, Springfield, and Worcester. No violations to the quarterly lead NAAQS have been reported from the present network. Lead levels averaged 15% lower in 1984 than in 1983 at five of the six sites. The remaining site, East Columbus Avenue in Springfield, experienced a slight increase (3%) over 1983 levels. This site also recorded the maximum quarterly lead level for the State at 86% of the NAAQS, an increase of 29% over the corresponding quarter for 1983.

CO

Four of the eight sites which monitored this pollutant in 1984 recorded violations to the primary 8-hour NAAQS: Boston with three violations, Lowell with four violations, Springfield with four violations, and Worcester with two violations. None of the eight sites reported exceedences to the 1-hour primary NAAQS. Maximum and second maximum CO levels for both the 1-hour and 8-hour averaging times decreased at all four Boston sites by an average of 30% between 1983 and 1984. The remaining four sites in other urban areas of the State experienced average increases of 35% for these averaging times.

Five-year trends were analyzed for the seven sites which had sufficient data. All four sites in Boston exhibited significant decreasing trends, while a site in Worcester exhibited a significant increasing trend. The two remaining sites, both located in Springfield, did not exhibit any significant trends. Figure 3 depicts the five-year trend line for the Commonwealth Avenue site in Boston. Neighborhood (suburban) CO levels were 35% and 73% of the 1-hour and 8-hour NAAQS in Boston, and 29% and 73% of the NAAQS in Springfield. The maximum second-high 1-hour and 8-hour averages for the State in 1984 were measured at the Old City Hall site in Lowell at 63% and 128% of the NAAQS, respectively.

SO_2

There were no violations of the NAAQS at any of the 18 sites which reported SO_2 data for 1984 in Massachusetts. The maximum SO_2 site in the State for 1984 was the Commonwealth Avenue site in Boston with levels of 54% of the annual standard and 52% of the daily standard reported. The 1984 annual average at this Boston site was significantly lower than previous years, although the maximum daily levels were higher in 1984 than previous years. Figure 4 depicts the five-year trend line for the Commonwealth Avenue site and indicates a significant downward trend.

After Boston, the next highest annual mean concentrations were measured in Fall River, Lawrence, and Springfield at approximately 40% of the annual standard. All three areas experienced increases in both the annual mean and daily SO_2 levels in 1984 over previous years' levels. Minimum SO_2 levels in Massachusetts were measured at a rural background site in Medfield with levels at 25% of the daily standard and 16% of the annual standard.

A total of 15 sites were analyzed for five-year trends. Significant downward trends were identified at nine sites located in Chicopee, Fall River, Lowell, Medfield, Springfield, Watertown, and three sites in Boston. A significant upward trend was identified for a site in Springfield. The remaining five sites did not exhibit any significant trends.

NO_2

In 1984, ten sites collected NO_2 data in Massachusetts. The maximum site in the State was located in Boston where the annual mean for 1984 was 83% of the NAAQS and represents an increase of 73% over the 1983 levels at this site. A 27% increase in the annual mean was measured at the other Boston site in 1984 and represents 61% of the NAAQS. NO_2 levels in Springfield and Worcester did not appreciably change between 1983 and 1984. The other sites in the network did not have sufficient monitoring records to determine if changes have occurred in the past year. A five-year trend analysis was performed on three sites which had a sufficient sampling record. No significant long-term trends were identified for these three sites. The minimum levels for this pollutant were measured at a site in Fall River at 28% of the NAAQS.

O_3

As in past years, violations continue to be reported throughout Massachusetts. Violations were recorded at 11 out of 14 sites which operated in 1984. Sites in Pittsfield and Lawrence did not record any values greater than the NAAQS. A site in Newburyport reported one daily exceedence of the standard.

In general, ozone levels decreased in 1984, with nine sites averaging decreases of 15% in the maximum and second maximum daily values in 1984. Four other sites measured average increases of 9% in maximum and second maximum values. The total number of days in excess of the standard for the 13 sites, which operated in both 1983 and 1984, was reduced from 89 days in 1983 to 45 days in 1984. Nine sites recorded reductions in number of days over the NAAQS, while two sites, Attleboro and Easton saw minor increases. Two other sites, Newburyport and Ware, saw no change in number of days over the standard.

The maximum daily values for 1984 were recorded in Chicopee at 0.209 ppm, Fairhaven at 0.206 ppm, and Ware at 0.204 ppm. The Massachusetts site with the most number of days over the standard for 1984 is in Fairhaven with nine days. This was also the case in 1983 with the Fairhaven site recording 17 days over the standard. The areas which experienced the lowest maximum daily values for 1984 are located in Lawrence at 0.112 ppm, and Pittsfield at 0.117 ppm. Figure 5 shows the five-year trend plot of the number of days over the standard for the Medfield site which is located in the southwestern sector of the Boston urban area.

1984 NEW HAMPSHIRE AMBIENT AIR QUALITY SUMMARY

TSP

The only site which reported a violation to the primary National Ambient Air Quality Standards (NAAQS) was the Berlin, Lancaster Street trailer site. This site measured three values over the 24-hour standard, and the site also measured a violation to the annual NAAQS. The Lancaster Street site measured six values over the primary 24-hour standard in 1983. A primary and secondary NAAQS exceedence was measured in Dover in 1984. The only secondary standards violations in New Hampshire were measured in Berlin. The air quality in Berlin is influenced by manufacturing activity at a local paper mill. The annual geometric mean was 67% of the NAAQS in Portsmouth, 60% in Manchester, and 56% in Nashua. Background levels in Hollis are 35% of the annual standard.

The five-year trend analysis was performed on 15 sites in New Hampshire. Of the 15 sites, 12 showed significant downward trends, while the remaining three showed no significant trends. Although levels generally decreased throughout the State, values in Dover, Northumberland, and the Hollis background site showed higher levels than those reported in 1983. Figure 2A shows a decreasing trend line for the Portsmouth Court Street site.

Lead

There were no lead violations reported in 1984. The highest site - a microscale site in Concord - reported values 29% of the NAAQS. The lowest site in the State, located in Berlin, had a maximum quarterly average of 9% of the standard. In general, lead values decreased from those reported in 1983.

CO

No violations of the 1-hour NAAQS were reported in 1984; however, both Nashua and Manchester reported violations to the 8-hour NAAQS. A total of 21 violations were monitored in Nashua. The maximum 8-hour level was 81% over the standard. The frequency and magnitude of the violations are approximately the same as those observed last year. Manchester recorded eight violations of the 8-hour standard. The maximum value was 51% over

the NAAQS. The magnitude of the violations in Manchester increased slightly over the 1983 levels, and the number of values higher than the standard increased substantially over the single exceedence measured in 1983.

SO_2

No violations to the NAAQS were monitored in 1984. The last violation in New Hampshire was measured in Berlin in 1980. The highest state-wide levels recorded during 1984 were monitored in Berlin. The values were 50% of the 3-hour NAAQS. These levels resulted from local paper mill activity. Metropolitan Manchester monitored levels 46% of the 24-hour standard, while a Pembroke site, which is influenced by a utility company, measured levels 42% of the standard. In general, SO_2 levels in New Hampshire increased from the values measured last year. However, long-term SO_2 trend lines show either downward or no significant trend for the sites that were evaluated. Figure 4 shows a downward trend line for the Northumberland, Groveton Mobile Lab site.

NO_2

NO_2 data were not collected in 1984.

O_3

Of the five sites operated in 1984, Manchester and Nashua each reported only one day over the standard. No other exceedences were recorded. The highest state-wide value was monitored in Manchester and was 8% over the NAAQS. The number of days over the standard decreased from three in Portsmouth in 1983 to zero in 1984. In general, ozone levels in 1984 were similar to those recorded in 1982 and 1983. Figure 5 shows the number of days over the standard for the Manchester site.

1984 RHODE ISLAND AMBIENT AIR QUALITY SUMMARY

TSP

There were no reported violations or exceedences of the primary and secondary National Ambient Air Quality Standards (NAAQS) in 1984. The highest annual geometric mean occurred at the Westminster Street site in Providence which was 71% of the annual primary NAAQS. This site also had the second highest daily average which was 38% of the primary daily NAAQS. The highest daily average was measured in Providence at the Bonanza Bus Terminal site and was 87% of the secondary NAAQS. The rural background site, located at the University of Rhode Island, Alton Jones campus in Kent County, showed levels at 25% of the primary annual NAAQS and a second highest daily average at 32% of the daily secondary standard.

TSP levels throughout the State have shown a gradual decrease from 1982 to 1984. The rural Alton Jones site, at 25% of the primary annual standard, was almost equal to 1983's at 24%, and lower than 1982 at 27%.

The five-year trend analysis was performed for 12 TSP sites in Rhode Island. Of these, 11 sites showed significant downward trends, while only one site had no significant trend. Figure 2 shows the five-year trend line for a typical site in Providence.

Pb

There were no calendar quarter arithmetic means greater than the primary and secondary NAAQS in 1984. The highest quarterly lead average occurred at Dyer Street and was 39% of the NAAQS. The second highest quarterly average also occurred at Dyer Street at 36% of the standard. The 1984 levels were generally lower than those in 1983 and 1982, and the maximum rural background levels were 4% of the standard during the highest quarter.

CO

There were no violations of the 1-hour primary and secondary NAAQS in 1984. The microscale site in Providence at Dorrence Street reported three violations of the 8-hour primary and secondary NAAQS in 1984

versus two violations in 1983 and only one exceedance in 1982. At the neighborhood site (Rockefeller Library), the second highest 8-hour concentration decreased to 60% of the 8-hour NAAQS from 77% in 1983 and 64% in 1982. Figure 3 shows the five-year trend line for the microscale site in Providence. This line shows a significant downward trend in the mean levels of CO. The five-year trend line for the neighborhood scale site, however, showed no significant trend.

SO_2

No violations to NAAQS were reported in the last four years. The highest levels reported in Providence during 1984 were approximatley 56% of the 24-hour primary NAAQS. This is somewhat higher than either the 1982 or 1983 24-hour maximum values of 54% and 47% of the standard, respectively. The second highest value reported in Providence in 1984 was 48% of the 24-hour standard which is also slightly higher than 1982 or 1983. Figure 4 shows a significant downward five-year trend line for the mean SO_2 concentration at a Providence site.

NO_2

The one site in Providence reported an annual average of 47% of the NAAQS. This is slightly higher than the 1983 value of 45% of the standard; however, insufficient data from previous years precludes an accurate five-year trend analysis.

O_3

The Kent County site reported 15 days during which the 1-hour NAAQS was exceeded, while the Providence site only reported five such days. The Kent County site has, over the past three years, had the most number of measured days over the NAAQS. For 1982 and 1983, these same sites reported seven and one day over the standard, respectively. The maximum daily hour values were .215 ppm in 1984, .150 ppm in 1983, and .158 ppm in 1982 at the Kent County site. Figure 5 shows a plot of the number of days over the standard for the Kent County site.

TSP

There was one exceedence of the primary and one violation of the secondary National Ambient Air Quality Standard (NAAQS) in Barre and one violation of the secondary NAAQS in Burlington (47 0140 005 F01). Burlington also showed values approximately 59% of the annual geometric mean. Rutland had the highest annual geometric mean which was 72% of the NAAQS (75 ug/m^3). The rural background site in Orange County reported levels 33% of the annual geometric mean NAAQS. Maximum daily levels at this site were approximately 49% of the secondary standard.

A total of six sites were analyzed for their five-year trends. Of these, five had significant downward trends: Barre, Bennington, Brattleboro, Burlington, and Rutland. The Orange County trend plot showed a negative 86% decreasing trend from 1981 through 1984. Figure 2 shows the five-year trend line for Barre.

Lead

Vermont is not required to and does not operate a monitoring network for lead.

CO

Maximum levels at the Burlington middle scale site were 22% of the one-hour standard and 46% of the eight-hour standard. These levels are approximately the same as those measured in 1982 and 1983.

SO_2

The only site with a complete year's worth of data is Burlington. Data from this site is 22% of the annual standard and 22% of the daily standard. Reported daily values from Rutland and Barre are slightly higher than those at Burlington. A five-year trend line for Burlington is shown in Figure 4, indicating a nonsignificant trend with a slight negative slope.

$\underline{NO_2}$

Vermont is not required to and does not conduct monitoring for NO_2.

$\underline{O_3}$

There was one day over the NAAQS in Brattleboro and no reported days over the NAAQS in Burlington. The highest daily value reported in Burlington was 0.107 ppm or 86% of the standard. Higher levels were reported during 1984 in Brattleboro and Burlington compared to those values reported in 1982 and 1983.

FIVE YEAR TREND – TOTAL SUSPENDED PARTICULATES (CT, RI, VT)

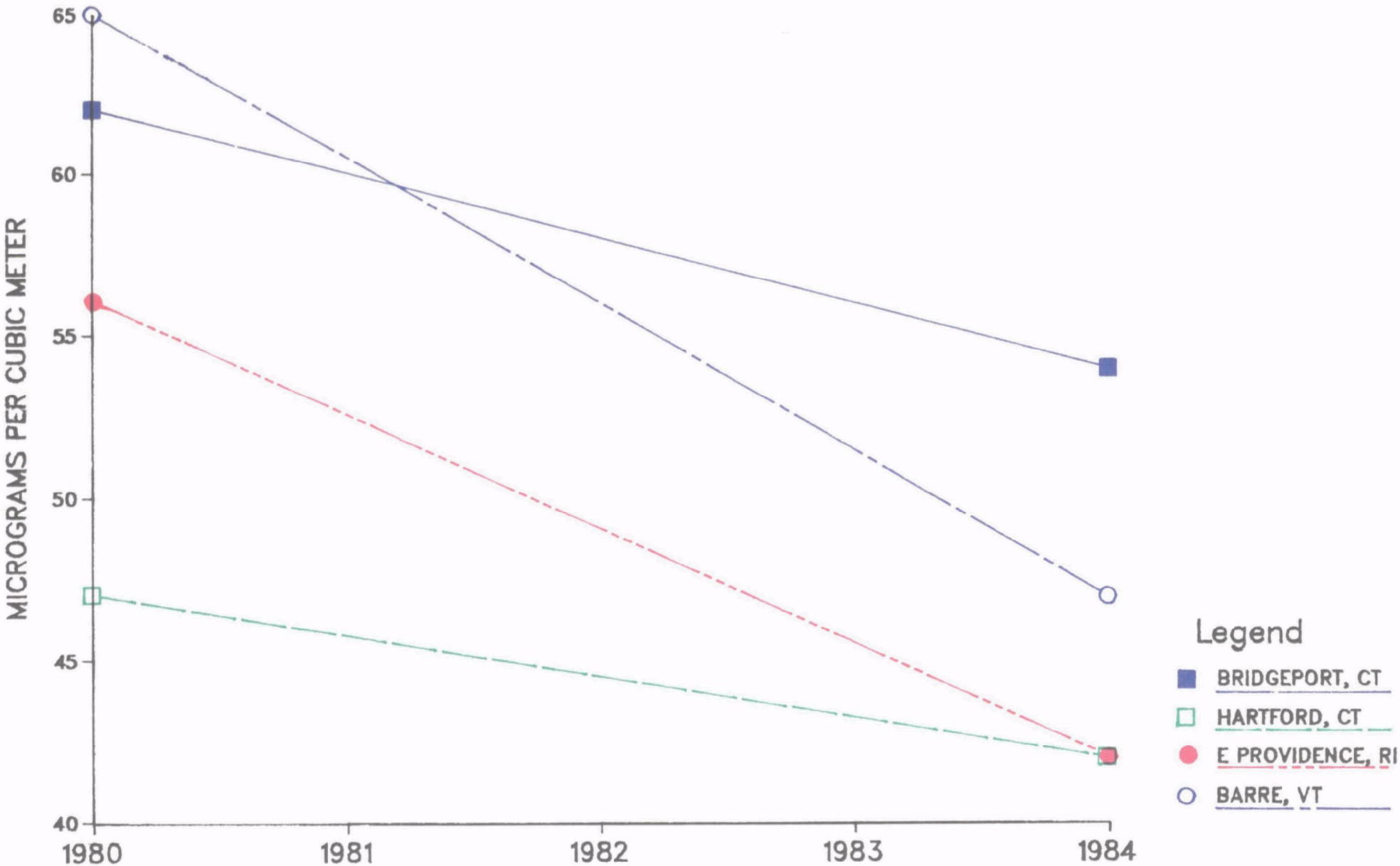


FIGURE 2

FIVE YEAR TREND – TOTAL SUSPENDED PARTICULATES (ME, MA, NH)

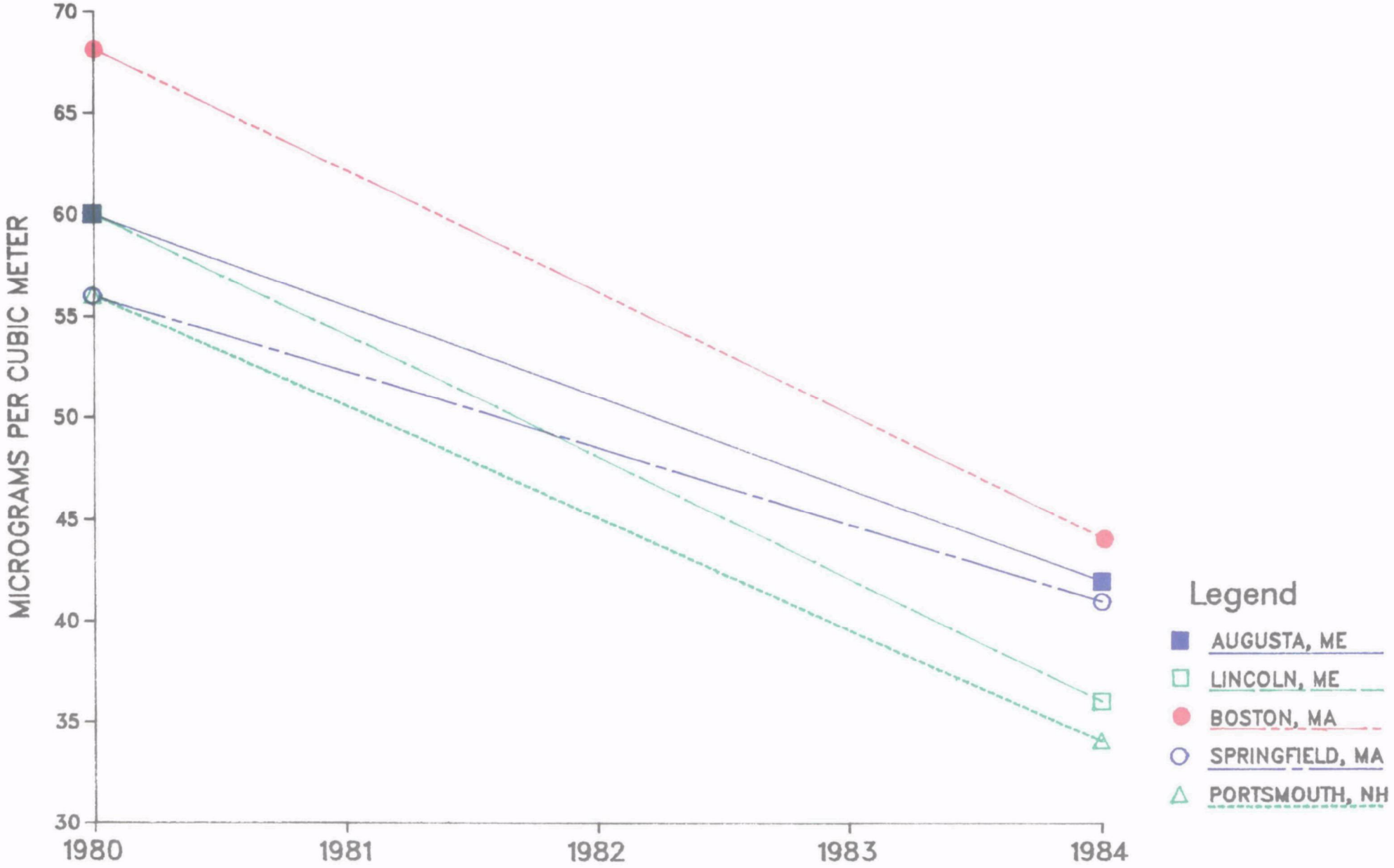


FIGURE 2A

FIVE YEAR TREND – CARBON MONOXIDE

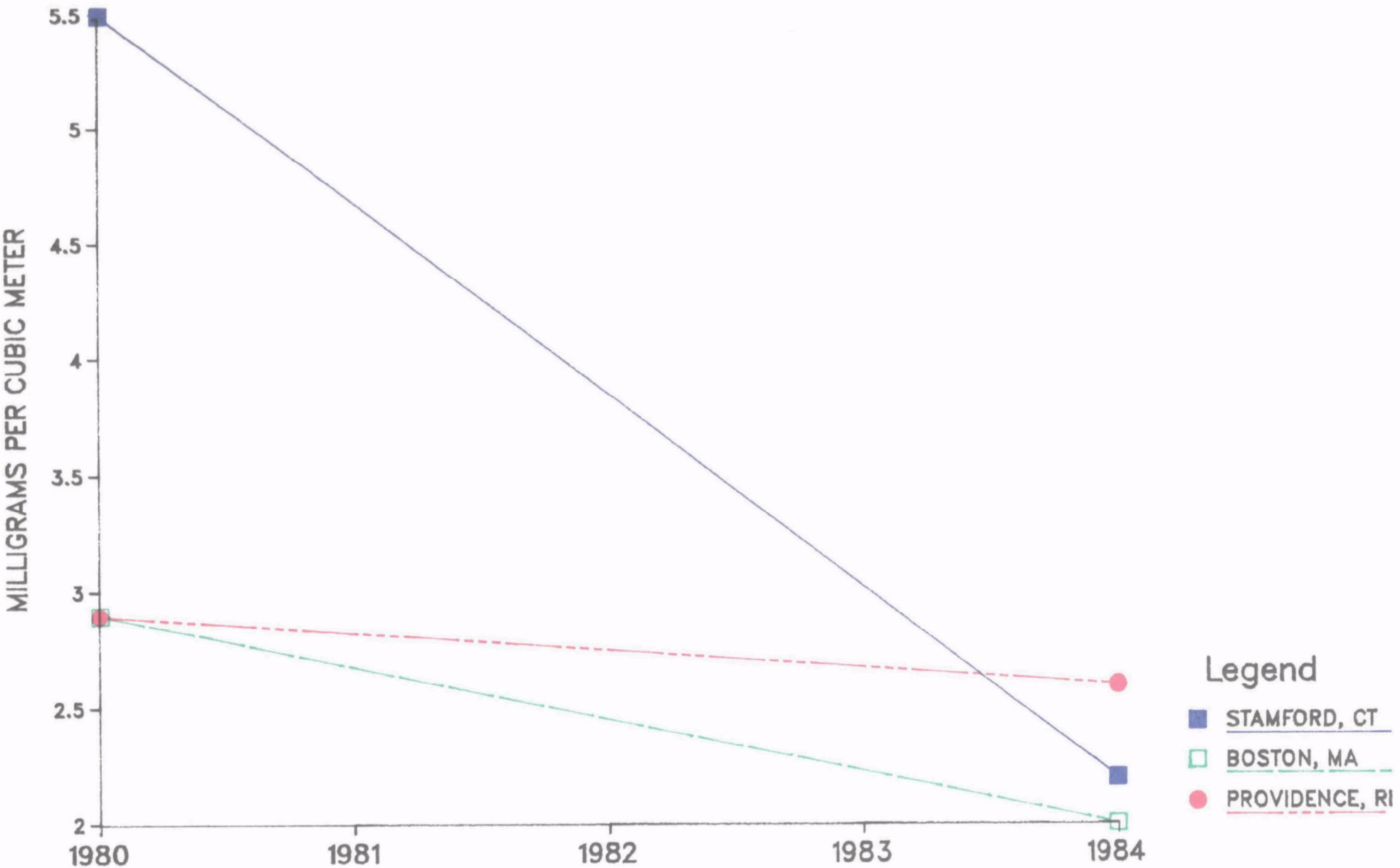


FIGURE 3

FIVE YEAR TREND – SULFUR DIOXIDE

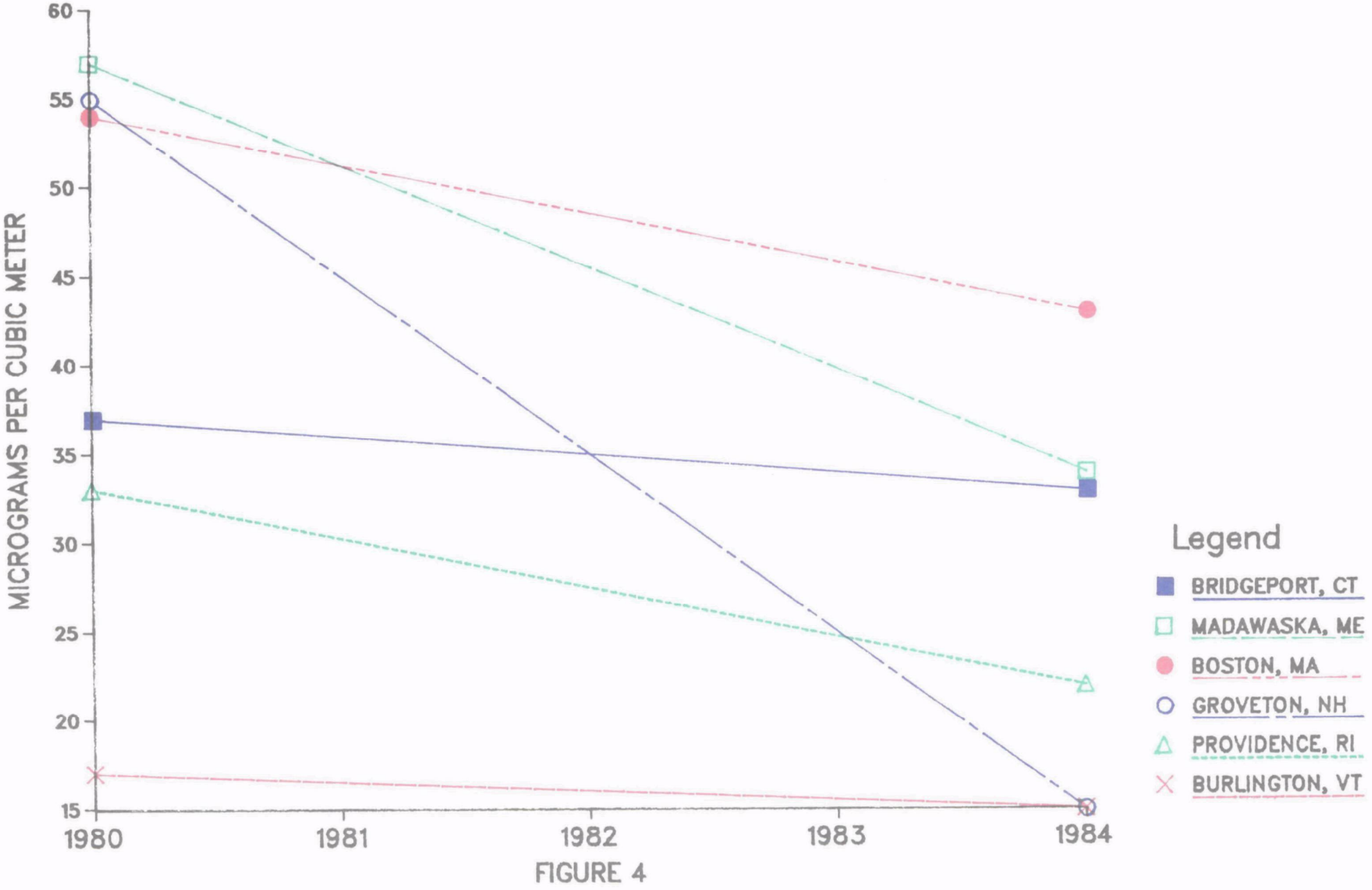


FIGURE 4

FIVE YEAR TREND – OZONE

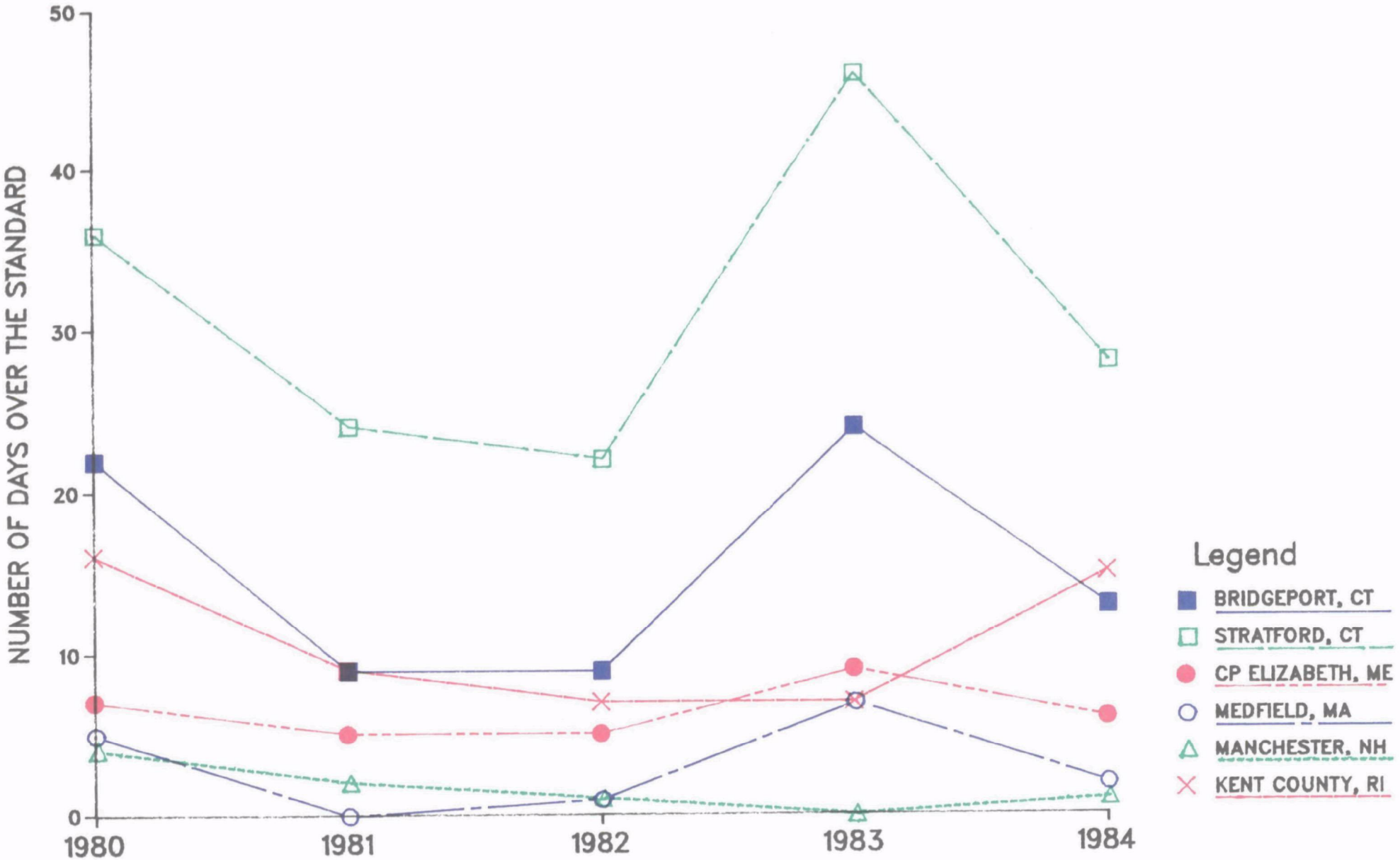


FIGURE 5