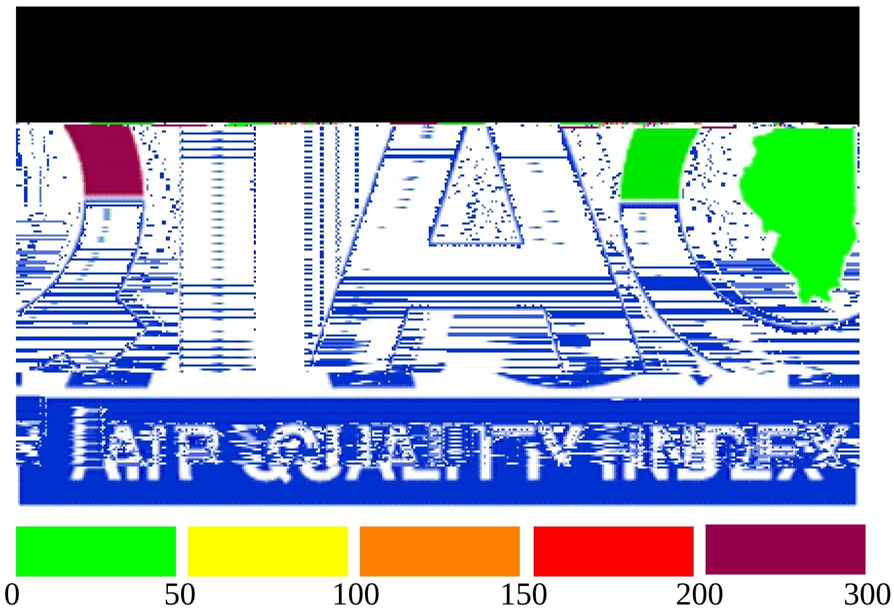
Illinois
Environmental
Protection Agency

Bureau of Air
1021 N. Grand Ave., East
P.O. Box 19276
Springfield, IL 62794-9276

June 2000

IEPA/BOA/00-008



Illinois Annual Air Quality Report 1999

Illinois Environmental Protection Agency
Bureau of Air

Printed on Recycled Paper

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ILLINOIS ANNUAL
AIR QUALITY REPORT
1999

Illinois Environmental Protection Agency
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1021 North Grand Avenue, East
P.O. Box 19276
Springfield, IL 62794-9276

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To Obtain Additional Information

For additional information on air pollution, please call 217-782-7326, or write to:

Illinois Environmental Protection Agency
Bureau of Air
1021 N. Grand Ave., East
PO Box 19276
Springfield, IL 62794-9276

A MESSAGE FROM THE DIRECTOR

Since 1970, the Clean Air Program at the Illinois Environmental Protection Agency (EPA) has been working to combat air pollution. To comply with the federal Clean Air Act and its amendments, the Agency issues permits to air pollution sources and works to

Illinois Annual Air Quality Report 1999

Contents

TABLES

FIGURES

1999
EXECUTIVE SUMMARY

This report presents a summary of air quality data collected throughout the State of Illinois during the calendar year - 1999. Data is presented for the six criteria pollutants (those for which air quality standards have been developed - particulate matter (PM_{10} and $PM_{2.5}$), ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead) along with some heavy metals, nitrates, sulfates, and volatile organic compounds. Monitoring was conducted at over 100 different site locations collecting data from more than 200 instruments.

In terms of the Pollutant Standards Index (PSI) air quality during 1999 was either good or moderate more than 99% of the time throughout Illinois. There were four days Statewide which exceeded an air quality standard for any pollutant – all four for ozone. These exceedances occurred in Jersey (3), and Madison (1) Counties (ozone). Air quality trends for the criteria pollutants are continuing to show downward trends or stable trends well below the level of the standards.

In 1999 monitoring was initiated for $PM_{2.5}$ using Federal Reference Method (FRM) monitors at 25 locations Statewide as the first phase of fine particulate (less than 2.5 microns) sampling. The rest of this network will be implemented in 2000.

Stationary point source emission data has again been included. The data in the report reflects information contained in the Emission Inventory System (EIS) as of December 31, 1999. Emission estimates are for the calendar year 1999 and are for the pollutants: particulate matter, volatile organic material, sulfur dioxide, nitrogen oxides and carbon monoxide. Emission trends of these pollutants has been given for the years 1981 to the present. Emissions reported with the Annual Emissions Report have been provided starting with 1992. In general there has been a trend toward decreasing emissions over this time period.

SECTION 1:

Alterations in airway resistance can occur, especially to those with respiratory diseases (asthma, bronchitis, emphysema). These effects may occur in sensitive individuals, as well as in healthy exercising persons, at short-term ozone concentrations between 0.15 and 0.25 ppm.

Ozone exposure increases the sensitivity of the lung to bronchoconstrictive agents such as histamine, acetylcholine and allergens, as well as increasing the individual's susceptibility to bacterial infection. Simultaneous exposure to ozone and SO_2 can produce larger changes in pulmonary function than exposure to either pollutant alone.

Peroxyacetylnitrate (PAN) is an eye irritant, and its effects often occur in conjunction with the effects of ozone.
Two characteristics of ozone and oxidant exposures should be cited:

- Ozone itself is a primary cause of most of the health effects reported in toxicological and experimental human studies and the evidence for attributing many health effects to this substance alone is very compelling.
- The complex of atmospheric photochemical substances is known to produce health effects, some of which are not attributable to pure ozone but may be caused by other photochemical substances in combination with ozone.

Particulate Matter (PM)

Not all air pollutants are in the gaseous form. Small solid particles and liquid droplets, collectively called particulates or aerosols, are also present in the air in great numbers and may constitute a pollution problem. Particulates entering the atmosphere differ in size and chemical composition. The effects of particulates on health and welfare are directly related to their size and chemical composition.

Particulate matter in the atmosphere consists of solids, liquids, and liquids-solids in combination. Suspended particulates generally refer to particles less than 100 micrometers in diameter (human hair is typically 100 micrometers thick). Particles larger than 100 micrometers will settle out of the air under the influence of gravity in a short period of time.

Typical sources emitting particles into the atmosphere are combustion of fossil fuels (ash and soot), industrial processes (metals, fibers, etc.), fugitive dust (wind and mechanical erosion of local soil) and photochemically produced particles (complex chain reactions between sunlight and gaseous pollutants). Combustion and photochemical products tend to be smaller in size (less than 1 micrometer); fugitive dust and industrial products are typically larger in size (greater than 1 micrometer).

Particles which cause the most health and visibility difficulties are those less than 1.0 micrometer in size. These particles are also the most difficult to reduce in numbers by the various industrial removal techniques. Rainfall accounts for the major removal of these smaller particles from the air.

One of the major problems associated with high concentrations of particulates is that the interaction between the particles, sunlight and atmospheric moisture can potentially result in the climatic effects and diminished visibility (haze). Particles play a key role in the formation of clouds, and emissions of large numbers of particles can, in some instances, result in local increases in cloud formation and, possibly, precipitation. Particles in the size range of 0.1 to 1.0 micrometers are the most efficient in scattering visible light (wave length 0.4 to 0.7 micrometers) thereby reducing visibility. Particles combined with high humidity can result in the formation of haze which can cause hazardous conditions for the operation of motor vehicles and aircraft.

Particulate pollutants enter the human body by way of the respiratory system and their most immediate effects are upon this system. The size of the particle determines its depth of penetration into the respiratory system. Particles over 5 micrometers are generally deposited in the nose and throat. Those that do penetrate deeper in the respiratory system to the air ducts (bronchi) are often removed by ciliary action. Particles ranging in size from 0.5 - 5.0 micrometers in diameter can be deposited in the bronchi, with few reaching the air sacs (alveoli). Most particles deposited in the bronchi are removed by the cilia within hours. Particles less than 0.5 micrometer in diameter reach and may settle in the alveoli. The removal of particles from the alveoli is much less rapid and complete than from the larger passages. Some of the particles retained in the alveoli are absorbed into the blood.

Besides particulate size, the oxidation state, chemical composition, concentration and length of time in the respiratory system contribute to the health effects of particulates. Particulates have been associated with increased respiratory diseases (asthma, bronchitis, emphysema), cardiopulmonary disease (heart attack) and cancer.

Plant surfaces and growth rates may be adversely affected by particulate matter. Particulate air pollution also causes a wide range of damage to materials including corrosion of metals and electrical equipment and the soiling of textiles and buildings.

Sulfur Dioxide (SO_2)

Sulfur dioxide is an atmospheric pollutant which results from combustion processes (mainly burning of fossil fuels containing sulfur compounds), refining of petroleum, manufacture of sulfuric acid and smelting of ores containing sulfur. Reduction of sulfur dioxide pollution levels can generally be achieved through the use of low sulfur content fuels or the use of chemical sulfur removal systems.

Once in the atmosphere some sulfur dioxide can be oxidized (either photochemically or in the presence of a catalyst) to SO_3 (sulfur trioxide). In the presence of water vapor, SO_3 is readily converted to sulfuric acid mist. Other basic oxides combine with SO_3 to form sulfate aerosols. Sulfuric acid droplets and other sulfates are thought to account for about 5 to 20 percent of the total suspended particulate matter in urban air. These compounds can be transported large distances and come back to earth as a major constituent of acid precipitation. Many of the resultant health problems attributed to SO_2 may be a result of the oxidation of SO_2 to other compounds.

The effects of SO_2 on health are irritation and inflammation of tissue that it directly contacts. Inhalation of SO_2 causes bronchial constriction resulting in an increased resistance to air flow, reduction of air volume and an increase of respiratory rate and heart rate.

SO_2 can exacerbate pre-existing respiratory diseases (asthma, bronchitis, emphysema). The enhancement (synergism) by particulate matter of the toxic response to sulfur dioxide has been observed under conditions which would promote the conversion of sulfur dioxide to sulfuric acid. The degree of enhancement is related to the concentration of particulate matter. A twofold to threefold increase of the irritant response to sulfur dioxide is observed in the presence of particulate matter capable of oxidizing sulfur dioxide to sulfuric acid.

Sulfuric acid (H_2SO_4) inhalation causes an increase in the respiratory system's mucous secretions, which reduces the system's ability to remove particulates via mucociliary clearance. This can result in an increase incidence of respiratory infection.

Carbon Monoxide (CO)

The major source of carbon monoxide (CO) is motor vehicles. The USEPA has kept under its jurisdiction the regulation of emission control equipment on new motor vehicles while the State's responsibility for reducing excessive ambient carbon monoxide levels is exercised by developing transportation plans for congested urban areas.

The toxic effects of high concentrations of CO on the body are well known. Carbon monoxide is absorbed by the lungs and reacts with hemoglobin (the oxygen carrying molecule in the blood) to form carboxyhemoglobin (COHb). This reaction reduces the oxygen carrying capacity of blood because the affinity of hemoglobin for CO is over 200 times that for oxygen. The higher the percentage of hemoglobin bound up in the form of carboxyhemoglobin, the more serious is the health effect.

The level of COHb in the blood is directly related to the CO concentration of the inhaled air. For a

given ambient air CO concentration, the COHb level in the blood will reach an equilibrium concentration after a sufficient time period. This equilibrium COHb level will be maintained in the blood as long as the ambient air CO level remains unchanged. However, the COHb level will slowly change in the same direction as the CO concentration of the ambient air as a new equilibrium of CO in the blood is established.
The lowest CO concentrations shown to produce adverse health effects result in aggravation of cardiovascular disease. Studies demonstrate that these concentrations have resulted in decreased exercise time before the onset of pain in the chest and extremities of individuals with heart or circulatory disease. Slightly higher CO levels have been associated with decreases in vigilance, the ability to discriminate time intervals and exercise performance.

Evidence also exists indicating a possible relationship between CO and heart attacks, the development of cardiovascular disease and fetal development.

Studies on the existing ambient levels of CO do not indicate any adverse effects on vegetation, materials, or other aspects of human welfare.

Nitrogen Dioxide (NO_2)

Nitrogen gas (N_2) is an abundant and inert gas which makes up almost 80 percent of the earth's atmosphere. In this form, it is harmless to man and essential to plant metabolism. Due to its abundance in the air, it is a frequent reactant in many combustion processes. When combustion temperatures are extremely high, as in the burning of coal, oil, gas and in automobile engines, atmospheric nitrogen (N_2) may combine with molecular oxygen (O_2) to form various oxides of nitrogen (NO_x). Of these, nitric oxide (NO) and nitrogen dioxide (NO_2) are the most important contributors to air pollution; NO_x generally is used to represent these. Nitric oxide (NO) is a colorless and odorless gas. It is the primary form of NO_x resulting from the combustion process. NO_x contributes to haze and visibility reduction. NO_x is also known to cause deterioration and fading of certain fabrics and damage to vegetation. Depending on concentration and extent of exposure, plants may suffer leaf lesions and reduced crop yield.

Sensitivity of plants to nitrogen oxides depends on a variety of factors including species, time of day, light, stage of maturity and the presence or absence of other air pollutants such as sulfur dioxide and ozone.

There is a lack of strong evidence associating health effects with most nitrogen oxide compounds. NO_2, a secondary derivative of atmospheric nitric oxide, however, has been clearly established as exerting detrimental effects on human health and welfare.

NO_2 can cause an impairment of dark adaptation at concentrations as low as 0.07 ppm. NO_2 can cause an increase in airway resistance, an increase in respiratory rate, an increase in sensitivity to bronchoconstrictors, a decrease in lung compliance and an enhanced susceptibility to respiratory infections. NO_2 is a deep lung irritant capable of producing pulmonary edema if inhaled in sufficient concentrations. When NO_2 is inhaled in concentrations with other pollutants, the effects are additive.
NO_x may also react with water to form corrosive nitric acids, a major component of acid precipitation. Additionally, NO_x and various other pollutants (e.g., hydrocarbons) may react in en

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Lead is a stable compound which persists and accumulates both in the environment and in the human body. Lead enters the human body through ingestion and inhalation with consequent absorption into the blood stream and distribution to all body tissues. Clinical, epidemiological and toxicological studies have demonstrated exposure to lead adversely affects human health.

Low level lead exposure has been found to interfere with specific enzyme systems and blood production. Kidney and neurological cell damage has also been associated with lead exposure. Animal studies have demonstrated that lead can contribute to reduced fertility and birth defects. Children are the population segment most sensitive to many of lead's adverse effects.

Other serious potential effects from lead exposure are behavioral. Brain damage has been well documented in cases of severe lead poisoning in children. Restlessness, headaches, tremors and general symptoms of mental retardation have been noted. The brain seems to be particularly sensitive to lead poisoning, yet it is unclear whether low level exposure will result in brain dysfunction. Although evidence exists which indicates that children with above-normal blood lead levels are more likely to demonstrate poor academic performance, the studies remain inconclusive.

Illinois Ambient Air Quality Standards and Episode Levels

Table 1: Summary of National and Illinois Ambient Air Quality Standards

Pollutant	Averaging Time	Standard Primary	Secondary
Standard units are micrograms per cubic meter (ug/m^3) and parts per million (ppm)			
Particulate Matter 10 micrometers (PM_{10})	Annual Arithmetic Mean	50 ug/m^3	Same as Primary
	24-hour	150 ug/m^3	Same as Primary
Particulate Matter 2.5 micrometers ($PM_{2.5}$)	Annual Arithmetic Mean	15.0 ug/m^3	Same as Primary
	24-hour	65 ug/m^3	Same as Primary
Sulfur dioxide	Annual Arithmetic Mean	0.03 ppm	None
	24-hour	0.14 ppm	None
	3-hour	None	0.5 ppm
Carbon Monoxide	1-hour	35 ppm	Same as Primary
	8-hour	9 ppm	Same as Primary
Ozone	1-hour/day	0.12 ppm	Same as Primary
	8-hour/day	0.08 ppm	Same as Primary
Nitrogen Dioxide	Annual Arithmetic Mean	0.053 ppm	Same as Primary
Lead	Quarterly Arithmetic Mean	1.5 ug/m^3	Same as Primary

All PM_{10} and $PM_{2.5}$ standards are referenced to local conditions of temperature and pressure rather than standard conditrions (760 mm and 25 deg C).
Note: The State of Illinois has not adopted the $PM_{2.5}$ or 8-hour ozone standards at this time.

Table 2: Illinois Air Pollution Episode Levels

Pollutant	Advisory	Yellow alert	Red Alert	Emergency
Particulate Matter	2-hour	24-hour	24-hour	24-hour
micrograms per cubic meter	420	350	420	500
Sulfur Dioxide	2-hour	4-hour	4-hour	4-hour
parts per million	0.30	0.30	0.35	0.40
Carbon Monoxide	2-hour	8-hour	8-hour	8-hour
parts per million	30	15	30	40
Nitrogen Dioxide	2-hour	1-hour	1-hour	1-hour
parts per million	0.40	0.60	1.20	1.60
		or	or	or
		24-hour	24-hour	24-hour
		0.15	0.30	0.40
Ozone	1-hour	1-hour	1-hour	1-hour
parts per million	0.12	0.20	0.30	0.50

WIDE SUMMARY OF AIR QUALITY FOR 1999

ations during at
e season" and at
at all 42 sites.
999.

concentrations
(ppm) 1-hour

1999. This trend is generally flat with the conducive years of 1991 and 1995 standing out.

Overall, Illinois's weather was slightly above normal in terms of meteorological conditions favorable to ozone formation and transport in the Chicago area in 1999 and near normal downstate.

of the annual standard. The maximum 24-hour averages ranged from 36.1 ug/m^3 to 55.9 ug/m^3. All $PM_{2.5}$ monitoring sites except two background sites recorded maximum 24-hour averages above 40 ug/m^3.

CARBON MONOXIDE

There were no exceedances of either the 1-hour primary standard of 35 ppm or the 8-hour primary standard of 9 ppm in 1999. The highest 1-hour average was 7.9 ppm recorded in Peoria. The highest 8-hour average was 5.4 ppm also recorded in Peoria.

Figu5288

South Chicago, especially for iron and manganese. The highest 24-hour average for arsenic was 0.033 ug/m^3 measured in East St. Louis. The highest annual average of 0.003 ug/m^3 was recorded at the same site. There were no measurable beryllium 24-hour averages recorded statewide. East St. Louis recorded the highest cadmium concentrations with a maximum 24-hour average of 0.134 ug/m^3 and the highest annual average of 0.008 ug/m^3 . The highest 24-hour chromium average was 0.030 ug/m^3 recorded at Maywood. Maywood had the highest annual average at 0.011 ug/m^3. The highest iron and manganese values were recorded in the industrial areas of Granite City and South Chicago and the high traffic areas of Chicago - Cermak and Maywood. The highest 24-hour average for nickel was recorded at Wood River with a value of 0.072 ug/m^3 record

annua871

Table 3: PSI Descriptor Categories and Health Effects	
PSI Range	**Descriptor Category**
0-50	

Environmental Control and the Chicago Department of the Environment.

If the PSI subindex for any pollutant in any sector should reach or exceed the Unhealthful (or any higher) category late in the afternoon or on weekends when the PSI is not published, the IEPA puts out a special bulletin on the Illinois Weatherwire. If data for one of the pollutants used in computing PSI is missing, the PSI is computed using the data available, ignoring the missing datum. It occasionally happens that two pollutants have the same subindex; in such cases there are two critical pollutants.

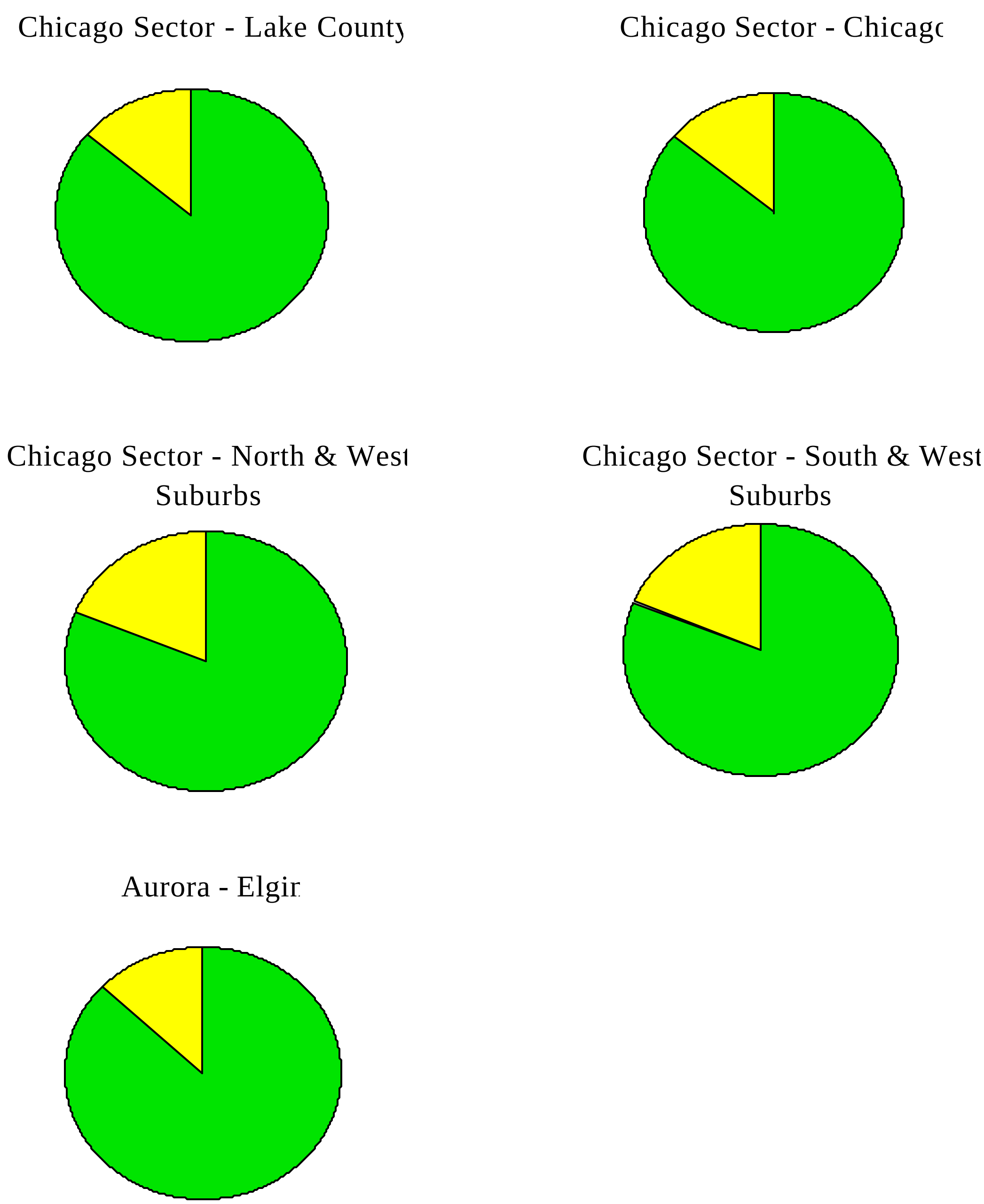
1999 Illinois PSI Summary

Air quality was in the "Good" category most often in 1999. All Sectors had a higher frequency of "Good" than "Moderate" and "Unhealthful". All sectors except Metro-East had 80% or more of the days in the "Good" category. Statewide there were 2 occurrences of Unhealthful air quality in one or more sectors in 1999 compared with 4 in 1998 and 5 in 1997. The pollutant breakdown for unhealthfuls were all 2 due to ozone in the Metro-East (4 additional Unhealthful days occurred in Jersey County, not a PSI Sector). **Figure 9** presents the PSI statistics for each sector. The pie chart shows the percent of time each sector was in a particular category. In addition to Unhealthful PSI days, there were four occurrences (three days) of the first stage episode conditions (Advisory) being triggered for ozone. Advisories were declared for two days in the Metro-East Sector and two days in Jersey County. An Advisory is declared when ozone levels have reached unhealthful concentrations on a particular day and meteorological conditions are such that these unhealthful levels are expected again the next day. The Advisories are issued for the entire Air Quality Control Region affected by the high ozone levels. The days for which advisories were issued were September 2 and September 4 in the Metro-East and July 25 and September 2 in Jersey County.

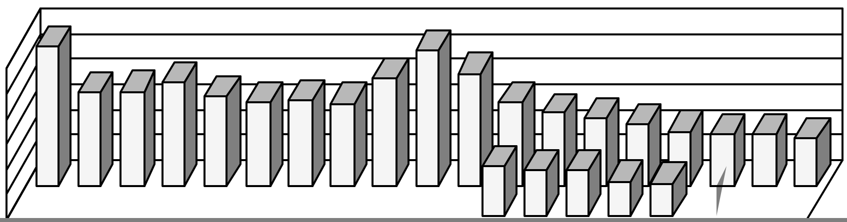
Table 4: PSI Sectors in Illinois

Chicago Metropolitan Area:	
Lake County Sector	Lake County only
North and West Suburbs Sector	Parts of Cook, Du Page, and Mc Henry Counties north of I-290 (the Eisenhower Expressway) and outside of Chicago city limits.
Chicago Sector	All areas within the city limits of Chicago

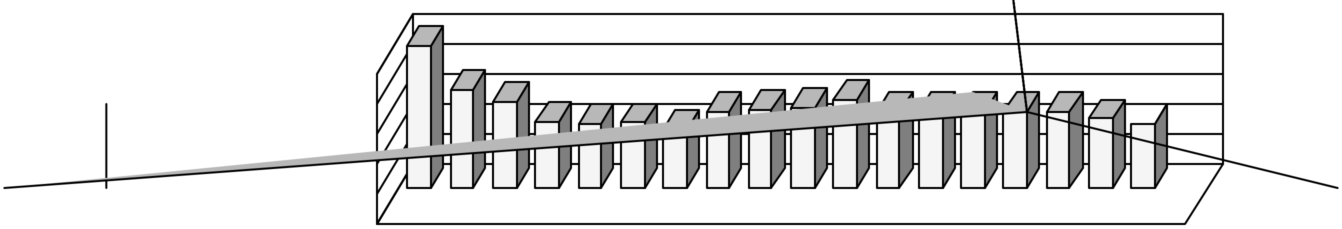
Figure 9: 1999 Pollutant Standards Index Summaries by Sector



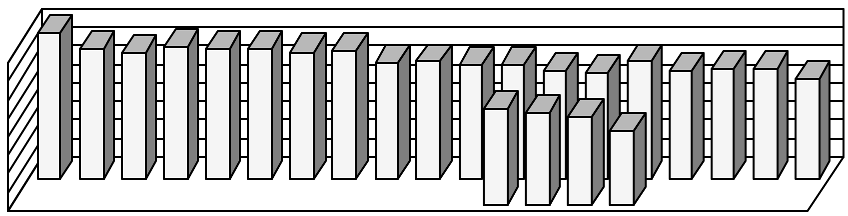
PARTICULATE MATTER



CARBON MONOXIDE



SULFUR DIOXIDE



NITROGEN OXIDES

Figure 14
Nitrogen Oxide Emission

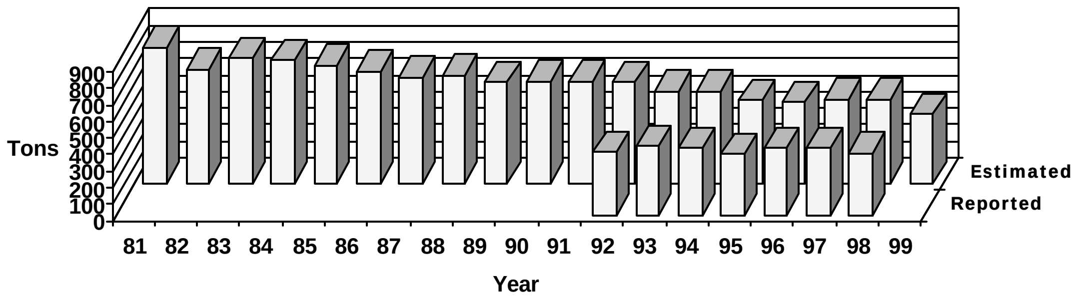


TABLE A1

DIRECTORY OF REGIONAL AIR POLLUTION AGENCIES

Chicago Department of the
Environment
30 N. LaSalle Street, 25th Floor
Chicago, Illinois 60602
312/744-7606
Fax 312/744-6451

Cook County Department of
Environmental Control
1500 Maybrook Drive, Room 202
Maywood, Illinois 60153
708/865-6165
Fax 708/865-6361

Indiana Dept. of Environmental Management
100 N. Senate
Indianapolis, Indiana 46204
317/232-8611
Fax 317/233-6647

Iowa Dept. of Natural Resources
Wallace State Office Building
900 E. Grand Ave.
Des Moines, Iowa 50319-0034
515/281-5145
Fax 515/281-8895

Kentucky Dept. for Environmental
Protection
Air Quality Division
803 Schenkel Lane
Frankfort, Kentucky 40601
502/573-3382
Fax 502/573-3787

Michigan Dept. of Natural Resources
Air Quality Division
P.O. Box 30260
Lansing, Michigan 48909
517/373-7023
Fax 517/373-1265

Missouri Dept. of Natural Resources
Division of Environmental Quality
P.O. Box 176
205 Jefferson Street
Jefferson City, Missouri 65102
573/751-4817
Fax 573/751-2706

Wisconsin Dept. of Natural Resources
Bureau of Air Management
P.O. Box 7921
101 S. Webster
Madison, Wisconsin 53707
608/266-7718
Fax 608/267-0560

TABLE A2
1999 - Noncontinous Sampling Schedule

January

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
[illegible]	11	12	13	14	15	16
[illegible]	[illegible]	19	20	21	22	23
[illegible]	[illegible]	[illegible]	27	28	29	30
[illegible]						

February

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

March

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

[illegible]

S	M	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	5	6	[illegible]	[illegible]	[illegible]	[illegible]
11	12	13	14	[illegible]	[illegible]	[illegible]
18	19	20	21	22	[illegible]	[illegible]
25	26	27	28	29	30	[illegible]

May

S	M	T	W	T	F	S
						1
[illegible]	3	4	5	6	7	8
[illegible]	[illegible]	11	12	13	14	15
[illegible]	[illegible]	[illegible]	19	20	21	22
[illegible]	[illegible]	[illegible]	[illegible]	27	28	29
[illegible]	[illegible]					

June

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

July

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

[illegible]

S	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15	16	17	[illegible]	[illegible]	[illegible]	[illegible]
22	23	24	25	[illegible]	[illegible]	[illegible]
29	30	31				

September

S	M	T	W	T	F	S
			1	2	3	4
[illegible]	[illegible]	7	8	9	10	11
[illegible]	[illegible]	[illegible]	15	16	17	18
[illegible]	[illegible]	[illegible]	[illegible]	23	24	25
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		

October

[illegible]

31

November

[illegible]

[illegible]

[illegible] 2 [illegible]

9 20 [illegible]

6 27 2 [illegible]

15 Every 6 Day Sampling Schedule 18 Every 3 Day Sampling [illegible]

Table A3

DISTRIBUTION OF AIR MONITORING INSTRUMENTS

	PAMS	NAMS	SLAMS	SPMS	TOTAL

AIR QUALITY CONTROL REGIONS

Statewide Map of Air Monitoring Locations

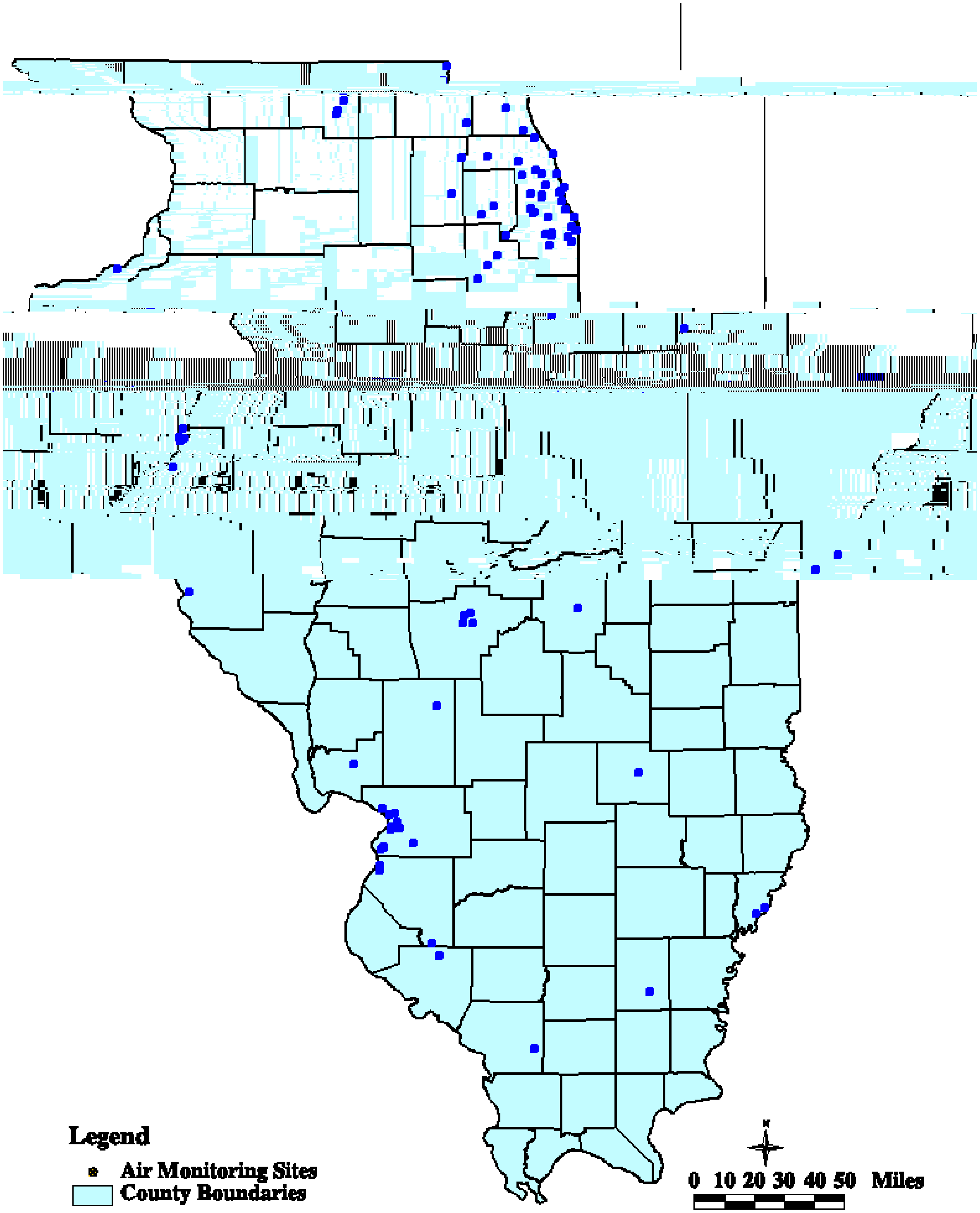


Table A4

1999
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)		EQUIPMENT

65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)

PEORIA COUNTY

Peoria	Fire Station #8	Ill. EPA	N.	4507.050	NAMS - SO_2, O_3
(1430024)	MacArthur & Hurlburt		E.	279.679	SPMS - WS/WD
Peoria	Commercial Building	Ill. EPA	N.	4508.585	SLAMS - CO
(1430036)	1005 N. University		E.	279.196	
Peoria	City Office Building	Ill. EPA	N.	4508.197	NAMS - PM_{10}
(1430037)	613 N.E. Jefferson		E.	2o720037)2o720037)2o720037)2o720037)	

Table A4

1999
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Calumet City (0318003)	Trailer 1703 State St.	Cook County DEC	N. 4608.775 E. 452.673	SLAMS - SO_2, NO/NO_2, O_3, CO
Chicago (0310060)	Carver H.S. 13100 S. Doty	Cook County DEC	N. 4611.597 E. 451.007	NAMS - PM_{10}
Chicago (0310026)	Cermak Pump Sta. 735 W. Harrison	Cook County DEC	N. 4635.707 E. 446.469	SLAMS - Pb SPMS - TSP
Chicago (DISC) (0310049)	Chicago Ave. Pumping Sta. 805 N. Michigan	Cook County DEC	N. 4638.335 E. 448.269	NAMS - PM_{10}
Chicago (0310063)	CTA Building 320 S. Franklin	Ill. EPA	N. 4636.096 E. 447.365	NAMS - CO, NO/NO_2, SO2 SLAMS - O_3
Chicago (0310014)	Farr Dormitory 3300 S. Michigan Ave.	Cook County DEC	N. 4631.393 E. 448.232	SLAMS - $PM_{2.5}{}^{n}$
Chicago (0310072)	Jardine Water Plant 1000 E. Ohio	Ill. EPA	N. 4638.169 E. 449.597	PAMS - NO/NO_2, O_3, VOC WS/WD, SOL, MET, UV, RA IN
Chicago (0310052)	Mayfair Pump Sta. 4850 Wilson Ave.	Cook County DEC	N. 4645.900 E. 437.878	NAMS - Pb SLAMS - $PM_{2.5}$ SPMS - TSP
Chicago	Sears Tower	Ill. EPA	N. 4636.320	SPMS - O_3

(0310042) Chicago 10 E. OhWack 57@ Adams5 0 TD 0 Tc -0.0435 Tw ( ) Tj 84 0 TD ( ) Tj 65.25 0 TD -0.8981 Tc 0 Tw (E.) Tj 6.75 0 TD 0 Tc

Table A4

1999
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Chicago (0310059)	Washington Elem. Sch. 3611 E. 114th St.	Ill. EPA	N. 4615.013 E. 455.389	NAMS - SO_2 SLAMS - PM_{10} SPMS - WS/WD
Cicero (DISC) (0316001)	Roosevelt H.S. 15th St. & 50th Ave.	Cook County DEC	N. 4634.246 E. 437.728	NAMS - PM_{10}
Cicero (0314002)	Trailer 1820 S. 51st Ave.	Cook County DEC	N. 4633.763 E. 437.541	NAMS - SO_2, NO/NO_2 SLAMS - O_3, CO
Des Plaines (0314006)	Forest Elem. Sch. 1375 5th St.	Cook County DEC	N. 4653.049 E. 425.055	SLAMS - O_3, $PM_{2.5}$[n]
Evanston (0317002)	Water Pumping Sta. 531 E. Lincoln	Ill. EPA	N. 4656.695 E. 444.260	NAMS - O_3 SPMS - WS/WD
Hoffman Estates (0314101)	Hoffman Estates H.S. 1100 W. Higgins Rd.	Cook County DEC	N. 4656.069	SLAMS - PM_{10}

Table A4

1999
SITE DIRECTORY

Table A4

1999
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)				
ROCK ISLAND COUNTY				
Moline (1610003)	Water Treatment Plant 30 18th St.	Ill. EPA	N. 4598.361 E. 707.461	NAMS - SO_2, O_3 SLAMS - $PM_{2.5}^n$ SPMS - WS/WD, SOL
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)				
MADISON COUNTY				
Alton (1190008)	Clara Barton Elem. Sch. 409 Main St.	Ill. EPA	N. 4308.245 E. 747.375	SLAMS - SO_2, O_3, PM_{10}^d SPMS - WS/WD
Edwardsville (1192007)	RAPS Trailer Poag Road	Ill. EPA	N. 4297.793 E. 757.118	SLAMS - O_3 SPMS - WS/WD, SOL
Granite City (1191007)	Fire Station #1 23rd & Madison	Ill. EPA	N. 4287.661 E. 748.745	SLAMS - $PM_{2.5}^n$
Granite City	AOBT			

-E. SLAMS -n

Table A4

1999

Table A4

1999
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
74 SOUTHEAST ILLINOIS INTRASTATE				
EFFINGHAM COUNTY				
Effingham	Central Junior H.S.	Ill. EPA	N. 4325.131	

Table A4

1999
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)		EQUIPMENT
SANGAMON COUNTY					
Springfield	Sewage Treatment Plant	Ill. EPA	N.	4408.650	NAMS - SO_2
(1670006)	3300 Mechanicsburg Rd.		E.	278.194	SPMS - WS/WD
Springfield	Federal Building	Ill. EPA	N.	4408.623	SLAMS - CO
(1670008)	6th St. & Monroe		E.	273.327	

Springfield Ill. EPA N. 4408.650 SLAMS 4408.650

APPENDIX B
AIR QUALITY DATA SUMMARY TABLES

AIR QUALITY DATA INTERPRETATION

In order to provide a uniform procedure for determining whether a sufficient amount of air quality data has been collected by a sensor in a given time period (year, quarter, month, day, etc.) to accurately represent air quality during that time period, a minimum statistical selection criteria was developed.

In order to calculate an annual average for noncontinuous parameters, a minimum of 75% of the data that was scheduled to be collected must be available, i.e., 45 samples per year for an every-six-day schedule (total possible of 60 samples). Additionally, in order to have proper quarterly balance, each site on an every sixth day schedule should have at least 10 samples per calendar quarter. This provides for a 20% balance in each quarter if the minimum required annual sampling is achieved.

For lead results which must be compared to a quarterly standard, 75% of the possible samples in each quarter must be obtained. Thus for a valid lead quarterly average, a total of 12 values must be available.

PM_{10} and $PM_{2.5}$ samplers operate on one of three sampling frequencies:

- Every-day sampling (68 samples required each quarter for 75% data capture)
- Every-third-day sampling (23 samples required each quarter for 75% data capture)
- Every-six-day sampling (12 samples required each quarter for 75% data capture).

To calculate an annual PM_{10} or $PM_{2.5}$ mean, arithmetic means are calculated for each quarter in which valid data is recorded in at least 75% of the possible sampling periods. The annual mean is then the arithmetic average of the four quarterly means.

To determine an annual average for continuous data 75% of the total possible yearly observations are necessary, i.e., a minimum of 6570 hours (75% of the hours available) were needed in 1999. In order to provide a balance between the respective quarters, each quarter should have at least 1300 hours which is 20% of the 75% minimum annual requirement. To calculate quarterly averages at sites which do not meet the annual criteria, 75% of the total possible observations in a quarter are needed, i.e., a minimum of 1647 hours of 2200 hours available. Monthly averages also require 75% of the total possible observations in a month, i.e., 540 hours as a minimum. Additionally, for short-term running averages (24 hour, 8 hour, 3 hour) 75% of the data during the particular time period is needed, i.e, 18 hours for a 24-hour average, 6 hours for an 8-hour average and 3 hours for a 3-hour average.

For ozone, a valid day for 1-hour samples must have 75% of the hours between 9 a.m. and 9 p.m. otherwise it is considered missing. A missing day can be considered valid if the peak ozone concentration on the preceding and succeeding days is less than 0.090 ppm. The expected exceedences are actual exceedences adjusted for the percent of missing days. For 8-hour samples, running averages are computed for each hour which includes the next seven hours as well. A valid 8-hour average has at least 6 valid 1-hour averages. A valid 8-hour day contains at least 75% (18) of the possible 8-hour running averages. Complete sampling over a three year period requires an average of 90% valid days with each year having at least 75% valid days.

Data listed as not meeting the minimum statistical selection criteria in this report were so noted after evaluation using the criteria above. Although short term averages (3, 8, 24 hours) have been computed for certain sites not meeting the annual criteria, these averages may not be representative of an entire year's air quality. In certain circumstances where even the 75% criteria is met, the number and/or magnitude of short term averages may not be directly comparable from one year to the next because of seasonal distributional differences.

For summary purposes, the data is expressed in the number of figures to which the raw data is validated. Extra figures may be carried in the averaging technique, but the result is rounded to the appropriate number of figures. For example, the values 9, 9, 10 are averaged to give 9; whereas the values 9.0, 9.0, 10.0 are averaged to 9.3. The raw data itself should not be expressed to more significant figures than the sensitivity of the monitoring methodology allows.

In comparing data to the various air quality standards, the data are implicitly rounded to the number of significant figures specified by that standard. For example, to exceed the 0.12 ppm hourly ozone standard, an hourly value must be 0.125 ppm or higher, to exceed the 9 ppm CO 8-hour standard, an 8-hour average must be 9.5 ppm or higher. Peak averages, though, will be expressed to the number of significant figures appropriate to that monitoring methodology.

National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO_2) and carbon monoxide (CO) have short-term standards for ambient air concentrations (24 hours or less) not to be exceeded more than once per year. Particulate Matter (PM_{10} and $PM_{2.5}$) have 24-hour standards which are a 3-year average of each year's 99^{th} and 98^{th} percentile values respectively. In the case of ozone, the expected number of exceedances (one hour per day greater than 0.12 ppm) may not average more than one per year in any period of three consecutive years. The 8-hour ozone standard is concentration based and as such is the average of the fourth highest value each year over a three year period. The standards are promulgated in this manner in order to protect the public from excessive levels in pollution both in terms of acute and chronic health effects.

The following data tables detail and summarize air quality in Illinois in 1999. The tables of short term exceedences list those sites which exceeded any of the short term primary standards (24 hours or less). The detailed data tables list averages and peak concentrations for all monitoring sites in Illinois.

Table B2

Table B4

1999
PARTICULATE MATTER (PM_{10})
(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	NUMBER OF SAMPLES >150 ug/m^3	HIGHEST SAMPLES 1st	HIGHEST SAMPLES 2nd	HIGHEST SAMPLES 3rd	HIGHEST SAMPLES 4th	ANNUAL ARITHMETIC MEAN

65 BURLINGTON

Table B4

1999
PARTICULATE MATTER (PM_{10})
(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	NUMBER OF SAMPLES >150 ug/m^3	HIGHEST SAMPLES 1st	HIGHEST SAMPLES 2nd	HIGHEST SAMPLES 3rd	HIGHEST SAMPLES 4th	ANNUAL ARITHMETIC MEAN
71 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	1-day	364	0	150	149	94	84	

Table B5

1999
SHORT-TERM TRENDS
PARTICULATE MATTER (PM_{10})

ANNUAL ARITHMETIC MEANS (ug/m^3)

STATION	ADDRESS	1994	1995	1996	1997	1998	1999
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	20	21	20	21	26	23
66 EAST CENTRAL ILLINOIS INTRASTATE							
CHAMPAIGN COUNTY							
Champaign	600 N. Neil	25	22	19	22	24	23
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	-	-	25	25	30	25
Blue Island	12700 Sacramento	36	31	30	28	33	30
Chicago - Carver	13100 S. Doty	36	36	31	31	58	32
Chicago - CAPS	805 N. Michigan Ave.	36	33	32	33	38	40
Chicago - Washington ES	3611 E. 114th St.	-	-	30	28	27	27
Cicero	15th St. & 50th Ave.	39	37	34	32	34	33
Hoffman Estates	1100 W. Higgins Rd.	-	27	22	21	26	25
Lyons Township	50th St. & Glencoe Ave.	46	37	36	34	35	36
Merrionette Park	1800 Meadow Lane Dr.	-		29	26	31	27
Midlothian	15205 Crawford Ave.	-	-	28	25	28	25
Summit	60th St. & 74th Ave.	42	39	34	37	35	34
KANE COUNTY							
Geneva	300 Randall Rd.	-	-	-	21	24	22
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)							
WILL COUNTY							
Joliet	Midland & Campbell Sts.	25	24	22	23	23	23
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Alton	409 Main St.	30	30	29	30	32	28
Granite City	15th & Madison	+	46	39	47	46	31
Granite City	2040 Washington	45	41	40	37	40	44
Wood River	54 N. Walcott	32	29	26	25	30	26
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	34	34	33	34	37	32

- Station not in operation during the year.
+ Did not meet minimum statistical selection criteria (See Appendix B.1).

Primary Annual Standard 50 ug/m^3

Table B5

1999
SHORT-TERM TRENDS
PARTICULATE MATTER (PM_{10})

ANNUAL ARITHMETIC MEANS (ug/m^3)

STATION	ADDRESS	1994	1995	1996	1997	1998	1999
71 NORTH CENTRAL ILLINOIS INTRASTATE							
LASALLE COUNTY							
Oglesby	308 Portland Ave.	35	31	29	28	29	28
74 SOUTHEAST ILLINOIS INTRASTATE							
JACKSON COUNTY							
Carbondale	607 E. College	20	24	19	22	23	22
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	25	23	21	20	22	21
SANGAMON COUNTY							
Springfield	State Fair Grounds	-	-	-	23	25	20

- Station not in operation during the year.
+ Did not meet minimum statistical selection criteria (See

Table B6

1999
PARTICULATE MATTER FINE ($PM_{2.5}$)
(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	NUMBER OF SAMPLES >65 ug/m^3	HIGHEST SAMPLES 1st	HIGHEST SAMPLES 2nd	HIGHEST SAMPLES 3rd	HIGHEST SAMPLES 4th	ANNUAL ARITHMETIC MEAN
65 BURLINGTON-KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	6-day	54	0	42.7	38.0	35.8	32.5	+
66 EAST CENTRAL ILLINOIS INTRASTATE									
CHAMPAIGN COUNTY									
Bondville	Twp. Rd. 500 E.	6-day	50	0	38.2	37.3	33.1	29.3	+
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Blue Island	12700 Sacramento	6-day	59	0	51.3	47.0	39.5	38.4	17.4
Chicago-Farr	3300 S. Michigan Ave.	6-day	56	0	50.0	43.9	42.9	39.2	18.0
Chicago-Mayfair	4850 Wilson Ave.	6-day	48	0	46.8	39.9	38.3	36.0	+
Chicago-SE Police	103rd & Luella	6-day	58	0	48.0	46.4	38.8	32.9	17.2
Chicago-Washington HS	3535 E. 114th St.	6-day	58	0	50.8	44.1	42.3	33.8	17.4
Des Plaines	1375 5th St.	6-day	53	0	46.8	37.8	32.5	28.8	+
Lyons Township	50th St. & Glencoe Ave.	6-day	58	0	55.9	54.1	48.1	42.5	21.8
Lyons	4043 Joliet Ave.	6-day	58	0	49.7	46.0	43.2	37.2	18.2
Northbrook	750 Dundee Road	6-day	59	0	45.7	43.0	30.7	29.3	15.5
Summit	60th St. & 74th Ave.	6-day	58	0	46.7	45.6	36.4	34.1	17.5
Du PAGE COUNTY									
Naperville	400 S. Eagle St.	6-day	54	0	41.5	32.1	29.2	28.9	15.6
WILL COUNTY									
Braidwood	36400 S. Essex Rd.	6-day	52	0	36.1	30.4	29.6	26.6	+
Joliet	Midland & Campbell	6-day	59	0	44.3	39.0	35.2	30.5	15.5
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
ROCK ISLAND COUNTY									
Moline	30 18th St.	6-day	57	0	49.6	40.8	35.1	33.5	16.4

+ - Did not meet minimum statistical selection criteria (See Section B.1)

Primary 24-Hour Standard 65 ug/m^3; Primary Annual Standard 15.0 ug/m^3

Table B6

US5 TD d ()) Tj 276 0 TD ( ) Tj ET 12.7

1999

PARTICULATE MATTER FINE ($PM_{2.5}$

RANDOLPH COUNTY

Table B7

1999
CARBON MONOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES TOTAL	1-HR >35 PPM	8-HR >9 PPM	HIGHEST SAMPLES (ppm) 1-HOUR AVERAGE 1ST	1-HOUR AVERAGE 2ND	1-HOUR AVERAGE 3RD	8-HOUR AVERAGE 1ST	8-HOUR AVERAGE 2ND	8-HOUR AVERAGE 3RD
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)										
PEORIA COUNTY										
Peoria	1005 N. University	8550	0	0	7.9	7.2	6.9	5.4	4.6	4.4
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)										
COOK COUNTY										
Calumet City	1703 State St.	8504	0	0	5.2	5.1	4.9	4.5	3.3	2.9
Chicago - CTA Building	320 S. Franklin	8679	0	0	4.9	4.8	4.7	3.8	2.9	2.8
Cicero	1830 S. 51st Ave.	8684	0	0	6.8	6.4	5.8	5.1	3.7	3.1
Maywood	1505 S. First Ave	8513	0	0	6.8	6.2	6.2	5.1	4.9	4.7
Schiller Park	4743 N. Mannheim	8558	0	0	4.7	4.5	4.0	3.2	2.9	2.8
WILL COUNTY										
Braidwood	36400 S. Essex Rd.	8637	0	0	1.5	1.5	1.4	1.1	1.0	1.0
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)										
MADISON COUNTY										
Granite City	2001 Edison	8596	0	0	4.6	4.1	3.6	2.4	2.4	2.3
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)										
WINNEBAGO COUNTY										
Rockford	425 E. State	8642	0	0	6.9	6.5	6.0	4.4	3.7	3.5

75 WEST CENTRAL ILLINOIS INTRASTATE -ERSTATE (IL 0 Tc27BELOIT INTERSTATE (IL

- 0 0 6.9 6 . 9 6.5 2.4 2.4 0 --

Table B9

1999
SULFUR DIOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES TOTAL	3-HR > 0.5	24-HR > 0.14	HIGHEST SAMPLES 3-HR AVG. 1ST	3-HR AVG. 2ND	24-HR AVG. 1ST	24-HR AVG. 2ND	ANNUAL ARITHMETIC MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	Hurlburt & MacArthur	8635	0	0	0.149	0.146	0.045	0.040	0.007
TAZEWELL COUNTY									
Pekin	272 Derby	8589	0	0	0.202	0.159	0.038	0.037	0.005
66 EAST CENTRAL ILLINOIS INTRASTATE									
CHAMPAIGN COUNTY									
Champaign	606 E. Grove	8601	0	0	0.032	0.025	0.010	0.010	0.002
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Bedford Park	7800 W. 65th St.	8664	0	0	0.126	0.114	0.060	0.045	0.008
Blue Island	12700 Sacramento	8197	0	0	0.103	0.090	0.052	0.048	0.009
Calumet City	1703 State Sr.	8653	0	0	0.104	0.078	0.038	0.034	0.009
Chicago - CTA	320 S. Franklin	8490	0	0	0.053	0.048	0.024	0.023	0.004
Chicago - SE Police	103rd & Luella	8571	0	0	0.062	0.054	0.026	0.016	0.003
Chicago - Washington ES	3611 E. 114th St.	8394	0	0	0.067	0.048	0.021	0.018	0.006
Cicero	1830 S. 51st Ave.	8676	0	0	0.083	0.081	0.032	0.028	0.006
Lemont	729 Houston	8639	0	0	0.168	0.105	0.041	0.034	0.006
DuPAGE COUNTY									
Lisle	Morton Arboretum	8610	0	0	0.113	0.073	0.028	0.019	0.003
WILL COUNTY									
Joliet	Rte 6 & Young Rd.	8530	0	0	0.072	0.069	0.040	0.023	0.005
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
ROCK ISLAND COUNTY									
Moline	30 18th St.	8660	0	0	0.027	0.027	0.010	0.010	0.003

Primary 24-Hour Standard 0.14 ppm; Primary Annual Standard 0.03 ppm

Table B9

1999

SULFUR Df BT 309 718.5 TD ( ) Tj ET 47.25 716.25 0.75 12

Table B10

1999
SHORT-TERM TRENDS
SULFUR DIOXIDE

Table B10

1999
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1994	1995	1996	1997	1998	1999
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Alton	409 Main St.	0.008	0.010	0.009	0.007	0.008	0.007
Granite City	2001 Edison	-	0.007	0.006	0.006	0.006	0.006
South Roxanna	Michigan Ave.	0.012	0.011	0.010	0.010	0.008	0.008
Wood River	54 N. Walcott	0.006	0.007	0.007	0.006	0.006	0.007
Wood River	1710 Vaughn Rd.	0.012	0.012	0.011	0.009	+	0.009
RANDOLPH COUNTY							
Houston	Twp Rd 150 & Twp Rd 45	0.006	0.006	0.006	0.005	0.005	0.004
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.010	0.009	0.009	0.009	0.008	0.008
Marissa	Risdon School Rd.	0.007	0.005	0.004	0.005	0.005	0.004
Sauget	Little Ave.	0.008	0.009	0.009	0.009	0.008	0.008
74 SOUTHEAST ILLINOIS INTRASTATE							
WABASH COUNTY							
Mount Carmel	Division St.	0.012	0.011	0.009	0.007	0.004	0.007
Rural Wabash County	South of SR-1	0.011	0.009	0.009	0.007	0.005	0.005
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	0.005	0.005	0.004	0.004	0.004	0.005
MACON COUNTY							
Decatur	2200 N. 22nd St.	0.006	0.005	0.005	0.006	0.005	0.005
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	0.003	0.003	0.002	0.003	0.003	0.003
SANGAMON COUNTY							
Springfield	Sewage Plant	0.006	0.006	0.006	0.006	0.006	0.006

- Station not in operation during year shown
+ Did not meet minimum statistical selection criteria (See Section B.1)

Primary Annual Standard 0.03 ppm

Table B11

1999
NITROGEN DIOXIDE
(parts per million)

Table B12

1999
SHORT-TERM TRENDS
NITROGEN DIOXIDE

STATION	ADDRESS	1994	1995	1996	1997	1998	1999
				ANNUAL MEANS (ppm)			
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Calumet City	1703 State St.	0.024	0.024	0.022	0.024	0.025	0.024
Chicago - CTA	320 S. Franklin	0.032	0.032	0.031	0.034	0.032	0.032
Chicago - Truman	1145 W. Wilson	-	-	-	-	0.024	0.024
Chicago - University	5720 S. Ellis	0.025	0.027	0.024	0.024	0.023	0.022
Cicero	1820 S. 51st St.	0.026	0.027	0.027	0.027	0.026	0.027
Northbrook	750 Dundee Rd.	-	-	-	+	0.017	0.017
Schiller Park	4743 N. Mannheim	-	-	-	-	0.031	0.031
WILL COUNTY							
Braidwood	36400 S. Essex Rd.	-	+	0.009	0.009	0.009	0.010
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.020	0.021	0.020	0.019	0.018	0.019

- Station not in operation during year shown

+ Did not meet minimum statistical selection criteria (See Section B.1)

Table B13

1999
LEAD
(micrograms per cubic meter)

STATION	ADDRESS	NUMBER OF QUARTERS >1.5	QUARTERLY AVERAGES 1st	2nd	3rd	4th	ANNUAL MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	0	0.01	0.01	0.02	0.02	0.02
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	0	0.01	0.02	0.02	0.01	0.02
Chicago - Cermak	735 W. Harrison	0	0.03	0.05	0.06	0.06	0.05
Chicago - Mayfair	4850 Wilson Ave.	0	0.02	0.02	+	0.02	0.02
Chicago - Washington	3535 E. 114th St.	0	0.03	0.02	0.04	0.03	0.03
Maywood	1500 Maybrook Dr.	0	0.04	0.03	0.03	0.03	0.03
Schiller Park	4243 N. Mannheim Rd.	0	0.02	0.01	0.02	0.02	0.02
Summit	60th St. & 74th Ave.	0	0.02	0.02	0.02	0.03	0.03
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison 0.02	0.02	C3j 20.25	TDSON13 f 3BT		43.03tN1Tj	4.5 0 0.02TD 0 T

Table B14

1999
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	TOTAL	HIGHEST	ARITH.	TOTAL	HIGHEST	ARITH.

Table B14

1999
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	CADMIUM TOTAL SAMPLES	CADMIUM HIGHEST 1st	CADMIUM HIGHEST 2nd	CADMIUM ARITH. MEAN	CHROMIUM TOTAL SAMPLES	CHROMIUM HIGHEST 1st	CHROMIUM HIGHEST 2nd	CHROMIUM ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	57	0.000	0.000	0.000	57	0.003	0.003	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	0.011	0.008	0.002	56	0.008	0.008	0.003
Chicago - Cermak	735 W. Harrison	56	0.014	0.011	0.003	56	0.022	0.021	0.009
Chicago - Mayfair	4850 Wilson Ave	47	0.004	0.004	+	47	0.014	0.013	+
Chicago - Washington	3535 E. 114th St.	60	0.013	0.009	0.003	60	0.027	0.015	0.006
Maywood	1500 Maybrook Dr.	59	0.015	0.013	0.003	59	0.030	0.024	0.011
Schiller Park	4743 N. Mannheim Rd.	61	0.000	0.000	0.000	61	0.007	0.007	0.002
Summit	60th St. & 74th Ave.	59	0.009	0.008	0.002	59	0.011	0.008	0.003
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	57	0.012	0.005	0.000	57	0.020	0.018	0.005
Wood River	54 N. Walcott	58	0.025	0.008	0.001	58	0.003	0.003	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	58	0.134	0.095	0.008	58	0.003	0.003	0.001
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	58	0.000	0.000	0.000	58	0.000	0.000	0.000

Table B14

1999
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
		IRON				**MANGANESE**			
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	57	1.13	1.01	0.40	57	0.066	0.064	0.019
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									

COOK COUNTY 571.011.01 0.019 KTD 0 Tc -0.07435 Tw (33 Tj 67.4500 W.25 3rd. St.c 0

Table B14

1999
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
			NICKEL				**SELENIUM**		
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	57	0.000	0.000	0.000	57	0.006	0.005	0.001
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	0.037	0.016	0.007	NA			
Chicago - Cermak	735 W. Harrison	56	0.030	0.019	0.010	NA			
Chicago - Mayfair	4850 Wilson Ave	47	0.014	0.012	+	NA			
Chicago - Washington	3535 E. 114th St.	59	0.024	0.018	0.009	NA			
Maywood	1500 Maybrook Dr.	59	0.022	0.020	0.011	NA			
Schiller Park	4743 N. Mannheim Rd.	61	0.007	0.003	0.000	61	0.005	0.004	0.001
Summit	60th St. & 74th Ave.	59	0.068	0.016	0.008	NA			
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									

Table B14

1999
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	TOTAL	HIGHEST	ARITH.	TOTAL	HIGHEST	ARITH.
		.4776					

Table B14

1999
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
		NITRATES				**SULFATES**			
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	57	13.7	10.6	4.3	57	19.3	17.2	7.3
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	11.6	11.0	4.3	56	24.8	21.0	6.0
Chicago - Cermak	735 W. Harrison	56	14.9	13.3	4.9	56	26.9	15.1	7.0
Chicago - Mayfair	485j 5Elson Ave	47	11.5	10-0.0[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table B15

1999
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 1-HOUR 1ST	1-HOUR 2ND	3-HOUR 1ST	3-HOUR 2ND	24-HOUR 1ST	24-HOUR 2ND	JUN - AUG AVERAGE

67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)

COOK COUNTY

Chicago 1000 E. Ohio

COMPOUNDS

COMPOUNDS	1-HOUR 1ST	1-HOUR 2ND	3-HOUR 1ST	3-HOUR 2ND	24-HOUR 1ST	24-HOUR 2ND	JUN - AUG AVERAGE
Ethane	50.9	48.7			17.7	15.2	6.4
Ethylene	28.1	26.8			10.4	8.6	3.1
Propane	70.4	40.3			9.7	7.8	3.6
Propylene	19.0	17.3			4.3	3.9	1.3
Acetylene	11.0	9.0			4.8	3.8	1.4
N - Butane	81.2	35.8			8.0	5.7	2.8
Isobutane	77.9	30.9			2.9	2.7	1.6
Trans - 2 - Butene	7.4	3.1			1.9	1.8	1.2
Cis - 2 - Butene	6.5	2.1			0.6	0.5	0.2
N - Pentane	32.7	31.2			8.6	7.9	2.7
Isopentane	74.1	68.3			21.4	18.9	6.4
1 - Pentene	2.4	2.2			0.5	0.5	0.1
Trans - 2 - Pentene	4.1	3.4			0.7	0.7	0.1
Cis - 2 - Pentene	5.7	1.9			0.6	0.4	0.0
3 - Methylpentane	12.1	11.0			3.9	3.9	0.9
N - Hexane	17.4	13.6			5.1	5.0	1.4
N - Heptane	7.7	6.2			2.3	2.3	0.4
N - Octane	3.9	3.3			1.0	1.0	0.1
N - Nonane	9.2	5.1			1.8	1.6	0.2
Cyclopentane	11.5	5.1			0.8	0.8	0.2
Isoprene	14.9	2.5			3.2	0.4	0.2
2,2 - Dimethylbutane	54.3	3.2			3.0	0.9	0.1
2,4 - Dimethylpentane	13.1	5.9			2.7	2.1	0.3
Cyclohexane	5.2	2.7			1.0	0.8	0.1
3 - Methylhexane	10.1	8.7			3.1	3.1	0.8
2,2,4 - Trimethylpentane	42.1	17.1			7.1	5.4	2.0
2,3,4 - Trimethylpentane	13.0	5.9			2.8	2.2	0.5
3 - Methylheptane	4.9	2.9			1.0	0.9	0.1
Methylcyclohexane	4.7	3.8			1.2	1.1	0.2
Methylcyclopentane	8.5	7.4			2.7	2.6	0.6
2 - Methylhexane	9.2	7.1			2.7	2.5	0.6
1 - Butene	5.3	2.5			0.6	0.6	0.1
2,3 - Dimethylbutane	7.7	5.8			2.2	2.1	0.5
2 - Methylpentane	18.9	17.1			6.0	5.9	1.7
2,3 - Dimethylpentane	18.5	7.6			4.1	3.1	0.8
2 - Methylheptane	2.6	1.5			0.6	0.5	0.1
Benzene	18.3	15.7			4.7	4.0	1.5

Table B15

1999
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

		HIGHEST SAMPLES (ppbc)						
		1-HOUR		3-HOUR		24-HOUR		JUN - AUG
STATION	ADDRESS	1ST	2ND	1ST	2ND	1ST	2ND	AVERAGE
COMPOUNDS								
Toluene		120.5	46.6			17.2	17.2	4.6
Ethylbenzene		16.9	6.2			1.9	1.8	0.4
O - Xylene		8.5	6.3			2.4	2.4	0.6
M/P Xylene		52.3	20.0			7.0	6.8	1.9
1,3,5 - Trimethylbenzene		8.6	3.6			1.2	1.0	0.2
1,2,4 - Trimethylbenzene		30.4	11.8			3.7	3.6	0.8
N - Propylbenzene		4.4	3.4			0.6	0.5	0.0
Isopropylbenzene		1.2	1.2			0.1	0.0	0.0
Styrene		2.2	1.8			0.4	0.2	0.0
N-Decane		14.2	9.3 2.2	1.8				

Table B15

1999
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

		HIGHEST SAMPLES (ppbc)						
		1-HOUR		3-HOUR		24-HOUR		JUN - AUG
STATION	ADDRESS	1ST	2ND	1ST	2ND	1ST	2ND	AVERAGE
LAKE COUNTY								
Zion	Camp Logan							
COMPOUNDS								
Ethane		19.8	18.8			8.6	8.1	4.2
Ethylene		24.0	10.4			4.7	3.8	1.3
Propane		92.9	23.4			9.4	5.8	3.1
Propylene		14.6	7.1			1.7	1.6	0.5
Acetylene		7.1	3.4			1.8	1.1	0.5
N - Butane		22.3	16.8			4.9	4.5	1.9
Isobutane		38.2	7.6			5.2	2.3	0.8
Trans - 2 - Butene		1.4	0.9			0.1	0.1	0.0
Cis - 2 - Butene		2.1	1.1			0.1	0.0	0.0
N - Pentane		68.1	32.7			6.4	6.0	2.0
Isopentane		39.6	32.2			10.8	9.7	3.7
1 - Pentene		1.2	0.8			0.2	0.2	0.1
Trans - 2 - Pentene		1.7	1.2			0.3	0.2	0.1
Cis - 2 - Pentene		1.0	0.7			0.1	0.1	0.0
3 - Methylpentane		6.3	5.3			2.2	1.9	0.4
N - Hexane		6.8	6.8			2.3	2.2	0.7
N - Heptane		3.4	2.3			0.9	0.9	0.2
N - Octane		1.8	1.7			0.4	0.4	0.1
N - Nonane		2.4	1.4			0.5	0.4	0.1
Cyclopentane		16.0	2.0			0.7	0.4	0.1
Isoprene		88.7	45.0			26.3	15.0	5.3
2,2 - Dimethylbutane		1.5	0.9			0.5	0.3	0.1
2,4 - Dimethylpentane		3.8	2.9			1.1	0.9	0.3
Cyclohexane		1.3	1.2			0.4	0.3	0.1
3 - Methylhexane		3.5	3.2			1.3	1.1	0.3
2,2,4 - Trimethylpentane		17.5	10.7			3.6	3.4	1.0
2,3,4 - Trimethylpentane		7.9	4.5			1.1	1.0	0.3
3 - Methylheptane		1.3	1.0			0.2	0.2	0.0
Methylcyclohexane		2.7	2.3			0.4	0.3	0.1
Methylcyclopentane		3.5	2.9			1.3	1.1	0.3
2 - Methylhexane		2.6	1.3			1.1	0.9	0.3
1 - Butene		2.9	0.9			0.2	0.2	0.1
2,3 - Dimethylbutane		4.1	2.7			1.1	1.0	0.3
2 - Methylpentane		9.5	7.7			3.4	2.8	1.0
2,3 - Dimethylpentane		4.6	4.3			1.6	1.5	0.4
2 - Methylheptane		0.8	0.7			0.2	0.2	0.0
Benzene		12.5	5.6			2.5	2.4	0.9
Toluene		62.2	22.8			8.3	8.1	2.6
Ethylbenzene		6.6	4.4			1.8	1.3	0.4

Table B15

1999
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 1-HOUR 1ST	1-HOUR 2ND	3-HOUR 1ST	3-HOUR 2ND	24-HOUR 1ST	24-HOUR 2ND	JUN - AUG AVERAGE
COMPOUNDS								
N - Nonane		12.9	2.1			0.9	0.1	0.1
Cyclopentane		18.0	2.4			0.8	0.7	0.1
Isoprene		41.3	16.3			12.8	4.1	1.9
2,2 - Dimethylbutane		5.2	0.0			0.8	0.0	0.0
2,4 - Dimethylpentane		10.2	6.1			0.6	0.4	0.0
Cyclohexane		21.7	12.2			1.3	0.9	0.2
3 - Methylhexane		15.6	15.0			1.1	1.1	0.2
2,2,4 - Trimethylpentane		19.2	13.3			1.4	1.1	0.3
2,3,4 - Trimethylpentane		7.0	3.0			0.8	0.2	0.1
3 - Methylheptane		14.6	3.7			0.7	0.2	0.0
Methylcyclohexane		18.2	5.4			1.4	0.6	0.1
Methylcyclopentane		23.6	7.2			1.9	1.0	0.1
2 - Methylhexane		32.2	8.5			1.4	1.1	0.1
1 - Butene		20.4	10.1			2.4	1.7	0.1
2,3 - Dimethylbutane		1.5	0.6			0.2	0.1	0.0
2 - Methylpentane		5.4	1.9			0.9	0.6	0.1
2,3 - Dimethylpentane		13.9	10.9			1.1	0.5	0.1
2 - Methylheptane		4.0	3.1			0.2	0.1	0.0
Benzene		87.6	19.5			7.6	3.4	0.9
Toluene		43.6	22.2			4.9	3.1	1.3
Ethylbenzene		40.6	5.8			2.4	0.3	0.2
O - Xylene		11.8	10.7			1.7	0.4	0.2
M/P Xylene		62.6	26.0			4.6	1.1	0.6
1,3,5 - Trimethylbenzene		19.5	5.0			1.1	0.4	0.1
1,2,4 - Trimethylbenzene		63.0	12.9			3.5	1.9	0.9
N - Propylbenzene		9.4	2.9			0.3	0.2	0.0
Isopropylbenzene		4.9	3.5			0.3	0.2	0.0
Styrene		33.3	6.5			1.7	0.4	0.1
N-Decane		7.4	2.9			1.8	0.1	0.1
N-Undecane		222.9	6.0			24.7	0.3	0.2
O-Ethyltolune		13.7	3.8			1.3	0.5	0.0
M-Ethyltolune		36.7	9.6			1.6	1.5	0.1
P-Ethyltolune		18.0	4.5			0.6	0.4	0.1
M-Diethylbenzene		5.7	4.3			0.6	0.5	0.0
P-Diethylbenzene		62.6	18.3			6.9	0.7	0.1
1,2,3 Trimethylbenzene		9.2	6.6			1.1	1.5	0.3
Formaldehyde[1]				5.1	4.2			2.6
Acetaldehyde[1]				1.7	1.4			1.1

[1] Values in ppb (volume)

Table B16

1999
MERCURY
(nanograms per cubic meter)

STATION	ADDRESS	TOTAL NUMBER OF SAMPLES	HIGHEST SAMPLES 1st	2nd	3rd	4th	ANNUAL ARITHMETIC MEAN
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	51	3.2	2.1	2.1	2.0	1.3
Blue Island	12700 Sacramento	55	3.1	2.6	2.4	2.4	1.8

APPENDIX C
PRECISION AND ACCURACY DATA SUMMARY AND TABLES

C.1 PRECISION AND ACCURACY DATA SUMMARY

Table C1

1999
PRECISION DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF SITES	TOTAL SAMPLES	PROBABILITY LIMITS (percent) UPPER 95%	LOWER 95%
SITES OPERATED BY ILLINOIS EPA					
Sulfur Dioxide	1st Quarter	21	252	2	-6
	2nd Quarter	21	249	5	-6
	3rd Quarter	21	261	5	-7
	4th Quarter	21	240	3	-7
	Year		1002	4	-6
Ozone					

Table C1

1999
PRECISION DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF SITES	TOTAL SAMPLES	PROBABILITY LIMITS (percent) UPPER 95%	LOWER 95%
SITES OPERATED BY COOK COUNTY DEPARTMENT OF ENVIRONMENTAL CONTROL					
Sulfur Dioxide	1st Quarter	6	78	5	-3
	2nd Quarter				

Table C2

1999
ACCURACY DATA SUMMARY

			PROBABILITY LIMITS							
	SUMMARY	NUMBER	LEVEL 1		LEVEL 2		LEVEL 3		LEVEL 4	
PARAMETER	PERIOD	OF AUDITS	+95%	-95%	+95%	-95%	+95%	-95%	+95%	-95%
SITES OPERATED BY ILLINOIS EPA										

Sulfur Dioxide 258.75 0 T.5 0.75 0.75 re TD 0 Tc 0 Tw ( ) Tj ET O.75 0.re 42 -0.0716303j ET O.75 0.re 42 -0.0716303j ET O.75 0.

Sulfur Dioxide 258.75 054 TD -0.T O.75 65 0.75 12 r513 33 0 TD0 4th5 0

APPENDIX D

Table D1

Table D2

1999
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Adams	619.0	6,269.0	1,053.4	2,275.6	353.9
Alexander	475.1	460.5	258.7	63.3	36.0
Bond	93.6	5.3	39.0	25.5	144.8
Boone	200.2	620.2	290.2	1,211.6	106.1
Brown	7.5	0.0	1.7	0.3	0.2
Bureau	318.6	15.1	68.5	134.4	28.8
Calhoun	24.1	0.0	0.0	0.0	0.0
Carroll	235.5	121.4	60.3	174.4	59.1
Cass	152.5	0.1	23.4	13.9	7.4
Champaign	829.6	2,139.0	2,379.8	1,090.0	884.6
Christian	1,161.6	79,497.6	26,171.2	170.2	652.6
Clark	173.3	2.0	13.8	181.4	11.7
Clay	84.5	6.2	9.6	199.3	6.7
Clinton	113.0	362.7	1,302.1	180.3	215.0
Coles	360.8	119.8	283.2	1,343.7	280.3
Cook	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

C5e5/2502.5152878999.3w ( ) Ti 5895.3 T6) Ti 105.75 0 TD 0.0711 Tc 0 Tw (152.5) Ti 24 0 TD 0 Tc 0.28F5 TD -0ra 0 TD 0 Tc 0.28F5

Table D2

1999
Estimated County Stationary Point Source Emissions (Tons/Year)

26.9

County	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Hardin	100.7	35.5	27.1	3.6	11.8
Henderson	140.2	0.1	9.4	10.4	4.9
Henry	291.5	26.9	5,050.9	777.6	1,346.4

Organic
Material

0re f 5re 1 1 539.25 547.5 0.75 12 re f BT 539.25 535.5 0.75 12 re f BT 73.698 0re f 5-0 2 050.9Organic539.25

Table D2

1999
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Morgan	1,117.2	27,580.8	5,013.9	728.7	414.5
Moultrie	161.8	68.6	132.2	294.0	32.1
Ogle	380.7	37.9	619.5	1,191.3	314.1
Peoria	2,446.0	84,652.8	17,657.6	2,596.4	1,408.8
Perry	114.8	9.7	16.7	131.9	8.2
Piatt	268.5	0.6	1,876.9	120.4	276.1
Pike	218.0	2,767.6	840.6	32.9	123.7
Pope	0.0	0.0	0.0	2.1	0.0
Pulaski	117.9	416.6	53.5	0.3	0.2
Putnam	690.7	48,454.1	5,308.9	115.1	251.9
Randolph	3,287.3	273,965.9	58,102.0	286.9	1,223.5
Richland	56.3	0.5	21.9	89.1	11.2
Rock Island	875.8	1,715.5	892.7	2,864.0	848.7
St. Clair	1,924.1	3,193.5	770.8	1,581.1	213.2
Saline	273.9	9.6	6.2	12.2	20.5
Sangamon	1,114.0	49,668.1	12,414.5	611.3	853.6
Schuyler	89.1	0.0	25.2	12.2	0.4
Scott	107.0	8.2	28.3	29.2	8.9
Shelby	233.0	0.4	6.1	68.6	2.3
Stark	63.8	0.0	0.2	9.6	0.2
Stephenson	212.7	3.4	166.2	1,156.5	137.6
Tazewell	2,976.0	28,748.0	34,086.6	668.9	1,146.8
Union	73.9	865.6	67.4	21.8	53.7
Vermilion	1,327.5	12,583.7	3,216.5	1,712.7	669.8
Wabash	296.9	198.3	106.4	29.6	29.0
Warren	263.4	271.6	71.5	47.7	43.7
Washington	320.3	0.1	38.1	188.8	17.8
Wayne	45.3	88.7	505.1	189.0	77.6
White	83.8	1.7	6.0	70.1	1.2
Whiteside	660.2	162.9	349.1	148.1	1,302.8
Will	6,102.2	90,403.0	42,345.	6,247.6	6,688.5
Williamson	456.6	12,087.3	7,264.8	257.4	213.0
Winnebago	875.0	112.7	919.4	2,113.1	579.0
Woodford	222.9	10.0	18.7	181.7	17.2

Table D3

Annual Estimated Emissions Trends (Tons)

Year	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
1981	276,529	1,577,992	826,427	270,814	240,421
1982	184,716	1,404,040	693,054	233,951	163,704
1983	185,931	1,363,292	759,453	207,405	144,622
1984	204,490	1,435,066	746,367	197,418	110,922
1985	174,102	1,406,300	715,556	191,070	107,876
1986	164,246	1,400,761	676,181	180,148	109,777
1987	166,292	1,379,407	644,511	176,406	98,213
1988	162,124	1,393,628	653,521	165,792	127,758
1989	212,778	1,254,474	610,214	193,499	132,214
1990	266,888	1,272,445	623,466	170,378	134,744
1991	220,903	1,239,690	619,161	154,008	148,667
1992	163,529	1,228,949	610,214	156,867	129,054
1993	142,123	1,170,549	556,460	152,288	130,097
1994	133,275	1,158,555	555,893	140,492	127,848
1995	119,726	1,273,786	505,966	141,381	127,661
1996	105,842	1,183,278	495,267	139,445	130,040
1997	100,038	1,197,404	510,729	136,541	117,046
1998	99,619	1,196,461	509,676	134,924	108,117
1999	90,316	1,085,828	421,993	99,121	120,906

Table D4

Annual Source Reported Emissions Trends (Tons)

Year	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
1992	95,903	1,045,101	381,939	143,755	112,388
1993	90,322	1,001,123	418,211	108,809	113,772
1994	88,916	967,213	404,488	108,777	116,178
1995	67,048	812,284	367,803	102,942	160,361
1996	63,766	914,276	407,654	86,939	84,248
1997	57,166	974,197	404,291	75,812	72,300
1998	61,113	964,250	376,662	77,572	79,506

APPENDIX E

THE BUREAU OF AIR/
DIVISION OF AIR POLLUTION CONTROL

- Proposing and supporting regulatory revisions where they are necessary to attain or maintain healthful air quality.

- Coordination with local planning agencies to ensure compatibility of air quality programs between state and include locating and identifying sources of air pollution, determining the amount of pollution emitted and verifying the information which industry submits when applying for a permit. Field Operations also initiates much of the IEPA's enforcement activities when violations are discovered. Approximately 3,000 investigations and inspections are conducted each year.

A directory of the Division of Air Pollution Control follows.

Table E1

BUREAU OF AIR

Dave Kolaz, Bureau Chief
(217) 785-4140

DIVISION OF AIR POLLUTION CONTROL

Dennis Lawler, Division Manager
(217) 785-4140

AIR MONITORING SECTION

Terry Sweitzer, Manager
(217) 782-5811

AIR QUALITY PLANNING SECTION

Vacant, Manager
(217) 524-4343

COMPLIANCE AND SYSTEMS MANAGEMENT SECTION

Vacant, Manager
(217) 782-5811

PERMITS SECTION

Don Sutton, Manger
(217) 782-2113

FIELD OPERATIONS SECTION

Ed Bakowski, Manager
(217) 524-8069

Vacant
Region I
1701 South First Avenue
Maywood, Illinois 60153
(708) 338-7900

Dick Jennings
Region II
5415 North University
Peoria, Illinois 61614
(309) 693-5461

John Justice
Region III
2009 Mall Street
Collinsville, Illinois 62234
(618) 346-5120