SEASONAL DISTRIBUTION

In Figures IV.G-4 and IV.G-5, plots of monthly average sulfate for 1976 at six stations are shown. Generally, the highest concentrations were found during the third quarter and the lowest during the first quarter of the year.

Supporting data are shown in Table IV.G-IV.

FREQUENCY DISTRIBUTION

Figures IV.G-6 to IV.G-9 are frequency distributions of daily average sulfate for 1972, 1974, and 1976 at several stations. No definite upward or downward trend in the South Coast Air Basin is detected.

TRENDS

Sulfate data for past years is very sparse except for the Los Angeles County portion of the South Coast Air Basin. In that area, sulfate rose to a peak in 1973 and has decreased since that time (Figure IV.G-10).

Summaries of long-term seasonal sulfate concentrations for Central Los Angeles and Lennox are shown in Tables IV.G-V and IV.G-VI.

SUMMARY

Violations of the sulfate standard were most prevalent in the Los Angeles County portion of SCAQMD during 1976. The number of violations in that area has decreased since 1973. Sulfate data prior to 1976 was too spotty to allow a detailed analysis for the entire District.

LIST OF FIGURES

Sulfate

Figure No.	Title
IV.G-1	Sulfate, Annual Arithmetic Mean, ug/m^3 - 1976
IV.G-2	Sulfate, Annual Maximum Daily Value (ug/m^3) - 1976
IV.G-3	Sulfate, Percent of Days Violating State Standard (24-Hr. Avg. $SO_4^= \geq ug/m^3$) - 1976
IV.G-4	Sulfate, Monthly Arithmetic Mean, ug/m^3 - 1976
IV.G-5	Sulfate, Monthly Arithmetic Mean, ug/m^3 - 1976
IV.G-6	Frequency Distribution Sulfate (24-Hour Sample, ug/m^3) - Downtown Los Angeles, Lennox
IV.G-7	Frequency Distribution Sulfate (24-Hour Sample, ug/m^3) - Anaheim
IV.G-8	Frequency Distribution Sulfate (24-Hour Sample, ug/m^3) - Riverside, San Bernardino
IV.G-9	Frequency Distribution Sulfate (24-Hour Sample, ug/m^3) - Lancaster
IV.G-10	Percent of Days Sulfate Standard Exceeded (24-Hr. Avg. of $SO_4^= \geq 25\ ug/m^3$)

LIST OF TABLES

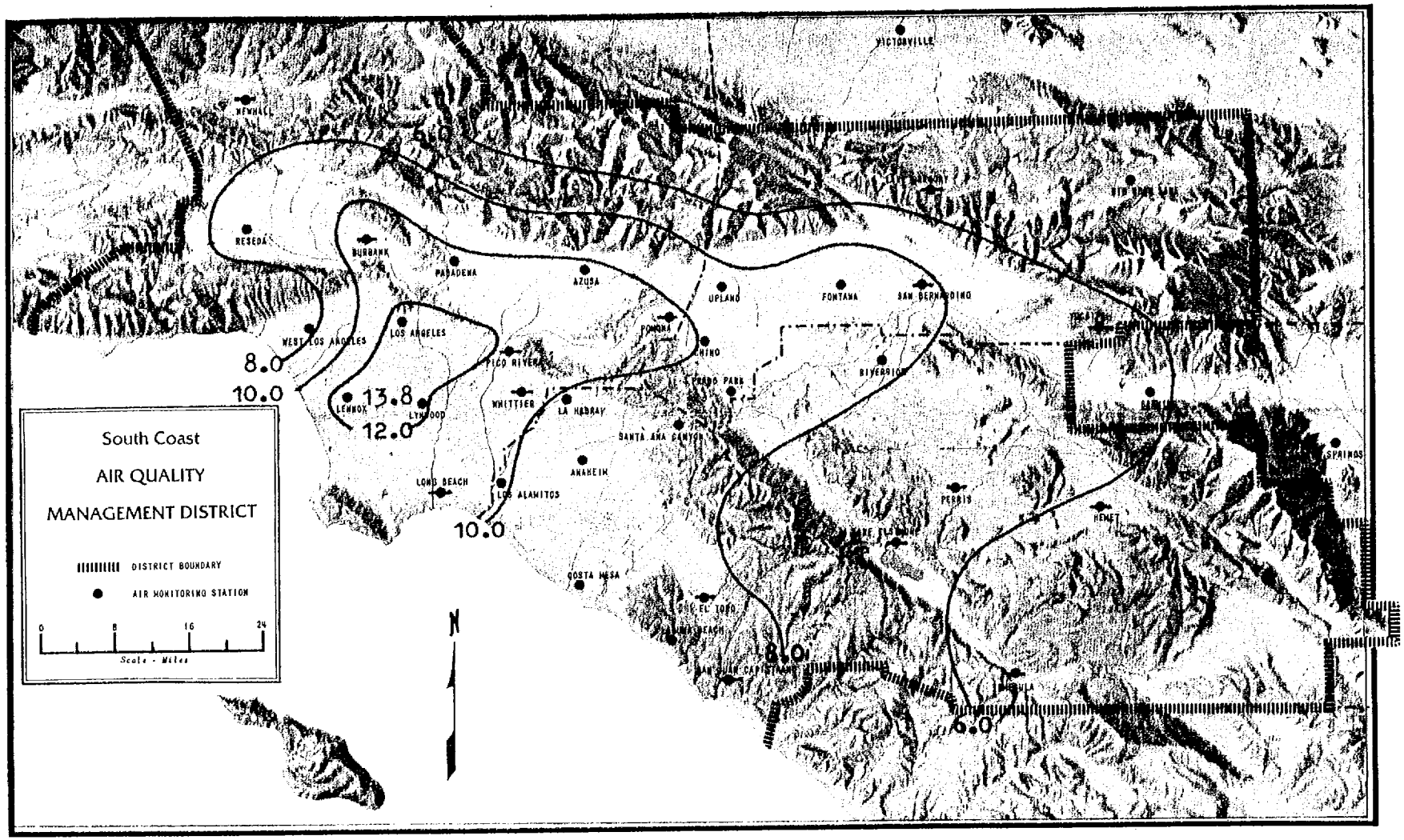
Sulfate

Table No.	Title
IV.G-I	Sulfate, Percent of Days Violating State Standard (24-Hr. Avg. $SO_4^{=}$ 25 ug/m^3) - 1976
IV.G-II	Sulfate, Annual Arithmetic Mean, ug/m^3 - 1976
IV.G-III	Sulfate, Annual Maximum Daily Value, ug/m^3 - 1976
IV.G-IV	Sulfate, Monthly Arithmetic Mean, ug/m^3 - 1976
IV.G-V	Summary of Monthly Average Concentrations, ug/m^3, of Particulate Sulfate at Station No. 1 (Central), 1965 - 1976
IV.G-VI	Summary of Monthly Average Concentrations ug/m^3, of Particulate Sulfate at Station No. 76 (Southwest Coastal), 1965 - 1976

SULFATE

ANNUAL ARITHMETIC MEAN, ug/m^3

1976



Less than 9 months of data.

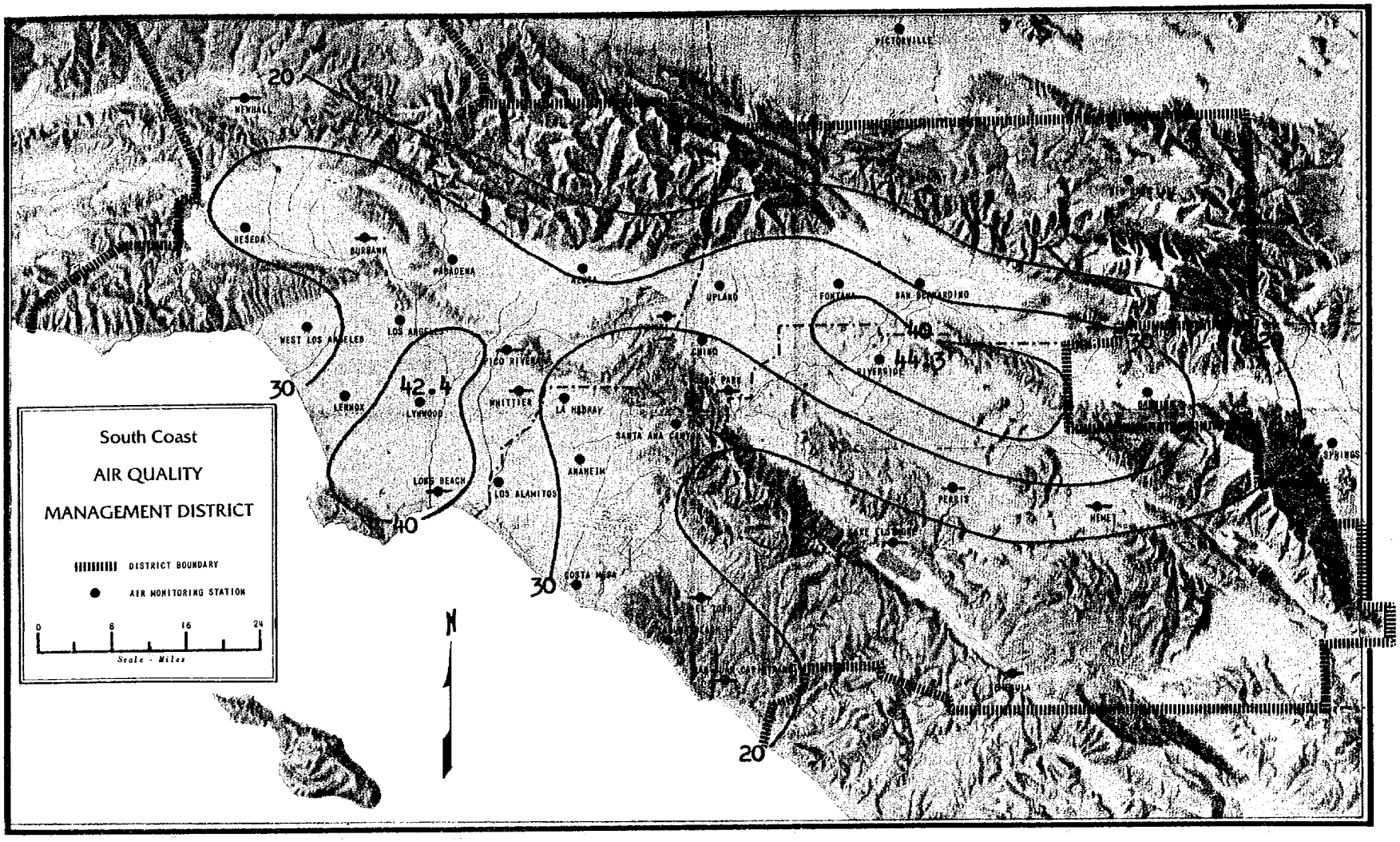
RPG 9/07/77

Figure IV.G-1

SULFATE

ANNUAL MAXIMUM DAILY VALUE (ug/m^3)

1976



Less than 9 months of data.

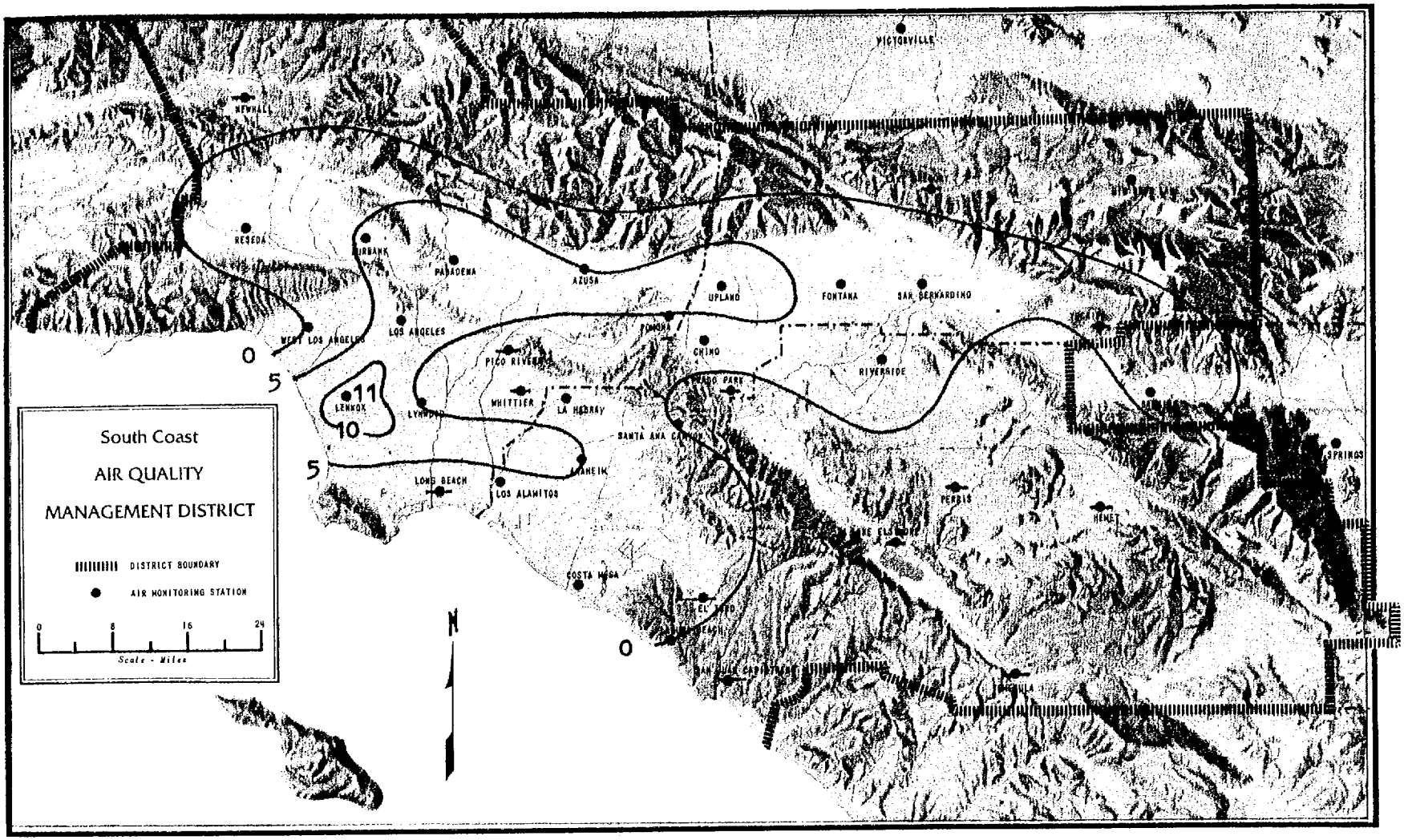
RPG 9/07/77

Figure IV.G-2

SULFATE

PERCENT OF DAYS VIOLATING STATE STANDARD (24-HR. AVG. $SO_4^{=} \geq 25$ ug/m^3)

1976

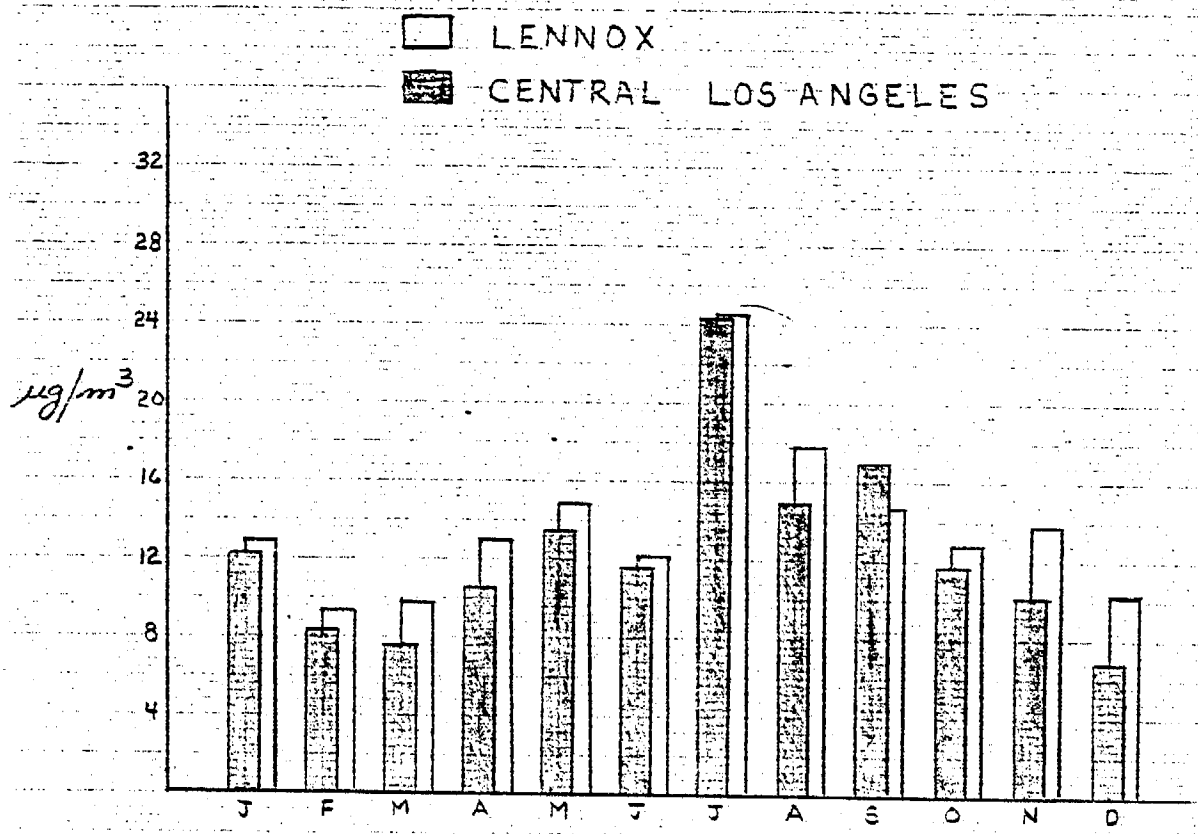


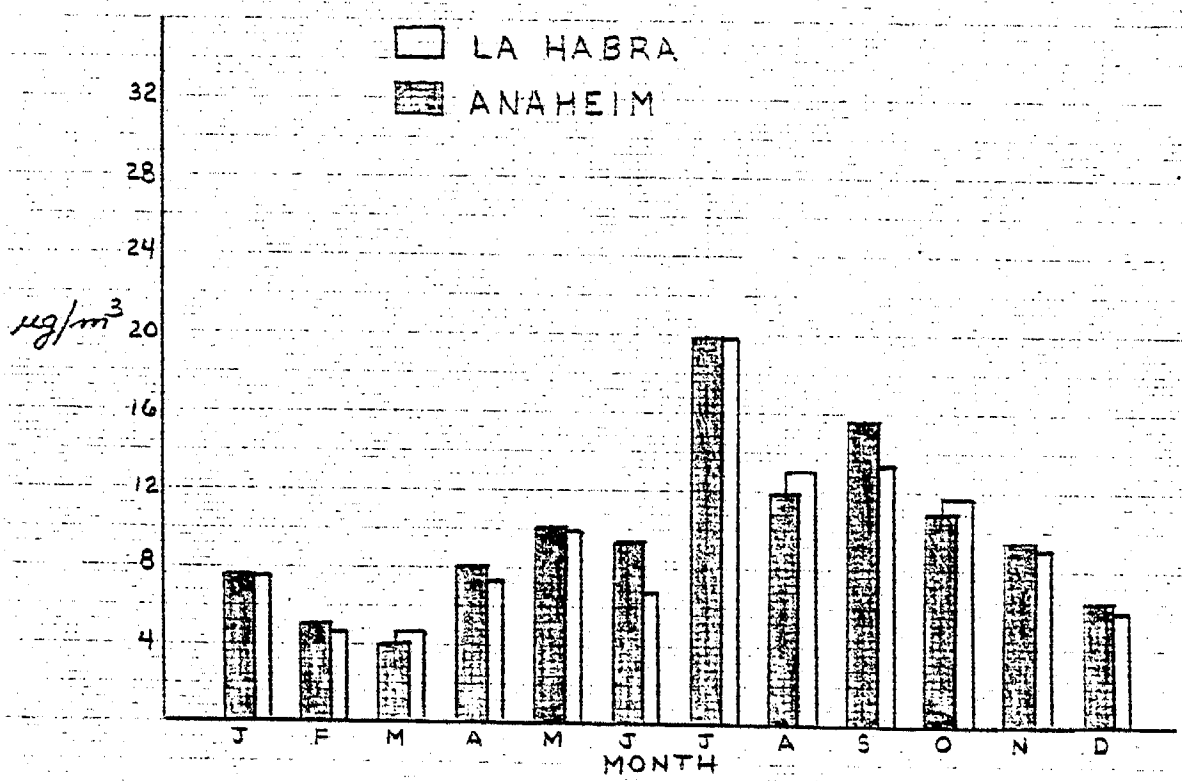
Less than 9 months of data.

RPG 9/07/77

Figure IV.G-3

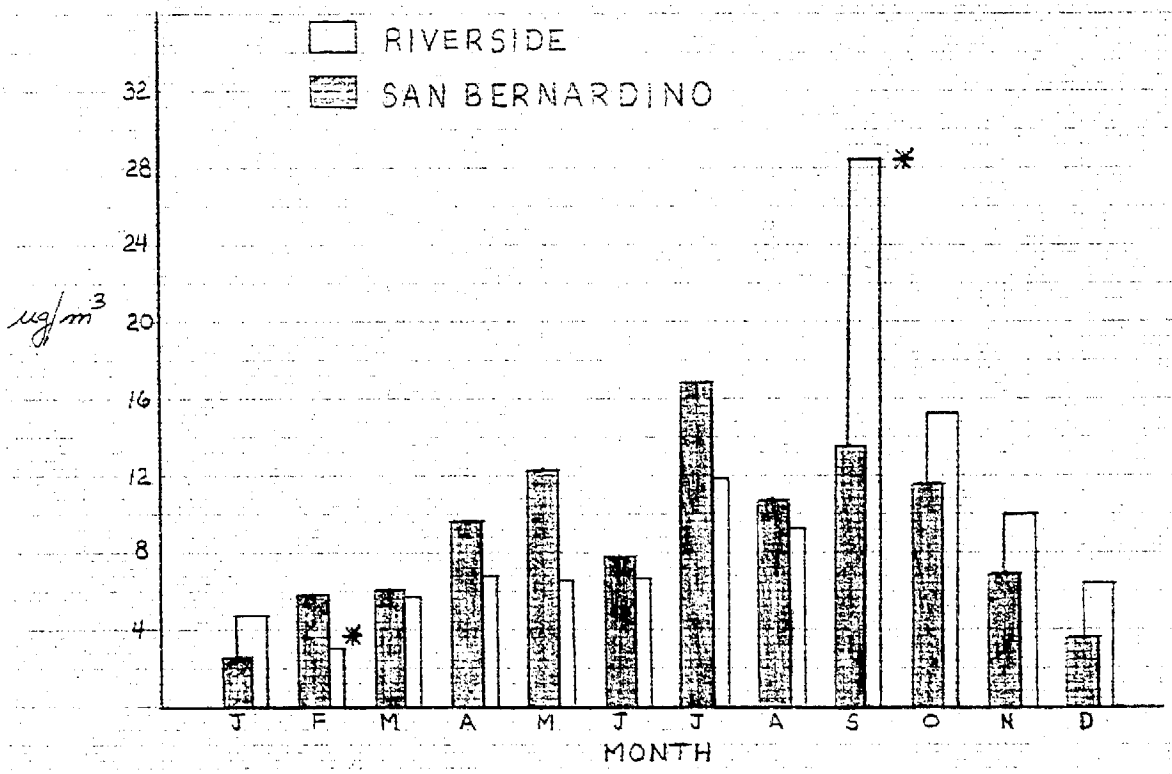
SULFATE
MONTHLY ARITHMETIC MEAN, $\mu g/m^3$
1976





Figu

SULFATE
MONTHLY ARITHMETIC MEAN, $\mu g/m^3$
1976



* RIVERSIDE DATA MAY NOT BE REPRESENTATIVE

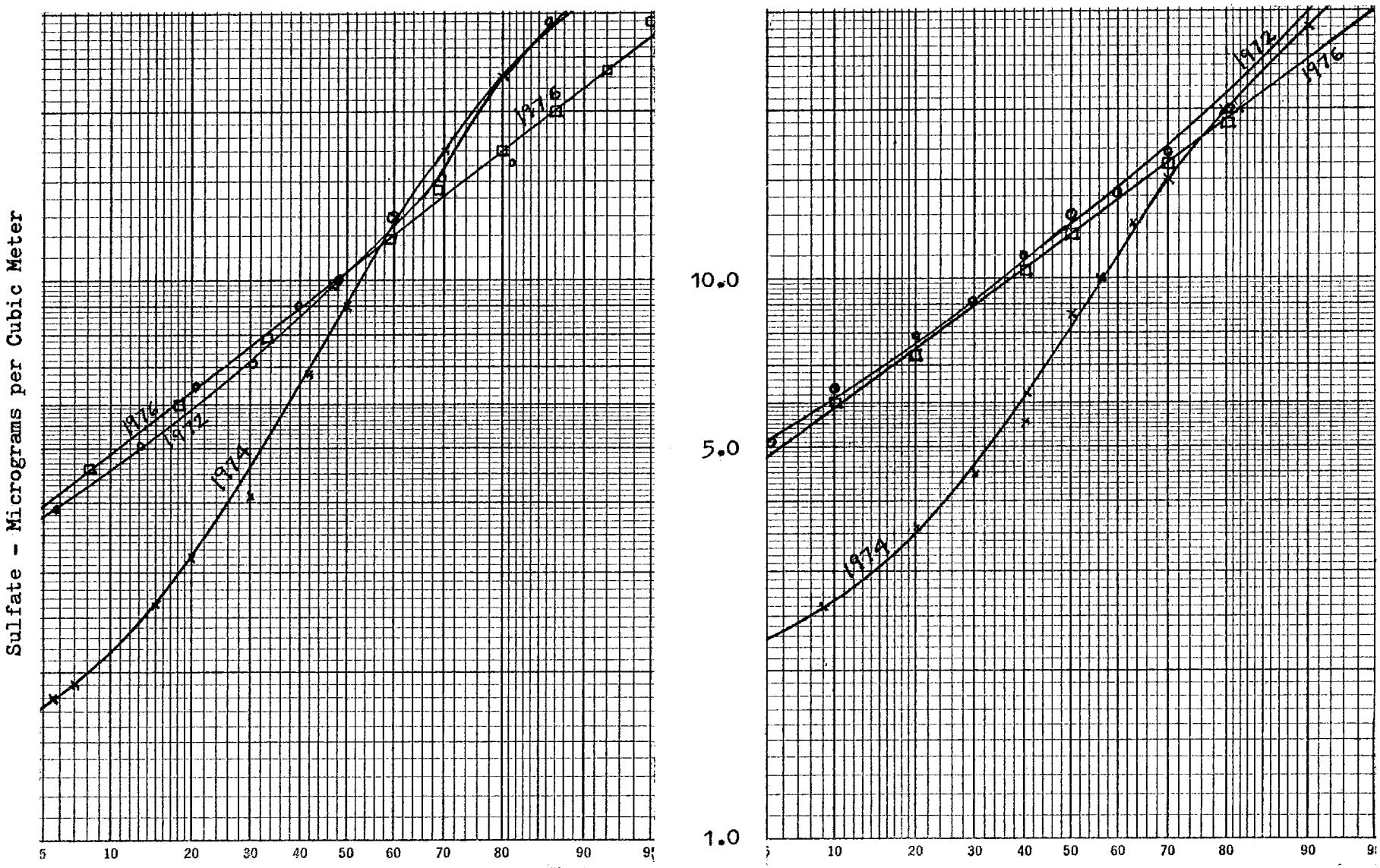
SULFATE
(24-Hour Sample - Micrograms per Cubic Meter)

DOWNTOWN L.A.

Year	N	Max.	Min.	Arithmetic Mean	Std.Dev.
1972	68	55.5	2.8	14.37	± 11.59
1973	73	72.2	0.1	15.80	± 14.71
1974	70	44.5	1.5	12.78	± 11.22
1975	61	36.3	2.3	12.16	± 8.49
1976	60	34.4	2.4	12.11	± 6.98

LENNOX

Year	N	Max.	Min.	Arithmetic Mean	Std.Dev.
1972	71	53.3	4.0	15.28	± 9.91
1973	73	48.7	0.1	13.95	± 12.17
1974	73	41.9	2.0	11.82	± 10.01
1975	61	34.5	1.9	12.35	± 8.58
1976	61	37.2	4.6	13.80	± 7.46



Concentration equal to or less than stated percentage

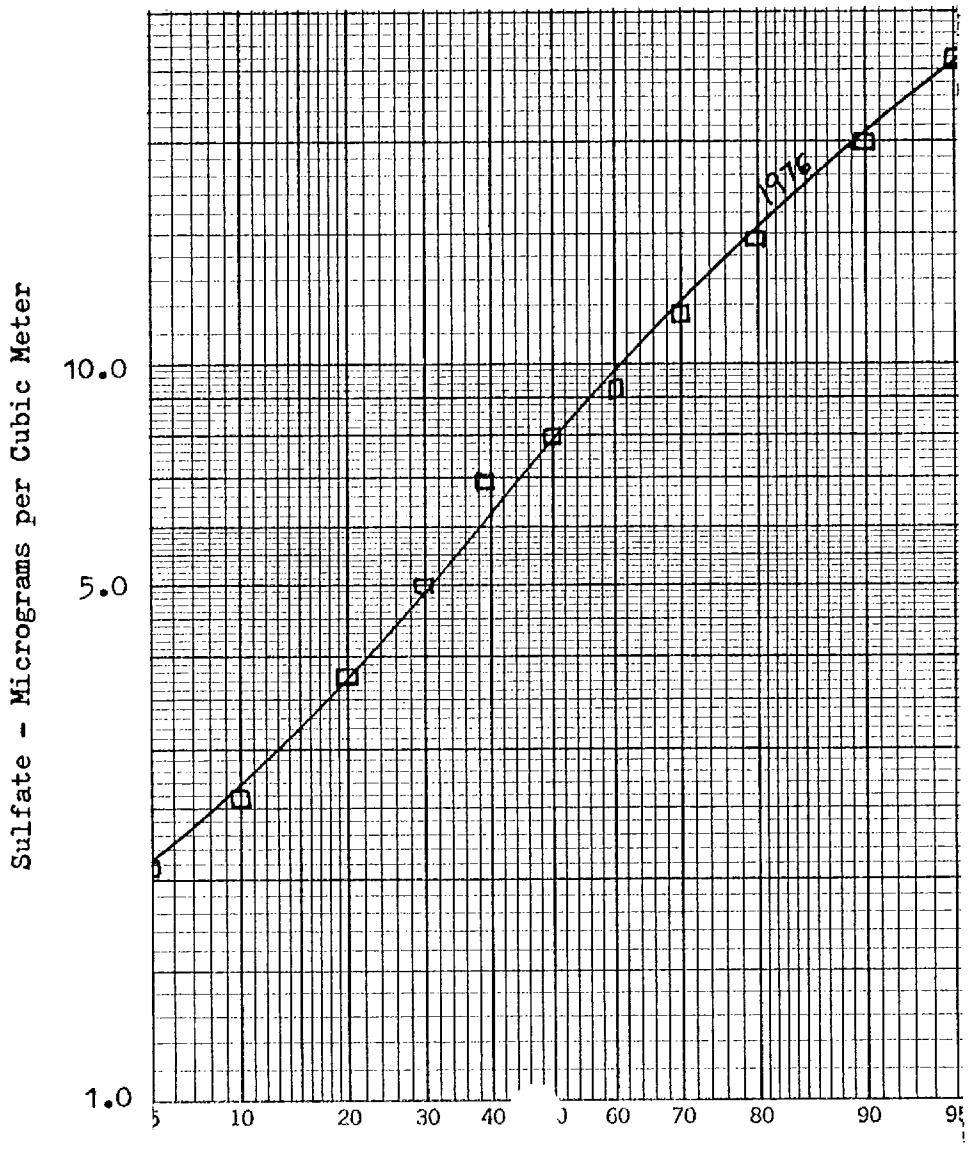
Figure IV.G-6

SULFATE

(24-Hour Sample - Micrograms per Cubic Meter)

ANAHEIM

Year	N	Max.	Min.	Arithmetic Mean	Arithmetic Std.Dev.
1976	61	29.3	1.8	9.66	± 6.68



Concentration equal to or less than stated percentage

Figure IV.G-7

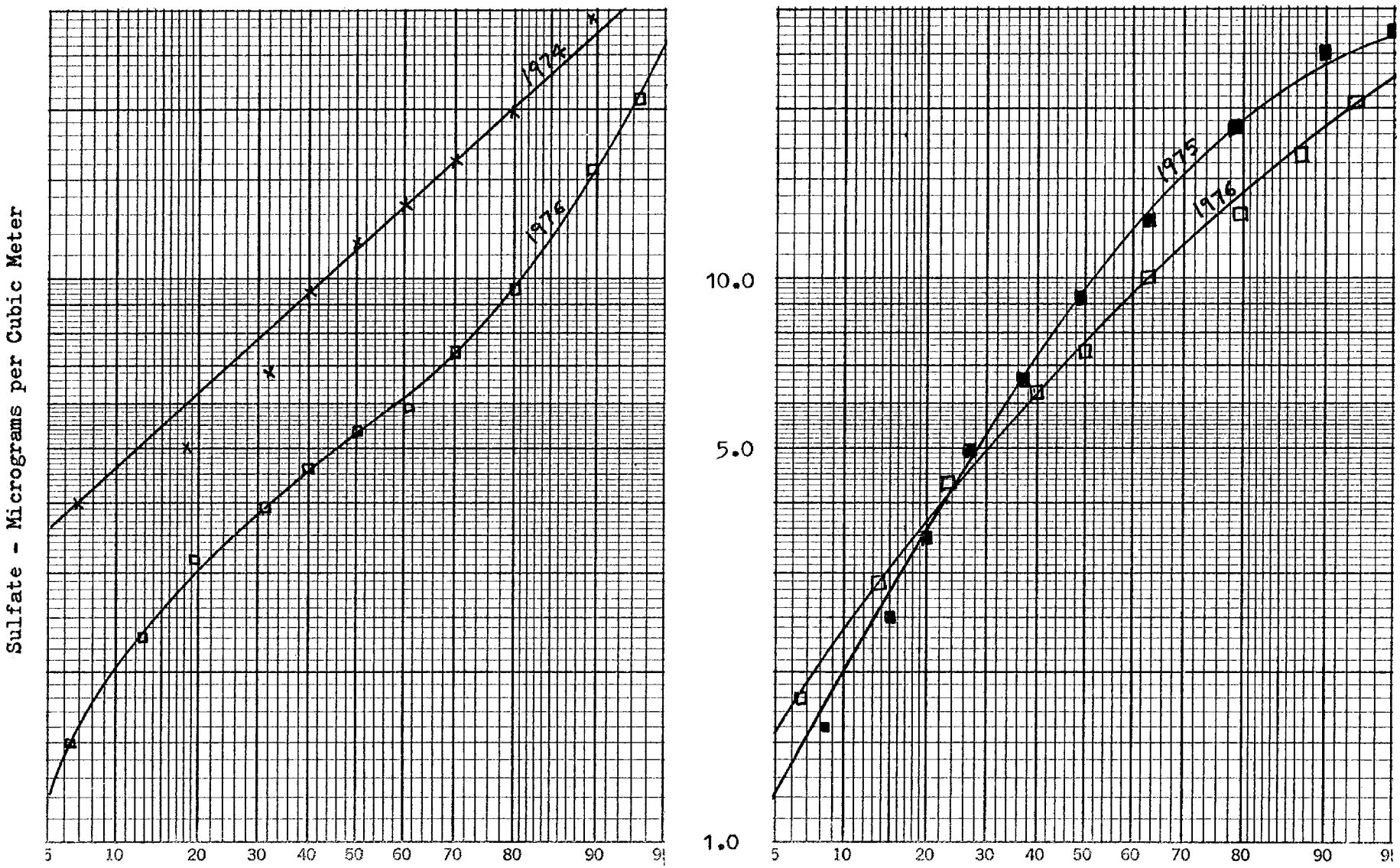
SULFATE
(24-Hour Sample - Micrograms per Cubic Meter)

RIVERSIDE

Year	N	Max.	Min.	Arithmetic Mean	Arithmetic Std.Dev.
1974	53	39.8	2.6	13.9	± 9.73
1976	46	44.3	0.2	7.5	± 7.82

SAN BERNARDINO

Year	N	Max.	Min.	Arithmetic Mean	Arithmetic Std.Dev.
1975	60	29.4	0	10.9	± 8.07
1976	58	27.5	1.0	9.0	± 6.08



Concentration equal to or less than stated percentage

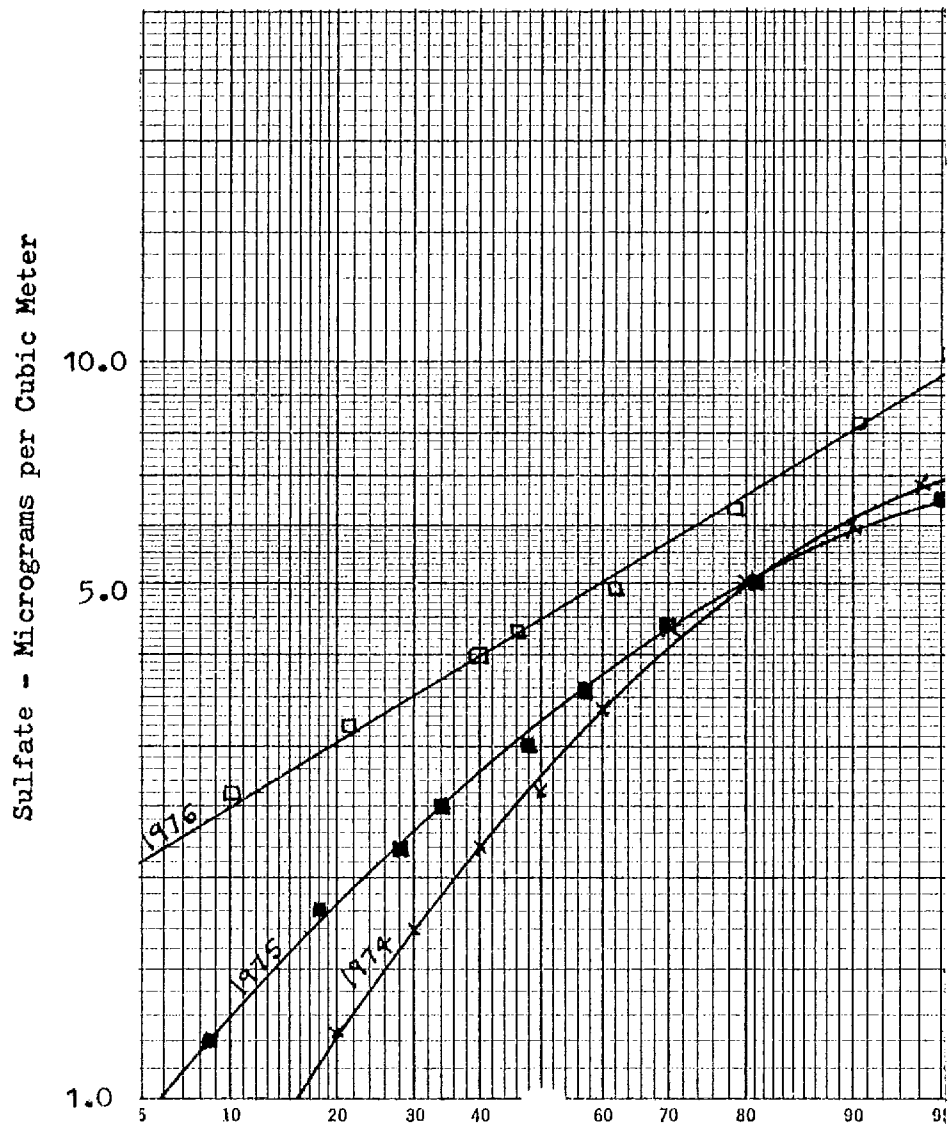
Figure IV-2

SULFATE

(24 Hour Sample - Micrograms per Cubic Meter)

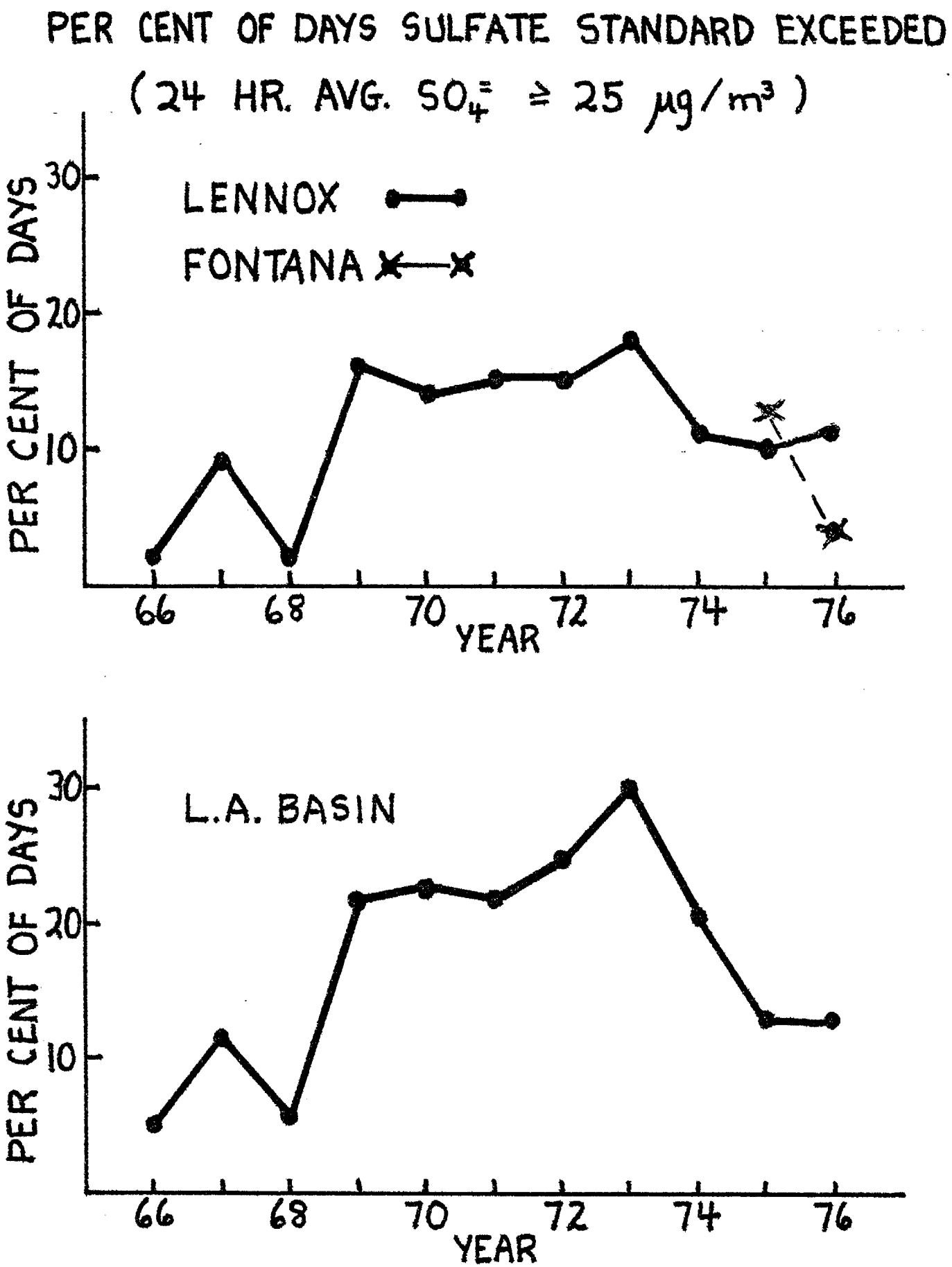
LANCASTER

Year	N	Max.	Min.	Arithmetic Mean	Arithmetic Std.Dev.
1974	73	8.4	0.2	3.12	± 2.04
1975	60	10.9	0.6	3.46	± 1.81
1976	68	11.6	1.5	4.96	± 2.29



Concentration equal to or less than stated percentage.

Figure IV.G-9


PER CENT OF DAYS SULFATE STANDARD EXCEEDED
(24 HR. AVG. $SO_4^{=}$ ≥ 25 μg/m³)
LENNOX
FONTANA
PER CENT OF DAYS
30
20
10
66
68
70
72
74
76
YEAR
L.A. BASIN
PER CENT OF DAYS
30
20
10
66
68
70
72
74
76
YEAR

SULFATE

PERCENT OF DAYS VIOLATING STATE STANDARD(24-HR.AVG.$SO_4^{=}$ ≥ 25 ug/m^3)

1976

ZONE #	STATION Area	
METROPOLITAN ZONE		
001	L. A.	7 %
060	Azusa	5 %
069	Burbank	
071	WLA	0 %
072	L. B.	
074	Reseda	2 %
075	Pomona	
076	Lennox	11 %
080	Whittier	
081	Newhall	
082	Lancaster	0 %
083	Pasadena	8 %
084	Lynwood	5 %
085	Pico Rivera	
SOUTHERN ZONE		
3176	Anaheim	5 %
3177	La Habra	2 %
3185	Costa Mesa	2 %
3186	El Toro	
3188	San Juan Capistrano	
3189	Laguna	0 %
3190	Los Alamitos	3 %
3191	Santa Ana Canyon	0 %
EASTERN ZONE, RIVERSIDE		
4137	Palm Springs	0 %
4139	Indio	0 %
4140	Prado Park	
4141	Hemet	
4144	Riverside	4 %
4149	Perris	
4150	Banning	2 %
4151	Temecula	
4152	Elsinore	
EASTERN ZONE, SAN BERNARDINO		
5151	San Bernardino	3 %
5155	Barstow	0 %
5165	Redlands	0 %
5168	Victorville	0 %
5173	Chino	4 %
5174	Upland	6 %
5175	Upland (ARB)	
5176	Fontana	4 %
5177	Big Bear	0 %
5181	L. Gregory	
5182	Yucaipa	
5187	Needles	
5188	Trona	
	Ontario Airport	17 %
	Rialto	4 %
	Crestline	

SULFATE
ANNUAL ARITHMETIC MEAN, ug/m^3
1976

ZONE #	STATION Area	
METROPOLITAN ZONE		
001	L. A.	12.1
060	Azusa	10.5
069	Burbank	
071	WLA	7.9
072	L. B.	
074	Reseda	9.3
075	Pomona	
076	Lennox	13.8
080	Whittier	
081	Newhall	
082	Lancaster	5.0
083	Pasadena	10.7
084	Lynwood	12.6
085	Pico Rivera	
SOUTHERN ZONE		
3176	Anaheim	9.7
3177	La Habra	9.4
3185	Costa Mesa	8.5
3186	El Toro	
3188	San Juan Capistrano	
3189	Laguna	8.1
3190	Los Alamitos	10.4
3191	Santa Ana Canyon	8.4
EASTERN ZONE, RIVERSIDE		
4137	Palm Springs	4.4
4139	Indio	5.3
4140	Prado Park	
4141	Hemet	
4144	Riverside	8.7
4149	Perris	
4150	Banning	6.4
4151	Temecula	
4152	Elsinore	
EASTERN ZONE, SAN BERNARDINO		
5151	San Bernardino	9.0
5155	Barstow	5.8
5165	Redlands	6.3
5168	Victorville	5.3
5173	Chino	9.9
5174	Upland	8.6
5175	Upland (ARB)	
5176	Fontana	9.2
5177	Big Bear	1.9
5181	L. Gregory	
5182	Yucaipa	
5187	Needles	
5188	Trona	
	Ontario Airport	13.9
	Rialto	9.3
	Crestline	

Table IV.G-III

SULFATE
ANNUAL MAXIMUM DAILY VALUE, ug/m^3
1976

ZONE #	STATION Area	
METROPOLITAN ZONE		
001	L. A.	34.4
060	Azusa	29.8
069	Burbank	
071	WLA	22.6
072	L. B.	
074	Reseda	30.2
075	Pomona	
076	Lennox	37.2
080	Whittier	
081	Newhall	
082	Lancaster	11.6
083	Pasadena	33.8
084	Lynwood	42.4
085	Pico Rivera	
SOUTHERN ZONE		
3176	Anaheim	29.3
3177	La Habra	26.0
3185	Costa Mesa	28.2
3186	El Toro	
3188	San Juan Capistrano	
3189	Laguna	23.7
3190	Los Alamitos	35.9
3191	Santa Ana Canyon	22.8
EASTERN ZONE, RIVERSIDE		
4137	Palm Springs	16.7
4139	Indio	19.9
4140	Prado Park	
4141	Hemet	
4144	Riverside	44.3
4149	Perris	
4150	Banning	31.6
4151	Temecula	
4152	Elsinore	
EASTERN ZONE, SAN BERNARDINO		
5151	San Bernardino	27.5
5155	Barstow	18.4
5165	Redlands	21.5
5168	Victorville	12.9
5173	Chino	29.9
5174	Upland	34.0
5175	Upland (ARB)	
5176	Fontana	32.7
5177	Big Bear	5.5
5181	L. Gregory	
5182	Yucaipa	
5187	Needles	
5188	Trona	
	Ontario Airport	48.6
	Rialto	28.0
	Crestline	

SULFATE

MONTHLY ARITHMETIC MEAN, ug/m^3

1976

MONTH	AREA					
	CENTRAL LOS ANGELES	LENNOX	ANAHEIM	LA HABRA	RIVERSIDE	SAN BERNARDINO
JAN.	12.3	12.9	7.6	7.4	4.7	2.5
FEB.	8.3	9.3	5.0	4.7	3.0	5.8
MARCH	7.7	9.7	4.0	4.6	5.7	6.1
APR.	9.5	12.9	8.0	7.3	6.8	9.6
MAY	13.5	14.9	10.0	9.8	6.5	12.3
JUNE	11.5	12.2	9.3	6.7	6.6	7.8
JULY	24.3	24.5	19.9	19.8	11.8	16.7
AUG.	14.9	17.8	11.9	12.9	9.2	10.6
SEPT.	17.0	14.7	15.5	13.3	28.5	13.5
OCT.	11.7	12.8	10.9	11.6	15.2	11.6
NOV.	10.2	13.8	9.5	9.0	10.0	6.9
DEC.	6.9	10.3	6.4	5.9	6.3	3.5

Table IV.G-IV

SUMMARY OF MONTHLY AVERAGE CONCENTRATIONS, $\mu g/m^3$, OF PARTICULATE SULFATE AT STATION NO. 1 (CENTRAL)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AAM[a)]
1965								19.7	12.6	6.3	6.1	6.8	10.3[b)]
1966	7.5	6.6	18.7	9.7	11.4	9.1	c)	12.2	9.5	10.1	6.9	4.9	9.7
1967	4.3	4.9	9.6	1.6	8.6	13.4	16.3	16.8	18.3	20.8	14.6	6.1	11.3
1968	10.0	15.7	3.6	3.2	10.4	9.2	15.4	5.9	11.2	7.4	8.6	4.9	8.8
1969	10.3	3.1	19.4	4.0	28.5	18.1	21.2	27.1	27.8	13.2	3.3	15.1	15.9
1970	14.5	5.3	16.5	4.6	13.1	24.9	19.6	19.2	16.5	19.3	17.8	5.8	14.8
1971	21.2	19.5	18.2	9.0	15.0	14.9	31.7	19.2	16.2	9.2	13.5	6.3	16.2
1972	32.7	18.3	25.1	12.6	13.8	15.4	14.4	15.3	9.0	7.5	5.9	8.8	14.9
1973	8.5	5.3	7.4	19.3	24.0	15.6	32.2	19.2	24.9	8.4	9.7	8.6	15.3
1974	4.1	6.8	6.5	8.9	14.9	20.6	14.9	18.7	24.7	15.8	5.9	4.9	12.2
1975	3.9	4.5	10.7	7.9	16.3	19.3	15.2	16.4	19.4	10.3	12.2	10.5	12.3
1976	12.3	8.3	7.7	9.5	13.5	11.5	24.3	14.9	17.0	11.7	10.2	6.9	12.1

a) Straight arithmetic average of available monthly averages.

b) Sampling commenced at this station in August, 1965; therefore only five months' data are available for 1965.

c) Temporary interruption of sampling due to equipment repairs.

d) Straight arithmetic average for all years available.

Table IV.G-V

SUMMARY OF MONTHLY AVERAGE CONCENTRATIONS, $\mu g/m^3$, OF PARTICULATE SULFATE AT STATION NO. 76 (SOUTHWEST COASTAL)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AAM[a)]
1965								14.3	11.1	4.2	3.0	1.5	6.8[b)]
1966	6.1	7.4	15.5	11.3	8.8	9.8	c)	8.5	7.0	6.3	6.2	4.7	8.3
1967	4.3	5.2	9.5	2.1	6.2	6.0	18.9	21.7	8.4	21.3	8.9	4.6	9.8
1968	6.5	12.0	8.3	3.0	9.8	10.3	16.6	4.2	15.1	11.0	5.6	3.8	8.8
1969	14.0	3.1	11.2	4.0	19.2	10.1	15.4	24.5	27.7	15.2	2.9	13.9	13.4
1970	12.4	3.7	10.5	5.7	10.1	23.2	22.0	17.1	15.1	22.1	13.1	6.8	13.5
1971	14.0	20.1	21.8	10.6	13.2	16.8	27.4	19.7	13.6	8.0	6.8	5.6	14.8
1972	22.5	14.6	23.4	14.1	15.5	19.1	15.1	15.6	10.7	9.6	8.3	9.0	14.8
1973	8.4	6.8	6.3	13.5	18.7	16.0	31.5	17.8	17.0	9.1	7.8	7.4	13.4
1974	4.4	6.4	5.1	6.8	14.4	19.5	16.3	17.7	25.0	12.7	6.6	4.2	11.6
1975	3.8	5.1	9.9	6.8	17.0	18.0	14.2	18.5	21.0	8.8	13.6	12.8	12.5
1976	12.9	9.3	9.7	12.9	14.9	12.5	24.5	17.8	14.7	12.8	13.8	10.3	13.8

a) Straight arithmetic average of available monthly averages.

b) Sampling commenced at this station in August, 1965; therefore only five months' data are available for 1965.

c) Temporary interruption of sampling due to equipment repairs.

d) Straight arithmetic average for all years available.

Table IV.G-VI

SECTION IV.H. VISIBILITY

SOURCES

Visibility impairment results primarily from the presence in the atmosphere of airborne particulate of sub-micron size. Because the small size permits them to remain airborne for considerable periods of time, such particles are designated as suspended particulates.

Particles may be emitted directly into the air from combustion sources (power stations, motor vehicles), from industrial operations (smelting, rock-crushing) or they may form in the air through photochemical reactions, condensation of moisture on minute particles, or other physical means, such as agglomeration of particles.

While visibility trends correlate generally with total suspended particulate as measured by high-volume samplers, the correlation is not precise, because such small particles comprise a great number of particles of low aggregate mass. The ACHEX study[15] states that "on a unit mass basis, sulfate influences light scattering more strongly than nitrates and organics. However, the influence of nitrate varies strongly with relative humidity". Also, "The aerosol growth accompanying the evolution of photochemical smog was found consistently to be concentrated in the 0.1 to 1.0 μ range, which is the particle size range most effective in reducing visibility."

Visibility reduction from secondary aerosol production in the western part of the Los Angeles area stems from SO_2 pollution from stationary sources. Visibility degradation over the central area is identified with roughly equal contributions from transportation (NO_x and organics) and stationary sources (SO_2). The marked degradation in visibility on the eastern side of the basin is heavily influenced by transportation sources, especially as nitrate.

GEOGRAPHICAL DISTRIBUTION

Visibility data is limited, for the most part, to observations made at Central Los Angeles or at the Los Angeles International Airport (LAX), and the Burbank (BUR) and Long Beach (LGB) Airports. Hence, no contour maps based on visibility have been prepared.

SEASONAL DISTRIBUTION

No analysis has been made of seasonal visibility in this report, although one might expect visibility to vary as does the photochemical oxidant or sulfate, since studies have shown that more than half the aerosol sampled in Los Angeles air came from atmospheric chemical reactions. The remainder was roughly divided between material of primary origin from stationary or material, such as soil dust or sea salt.

DIURNAL DISTRIBUTION

No specific data on diurnal distribution is offered in this report, but other studies have indicated a reduction in Los Angeles visibility associated with the early morning traffic peak, with sharp reduction later in the day attributable to photochemical aerosol in the more eastern parts of the Basin.

FREQUENCY DISTRIBUTION

Not included as part of this report. Probably associated with both total suspended particulate (IV.E) and oxidant IV.A).

TRENDS

Long-term visibility trends are shown in Figures IV.H-1 and IV.H-2, and in Table IV.H-I.

Both Central Los Angeles data (IV.H-1) and Los Angeles Basin data--LAX, BUR, LGB, and Downtown Los Angeles (DOLA)--show clear downtrends, with increasing slope beginning in 1968 or 1969. This accelerated improvement in visibility is probably associated with the motor vehicle exhaust control program which began in 1966.

LIST OF FIGURES AND TABLE

Visibility

Figure No.	Title
IV.H-1	Number of Days Per Year Visibility Less Than 3 Miles With RH < 70%, Downtown Los Angeles, 1956 - 76 (No Weekends or Holidays)
IV.H-2	Number of Days Per Year Visibility Less Than 3 Miles With RH < 70%, Los Angeles Basin (LAX, BUR, LGB and DOLA) 1956 - 76

Table No.	Title
IV.H-I	VISIBILITY TREND DATA, Number of Days Per Year Visibility Less Than 3 Miles With RH < 70%

NUMBER OF DAYS PER YEAR VISIBILITY LESS THAN 3 MILES WITH RH<70%
DOWNTOWN LOS ANGELES, 1956-76 (NO WEEKENDS OR HOLIDAYS)

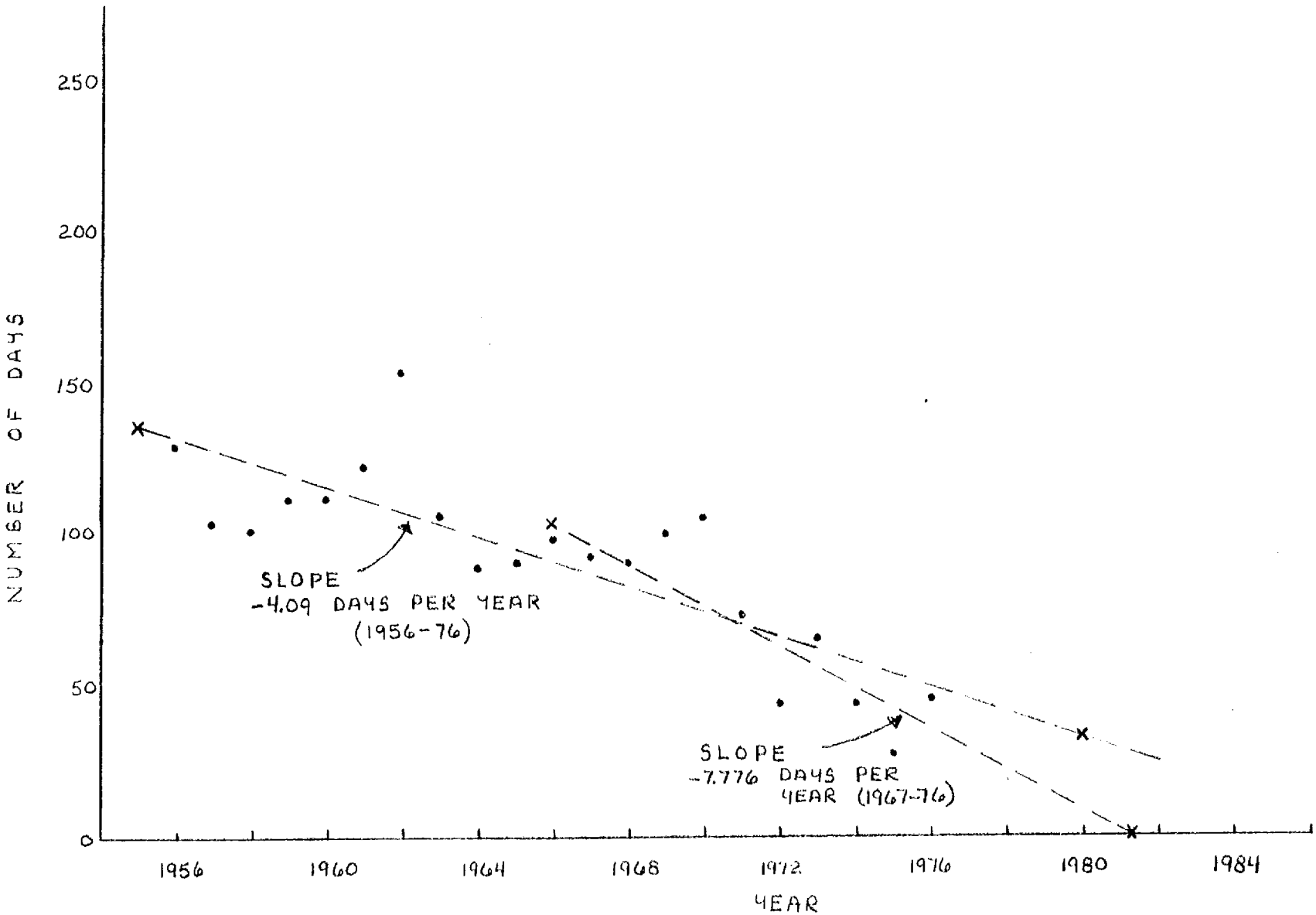


Figure IV.H-1

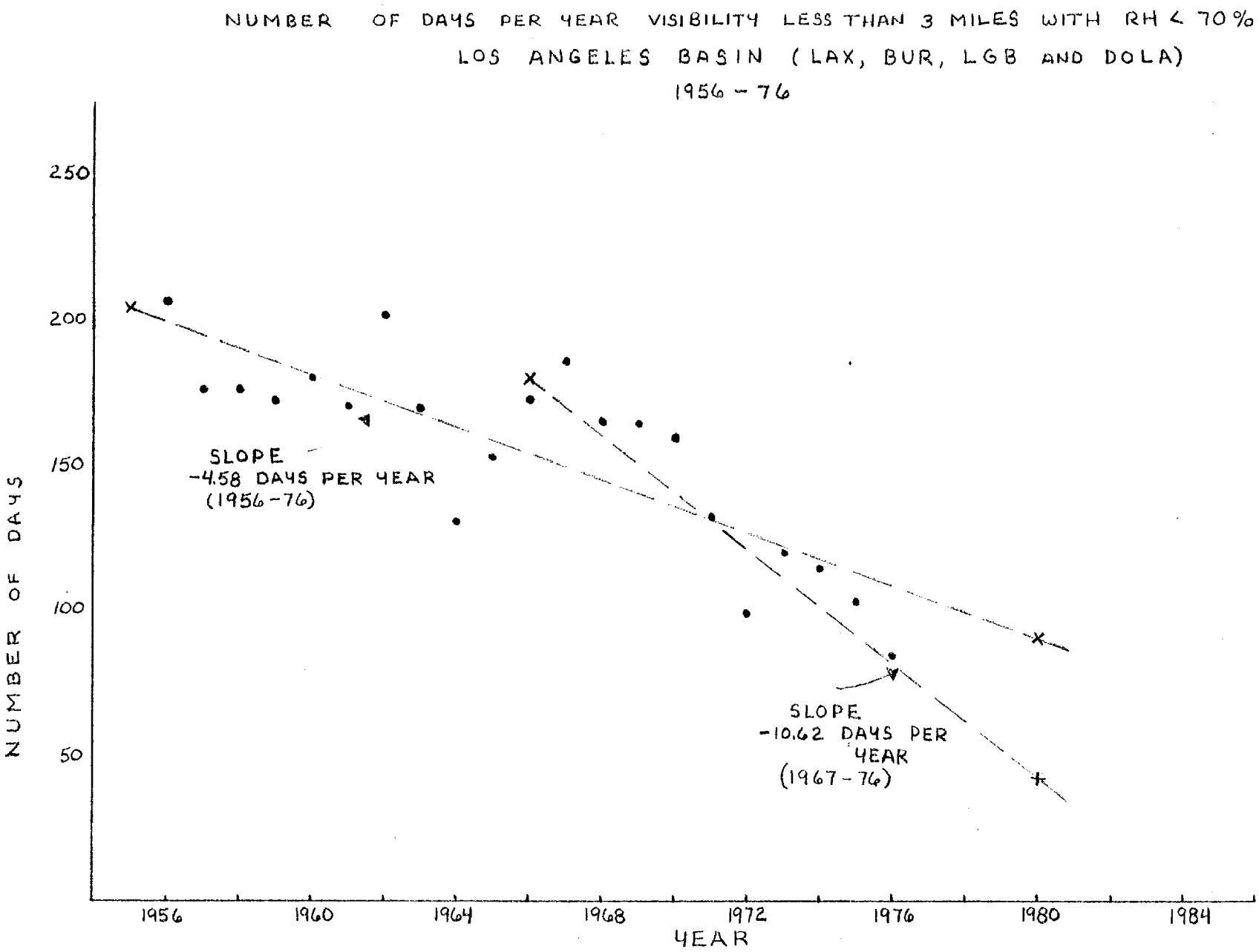

NUMBER OF DAYS PER YEAR VISIBILITY LESS THAN 3 MILES WITH RH < 70%
LOS ANGELES BASIN (LAX, BUR, LGB AND DOLA)
1956 - 76
250
200
150
100
50
NUMBER OF DAYS
SLOPE
-4.58 DAYS PER YEAR
(1956-76)
SLOPE
-10.62 DAYS PER YEAR
(1967-76)
1956
1960
1964
1968
1972
1976
1980
1984
YEAR

Figure IV.H-2

VISIBILITY TREND DATA

NUMBER OF DAYS PER YEAR VISIBILITY LESS THAN 3 MILES WITH RH < 70%

	DOWNTOWN LOS ANGELES (NO WEEKEND DATA)	LOS ANGELES BASIN (LAX, BUR, LGB, DOLA)
YEAR	NUMBER OF DAYS	NUMBER OF DAYS
1956	129	207
1957	103	176
1958	101	176
1959	111	173
1960	111	180
1961	122	171
1962	153	202
1963	106	170
1964	89	131
1965	90	153
1966	98	173
1967	92	186
1968	90	165
1969	100	164
1970	105	159
1971	72	132
1972	44	99
1973	65	120
1974	44	114
1975	27	103
1976	46	84
MEAN NUMBER OF DAYS		
(1956-76)	90.38	154.20
(1967-76)	68.50	132.60
REGRESSION EQUATION		
(1956-76)	$y = -4.09x + 135.38$	$y = -4.58x + 204.53$
(1967-76)	$y = -7.78x + 196.80$	$y = -10.62x + 307.80$

SECTION V. TRENDS AND PROJECTIONS

In examining upward or downward trends in atmospheric contaminant concentrations as a means of determining the efficacy of control programs, it is necessary to consider those factors other than control of emissions which will affect contaminant concentrations. Two such factors are meteorology and changes in population and emission patterns. The selection of criteria (averaging period and time span) for trend determination is also important, inasmuch as different criteria do not always indicate the same trend.

The meteorological factors of importance for all contaminants are those which affect mixing and transport of the contaminant. Inversion base height and mixing height are indicative of the efficiency with which contaminants will be mixed vertically and wind speed affects vertical and horizontal mixing. Wind direction, as well as wind speed is important since it determines the origin of air parcels reaching a particular site.

For individual contaminants, additional meteorological factors may need to be considered. Oxidant concentrations are affected by sunlight intensity and thus by the sun's position in the sky, which changes with season and time of day. Sulfate concentrations are affected by relative humidity.

For some contaminants, such as oxidant and carbon monoxide, it has been possible to develop mathematical corrections for weather conditions, based on the use of meteorological indices, to be discussed later in further detail (see Section V.A).

Population increases can also mask the effect of pollution control programs. As an example, lead in gasoline has been on the decrease. However, a population increase might be expected to counteract the effect of the lead controls by increasing vehicle miles traveled in the area.

Even where a population remains static, a change in the patterns of behavior of the population can confound attempts to evaluate control measures. As an example, Los Angeles County has had relatively constant population in recent years, but gasoline consumption has risen steadily, except for the period of the 1974 gasoline shortage. This will need to be considered in evaluating vehicular emission controls.

V.A. METEOROLOGICAL INDICES

Predicting the future air quality of the South Coast Air Basin is at best, a hazardous venture. Even assuming that one has accurate, representative air quality and emission data of a sufficient period of record, there still remains the knotty problem of eliminating (or at

least, reducing) the weather bias, before the "real" trend may be approximated.

Essential in this regard, is the development of a meteorological index (MI) which expresses the relationship between the meteorology and air quality of a given area for a given contaminant. If a suitable relationship can be derived (this is not always possible) it may then be applied to the actual air quality data so as to yield the so-called "weather-adjusted" data. Such indices have previously been developed independently for oxidant maxima in the South Coast Air Basin by Davidson[16] and Zeldin[17]. The Davidson and Zeldin MI's, though based on different meteorological parameters, are statistically interchangeable, and the more readily available Zeldin MI will be used to weather-adjust Azusa oxidant data used as an example in the following presentation.

Oxidant

The East San Gabriel Valley (Station No. 60 at Azusa) generally experiences the highest average maximum oxidant concentrations in Los Angeles County. Figure V.A-1 shows a plot of the average daily one-hour maximum oxidant for the third quarter at Azusa, and the associated meteorological index (MI) for the period 1970-1976. The lower the MI, the less is the potential for photochemical smog formation due to weather conditions. When considered

on a monthly basis, the correlation coefficient between the two is 0.79. It is clear that the oxidant maxima are highly dependent upon the prevailing meteorology.

Using the relationship between the MI and the oxidant maxima at Azusa, the actual oxidant maxima at Azusa have been weather-adjusted to the concentration which theoretically would have occurred if the average weather conditions (MI) prevailing over the period 1970-1976 were held constant from year to year.

Figure V.A-2 shows a plot of both the actual and weather-adjusted daily one-hour maximum oxidant for the third quarter at Azusa. Since weather-adjusted data have been normalized for weather, the weather-adjusted trend, showing an average decline of 0.0107 ppm/year, is more realistic than the unadjusted trend line, which shows an average decrease of 0.0171 ppm/year. Much of the decrease in the latter is due to an overall favorable trend toward conditions not as conducive to ozone formation and accumulation (see again Figure V.A-1).

If the weather-adjusted trend line of Figure V.A-2 continues at the same rate, maximum ozone concentrations at Azusa will be at the background level of 0.04 ppm by about 1989, assuming weather conditions at that time approximate the average of conditions experienced in 1970-1976. Thus, the federal oxidant standard of 0.08 ppm, one-hour average, could be met at Azusa by 1989.

Carbon Monoxide

It is also possible to develop an MI for annual average carbon monoxide concentrations in the Southwest Coastal Area (Station No. 76 at Lennox). (The MI's of different contaminants often show no relation to each other.) The Lennox air monitoring station represents a "worst case" situation for carbon monoxide (CO), being located approximately 100 yards west of the heavily traveled San Diego Freeway, and consistently yielding some of the highest CO concentrations in the Basin. The carbon monoxide MI for Lennox is simply the annual number of days with early morning surface-based inversions at the nearby Los Angeles International Airport (LAX). To the trained meteorologist, this deceptively simple statistic yields implicit information regarding the annual distribution of wind direction, wind speed, mixing height (night through early morning), marine layers and rain systems, all of which are important factors in the carbon monoxide air quality of the area.

The correlation coefficient between the average MI and the average daily 8-hour CO maximum at Lennox for the period 1970 through 1976 is 0.89 (see Figure V.A-3). The strong relationship between the 8-hour CO at Lennox and the MI is also depicted in Figure V.A-4 which presents a time plot of each from 1970 through 1976. The patterns of the two are quite similar, reflecting the 0.89 correlation coefficient between them.

It is interesting to note that though Figure V.A-4 shows that 1973 and 1976 had identical MI's of 99 (see also Table V.A-I) the average daily 8-hour CO maximum was 8.30 ppm in 1973 and 6.42 ppm in 1976, a decline of 22.7%. This compares very favorably with the estimated 29.5% decrease in CO emissions from motor vehicles in the Southwest Coastal Area during that period (575 tons/day in 1973 to 405 tons/day in 1976).

It is also noteworthy that, though weather conditions in 1976 were more conducive to higher CO concentrations (higher MI) than those in 1975, the CO levels actually declined significantly in 1976!

Finally, Figure V.A-4 shows that although there is a significant downward trend in 8-hour CO concentrations at Lennox from 1970 to 1976, much of the decline has been due to a trend toward more favorable weather conditions (lower MI) through that period.

The relationship between the MI and the 8-hour CO concentrations at Lennox from 1970 to 1976 can be used to mathematically adjust each year's actual CO concentration to what it would have been if the average weather (MI) had remained constant from year to year. For the period under study, the annual MI's ranged from 89 to 120, with a mean of 103 (days).

Figure V.A-5 shows a plot of the weather-adjusted 8-hour CO concentrations with each annual MI set at 103

days. For the period 1970-1976, the decrease in annual 8-hour CO averages 0.146 ppm per year. At this rate of improvement, the 8-hour standard will not be met in the foreseeable future. If, however, one draws the trend line from 1973-1976, the decline in annual 8-hour CO concentrations averages 0.576 ppm per year. If one assumes continuation of this trend at the same rate, the standard should be met by about 1990 (assuming the weather approximates the average weather of 1970-1976).

This is also shown in Figure V.A-6, which presents the weather-adjusted annual number of days of exceedances of the 8-hour standard (> 9.0 ppm) from 1970-1976. As in Figure V.A-5 there is only slight improvement (1.9 days/year decline in violations) if the trend is computed from 1970-1976. If, however, the trend is calculated from 1973-1976, the annual decline in exceedances of the standard is 8.5 days per year. If this latter trend continues at the same rate, the 8-hour standard for CO should be met by 1990 (again assuming weather conditions approximate the average of 1970-1976). It is not unreasonable to assume that when the CO standard is met at Lennox it should also be met at all other stations in the South Coast Air Basin.

V.B. PROJECTIONS

The following discussion is not to be construed as actual predictions of when the various air quality standards

will be attained in the South Coast Air Basin. It is expected that the modeling effort described in Section VI of this report will supply these answers. However, it may be of interest to see what happens when projections, based on regression lines of different criteria, are calculated.

Figure V.B-1 depicts the number of days per year in the Los Angeles Basin which **reached** oxidant concentrations of 0.10 ppm, 0.20 ppm, and 0.35 ppm averaged over one hour. These represent, respectively, the state air quality standard, and the state first and second oxidant episode criteria. The data were not adjusted for weather. Using all data, 1956-1976, and a simple statistical regression technique, estimated attainment dates (zero days exceeding) of 2008 (0.10 ppm/one-hour); 1987 (0.20 ppm/one-hour; and 1979 (0.35 ppm/one-hour) are obtained. It should be noted that 1975 was the first year in which a zero level (no days exceeding) was obtained for the second episode criterion of 0.35 ppm/one-hour.

Another method of calculation involves selection of the maximum year (or a high year) preceding a downtrend, and calculating the number of days exceeding selected levels as a percent of the base year. This technique may be practical when a control effort (such as motor vehicle exhaust emission control) has been inaugurated which may accelerate downtrends after a certain date.

Figure V.B-2 indicates 2015 as the estimated attainment date for the federal standard of 0.08 ppm, 1983 for attainment of the 0.20 ppm state first episode level, and 1975 for the state second episode level of 0.35 ppm/ one-hour criterion. However, this level was exceeded in 1976.

If we examine Figure V.B-3, which projects attainment of the nitrogen dioxide state standard (0.25 ppm/ one-hour) and, the federal standard (0.05 ppm AAM), using the maximum year as a reference, the year 1987 appears as the estimated attainment date for the state standard, and 2015 as the estimated attainment data for the federal standard. The slopes of the respective times are -4.9% per year and -2.2% per year from the respective base years of 1968 and 1971.

All these "straight line" projections assume a steady rate of decrease, based on the existing data. This may not be a valid assumption. Examination of long-term oxidant trends for Los Angeles and/or Azusa (Section IV.A) indicate that the annual mean of daily maximum one-hour oxidant may be leveling out at approximately 0.10 ppm at San Bernardino, Riverside, and Azusa at 0.08 ppm in Central Los Angeles, and at 0.05 ppm in Anaheim. These levels may be functions of motor vehicle density and distance downwind from a major emission source, and more study is needed to quantitatively explain the existing levels and to accurately project future trends.

AVERAGE DAILY 1-HR OXIDANT MAXIMUM THIRD QUARTER, PPM
AND AVERAGE METEOROLOGICAL INDEX THIRD QUARTER
AZUSA, 1970-76

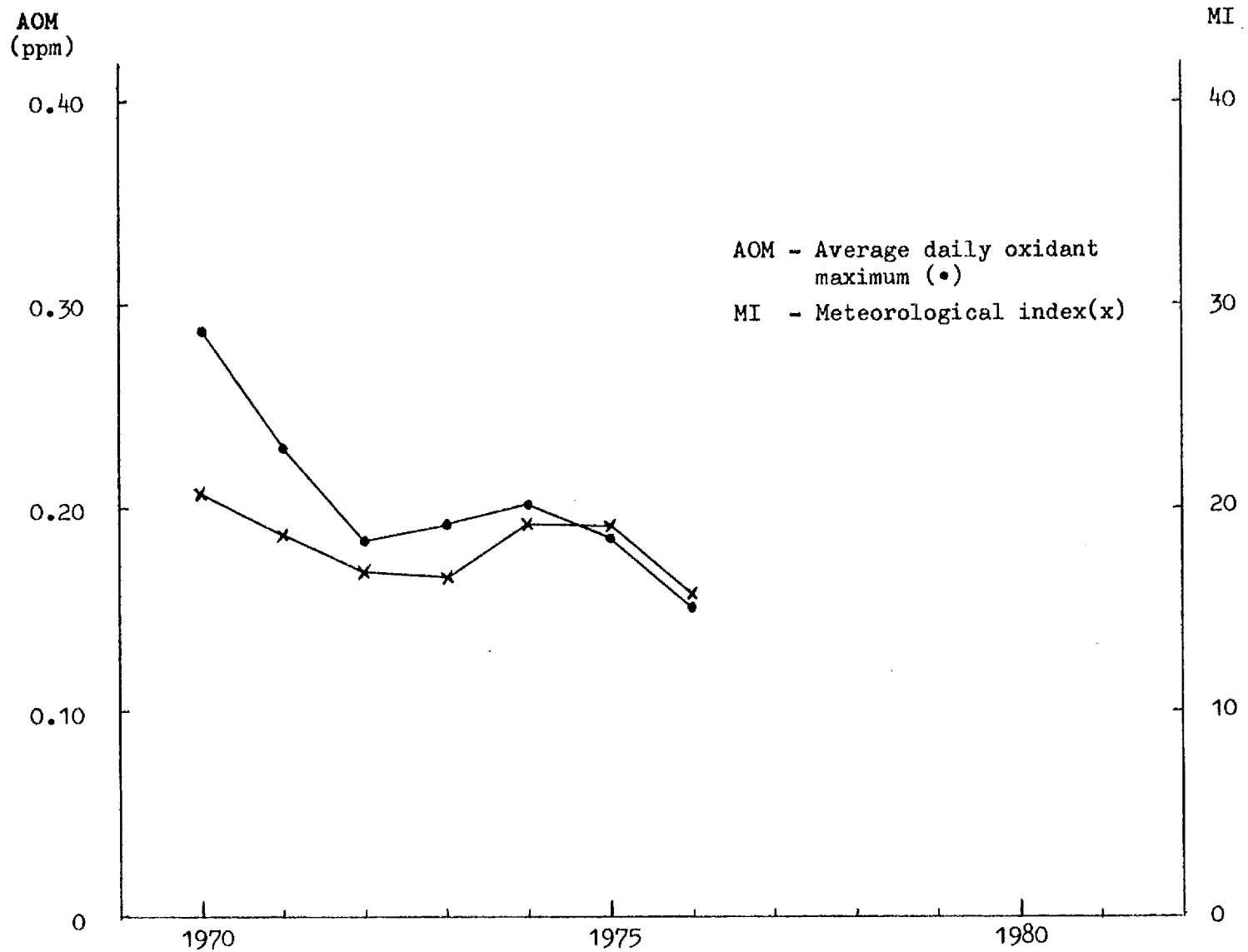


Figure V.A-1

AVERAGE DAILY 1-HR. OXIDANT MAXIMUM, THIRD QUARTER
AZUSA, 1970-76

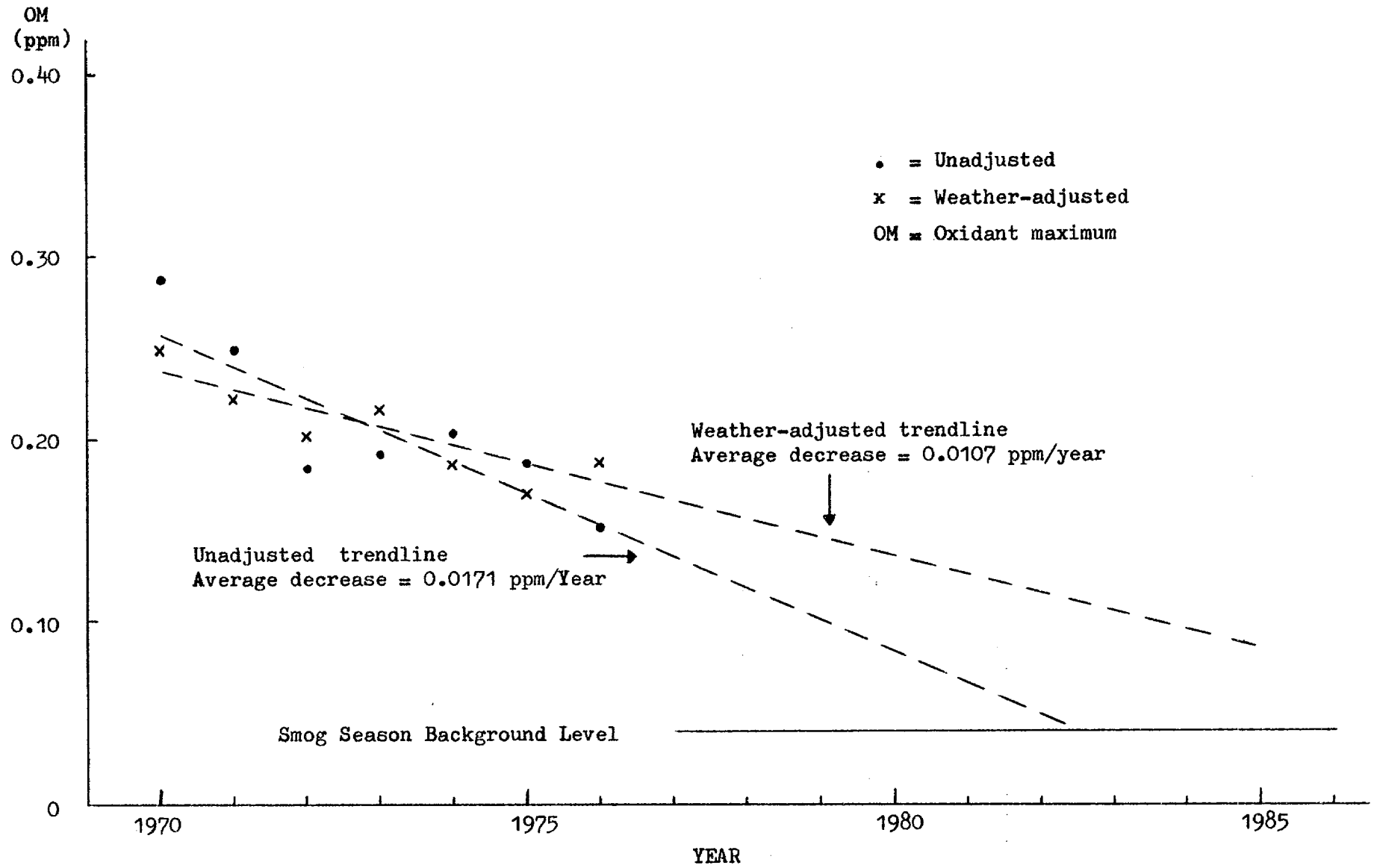


Figure V.A-2

RELATIONSHIP BETWEEN AVERAGE ANNUAL METEOROLOGICAL INDEX AND
ANNUAL AVERAGE DAILY 8-HR. CARBON MONOXIDE MAXIMUM
LENNOX, 1970-76

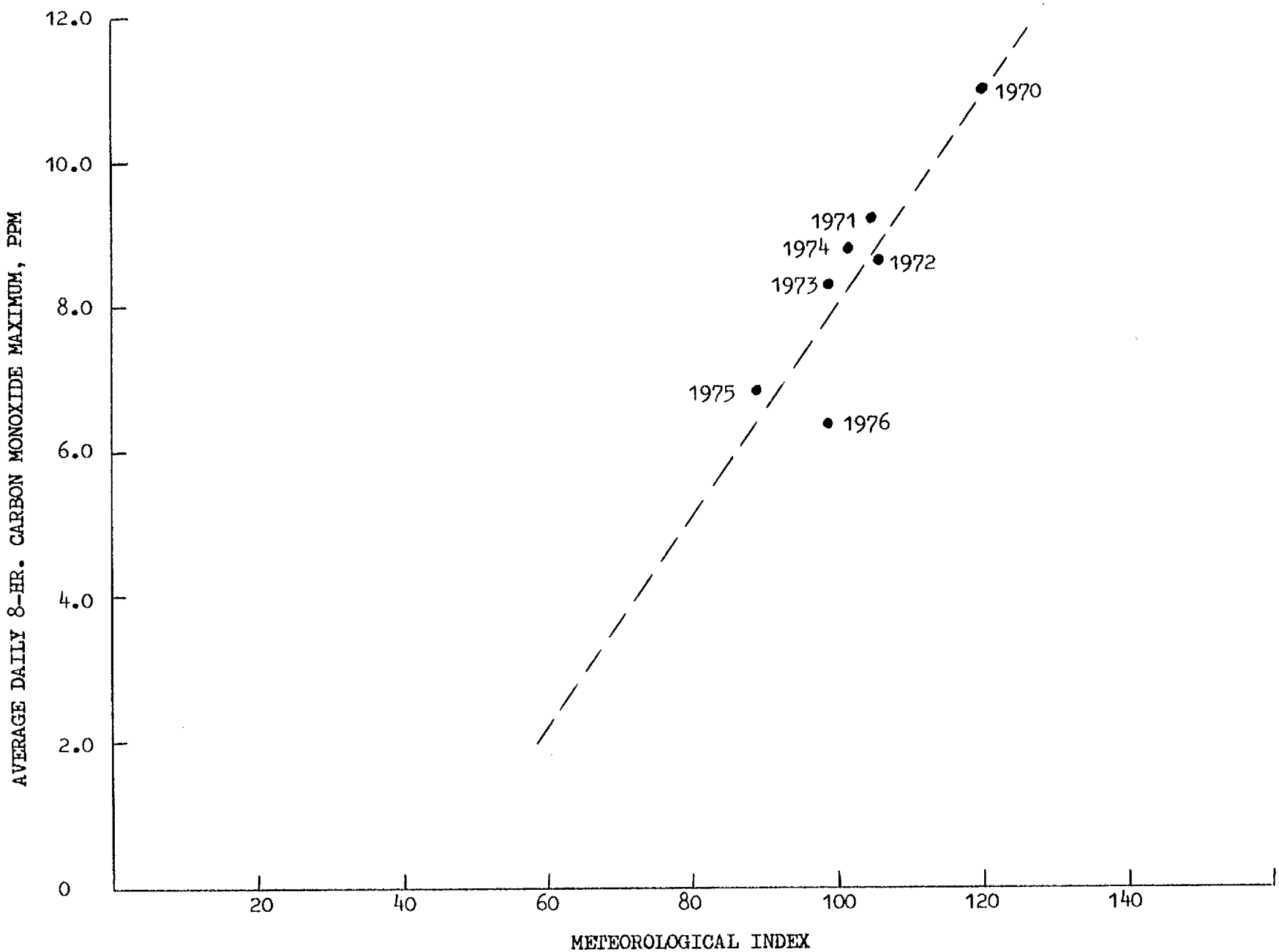


Figure V.A-3

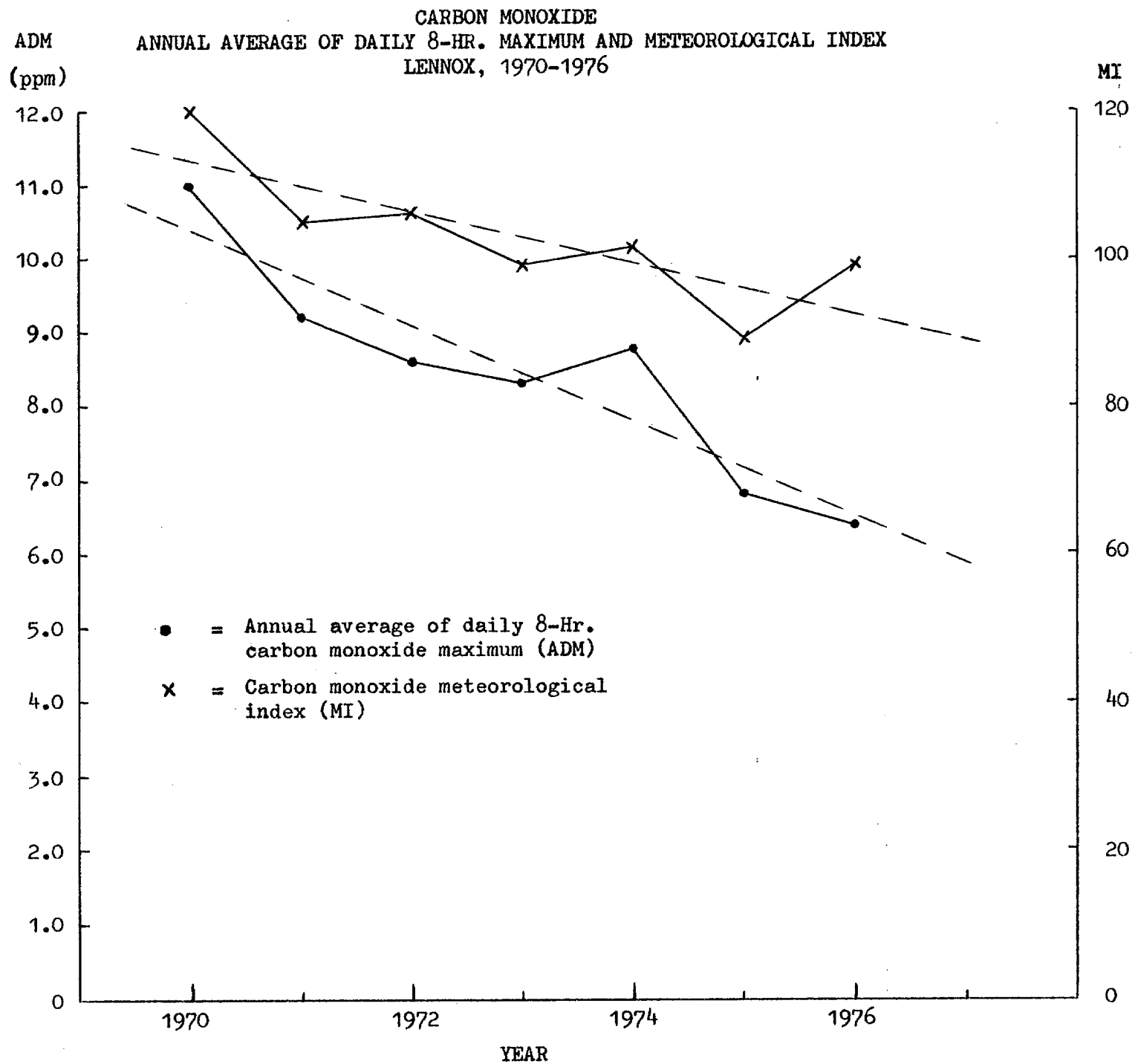

CARBON MONOXIDE
ANNUAL AVERAGE OF DAILY 8-HR. MAXIMUM AND METEOROLOGICAL INDEX
LENNOX, 1970-1976
ADM
(ppm)
MI
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0
120
100
80
60
40
20
0
1970
1972
1974
1976
YEAR
● = Annual average of daily 8-Hr. carbon monoxide maximum (ADM)
× = Carbon monoxide meteorological index (MI)

Figure V.A-4

CARBON MONOXIDE
WEATHER-ADJUSTED* ANNUAL AVERAGE DAILY MAXIMUM 8-HOUR
LENNOX, 1970-1976

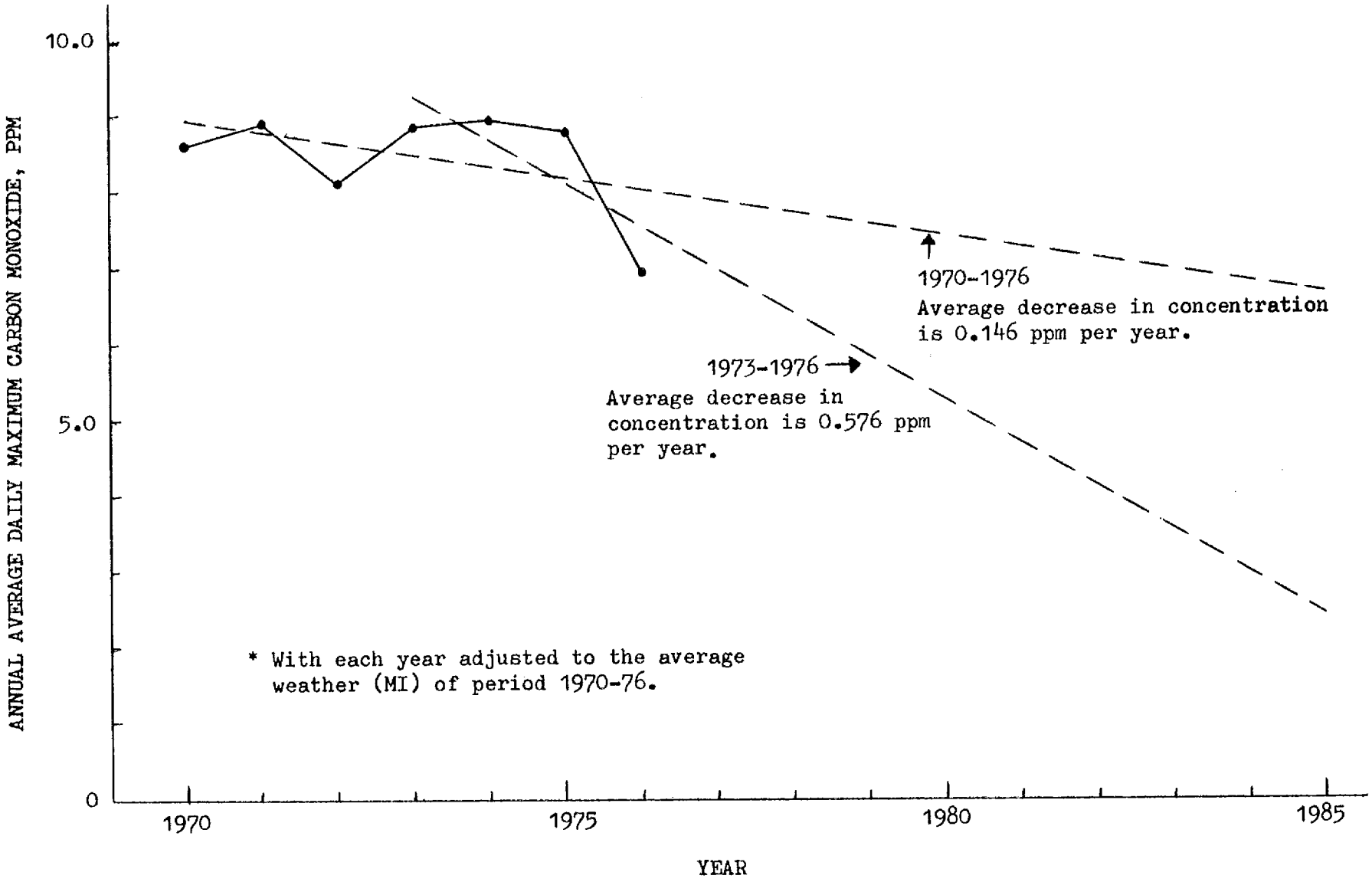
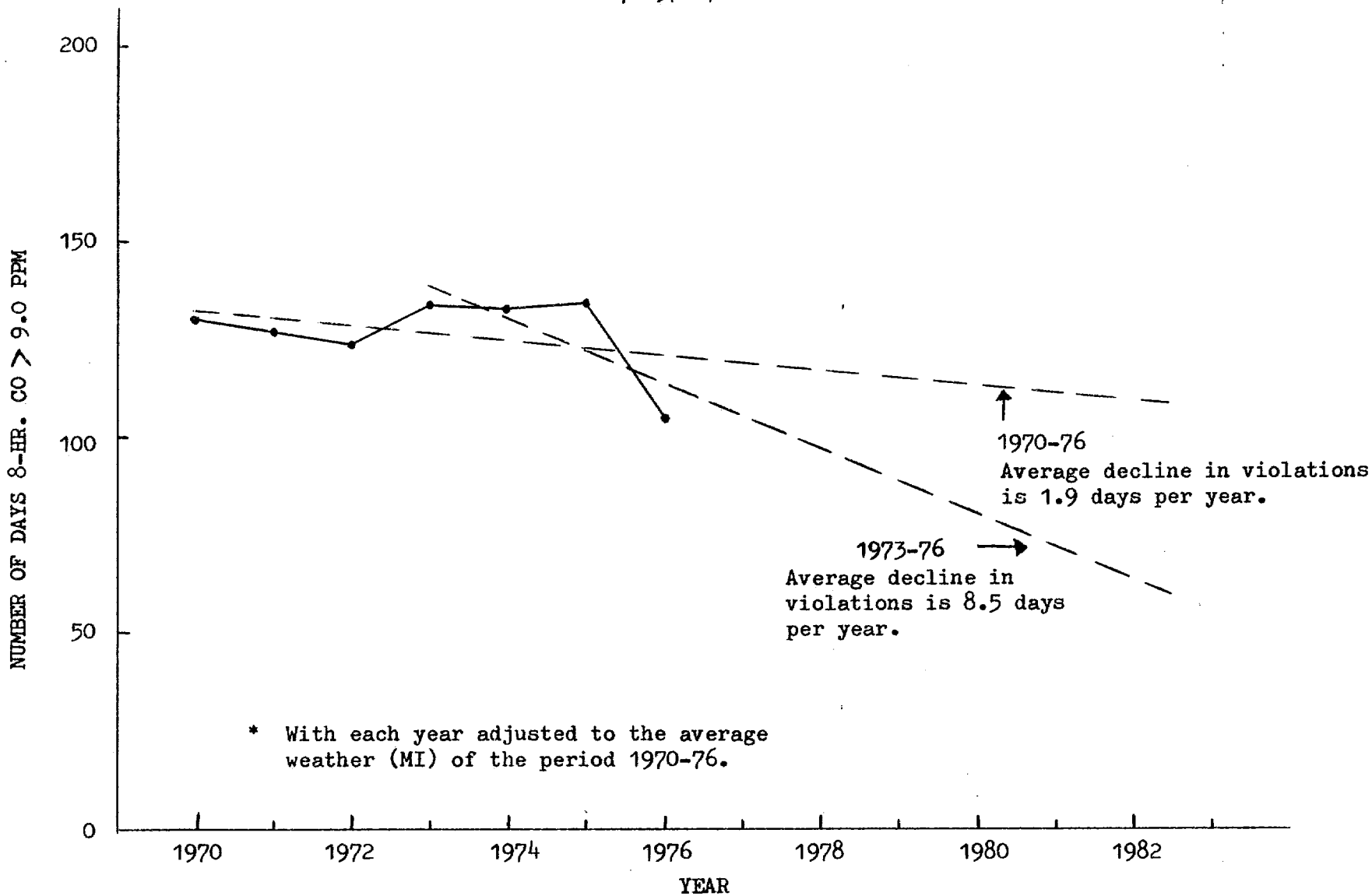


Figure V.A-5

CARBON MONOXIDE
WEATHER-ADJUSTED* NUMBER OF DAYS PER YEAR 8-HR. CO ≥ 9.0 PPM
LENNOX, 1970-76



* With each year adjusted to the average weather (MI) of the period 1970-76.

Figure V.A-6

DATA ADJUSTED USING METEOROLOGICAL INDICES

YEAR	OZONE, Azusa			CARBON MONOXIDE, Lennox		
	AVG. DAILY MAX. 1-HOUR (July-Sept.) pphm	M.I.[a)]	WEATHER ADJUSTED OXIDANT pphm	ANN.AVG. DAILY MAX. 8-HOUR ppm	M.I.[a)]	WEATHER ADJUSTED CO ppm
1970	28.8	20.7	24.7	11.00	120	8.54
1971	23.0	18.7	22.1	9.23	105	8.93
1972	18.2	16.9	20.1	8.57	106	8.12
1973	19.1	16.5	21.6	8.30	99	8.86
1974	20.1	19.2	18.4	8.81	102	8.94
1975	18.6	19.1	17.0	6.82	89	8.82
1976	15.1	15.8	18.7	6.42	99	6.98

a) Meteorological Index.

Note: Ozone and Carbon Monoxide M.I.'s are not the same.

SCAQMD - E & P Div.
MFB 10/04/77

Table V.A-I

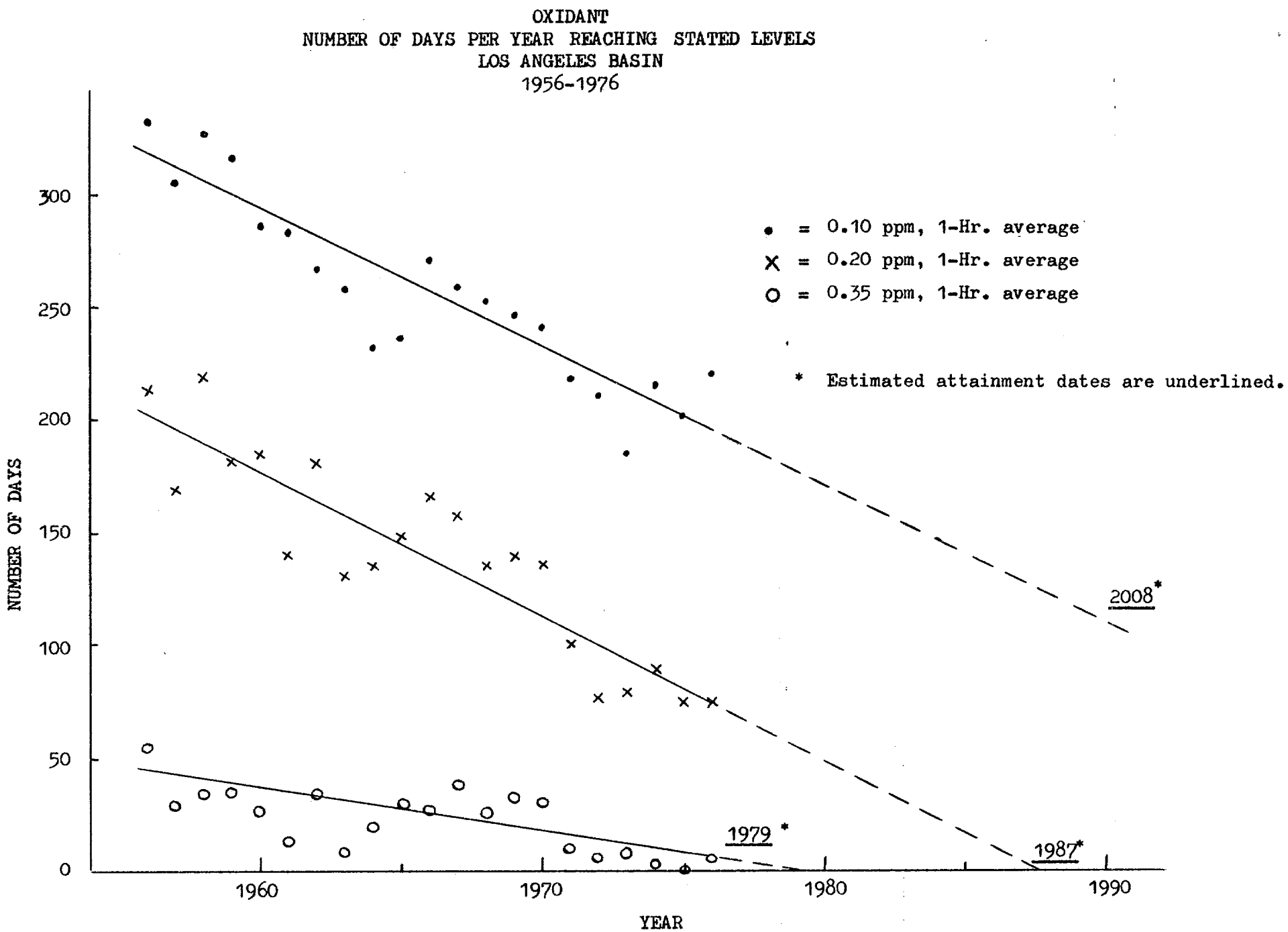

OXIDANT
NUMBER OF DAYS PER YEAR REACHING STATED LEVELS
LOS ANGELES BASIN
1956-1976
• = 0.10 ppm, 1-Hr. average
X = 0.20 ppm, 1-Hr. average
O = 0.35 ppm, 1-Hr. average
* Estimated attainment dates are underlined.
NUMBER OF DAYS
300
250
200
150
100
50
0
1960
1970
1980
1990
YEAR
2008*
1979*
1987*

Figure V.B-1

OXIDANT TRENDS
PERCENT OF DAYS 1-HOUR MAXIMUM IN LOS ANGELES BASIN
EQUALLED OR EXCEEDED INDICATED LEVELS,
COMPARED TO BASE YEAR 1967

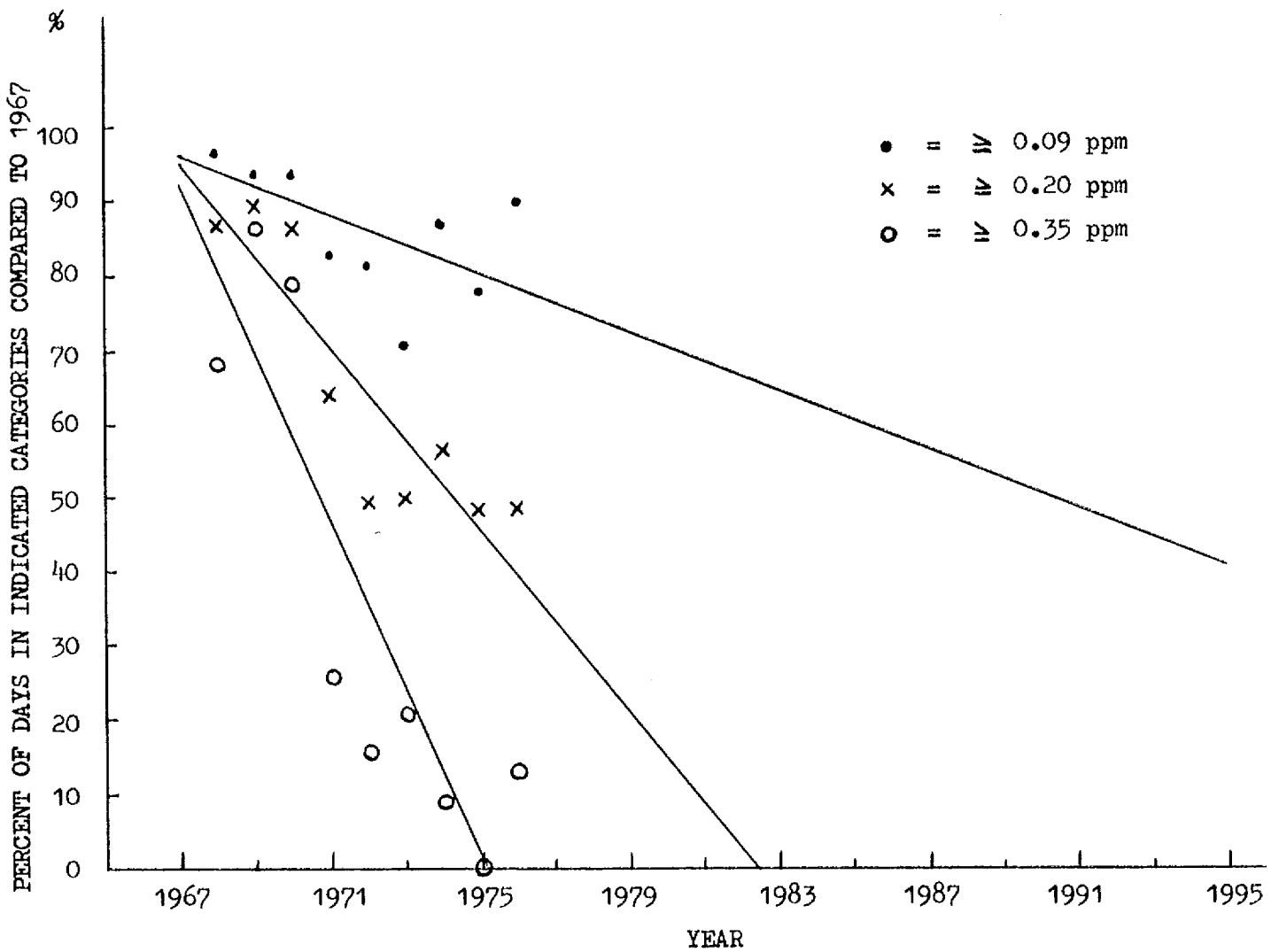


Figure V.B-2

NITROGEN DIOXIDE
STANDARD VIOLATIONS AND ANNUAL AVERAGES AS PERCENT OF MAXIMUM YEAR

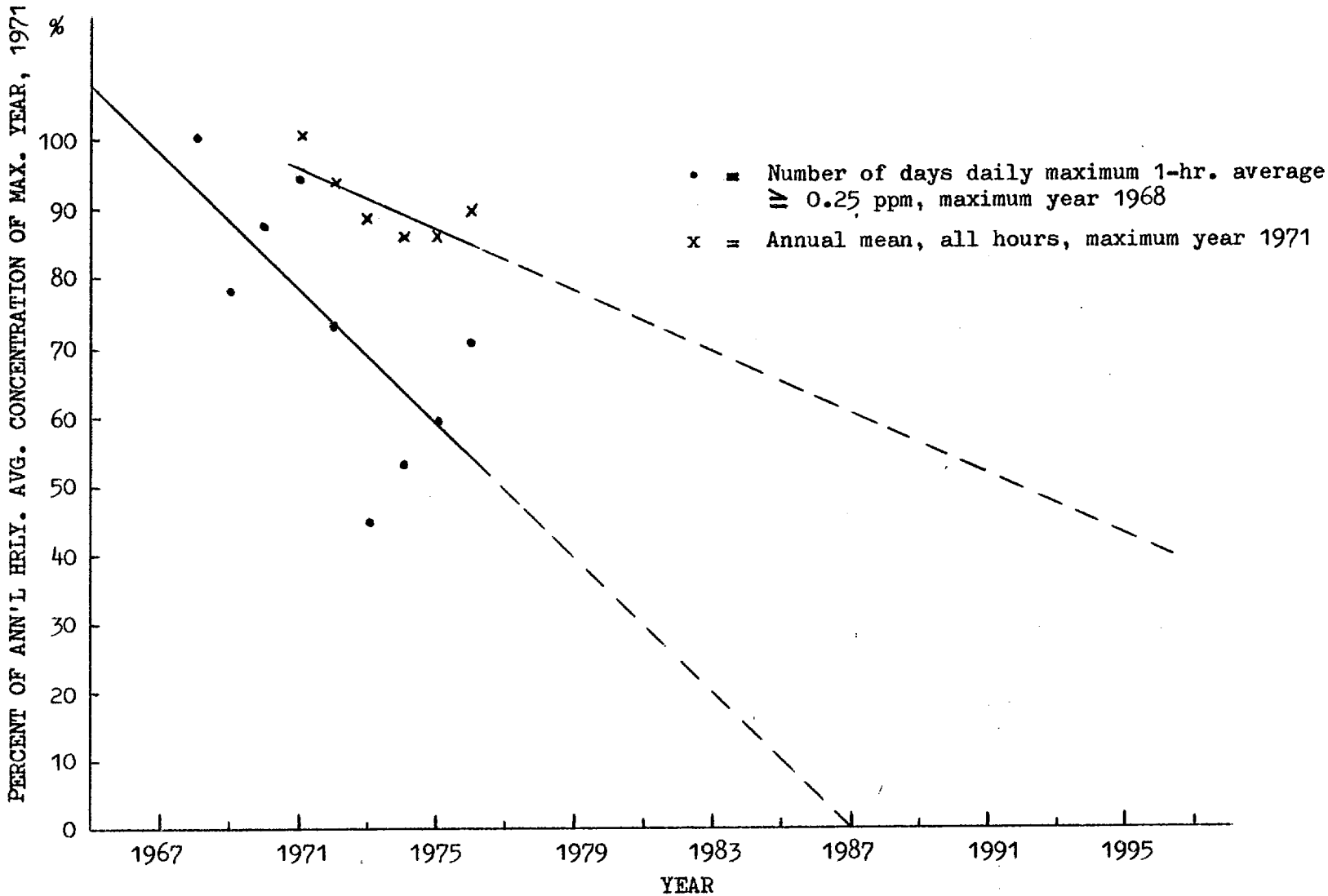


Figure V.B-3

VI.A AEROMETRIC DATA BASE FOR AIR QUALITY SIMULATION MODELING

A requirement of air quality modeling in the South Coast Air Basin is a set of actual air quality and meteorological data which may be used in model development, validation, improvement, and for planning of air quality control strategies. To meet this requirement an aerometric data base has been developed for use in the AQMP modeling effort. The examination of data presently being used in model validation studies and the development of the aerometric data base is described in the following section.

Summary of Tasks

1. Examination of the 1974 model validation air quality data base for oxidant (Ox), hydrocarbons (HC), nitrogen oxides (NO_x), and carbon monoxide (CO). Verify that correct concentrations are used in the validation studies. Supply correct concentrations to Caltrans for use in Stage I SAI model validation studies.

2. Examination of the air quality data base to be used by the California Institute of Technology (Caltech) in its Stage II model validation.

3. Develop an aerometric data base for worst Ox, NO_2, SO_2, and CO days during the 1973-1976 period.

DISCUSSION

1. 1974 Aerometric Data Base

Caltrans is presently in the process of adapting the Stage I SAI regional airshed model to its system. A necessary part of this process is to validate the model using known observed atmospheric oxidant concentrations. The oxidant event which occurred on June 26, 27, and 28, 1974, was chosen for this validation procedure. The Stage I SAI model has already been validated by the ARB Modeling Section in Sacramento, but not yet by CALTRANS in Los Angeles.

The District has obtained a copy of the aerometric data base to be used by Caltrans in their validation efforts and the data have been compared to District data. The observed values from District stations in Los Angeles County were used by Caltrans for Ox, NMHC, methane, NO_2, NO, SO_2, and CO.

Oxidant

The oxidant values used by Caltrans for the counties of Orange, Riverside, and San Bernardino are those originally reported using the ARB calibration procedure and prior to the correction of these data to give results consistent with Los Angeles County calibration procedures. We understand from Caltrans that this correction will be made by a utility routine during computer processing of the air quality data. However, the District recommends

that the incorrect oxidant values in the Caltrans data base, itself, be corrected according to the following relationship:

Oxidant (corrected) = 0.8 x Oxidant (uncorrected)

The June 26, 27, 28 oxidant data for the Anaheim, Camarillo, Costa Mesa, Laguna, La Habra, Prado Park, Riverside, and San Bernardino stations have been listed more than once in the Caltrans data base. There is no explanation for this repetition.

Methane

The methane data contained in the Caltrans data base for the Anaheim, El Toro, and Los Alamitos stations for the June 26, 27, 28 period appear to be incorrect. The correct District values for this time period have been transmitted to Caltrans and are appended to this report (Enclosure 1).

Carbon Monoxide

The Caltrans data base apparently contains incorrect CO data for June 26, 27, 28 for the Anaheim station. The corrected data has been transmitted to Caltrans and is appended (Enclosure 2).

Wind Data

The majority of the wind data used in the Caltrans data base (CTDB) was collected by Caltrans mobile

meteorological stations and some District wind data was also incorporated. However, there is a significant difference between the wind direction scheme employed in the CTDB and the District. The District uses a 16 point compass with north as 16. The CTDB also uses a 16 point compass; but in this case the north direction is 1. The District is in the process of ascertaining if the Caltrans 16 point compass data has been correctly converted into degrees from north. This will be checked to verify that the wind directions used in the programs used by Caltrans are the true observed directions. It does appear, however, that the CTDB contains the correct wind speed values.

The District will continue to work with Caltrans to insure that the Stage I Aerometric Data Base is the best one possible.

2. Aerometric Data Base for Stage II Air Quality Modeling by Caltech

The District attempted to obtain a copy of the aerometric data base to be used by Caltech in its Stage II validation efforts, but was unsuccessful. This result was primarily due to the contractual relationship between Caltech and the ARB and in fact, Caltech was very cooperative in discussing their data with us.

Caltech is using air quality data obtained from the ARB, most of which was originally supplied by the District. Caltech has corrected the oxidant data for Orange, Riverside, and San Bernardino Counties.

The Caltech wind data was compiled from several sources including the District, Caltrans, the National Weather Service, airport data, and U.S. Air Force base data. Surface roughness, temperature, relative humidity, and solar insolation data was obtained from these same sources.

3. Worst Case Aerometric Data Base

Master Data Set

For the purposes of regional modeling, a set of days was chosen for which a data base as comprehensive as possible is to be developed. An aerometric data base consisting of 54 days for Ox, NO_2, SO_2, and CO from 1973 to 1976 has been selected which may be used for regional modeling and for source receptor effects using gaussian techniques (see Table VI.A-I). Originally, 1972 was to be included in the data base, but it was deleted because of a lack of adequate emission inventory information.

Due to time and computer resources limitations, it was obvious that every day in the 1973 to 1976 study period could not all be used; there would be nearly 1500 days. Thus, the modeling days data set could range from a minimum of four up to a maximum of 1461 days for 1973 to 1976.

The problem was to choose a set which would provide a sufficient number of high contaminant values for modeling and planning purposes and also could be adequately handled by present staff and computer resources.

With these requirements in mind, the following procedure was used to produce the 54-day AQMP modeling set. A computer program, MAXVAL, was written which allows a selection of days to be made for which the maximum daily concentration, for a given time interval corresponding to a particular standard, is equal to or greater than a selected value.

For example, suppose we want to have a listing of all dates and stations for which the maximum hourly oxidant exceeded 0.35 ppm. The MAXVAL program would then be run with an oxidant base value of 0.35 ppm as the lower limiting concentration for a specified year. The output would give the date, station, and oxidant concentration for all stations which recorded a maximum hourly value equal to or greater than the specified base; in this case 0.35 ppm. The same type of output may be obtained for any contaminant for which air quality data exists in the District computer files.

In order to keep the initial data set to manageable proportions and still include the highest observed contaminant concentrations, some limitations were imposed on the sample selection process. A base value was chosen for each contaminant such that a MAXVAL printout would yield at least ten values for each contaminant, averaging time, and year in the 1973-1976 period. The data base thus constructed includes 307 values for Ox, NO_2, SO_2, and CO. This master data base is shown on Tables VI.A-II,

III, IV, and V. Selected information on the air monitoring stations is provided in Table I-II. Each set of values for each year includes the highest observations and all other observations between the highest and the preselected base value.

The master data set consists of the following subsets.

- Oxidant: Maximum 1-hour average
  1973 - 13 highest, 0.52 to 0.41 ppm
  1974 - 13 highest, 0.51 to 0.42 ppm
  1975 - 13 highest, 0.41 to 0.33 ppm
  1976 - 13 highest, 0.38 to 0.34 ppm
  Total--52

- Nitrogen Dioxide: Maximum 1-hour average
  1973 - 8 highest, 0.58 to 0.40 ppm
  1974 - 11 highest, 0.76 to 0.45 ppm
  1975 - 12 highest, 0.67 to 0.48 ppm
  1976 - 10 highest, 0.53 to 0.43 ppm
  Total--41

- Sulfur Dioxide: Maximum 1-hour average
  1973 - 10 highest, 0.28 to 0.21 ppm
  1974 - 10 highest, 0.34 to 0.16 ppm
  1975 - 10 highest, 0.27 to 0.17 ppm
  1976 - 10 highest, 0.25 to 0.18 ppm
  Total--40

- Sulfur Dioxide: Maximum 24-hour average
  1973 - 11 highest, 0.100 to 0.060 ppm
  1974 - 11 highest, 0.108 to 0.022 ppm
  1975 - 10 highest, 0.064 to 0.055 ppm
  1976 - 14 highest, 0.138 to 0.079 ppm

- Carbon Monoxide: Maximum 1-hour average
  1973 - 11 highest, 43 to 36 ppm
  1974 - 10 highest, 46 to 37 ppm
  1975 - 10 highest, 41 to 35 ppm
  1976 - 10 highest, 45 to 32 ppm

- Carbon Monoxide: Maximum 8-hour average
  1973 - 11 highest, 31.4 to 25.9 ppm
  1974 - 11 highest, 30.3 to 24.9 ppm
  1975 - 11 highest, 29.6 to 25.9 ppm
  1976 - 11 highest, 26.3 to 22.0 ppm

- Carbon Monoxide: Maximum 12-hour average
  1973 - 11 highest, 28.5 to 22.8 ppm
  1974 - 11 highest, 25.9 to 23.1 ppm
  1975 - 10 highest, 30.2 to 23.3 ppm
  1976 - 11 highest, 24.8 to 19.8 ppm

This master data set of 307 values is rather large and unwidely for the purpose of modeling and so it was reduced in several stages to produce a final data set of 60 contaminant values occurring on 54 days during the period 1973 to 1976, see Table VI.A-I.

Final Selection of AQMP Modeling Days

Oxidant

It has been shown that there are three major types of wind regimes which may be used to describe the pattern of high oxidant values in SCAB. These regimes may be briefly described as follows:

(a) Light, off-shore pressure gradients. Maximum values in Central Los Angeles-Northern Orange Counties.

(b) Wind flow along northern route. Pollutant mass moves to the northeast with the Azusa-Upland-Fontana area having maximum values.

(c) Wind flow along southern route. Pollutant mass moves to east through Santa Ana Canyon with Riverside having maximum values.

The oxidant set was selected to pick the highest yearly observation, at least one a, b, and c day for each year and the days on which the high oxidant values were present over a large geographical area and persisted

for several days. The final oxidant set is given in Table VI.A-VI.

Nitrogen Dioxide, Sulfur Dioxide, Carbon Monoxide

For these contaminants, the objective was to pick the highest two or three values for each year, considering the geographic extent of high concentrations, the duration of high values lasting more than one day, and a desire not to pick a given station more than once. The final sets of NO_2, SO_2, and CO are given in Tables VI.A-VII, VIII, IX, and X.

MSDS Format

A computer program was written to convert the aerometric data presently available (September 1977) in the District computer files to MSDS format, Figure VI.A-1. The parameters which are checked are those for which data exists in varying degrees of completeness in the computer files. The incomplete or missing data must now be provided using sources other than the computer files.

A sample of the MSDS formatted aerometric data for the 54-day set is available on the MSDS tape. The MSDS formatted data for the 54 days is available on the District computer as Tape No. 013370 (SCAQMD. MSDS. DATA). A more compressed version of the aerometric data for these days has been printed out and is now available for use in

conjunction with the modeling work. This data is not in MSDS format, but may nevertheless, be used as input into the modeling programs if properly entered, such as on punched cards.

Work is now underway to determine the effort needed to complete the aerometric data base to the extent necessary for use in the AQMP modeling tasks. Several days out of the 54-day set will be chosen to complete the individual day data sets using all of the aerometric data available to the District, in whatever form reported.

Data Set Completeness

Another program has been written which will print out a matrix of aerometric data which is present on the MSDS tape. This matrix includes elements for each contaminant value, for each day, each station and each air quality or meteorological variable present in the MSDS format. Use of this matrix printout format will facilitate the identification of the data not present in the MSDS file.

TABLE VI.A-I

AQMP AIR QUALITY MODELING STUDY DAYS

	DATE	O_x	NO_2	SO_2	CO
1973	4-10			■	
	6-06	■			
	6-08			■	
	6-21	■			
	7-24	■			
	7-25	■			
	9-27				■
	10-16		■	■	
	10-17		■		
	10-19				■
	11-30				■
	12-18				■
	12-19				■
1974	1-24				■
	1-29				■
	3-16			■	
	5-25	■			
	6-22			■	
	6-26	■			
	6-27	■			
	6-28	■			
	9-21			■	
	10-15		■		
	10-18		■		
	12-08				■
	12-18				■

SCAQMD
10/10/77

TABLE VI.A-I

AQMP AIR QUALITY MODELING STUDY DAYS

	DATE	O_x	NO_2	SO_2	CO
1975	1-13				■
	1-15		■		
	1-16			■	■
	1-17		■		
	3-01			■	
	7-08	■			
	7-09	■			
	7-10	■			
	7-11	■			
	7-25	■			
	8-02	■			
	9-21	■			
	11-16			■	
	11-24				■
	11-25				■
	12-19			■	
1976	1-16				■
	1-20				■
	7-08	■			
	7-20	■			
	8-28	■		■	
	8-30	■	■		
	10-03			■	
	10-04			■	
	11-07			■	
	11-23		■		
	12-01				■
	12-09				■

SCAQMD
10/10/77

OXIDANT (OZONE) - MAXIMUM ONE HOUR CONCENTRATIONS

1973-1976

CRITERION	1973				1974				1975				1976			
	W*	LOCATION	DATE	CONC. ppm	W*	LOCATION	DATE	CONC. ppm	W*	LOCATION	DATE	CONC. ppm	W*	LOCATION	DATE	CONC. ppm
Max.1-Hr.	(a)	CENT	6-21	0.52	(b)	UPLA	6-27	0.51	(c)	UPLA-ARB	7-25	0.41	(b)	ESGV	7-08	0.38
	(b)	UPLA-ARB	7-25	0.51	(b)	FONT	7-27	0.49	(b)	SNBD	8-02	0.38	(b)	FONT	7-20	0.38
	(c)	UPLA	6-06	0.48	(a)	FONT	6-28	0.49	(b)	UPLA-ARB	8-07	0.37	(a)	UPLA-ARB	8-30	0.38
	(c)	UPLA-ARB	7-24	0.47	(b)	UPLA-ARB	6-27	0.46	(b)	UPLA-ARB	8-02	0.36	(c)	SOEA	6-27	0.37
	(c)	ESGV	7-24	0.46	(c)	LAHB	5-25	0.44	(c)	RIVR	9-21	0.35	(c)	RIVR	7-06	0.36
	(b)	UPLA-ARB	6-06	0.45	(b)	FONT	6-14	0.44	(c)	UPLA-ARB	9-21	0.35	(c)	PWVA	8-28	0.36
	(b)	WSGV	7-25	0.45	(b)	UPLA-ARB	6-27	0.44	(b)	UPLA-ARB	7-09	0.34	(c)	RIVR	8-28	0.36
	(b)	UPLA	7-25	0.45	(a)	UPLA	8-23	0.44	(b)	PWVA	8-02	0.33	(c)	CHIN	8-28	0.36
	(b)	FONT	7-10	0.42	(b)	UPLA	8-31	0.44	(b)	UPLA-ARB	7-07	0.33	(a)	ESFV	6-25	0.35
	(c)	UPLA	7-24	0.42	(a)	UPLA-ARB	6-28	0.43	(c)	UPLA-ARB	7-11	0.33	(c)	REDL	7-06	0.35
	(b)	ESGV	7-25	0.42	(b)	UPLA	9-20	0.43	(b)	UPLA-ARB	8-04	0.33	(a)	SSGV	8-30	0.35
	(b)	UPLA	6-07	0.41	(a)	UPLA-ARB	8-23	0.42	(b)	UPLA-ARB	8-06	0.33	(a)	ESFV	6-28	0.34
	(a)	WSGV	7-03	0.41	(b)	UPLA	8-30	0.42	(b)	UPLA-ARB	9-04	0.33	(c)	SSGV	7-06	0.34

*Wind Regime

wind flow -

a) Light, off-shore pressure gradients. Maximum values in central Los Angeles-northern Orange Counties.

b) Wind flow along northern route. Pollutant mass moves to northeast with area Azusa-Upland-Fontana having maximum values. (most common)

c) Wind flow along southern route. Pollutant mass moves to east thru Santa Ana Canyon with Riverside having maximum values.

SCAQMD - E & P Div.

Table VI.A-II

NITROGEN DIOXIDE - MAXIMUM CONCENTRATION AT VARIABLE AVERAGING TIMES

CRITERION	YEAR											
	1973			1974			1975			1976		
	LOCATION	DATE	CONC. (ppm)	LOCATION	DATE	CONC. (ppm)	LOCATION	DATE	CONC. (ppm)	LOCATION	DATE	CONC (ppm
MAX. 1-HOUR	CENT	10-16	0.58	NWCO	10-15	0.76	CHIN	1-15	0.67	CENT	8-30	0.53
	CENT	10-17	0.52	CENT	10-18	0.64	SOEA	1-17	0.62	SSGV	11-23	0.52
	LAHB	10-17	0.51	CENT	11-14	0.57[c]	NWCO	9-26	0.60	SOEA	11-24	0.52
	ANAH	10-17	0.49	LSAL	10-16	0.50	NWCO	12-19	0.58[d]	NWCO	1-13	0.46
	SOEA	10-17	0.48[a]	CENT	10-14	0.47	CENT	12-27	0.56	ANAH	11-03	0.46
	NWCO	10-31	0.47	WSGV	12-19	0.47	CENT	12-26	0.55[b]	NWCO	1-31	0.45
	NWCO	6-20	0.40	BARS	5-06	0.45	NWCO	1-16	0.50	CENT	11-23	0.45
	NWCO	10-19	0.40[b]	LSAL	10-30	0.45	ANAH	1-17	0.50	NWCO	1-19	0.43
				SNBD	10-30	0.45	CENT	11-03	0.50	SOCO	1-31	0.43
				CENT	12-20	0.45	WSGV	12-17	0.49	CENT	10-07	0.43
				ESGV	12-21	0.45	ESFV	1-16	0.48			
							NWCO	1-21	0.48			
ANNUAL AVERAGE (ALL HOURS)	ESFV		0.0738	CENT		0.0748	WSGV		0.0814	WSGV		0.07
	PWVA		0.0725	WSGV		0.0738	ESFV		0.0741	NWCO		0.07
	WSGV		0.0713	ESFV		0.0718	SOEA		0.0721	SOCO		0.07
	NWCO		0.0709	NWCO		0.0715	PWVA		0.0718	CENT		0.07
	SOCO		0.0676	PWVA		0.0688	NWCO		0.0689	SWCO		0.07
	CENT		0.0665	SOCO		0.0673	CENT		0.0668	SOEA		0.07
	SOEA		0.0656	SWCO		0.0635	WSFV		0.0643	ESFV		0.07
	SWCO		0.0636	ESGV		0.0632	LAHB		0.064[e]	PWVA		0.06
	WSFV		0.0628	WSFV		0.0578	SOCO		0.0617	WSFV		0.05
	ESGV		0.0619	ANAH		0.056[e]	ESGV		0.0596	ESGV		0.05
				LAHB		0.056[e]						

a) 20-hr. sample
b) 14-hr. sample
c) 16-hr. sample
d) 15-hr. sample
e) ARB data

SCAQMD-E & P

Table VI.A-III

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

SULFUR DIOXIDE - MAXIMUM CONCENTRATIONS AT VARIABLE AVERAGING TIMES

CRITERION	1973			1974			1975			1976		
	LOCATION	DATE	CONC. (ppm)	LOCATION	DATE	CONC. (ppm)	LOCATION	DATE	CONC. (ppm)	LOCATION	DATE	CONC. (ppm)
Max. 1-Hr.	SWCO	4-10	0.28	SOCO	6-22	0.34	SOEA	3-03	0.27	FONT	8-28	0.25
	SOCO	10-16	0.28	SOCO	9-21	0.25	SOEA	1-16	0.27	LSAL	11-07	0.24
	SOEA	10-16	0.28	SOCO	11-27	0.19	SOCO	11-16	0.23	FONT	11-02	0.23
	SWCO	6-22	0.27	SOEA	6-15	0.18	LSAL	10-28	0.21	LSAL	7-23	0.21
	SOCO	7-23	0.25	SOEA	6-27	0.18	SOCO	11-04	0.21	FONT	3-13	0.19
	SWCO	9-28	0.25	LSAL	9-22	0.18	SWCO	1-16	0.19	SWCO	3-15	0.18
	SOCO	12-04	0.23	SOEA	6-21	0.17	SOEA	2-27	0.19	FONT	8-23	0.18
	SOEA	9-06	0.22	SWCO	7-19	0.17	SWCO	2-26	0.18	FONT	8-26	0.18
	SCLA	11-07	0.22	SWCO	10-14	0.17	LSAL	5-07	0.18	FONT	10-04	0.18
	SWCO	8-01	0.21	SOEA	3-15	0.16	SOCO	1-25	0.17	LSAL	10-09	0.18
Max. 24-Hr.	SOCO	10-16	0.100	SOCO	9-21	0.108	SOCO	3-01	0.064	FONT	10-03	0.138
	SOEA	10-16	0.094[a]	SOEA	3-16	0.073	CENT	12-19	0.061	FONT	10-04	0.127
	SWCO	6-08	0.092	SOCO	6-22	0.070	SOEA	1-16	0.058	FONT	10-06	0.114
	SOEA	9-06	0.082	SOEA	6-14	0.063	SOEA	3-01	0.057	FONT	8-30	0.109[c]
	SWCO	5-10	0.077	SOEA	6-27	0.061	SOEA	3-03	0.056	FONT	8-08	0.106[d]
	SWCO	11-08	0.067	SOEA	6-22	0.060	SOEA	1-15	0.055	FONT	10-02	0.105[e]
	SWCO	6-21	0.066	SOEA	6-13	0.058	SWCO	1-16	0.055	FONT	8-28	0.100
	SWCO	6-07	0.065	SOEA	6-21	0.056	SOEA	1-21	0.055	FONT	8-07	0.093
	SWCO	7-25	0.062	SOEA	9-10	0.054[b]	SOEA	2-28	0.055	FONT	10-05	0.093
	SCLA	11-08	0.062	SCLA	10-14	0.024	SOCO	12-17	0.055	FONT	9-02	0.088[f]
	SCLA	11-07	0.060	SOEA	12-12	0.022				FONT	10-07	0.087
										FONT	8-22	0.083
										FONT	10-17	0.082
										FONT	10-08	0.079

a) 17 hr. sample
b) 16 hr. sample
c) 15 hr. sample
d) 9 hr. sample
e) 13 hr. sample
f) 12 hr. sample

Table VI.A-IV

TABLE VI.A-V

CARBON MONOXIDE-MAXIMUM CONCENTRATIONS AT VARIOUS AVERAGING TIMES[a)]

1973-1976

	1973			1974			1975			1976		
CRITERION	LOCATION	DATE	CONC. (ppm)	LOCATION	DATE	CONC. (ppm)	LOCATION	DATE	CONC. (ppm)	LOCATION	DATE	CONC. (ppm)
Max.1-Hr.	SWCO	9-27	43	SWCO	1-24	46	SCLA	11-24	41	LAHB	12-01	45
	SWCO	10-30	41[b)]	SWCO	10-16	41	CENT	1-13	40	SWCO	1-20	43
	SCLA	10-19	40	SWCO	1-16	40	SWCO	1-16	40	SWCO	1-16	38
	SCLA	12-18	40	SCLA	1-29	40	SCLA	1-16	40	LAHB	11-30	37
	SWCO	9-28	39	SWCO	10-24	40	LAHB	1-14	38	LAHB	12-15	35
	SWCO	10-19	39	SWCO	2-08	39	SWCO	1-17	38	LAHB	12-07	33
	SWCO	12-05	39	SCLA	1-22	38	SWCO	1-15	37	SCLA	12-14	33
	SCLA	12-17	38	SCLA	1-15	37	NWCO	11-25	37	ANAH	1-13	32
	SWCO	12-17	37	SCLA	1-24	37	ESFV	11-24	36	SWCO	1-15	32
	SWCO	12-18	37	SWCO	1-29	37	SWCO	1-22	35	SCLA	1-16	32
	SCLA	12-07	36									
Max.8-Hr.	SWCO	12-19	31.4	SWCO	12-18	30.3	SWCO	1-16	29.6	ESFV	12-09	26.3[c)]
	SWCO	10-30	29.0[b)]	SWCO	12-07	28.5	SCLA	1-16	29.4	SWCO	1-16	25.3
	WSFV	11-30	28.9	SCLA	12-08	28.4	SCLA	11-25	29.0	ANAH	1-14	24.8
	SWCO	12-05	28.9	SWCO	1-24	27.5[c)]	SCLA	11-24	28.9[c)]	LAHB	12-15	24.0
	WSFV	12-11	28.8	SWCO	12-08	26.4	WSFV	1-25	27.3	LAHB	12-14	23.8
	SCLA	12-05	28.5	ESFV	12-21	25.6	SCLA	1-25	27.1	LAHB	12-01	23.5
	SCLA	12-08	28.0	SWCO	11-14	25.5	SCLA	11-25	27.1	SCLA	12-16	23.3
	SCLA	10-30	27.0	CHIN	2-05	25.4	WSFV	11-15	26.9	LAHB	12-08	22.8
	SWCO	12-11	26.8	ESFV	11-14	25.1	ESFV	1-25	26.6	ANAH	1-13	22.4
	SWCO	12-18	26.3	SWCO	12-11	25.1	ESFV	11-15	26.6	SCLA	11-17	22.3
	WSFV	12-10	25.9	SWCO	2-03	24.9	ESFV	1-16	25.9	SWCO	1-15	22.0
Max.12-Hr.	SWCO	12-05	28.5	SWCO	12-07	25.9	SWCO	1-16	30.2	ESFV	12-09	24.8[e)]
	SWCO	12-19	28.5	SWCO	12-18	25.8	SCLA	1-16	29.3	SWCO	1-16	24.1
	SCLA	12-05	27.9	SWCO	1-24	24.8[d)]	SCLA	11-15	26.1	ANAH	1-14	21.5
	SWCO	10-30	26.5[b)]	CHIN	2-05	24.8	SCLA	1-25	25.7	ESFV	11-25	21.2
	SCLA	10-30	25.1	SCLA	12-08	24.7	ESFV	1-25	24.4	ESFV	12-04	21.1
	WSFV	11-30	24.8	SWCO	12-11	24.6	ESFV	11-15	24.3	SCLA	12-16	20.9
	SWCO	12-11	24.6	ESFV	11-14	23.3	WSFV	11-15	23.8	SWCO	12-11	20.4
	WSFV	12-11	24.3	SWCO	12-08	23.3	WSFV	1-25	23.5	SWCO	11-17	20.3
	SWCO	12-04	24.0	SWCO	12-12	23.3	ESFV	1-16	23.4	SCLA	1-05	20.0
	SCLA	12-11	23.2	SWCO	12-17	23.1	SCLA	11-25	23.3	SWCO	12-16	20.0
	SCLA	12-08	22.8	ESFV	12-21	23.1				LAHB	12-01	19.8

a) Data based on computer read-out of ARB tape supplied to SCAQMD, June 1977.

b) 15-hr. sample; c) 16-hr. sample; d) 14-hr. sample; e) 12-hr. sample.

TABLE VI.A-VI

OXIDANT

AQMP

Model Study Days

MAXIMUM 1-HOUR AVERAGE

YEAR	STATION	DATE	PPM	TYPE
1973	CENT	6-21	0.52	a
	UPLAND-ARB	7-25	0.51	b
	UPLAND	6-06	0.48	c
	UPLAND-ARB	7-24	0.47	c
	ESGV	7-24	0.46	c
	UPLAND-ARB	6-06	0.45	b
	WSGV	7-25	0.45	b
	UPLAND	7-25	0.45	b
	UPLAND	7-24	0.42	c
	ESGV	7-25	0.42	b
1974	UPLAND	6-27	0.51	b
	FONTANA	6-28	0.49	a
	UPLAND-ARB	6-28	0.49	b
	LA HABRA	5-25	0.44	c
	UPLAND-ARB	6-27	0.44	b
	UPLAND-ARB	6-28	0.43	a
		6-26		
1975	UPLAND-ARB	7-25	0.41	c
	SAN BERNARDINO	8-02	0.38	b
	UPLAND-ARB	8-02	0.36	b
	RIVERSIDE	9-21	0.35	c
	UPLAND-ARB	9-21	0.35	c
	UPLAND-ARB	7-09	0.34	b
	POMONA WALNUT VALLEY	8-02	0.33	b
	UPLAND-ARB	7-11	0.33	c
		7-08		
		7-10		
1976	ESGV	7-08	0.38	b
	FONTANA	7-20	0.38	b
	UPLAND-ARB	8-30	0.38	a
	POMONA WALNUT VALLEY	8-28	0.36	c
	RIVERSIDE	8-28	0.36	c
	CHINO	8-28	0.36	c
	SSGV	8-30	0.35	a

SCAQMD - E & P Div.

TABLE VI.A-VII

NITROGEN DIOXIDE

AQMP

Model Study Days

MAXIMUM 1-HOUR AVERAGE

YEAR	STATION	DATE	PPM
1973	CENTRAL	10-16	0.58
	CENTRAL	10-17	0.52
	LAHB	10-17	0.51
	ANAH	10-17	0.49
	SOEA	10-17	0.48
1974	NWCO	10-15	0.76
	CENTRAL	10-18	0.64
1975	CHINO	1-15	0.67
	SOEA	1-17	0.62
	ANAH	1-17	0.50
1976	CENTRAL	8-30	0.53
	SSGV	11-23	0.52
	CENTRAL	11-23	0.45

SCAQMD - E & P Div.

TABLE VI.A-VIII

SULFUR DIOXIDE

AQMP

Model Study Days

MAXIMUM 1-HOUR AVERAGE

YEAR	STATION	DATE	PPM
1973	SWCO	4-10	0.28
	SOCO	10-16	0.28
	SOEA	10-16	0.28
1974	SOCO	6-22	0.34
	SOCO	9-21	0.25
1975	SOEA	1-16	0.27
	SOCO	11-16	0.23
	SWCO	1-16	0.19
1976	FONTANA	8-28	0.25
	LOS ALAMITOS	11-07	0.24

SCAQMD - E & P Div.

TABLE VI.A-IX

SULFUR DIOXIDE

AQMP

Model Study Days

MAXIMUM 24-HOUR AVERAGE

YEAR	STATION	DATE	PPM
1973	SOCO	10-16	0.100
	SOEA	10-16	0.094
	SWCO	6-08	0.092
1974	SOCO	9-21	0.108
	SOEA	3-16	0.073
1975	SOCO	3-01	0.064
	CENTRAL	12-19	0.061
	SOEA	3-04	0.057
1976	FONT	10-03	0.138
	FONT	10-04	0.127

SCAQMD - E & P Div.

TABLE VI.A-X

CARBON MONOXIDE

AQMP

Model Study Days

	MAXIMUM 1-HOUR AVERAGE			MAXIMUM 8-HOUR AVERAGE		
YEAR	STATION	DATE	PPM	STATION	DATE	PPM
1973	SWCO	9-27	43	SWCO	12-19	31.4
	SCLA	10-19	40	WSFV	11-30	28.9
	SCLA	12-18	40	SWCO	12-18	26.3
1974	SWCO	1-24	46	SWCO	12-18	30.3
	SCLA	1-29	40	SCLA	12-08	28.4
	SCLA	1-24	37	SWCO	1-24	27.5
	SWCO	1-29	37	SWCO	12-08	26.4
1975	SCLA	11-24	41	SWCO	1-16	29.6
	CENT	1-13	40	SCLA	1-16	29.4
	SWCO	1-16	40	SCLA	11-25	29.0
	SCLA	1-16	40	ESFV	1-16	25.9
	ESFV	11-24	36			
1976	LAHB	12-01	45	ESFV	12-09	26.3
	SWCO	1-20	43	SWCO	1-16	25.3
	SWCO	1-16	38	LAHB	12-01	23.5

SCAQMD - E & P Div.

FIGURE A-1

MODELING STUDY DATA STAGING INPUT SUMMARY

Format ID	Subkey A	Subkey B	Field 1 25 - 32	Field 2 33-40	Field 3 41-48	Field 4 49-56	Field 5 57-64	Field 6 65-72
QØ1	Station Number		Carbon Monoxide (ppm) ✓	Ozone (ppm) ✓	Nitrogen Dioxide (ppm) ✓	Nitric Oxide (ppm) ✓	Oxides of Sulfur (ppm) ✓	
QØ2	Station Number		Methane (ppm) ✓	Non Methane (ppm) ✓				
MØ1	Station Number		Temp (c) ✓	Relative Humidity (%) ✓	Wind Direction (Az) ✓	Wind Speed (M/S) ✓		
MØ2	Station Number		Cloud Cover (%)	Cloud Height (M)	Pressure (Mb)	Solar Insulation (W/M^2) ✓		
MØ3	Station Number		Inver Base (M)	Base Temp (c)	Base Humidity (%)	Inver. Top (M)	Top Temp (c)	Top Humidity (%)
MØ4	Station Number	Pibal Seq Num	Elev (M)	Wind Direction (Az)	Wind Speed (M/s)			
EØ1	Source ID Num	Source Category	Carbon Monoxide (kg/hr)	Oxides of Nitrogen (kg/hr)	Oxides of Sulfur (kg/hr)	Total Hydrocarbon (kg/hr)	Particulate (kg/hr)	
GØ1			Ground Elev (M)		Land Use Category			

CO-PPM-ANAHEIM-SCAQMD DATA

Enclosure 1

Hour/Date	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
6/26/74	00	00	01	00	01	01	02	--	--	--	01	01	02	02	02	02	03	02	02	02	03	04	04	03
6/27/74	02	02	00	01	01	03	03	05	05	04	02	02	02	02	02	02	02	02	02	02	04	05	06	05
6/28/74	03	02	01	01	01	02	04	05	05	04	03	02	02	02	02	03	03	03	02	02	02	02	01	01

TOTAL HYDROCARBONS-PPM
(HYDROCARBONS, AS METHANE)

Enclosure 2

ANAHEIM

DATE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Hours Pst																							
6/26/74	5	6	7	6	7	6	6	4	3	3	3	3	3	3	3	4	4	4	4	4	5	6	6	6
6/27/74	6	6	6	6	7	8	8	7	6	6	5	3	3	4	4	4	3	3	4	4	5	6	7	7
6/28/74	8	7	6	6	6	6	7	6	6	4	4	4	3	3	3	3	3	4	4	4	4	4	3	4

EL TORO

6/26/74	1	2	2	2	2	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	
6/27/74	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2	2	
6/28/74	2	2	2	2	2	2	2	2	2	2	2	2	2	2										

LOS ALAMITOS

6/26/74	2	2	2	2	2		1	1	2	2	1	1	2	2	2	1	1	1	1	1	1	2	2	2
6/27/74	3	3	3	2	2		1	1	2	2	2	2	2	2	2	2	2	1	1	1	2	1	2	2
6/28/74	2	2	4	4	4		3	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	1	1

Section VI.B Population Exposure to Air Contaminants in the SCAB

The principal objective of the air quality management planning process is, of course, to demonstrate how and when the air quality standards will be attained in the future. Various alternative plans will be derived so that the one best suited to the needs of the citizens of the air basin can be discerned. The selection process, however, requires some objective tools with which to gauge the relative impact of the various plans and strategies on population exposure to air contaminants at various times during plan implementation and when standards are finally attained. The methodology presented in this section is such a tool and will be used together with modeled future air quality data to help with strategy evaluation and analysis.

The accompanying, which are merely illustrative of the methodology, show the geographical distribution of the 1976 SCAB population (Figure VI.B-1) and air contaminant concentration data (Figures VI.B-2 through 11) for specific "worst-case" time periods in 1976.

The maps show an area which encloses the major parts of the 130 by 100 mile rectangle containing the South Coast Air Basin. Each character represents a 2 x 2 mile grid square, but because of the design of the computer printer used to generate them, the maps are slightly

distorted. One inch represents 20 miles in the east-west direction, and 16 miles in the north-south direction.

The population data in Figure IV.B-1 is that from the SCAG 1976 forecast, and was processed by Caltrans for the 2 x 2 mile Larts "practical" grid. The distribution into the four intervals shown at the bottom is arbitrary in the case of population data.

The 1976 air quality data mapped is for the single "worst" day for that averaging time period, for each specified air quality standard. Annual data is an exception. The data for the District's 41 air monitoring stations are used as a base to interpolate data for each of the grids on the map. Blank spots on the map represent areas where (1) a valid interpolation cannot be made, (2) a particular station did not have sufficient valid data, or (3) there are no population data available.

The interpolation methodology is that used by the National Weather Service to draw isolines for their 500 mb charts. There are always a few obvious problems in any interpolation scheme. The problems with this particular method are border areas, and places with missing air monitoring data. Palos Verdes and the northwest portion of the Antelope Valley are areas where the program tries to interpolate the air quality data from a single station which is either too far away or too different topologically. An example of an interpolation problem occurs on the

Sulfur Dioxide map for October 3, 1976 (Figure VI.B-8) where data was not recorded at Upland, Victorville or Chino, but was at Fontana which had the maximum reading. As a result the high SO_2 area is spread over a larger area than is probably justified.

The shaded areas represent multiples of the specified standard. A "t" represents an area meeting the standard for that time averaging period; an "x" printed on top of a "t" is an area in which the concentrations were as much as twice the standard. Other symbols, increasingly more dense, show up to three times the standard, and more than three times the standard. The key at the bottom of the map explains these intervals. In addition, the population in all of the cells in each of the four categories is also shown, along with the number of cells involved.

It is important to note that the air quality data only represent the time-averaging period specified, and that the maximum concentration for each station was utilized, regardless of which hour or period it occurred in.

In order to help locate cities as well as county and air basin boundaries, a transparent overlay sheet has been placed in a pocket at the back of this report.

Tables VI.B-I through VI.B-X present the air monitoring station numbers, names, designators, and their x and y grid square coordinates. If a particular grid

square is of interest the air monitoring stations in the vicinity can be located by reference to the x and y grid coordinates on the maps.

Section VII - References

1. "AQMP Work Plan Document" (Task 300, Goals and Policies and Task 400, Aerometric Data) second draft, prepared by Evaluation and Planning Division and Air Programs Division, South Coast Air Quality Management District, (1977).

1-a. 40 CFR 50-57. Revised as of July 1, 1976.

2. "Air Quality Management Plan Work Plan", prepared by the Southern California Association of Governments in compliance with ARB Contract #ARB 5-1321 for development of a Phase II Workplan for the South Coast/Southeast Desert Air Quality Maintenance Areas, (December, 1976).

3. "Air Quality and Meteorology", Month of July 1977, South Coast Air Quality Management District.

4. "Air Quality and Meteorology - 1976 Annual Report", draft copy, South Coast Air Quality Management District.

5. Monthly violations of standards from AQMP computer program, unpublished data, South Coast Air Quality Management District.

6. Frequency distributions of Los Angeles County data, unpublished data, South Coast Air Quality Management District.

7. Computer tabulations of hourly averages ("Tab A's"), unpublished data, South Coast Air Quality Management District.

8. "Three-Year Summary of California Air Quality Data 1973-1975", State of California Air Resources Board, (January, 1977).

9. "Ten-Year Summary of California Air Quality Data 1963-1972", State of California Air Resources Board (January, 1974).

10. "Suspended Particulate Matter in the Atmosphere of Los Angeles County 1965-1974", Southern California Air Pollution Control District, Metropolitan Zone, (May, 1976).

11. "Suspended Particulate Matter in the Atmosphere of Los Angeles County 1975", Southern California Air Pollution Control District, Metropolitan Zone, (August, 1976).

12. Semi-Annual Air Monitoring Reports, issues for January-June, and July-December 1975. Riverside County Air Pollution Control District.

13. Annual Reports, 1971-1974 inclusive, San Bernardino County Air Pollution Control District.

14. Reports of Measurement of Concentrations of Total Suspended Particulate, Lead, Sulfate, unpublished data, South Coast Air Quality Management District.

15. "Characterization of Aerosols in California (ACHEX). Final Report. Volume I. Summary", Air Resources Board, State of California Contract No. 358. Prepared by G.M. Hidy et al. (September 30, 1974, Revised, April 1975).

16. Lunche, R.G., Davidson, A., Dickinson, J.E. and Brunelle, M.F., "Air Quality Trends in Los Angeles County", pp. 7-11, Southern California Air Pollution Control District, Metropolitan Zone (Dec., 1975).

17. Zeldin, M., "Ozone Trends in the Eastern Los Angeles Basin Corrected for Meteorological Variations", Paper 28-5, presented at International Conference of Environmental Sensing and Assessment, Las Vegas, Nevada (1975).

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

POPULATION DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID

	INTERVAL		POPULATION	CELLS	% POPULATION	% CELLS
≥	0.0000 AND < 20234.2500	= "+++"	3331861.	927.	36.12584	83.1390
≥	20234.2500 AND < 40468.5000	= "***"	4403745.	157.	47.74779	14.0807
≥	40468.5000 AND < 60702.7500	= "▩▩▩"	1406385.	30.	15.24879	2.6906
≥	60702.7500	= "▩▩▩"	80937.	1.	0.87756	0.0897

NUMBER OF CELLS USED 1115 TOTAL POPULATION 9222928.

AVERAGE POPULATION PER CELL 8271.68359

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
7-8-76 OZONE STUDY DAY MAXIMUM 1 HOUR AVERAGES IN PPM
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID

INTERVAL			POPULATION	CELLS	% POPULATION	% CELLS
0.0000 AND <	0.0810	= "+++"	2793295.	258.	31.52618	23.5187
0.0810 AND <	0.1620	= "***"	1827895.	382.	20.63031	34.8222
0.1620 AND <	0.2430	= "@@@"	2338319.	295.	26.39114	26.8915
0.2430		= "@@@"	1900727.	162.	21.45232	14.7675

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

7-8-76 OZONE STUDY DAY MAX. 1-HOUR AVERAGE IN PPM

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ppm	MAP COORDINATES		STATION NAME
001	(CENT)	=	0.170	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	0.110	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	0.020	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	0.040	X COR= 38	Y COR= 16	LONG BEACH
080	(SOEA)	=	0.140	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	0.190	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	0.250	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	0.300	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	0.380	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	0.280	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	0.250	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	-1.000	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	0.200	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	0.090	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	0.050	X COR= 45	Y COR= 19	LA HABRA
3191	(SACN)	=	0.160	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	0.070	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	0.100	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	0.040	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	0.090	X COR= 52	Y COR= 09	EL TORO
3189	(LGNA)	=	-1.000	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	0.030	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	0.200	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	0.240	X COR= 73	Y COR= 13	HEMET
4149	(PERI)	=	0.200	X COR= 65	Y COR= 15	PERRIS
4152	(ELSN)	=	0.110	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	0.090	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	0.110	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	0.170	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	0.090	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	0.080	X COR=	Y COR=	INDIO
5175	(UPLA)	=	0.310	X COR= 53	Y COR= 25	UPLAND ARB&SCAQMD
5173	(CHIN)	=	0.210	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	0.280	X COR= 58	Y COR= 26	FONTANA
5151	(SNBD)	=	0.210	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	0.260	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	0.190	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	0.180	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	0.080	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	0.070	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	0.030	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
12-1-76 CARBON MONOXIDE STUDY DAY MAX 1 HOUR AVE IN PPM
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID

	INTERVAL			POPULATION	CELLS	% POPULATION	% CELLS
	0.0000 AND <	35.1000	= "+++"	8343678.	963.	97.42082	98.1651
	35.1000 AND <	70.2000	= "¥¥¥"	220895.	18.	2.57917	1.8349
	70.2000 AND <	105.3000	= "¤¤¤"	0.	0.	0.0	0.0
	105.3000		= "¤¤¤"	0.	0.	0.0	0.0

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

12-1-76 CARBON MONOXIDE STUDY DAY MAX. 1-HOUR AVERAGE IN PPM

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ppm	MAP COORDINATES		STATION NAME
001	(CENT)	=	14.000	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	9.000	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	19.000	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	11.000	X COR= 38	Y COR= 16	LONG BEACH
080	(SOFA)	=	11.000	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	5.000	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	19.000	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	16.000	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	6.000	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	11.000	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	-1.000	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	28.000	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	6.000	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	5.000	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	45.000	X COR= 45	Y COR= 19	LA HABRA
3191	(SACN)	=	-1.000	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	20.000	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	-1.000	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	19.000	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	-1.000	X COR= 52	Y COR= 09	EL TORO
3189	(LGNA)	=	10.000	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	-1.000	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	2.000	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	-1.000	X COR= 73	Y COR= 13	HEMET
4149	(PERI)	=	5.000	X COR= 65	Y COR= 15	PERRIS
4152	(ELSM)	=	-0.100	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	-1.000	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	3.000	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	2.000	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	2.000	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	4.000	X COR=	Y COR=	INDIO
5175	(UPLA)	=	1.000	X COR= 53	Y COR= 25	UPLAND ARB&SCAQMD
5173	(CHIN)	=	5.000	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	2.000	X COR= 58	Y COR= 26	FONTANA
5151	(SNBO)	=	5.000	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	7.000	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	4.000	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	2.000	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	5.000	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	-1.000	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	1.000	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
12-9-76 CARBON MONOXIDE STUDY DAY 8 HOUR AVERAGE IN PPM
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID

	INTERVAL			POPULATION	CELLS	% POPULATION	% CELLS
≥	0.0000 AND < 9.0100	=	"+++"	1991974.	682.	23.12907	69.5209
≥	9.0100 AND < 18.0200	=	"***"	5926200.	264.	68.80994	26.9113
≥	18.0200 AND < 27.0300	=	"ØØØ"	694244.	35.	8.06096	3.5678
≥	27.0300	=	"ØØØ"	0.	0.	0.0	0.0

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
12-9-76 CARBON MONOXIDE STUDY DAY 8-HOUR AVERAGE IN PPM

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ppm	MAP COORDINATES		STATION NAME
001	(CENT)	=	11.400	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	10.100	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	12.100	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	11.000	X COR= 38	Y COR= 16	LONG BEACH
080	(SOEA)	=	8.800	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	14.000	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	26.300	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	9.800	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	6.500	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	8.100	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	8.400	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	13.800	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	5.100	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	8.000	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	17.600	X COR= 45.	Y COR= 19	LA HABRA
3191	(SACN)	=	-1.000	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	14.300	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	-1.000	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	14.100	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	-1.000	X COR= 52	Y COR= 09	EL TORO
3189	(LGMA)	=	6.100	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	-1.000	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	6.500	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	-1.000	X COR= 73	Y COR= 13	HEMET
4149	(PERI)	=	6.300	X COR= 65	Y COR= 15	PERRIS
4152	(ELSN)	=	-1.000	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	-1.000	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	2.000	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	1.300	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	1.800	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	3.600	X COR=	Y COR=	INDIO
5175	(UPLA)	=	-1.000	X COR= 53	Y COR= 25	UPLAND ARB&SCADMD
5173	(CHIN)	=	7.000	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	2.000	X COR= 58	Y COR= 26	FONTANA
5151	(SNBD)	=	8.100	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	5.300	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	4.500	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	1.800	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	2.900	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	4.400	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	0.100	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
8-30-76 NITROGEN DIOXIDE STUDY DAY 1 HOUR MAX IN PPM
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID

	INTERVAL			POPULATION	CELLS	% POPULATION	% CELLS
0.0000 AND <	0.2500	=	"+++"	5817585.	735.	67.19180	86.1665
0.2500 AND <	0.5000	=	"***"	2416480.	108.	27.90979	12.6612
0.5000 AND <	0.7500	=	"ØØØ"	424111.	10.	4.89839	1.1723
0.7500		=	"ØØØ"	0.	0.	0.0	0.0

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

8-30-76 NITROGEN DIOXIDE STUDY DAY 1-HOUR MAX. IN PPM

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ppm	MAP COORDINATES		STATION NAME
001	(CENT)	=	0.530	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	0.300	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	0.240	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	0.230	X COR= 38	Y COR= 16	LONG BEACH
080	(SOFA)	=	0.220	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	0.180	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	0.280	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	0.260	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	0.210	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	0.180	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	0.300	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	0.110	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	0.060	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	0.040	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	0.120	X COR= 45	Y COR= 19	LA HABRA
3191	(SACN)	=	-1.000	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	0.220	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	-1.000	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	0.090	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	-1.000	X COR= 52	Y COR= 09	EL TORO
3189	(LGNA)	=	-1.000	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	-1.000	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	0.040	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	0.110	X COR= 73	Y COR= 13	HEMET
4149	(PERI)	=	-1.000	X COR= 65	Y COR= 15	PERRIS
4152	(ELSN)	=	-1.000	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	-1.000	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	-1.000	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	-1.000	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	-1.000	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	0.060	X COR=	Y COR=	INDIO
5175	(UPLA)	=	0.100	X COR= 53	Y COR= 25	UPLAND ARB&SCAQMD
5173	(CHIN)	=	0.130	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	0.140	X COR= 58	Y COR= 26	FONTANA
5151	(SNBD)	=	0.090	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	0.050	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	-1.000	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	-1.000	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	-1.000	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	0.050	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	0.130	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
1976 ANNUAL AVERAGE HOURLY NO2 PPM
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID

INTERVAL			POPULATION	CELLS	% POPULATION	% CELLS
0.0000 AND <	0.0500	= "+++"	1495866.	451.	18.16158	59.5773
0.0500 AND <	0.1000	= "***"	6740565.	306.	81.83841	40.4227
0.1000 AND <	0.1500	= "@@@"	0.	0.	0.0	0.0
0.1500		= "@@@"	0.	0.	0.0	0.0

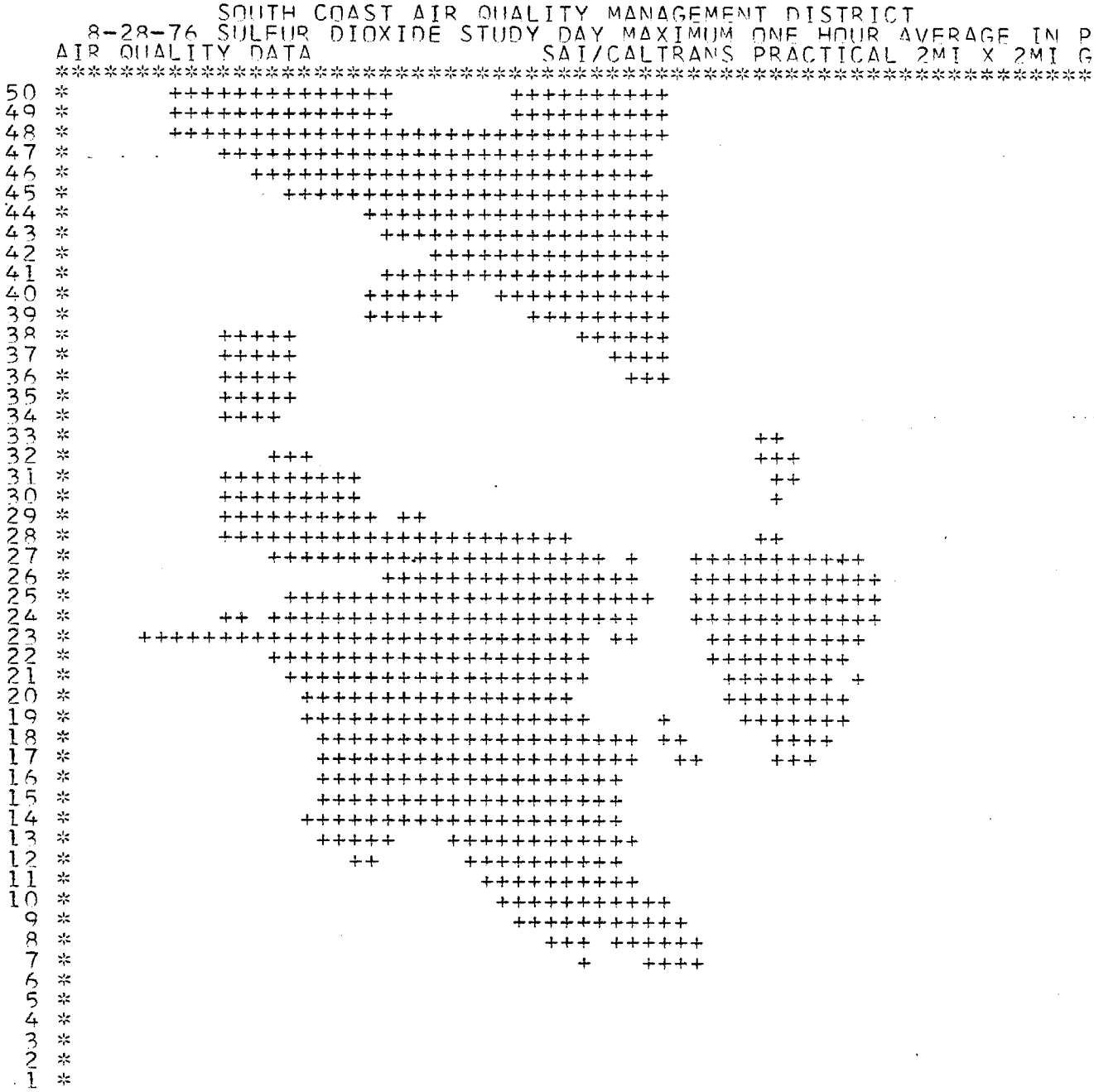
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

1976 ANNUAL AVERAGE HOURLY NO_2 PPM

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ppm	MAP COORDINATES		STATION NAME
001	(CENT)	=	0.073	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	0.076	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	0.073	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	0.074	X COR= 38	Y COR= 16	LONG BEACH
080	(SOEA)	=	0.073	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	0.055	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	0.072	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	0.078	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	0.053	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	0.068	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	-1.000	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	0.053	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	0.027	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	0.014	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	0.048	X COR= 45	Y COR= 19	LA HABRA
3191	(SACN)	=	-1.000	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	0.055	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	-1.000	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	0.027	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	-1.000	X COR= 52	Y COR= 09	EL TORO
3189	(LGNA)	=	-1.000	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	-1.000	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	-1.000	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	0.036	X COR= 73	Y COR= 13	HEMET
4149	(PERI)	=	-1.000	X COR= 65	Y COR= 15	PERRIS
4152	(ELSN)	=	-1.000	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	-1.000	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	-1.000	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	-1.000	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	-1.000	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	-1.000	X COR=	Y COR=	INDIO
5175	(UPLA)	=	-1.000	X COR= 53	Y COR= 25	UPLAND ARB&SCAOMD
5173	(CHIN)	=	-1.000	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	-1.000	X COR= 58	Y COR= 26	FONTANA
5151	(SNBD)	=	0.024	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	0.024	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	-1.000	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	-1.000	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	-1.000	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	-1.000	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	-1.000	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
8-28-76 SULFUR DIOXIDE STUDY DAY MAXIMUM ONE HOUR AVERAGE IN PPM
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID



INTERVAL				POPULATION	CELLS	% POPULATION	% CELLS
0.0000 AND <	0.5000	=	"+++"	8739190.	822.	100.00000	100.0000
0.5000 AND <	1.0000	=	"***"	0.	0.	0.0	0.0
1.0000 AND <	1.5000	=	"@@@"	0.	0.	0.0	0.0
1.5000		=	"%%%"	0.	0.	0.0	0.0

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

8-28-76 SULFUR DIOXIDE STUDY DAY MAX. 1-HOUR AVERAGE IN PPM

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ppm	MAP COORDINATES		STATION NAME
001	(CENT)	=	0.040	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	0.020	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	0.080	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	0.060	X COR= 38	Y COR= 16	LONG BEACH
080	(SOEA)	=	0.040	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	0.020	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	0.030	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	0.040	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	0.030	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	0.030	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	0.020	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	0.040	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	0.020	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	0.010	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	0.100	X COR= 45	Y COR= 19	LA HABRA
3191	(SACN)	=	0.030	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	0.060	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	0.100	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	0.040	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	0.050	X COR= 52	Y COR= 09	EL TORO
3189	(LGNA)	=	-1.000	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	-1.000	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	-1.000	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	0.070	X COR= 73	Y COR= 13	HEMET
4149	(PERI)	=	-1.000	X COR= 65	Y COR= 15	PERRIS
4152	(ELSN)	=	-1.000	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	-1.000	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	-1.000	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	-1.000	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	-1.000	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	-1.000	X COR=	Y COR=	INDIO
5175	(UPLA)	=	-1.000	X COR= 53	Y COR= 25	UPLAND ARB&SCAQMD
5173	(CHIN)	=	-1.000	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	0.250	X COR= 58	Y COR= 26	FONTANA
5151	(SNBD)	=	0.040	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	-1.000	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	-1.000	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	-1.000	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	-1.000	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	-1.000	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	-1.000	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
10-3-76 SULFUR DIOXIDE STUDY DAY 24 HOUR AVERAGE IN PPM
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID

INTERVAL				POPULATION	CELLS	% POPULATION	% CELLS
0.0000 AND <	0.0400	=	"+++"	8370546.	760.	98.45697	94.7631
0.0400 AND <	0.0800	=	"***"	40719.	6.	0.47895	0.7481
0.0800 AND <	0.1200	=	"%%%"	25122.	6.	0.29549	0.7481
0.1200		=	"@@@"	65342.	30.	0.76857	3.7406

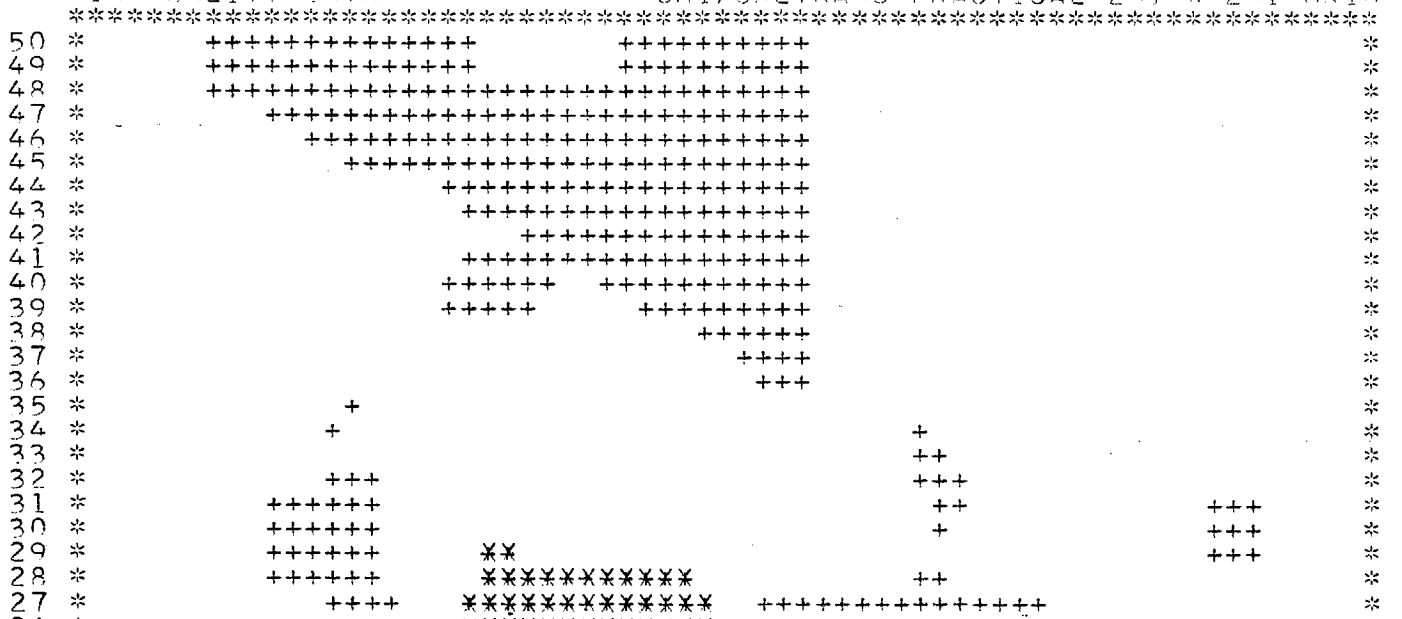
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

10-3-76 SULFUR DIOXIDE STUDY DAY 24-HOUR AVERAGE IN PPM

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ppm	MAP COORDINATES		STATION NAME
001	(CENT)	=	0.020	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	0.0	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	0.010	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	0.001	X COR= 38	Y COR= 16	LONG BEACH
080	(SOFA)	=	0.012	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	0.001	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	0.003	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	0.010	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	0.007	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	0.0	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	0.001	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	0.003	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	0.010	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	0.010	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	0.006	X COR= 45	Y COR= 19	LA HABRA
3191	(SACN)	=	0.0	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	0.002	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	0.003	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	-1.000	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	0.0	X COR= 52	Y COR= 09	EL TORO
3189	(LGNA)	=	-1.000	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	-1.000	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	-1.000	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	0.006	X COR= 73	Y COR= 13	HEMET
4149	(PERI)	=	-1.000	X COR= 65	Y COR= 15	PERRIS
4152	(ELSN)	=	-1.000	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	-1.000	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	-1.000	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	-1.000	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	-1.000	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	-1.000	X COR=	Y COR=	INDIO
5175	(UPLA)	=	-1.000	X COR= 53	Y COR= 25	UPLAND ARB&SCAQMD
5173	(CHIN)	=	-1.000	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	0.138	X COR= 58	Y COR= 26	FONTANA
5151	(SNBD)	=	0.010	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	-1.000	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	-1.000	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	-1.000	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	-1.000	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	-1.000	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	-1.000	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
7-5-76 SULFATE STUDY DAY 24 HOUR AVERAGE IN UG/M**3
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID



INTERVAL				POPULATION	CELLS	% POPULATION	% CELLS
0.0000 AND <	25.0000	=	"+++"	3363822.	644.	42.71344	77.4970
25.0000 AND <	50.0000	=	"***"	4511500.	187.	57.28653	22.5030
50.0000 AND <	75.0000	=	"▒▒▒"	0.	0.	0.0	0.0
75.0000		=	"▓▓▓"	0.	0.	0.0	0.0

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
7-5-76 SULFATE STUDY DAY 24-HOUR AVERAGE IN $\mu g/m^3$

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ug/m3	MAP COORDINATES		STATION NAME
001	(CENT)	=	34.400	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	22.600	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	37.200	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	-1.000	X COR= 38	Y COR= 16	LONG BEACH
080	(SOFA)	=	-1.000	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	22.900	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	-1.000	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	33.800	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	29.800	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	-1.000	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	-1.000	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	42.400	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	-1.000	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	5.000	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	24.700	X COR= 45	Y COR= 19	LA HABRA
3191	(SACN)	=	22.800	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	23.400	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	26.900	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	21.000	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	-1.000	X COR= 52	Y COR= 09	EL TORO
3189	(LGNA)	=	13.500	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	15.200	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	-1.000	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	21.100	X COR= 73	Y COR= 13	HEMET
4149	(PERT)	=	-1.000	X COR= 65	Y COR= 15	PERRIS
4152	(ELSN)	=	-1.000	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	-1.000	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	-1.000	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	14.200	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	7.700	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	7.800	X COR=	Y COR=	INDIO
5175	(UPLA)	=	11.500	X COR= 53	Y COR= 25	UPLAND ARB&SCADMD
5173	(CHIN)	=	15.800	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	17.500	X COR= 58	Y COR= 26	FONTANA
5151	(SNBD)	=	20.800	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	-1.000	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	-1.000	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	-1.000	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	2.900	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	4.500	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	-1.000	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
1-31-76 TOTAL SUSPENDED PARTICULATE STUDY DAY 24 HOUR AVE UG/CUM
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID

INTERVAL				POPULATION	CELLS	% POPULATION	% CELLS
0.0000	AND <	100.0000	= "+++"	273182.	101.	3.60295	13.0660
100.0000	AND <	200.0000	= "***"	5020976.	555.	66.22073	71.7982
200.0000	AND <	300.0000	= "▩▩▩"	2288021.	117.	30.17628	15.1358
300.0000			= "▩▩▩"	0.	0.	0.0	0.0

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

1-31-76 TOTAL SUSPENDED PARTICULATE STUDY DAY 24-HOUR AVERAGE IN $\mu g/m^3$

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ug/m^3	MAP COORDINATES		STATION NAME
001	(CENT)	=	177.000	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	150.000	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	220.000	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	-1.000	X COR= 38	Y COR= 16	LONG BEACH
080	(SOEA)	=	-1.000	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	116.000	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	-1.000	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	120.000	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	127.000	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	-1.000	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	-1.000	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	172.000	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	-1.000	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	144.000	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	233.000	X COR= 45	Y COR= 19	LA HABRA
3191	(SACN)	=	192.000	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	252.000	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	284.000	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	179.000	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	-1.000	X COR= 52	Y COR= 09	EL TORO
3189	(LGNA)	=	189.000	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	-1.000	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	-1.000	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	151.000	X COR= 73	Y COR= 13	HEMET
4149	(PERI)	=	-1.000	X COR= 65	Y COR= 15	PERRIS
4152	(ELSN)	=	-1.000	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	-1.000	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	-1.000	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	31.000	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	18.000	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	72.000	X COR=	Y COR=	INDIO
5175	(UPLA)	=	-1.000	X COR= 53	Y COR= 25	UPLAND ARB&SCAQMD
5173	(CHIN)	=	-1.000	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	-1.000	X COR= 58	Y COR= 26	FONTANA
5151	(SNBD)	=	72.000	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	35.000	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	-1.000	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	-1.000	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	107.000	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	62.000	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	86.000	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.

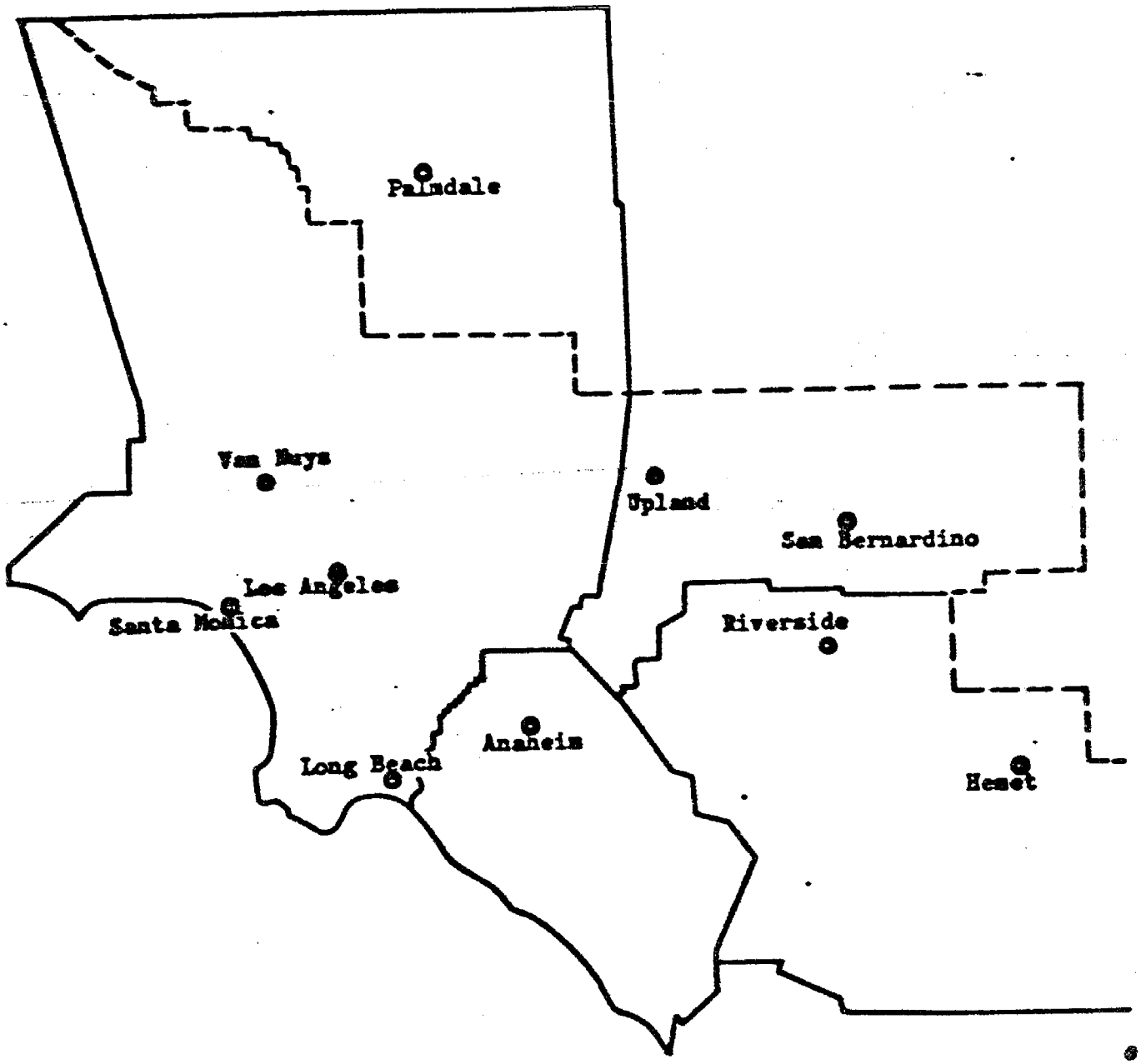
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
1976 ANNUAL GEOMETRIC MEAN OF 24 HOUR TOTAL PARTICULATE UG/M**3
AIR QUALITY DATA SAI/CALTRANS PRACTICAL 2MI X 2MI GRID

INTERVAL				POPULATION	CELLS	% POPULATION	% CELLS
0.0000 AND <	60.0000	=	"+++"	3043.	13.	0.03868	1.5796
60.0000 AND <	120.0000	=	"***"	7544165.	749.	95.90617	91.0085
120.0000 AND <	180.0000	=	"@@@"	318985.	61.	4.05514	7.4119
180.0000		=	"@@@"	0.	0.	0.0	0.0

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
1976 ANNUAL GEOMETRIC MEAN OF 24-HOUR TOTAL PARTICULATE $\mu g/m^3$

STA. NO.	STATION DESIGNATION		AIR QUALITY DATA* ug/m^3	MAP COORDINATES		STATION NAME
001	(CENT)	=	102.000	X COR= 36	Y COR= 24	LOS ANGELES
071	(NWCO)	=	64.000	X COR= 31	Y COR= 23	WEST LOS ANGELES
076	(SWCO)	=	94.000	X COR= 33	Y COR= 19	LENNOX
072	(SOCO)	=	-1.000	X COR= 38	Y COR= 16	LONG BEACH
080	(SOFA)	=	-1.000	X COR= 43	Y COR= 19	WHITTIER
074	(WSFV)	=	89.000	X COR= 28	Y COR= 29	RESEDA
069	(ESFV)	=	-1.000	X COR= 34	Y COR= 28	BURBANK
083	(WSGV)	=	94.000	X COR= 40	Y COR= 27	PASADENA
060	(ESGV)	=	109.000	X COR= 45	Y COR= 27	AZUSA
075	(PWVA)	=	-1.000	X COR= 50	Y COR= 24	POMONA-WALNUT
085	(SSGV)	=	-1.000	X COR= 42	Y COR= 22	PICO RIVERA
084	(SCLA)	=	109.000	X COR= 37	Y COR= 19	LYNWOOD
081	(USCR)	=	-1.000	X COR= 28	Y COR= 35	NEWHALL
082	(ANVA)	=	91.000	X COR= 39	Y COR= 46	LANCASTER
3177	(LAHB)	=	107.000	X COR= 45	Y COR= 19	LA HABRA
3191	(SACN)	=	86.000	X COR= 51	Y COR= 17	SANTA ANA CANYON
3176	(ANAH)	=	102.000	X COR= 46	Y COR= 16	ANAHEIM
3190	(LSAL)	=	110.000	X COR= 42	Y COR= 15	LOS ALAMITOS
3185	(COST)	=	73.000	X COR= 46	Y COR= 10	COSTA MESA
3186	(TORO)	=	-1.000	X COR= 52	Y COR= 09	EL TORO
3189	(LGNA)	=	74.000	X COR= 50	Y COR= 06	LAGUNA BEACH
3188	(SJCA)	=	-1.000	X COR= 53	Y COR= 05	SAN JUAN CAPISTRANO
4140	(PRPK)	=	-1.000	X COR= 55	Y COR= 19	PRADO PARK
4141	(HEME)	=	131.000	X COR= 73	Y COR= 13	HEMET
4149	(PERI)	=	-1.000	X COR= 65	Y COR= 15	PERRIS
4152	(ELSN)	=	-1.000	X COR= 62	Y COR= 11	LAKE ELSINORE
4151	(TEME)	=	-1.000	X COR= 68	Y COR= 05	TEMECULA
4144	(RIVR)	=	-1.000	X COR= 60	Y COR= 22	RIVERSIDE
4150	(BANN)	=	63.000	X COR= 76	Y COR= 19	BANNING
4137	(PLSP)	=	52.000	X COR=	Y COR=	PALM SPRINGS
4139	(INDO)	=	102.000	X COR=	Y COR=	INDIO
5175	(UPLA)	=	118.000	X COR= 53	Y COR= 25	UPLAND ARB&SCADMD
5173	(CHIN)	=	149.000	X COR= 52	Y COR= 23	CHINO
5176	(FONT)	=	115.000	X COR= 58	Y COR= 26	FONTANA
5151	(SNBD)	=	102.000	X COR= 64	Y COR= 26	SAN BERNARDINO
5165	(REDL)	=	69.000	X COR= 67	Y COR= 24	REDLANDS
5182	(YUCI)	=	-1.000	X COR= 70	Y COR= 23	YUCAIPA
5181	(LKGR)	=	-1.000	X COR= 64	Y COR= 30	LAKE GREGORY
5177	(BGBE)	=	45.000	X COR= 75	Y COR= 30	BIG BEAR
5168	(VCVL)	=	94.000	X COR=	Y COR=	VICTORVILLE
5155	(BARS)	=	114.000	X COR=	Y COR=	BARSTOW

* -1.000 indicates that data was missing for this station.


Palmdale
Van Nuys
Upland
San Bernardino
Los Angeles
Santa Monica
Riverside
Anaheim
Long Beach
Hemet