Illinois
Environmental
Protection Agency

Bureau of Air
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September 1999

IEPA/BOA/99-011

0 - 64 ppb | 65 - 84 ppb | 85 - 104 ppb | 105 - 124 ppb

Illinois Annual Air Quality Report 1998

Illinois Environmental Protection Agency
Bureau of Air

Printed on Recycled Paper

About the cover:

Midwest map of maximum eight-hour ozone concentrations on Sept. 6, 1998, from U.S. EPA's Ozone Mapping Project.

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To Obtain Additional Information

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

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Acknowledgements

This document is produced by the Illinois Environmental Protection Agency; Thomas Skinner, director; and published by the Agency's Office of Public Information; Dennis McMurray, manager.

Illinois EPA Bureau of Air personnel contributed their time and expertise to the development of this publication.

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 reduce air pollutants. Clean air efforts have progressed to creating partnerships that encourage both voluntary pollution-reducing activities and that promote preventing pollution before it starts.

Our remaining major air pollution problem affects a substantial portion of Illinois' population. Both the Chicago and East St. Louis metropolitan regions still do not meet the federal air quality standard for ozone (smog), which is associated with human respiratory problems as well as ecosystem damage. There were eight occurrences of unhealthful air quality in one or more portions of Illinois during 1998—seven due to ozone and one due to particulate matter—compared with six in 1997 and eight in 1996.

Although this document shows that the trend in Illinois air pollution has been a steady decrease in emissions, there is still much to do to ensure that our residents enjoy the best air quality possible. Recent efforts to combat ozone include asking residents and businesses in the Chicago ozone non-attainment areas for help by voluntarily altering their activities that contribute to ozone formation on Ozone Action Days.

This 28th Annual Air Quality Report highlights information obtained in 1998 from the Bureau of Air's statewide air monitoring network, which incorporates more than 300 monitors that track the measurements of a variety of pollutants and air toxic compounds.

We hope you find this report helpful. We welcome any comments or questions you may have so that we can better address your information needs.

Thomas Skinner
Director

TABLES

This report presents a summary of air quality data collected throughout the state of Illinois during calendar year 1998. Data is presented for the six criteria pollutants (those for which air quality standards have been developed—particulate matter, ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead) along with some heavy metals, nitrates, sulfates, volatile organic compounds and $PM_{2.5}$. Monitoring was conducted at more than 100 different site locations collecting data from more than 200 instruments.

In terms of the Pollutant Standards Index, air quality during 1998 was either good or moderate more than 98 percent of the time throughout Illinois. There were four days statewide that exceeded an air quality standard for any pollutant—one for particulate matter and three for ozone. These exceedances occurred in Cook, Jersey and St. Clair counties (ozone) and LaSalle County (particulate matter). Air quality trends for the criteria pollutants are continuing to show downward trends or stable trends well below the level of the standards.

In 1998 monitoring was conducted at 10 locations in Cook and Madison counties for $PM_{2.5}$ (fine particulate matter of size less than 2.5 microns). In July 1997 the U.S. EPA finalized new ambient air quality standards for particulate matter that included the fine particulates as measured by $PM_{2.5}$. The

SECTION 1

bility 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 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 levels can be achieved through the use of low sulfur content fuels or chemical sulfur removal.

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

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 the presence of sunlight to product photochemical oxidants. These are extremely unstable compounds which damage plants and irritate both the eyes and respiratory system of people. O12 rTw (-) TD -0.004sroupec2 12 Tf 0.0067

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.

Table 2: Illinois Air Pollution Episode Levels

Pollutant				
Particulate Matter measured in micrograms per cubic meter (ug/m^3)	2-hour 420 (ug/m^3)	24-hour 350 (ug/m^3)	24-hour 420 (ug/m^3)	24-hour 500 (ug/m^3)
Sulfur Dioxide measured in parts per million (ppm)	2-hour 0.30 ppm	4-hour 0.30 ppm	4-hour 0.35 ppm	4-hour 0.40 ppm
Carbon Monoxide measured in parts per million (ppm)	2-hour 30 ppm	8-hour 15 ppm	8-hour 30 ppm	8-hour 40 ppm
Nitrogen Dioxide measured in parts per million (ppm)	2-hour 0.40 ppm	1-hour 0.60 ppm	1-hour 1.20 ppm	1-hour 1.60 ppm
		24-hour 0.15 ppm	24-hour 0.30 ppm	24-hour 0.40 ppm
Ozone measured in parts per million (ppm)	1-hour 0.12 ppm	1-hour 0.20 ppm	1-hour 0.30 ppm	1-hour 0.50 ppm

213)389

The standards are legally enforceable limitations, and any person causing or contributing to a violation of the standards is subject to

SECTION 2: STATEWIDE SUMMARY OF AIR QUALITY FOR 1998

Ozone

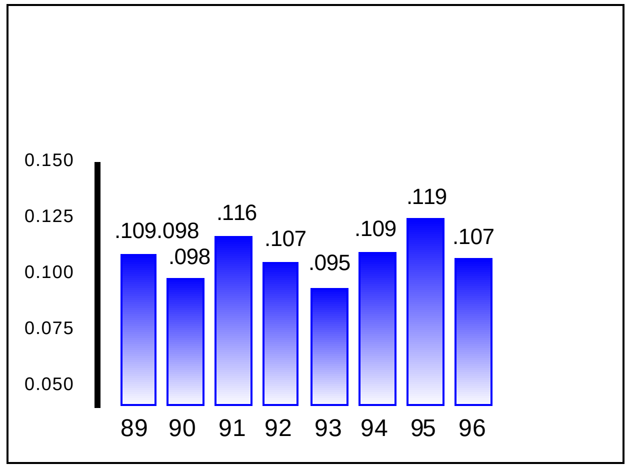
Monitoring was conducted at 42 locations during at least part of the April-October ozone season and at least 75 percent data capture was obtained at all 42 sites. The only monitoring network change in 1998 was a new site added in Chicago at Truman College.

A total of three sites recorded hourly concentrations above the 0.12 parts per million (ppm) standard. All three sites (Evanston, East St. Louis and Jerseyville) recorded only one day with ozone above 0.12 ppm.

There was one exceedance days recorded in the Chicago area, one exceedance day recorded in the Metro-East and one exceedance day in Jersey County (downwind of the St. Louis area). The highest one-hour concentration was 0.140 ppm in East St. Louis compared with a statewide high one-hour value of 0.157 ppm in 1997. The highest value recorded in the Chicago area was 0.133 ppm in Evanston

Data is also presented to compare with the new 8-hour standard of 0.08 ppm. The appropriate statistic for comparison with the eight-hour standard is the fourth highest value that is averaged over a three-year period. A total of five sites (three in the Chicago area, one in the Metro-East area and one in Jersey County) had fourth highest values above 0.08 ppm in 1998. The highest fourth high value was 0.091 ppm in Jerseyville.

Figure 1 shows each year's statewide average of each site's highest hourly ozone value during 1989-1998. The graph shows a great deal of year-to-year fluctuation; however the overall direction is downward. The statewide average for 1998 was 0.102 ppm, compared with 0.104 ppm in 1997 and 0.107 ppm in 1996.



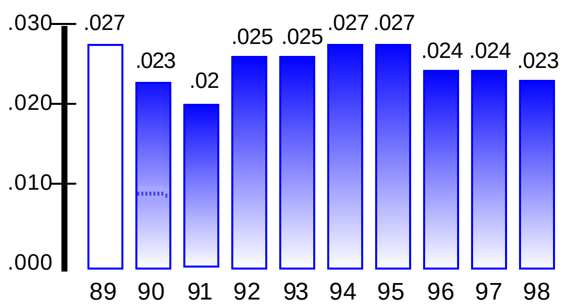
Statewide, the total number of excursion days in 1998 was three, compared with five in 1997 and five in 1996.

Figure 2 shows the trend of the total number of days on which one or more sites exceeded in 1998. There was one exceedance of the three-hour secondary standard recorded at Marissa.

The highest 24-hour average was 0.125 ppm, recorded in Pekin, compared with 0.089 ppm in 1997. The highest three-hour average of 0.656 ppm was recorded in Marissa. The statewide annual average for 1998 was 0.005 ppm. The statewide average in 1997 and in 1996 was 0.00rissah831wide an92w (1e h31widet 124.75

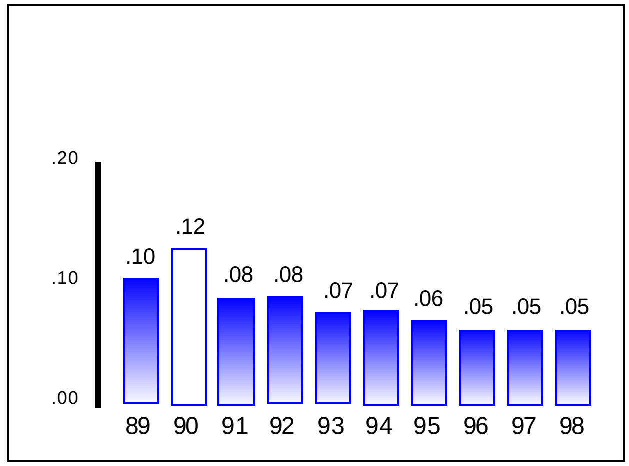
Nitrogen Dioxide

There were no violations of the annual primary standard of 0.053 ppm recorded in Illinois dur-



statewide.

The source-oriented sites at Chemetco continue to record the highest quarterly lead averages in



the state in 1998.

One site in the Chemetco network (Site 1-N) recorded a total of one violation of the quarterly primary standard of 1.5 ug/m^3 in 1998.

The highest quarterly lead average was measured at Chemetco - Site 1-N with a value of 2.59 ug/m^3.

Figure 8 shows the statewide maximum quarterly average trend from 1989-1998, not including the industrial sites. The trend shows that ambient lead levels have decreased by more than 50 percent during the period.

FIlter Analysis Results

The total suspended particulates (TSP) samples were analyzed for (in addition to lead) specific metals, sulfates and nitrates. Several of the metals analyzed (arsenic, beryllium, cadmium, chromium and nickel) have known toxic properties.

Other metals such as iron and manganese can be used as tracers to help identify sources of high particulate values. Sulfates and nitrates are precursors of acid precipitation/deposition and add to the understanding of this inter-regional problem. They may also be important constituents of $PM_{2.5}$ values. There are currently no state or federal ambient air quality standards for these parameters.

The areas with the highest metals concentrations in Illinois are generally the heavy industrialized areas of the Metro East (Granite City and East St. Louis) and South Chicago, especially for iron and manganese.

The highest 24-hour average for arsenic was 0.147 ug/m^3 measured in Granite City - 15th and Madison. The highest annual average of 0.006 ug/m^3

every sixth day (every three days at Chicago - Jardine) and supplemented on high ozone days. The data is presented as parts per billion carbon (ppbc). This process reduces all of the results to a common basis in terms of single carbon atoms. The aldehydes are expressed in regular parts per billion volume.

The highest compounds in terms of 24-hour averages at Chicago - Jardine were Isopentane, Isobutane, N-Butane, M/P-Xylene, Ethylene, The Pollutant Standards Index (PSI) is the national standard method for reporting air pollution levels to the public. An index such as the PSI is necessary because there are several air pollutants, each with different typical ambient concentrations and each with different levels of harm, and to report actual concentrations for all of them would be confusing. The PSI uses a single number and a one or two-word term to describe the air quality, taking all the pollutants into account.

The PSI is based on the short-term federal National Ambient Air Quality Standards (NAAQS), the federal episode criteria, and the Federal Significant Harm levels for five of the "criteria pollutants," namely:

- Ozone (O_3)
- Sulfur dioxide (SO_2)
- Carbon monoxide (CO)
- Particulate matter (PM_{10})
- Nitrogen dioxide (NO_2)

In each case, the short-term primary NAAQS corresponds to a PSI of 100, the significant harm level corresponds to a PSI of 500, and the episode criteria correspond to intermediate hundreds. NO_2 does not have short-term NAAQS; PSI begins at 200 for it. Various PSI intervals have been given Descriptor Categories, see **Table 3**.

Unhealthful air quality is uncommon in

Table 3: PSI Descriptor Categories and Health Effects

PSI Range	Descriptor Category
0-50	Good (G)
51-100	Moderate (M)
101-199	Unhealthful (UHod44 0 Tw (Good 6.20.2467 Tc 0 Tw (10 144 0161 144 0 Vp.m TD

Illinois PSIs are computed from data up to and including the 2 p.m. local time readings every weekday.

A bulletin giving the PSI numbers, descriptors, critical pollutants, and a forecast of the category for the next day's PSI for each of the sectors is issued over the Illinois Weatherwire, a service of the National Weather Service, at about

3 p.m. each weekday.

Most television and radio stations and newspapers receive the Illinois Weatherwire, and are therefore able to inform the audience about the PSI either immediately or on the evening news.

In the Chicago and Cook County area, PSIs are available on phone recordings maintained by the Cook County Department of Environmental Control (708-865-6320) and the Chicago Department of the Environment (312-744-4365).

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 Illinois EPA 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.

1998 PSI Summary

Air quality was in the “good” category most

Table 4: PSI Sectors in Illinois

Chicago Metropolitan Area:	
Lake County Sector	Lake County only
North Side Sector	That part of Chicago and Cook County between Lake Michigan and I-294 (the Tri-State Tollway), and north of I-290 (the Eisenhower Expressway)
Loop Sector	The area traditionally called the Loop (roughly from Navy Pier south to I-55 and east of I-90/94)
South Side Sector	That part of Chicago and Cook County south of the Eisenhower Expressway and east of the Tri-State, north of I-80/294 (Kingery Expressway), and west of Indiana and Lake Michigan
West and South Suburbs Sector	Parts of Cook and DuPage counties west of I-294 and south of the Kingery Expressway
Other northeastern Illinois areas:	
Will County/Joliet Sector	Will County only
Aurora-Elgin Sector	The eastern part of Kane County
Downstate areas:	
Rockford Sector	

Figure 9: 1998 Pollutant Standards Index Summaries by Sector

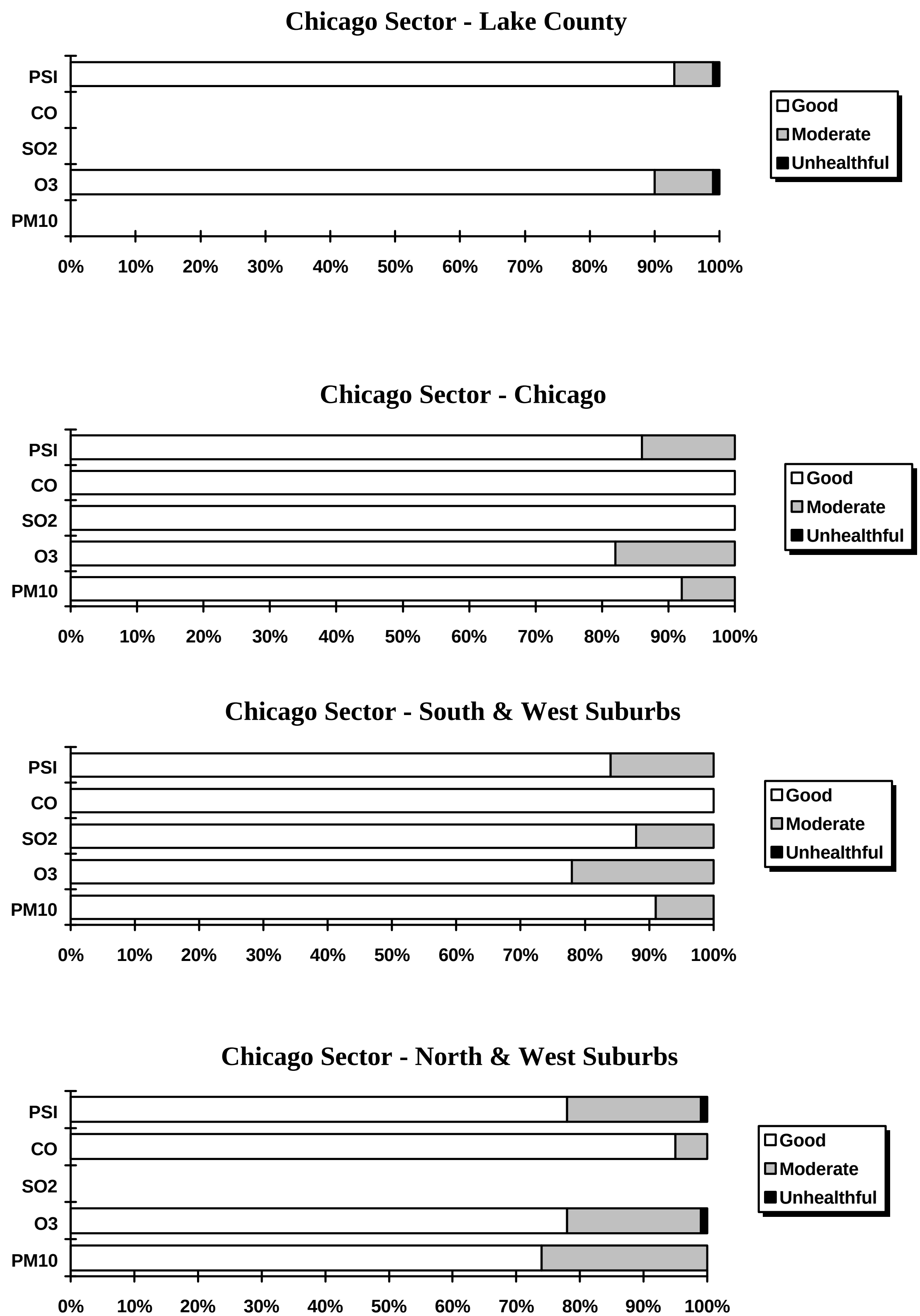
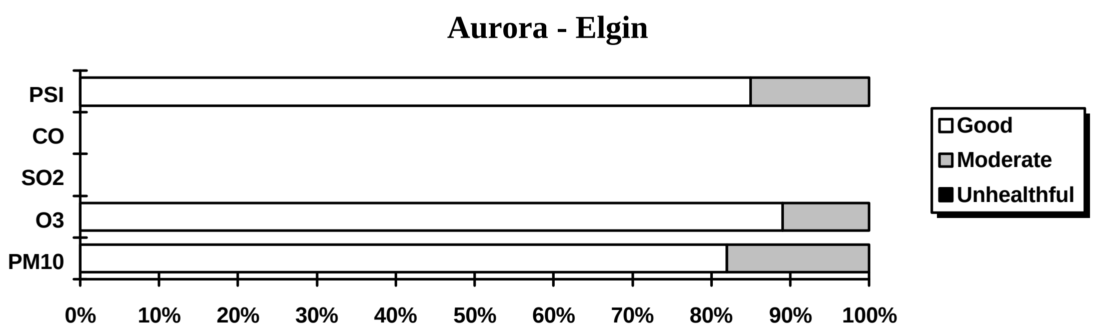


Figure 9: 1998 Pollutant Standards Index Summaries by Sector (continued)



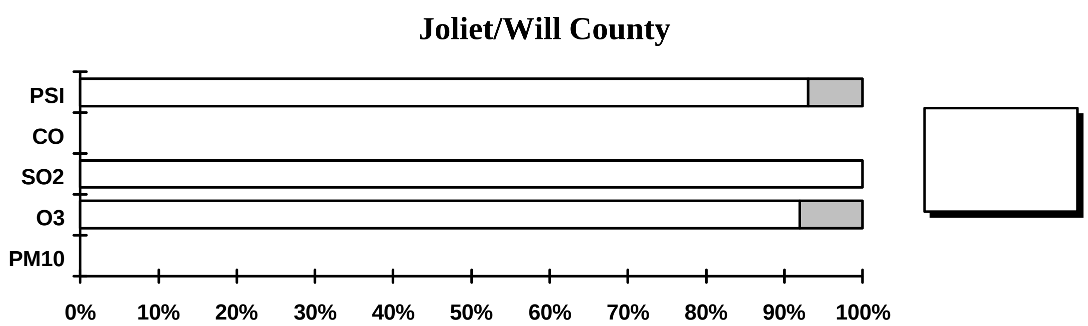
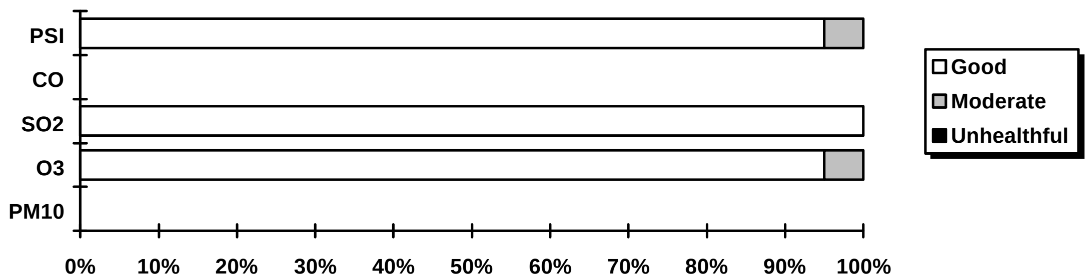
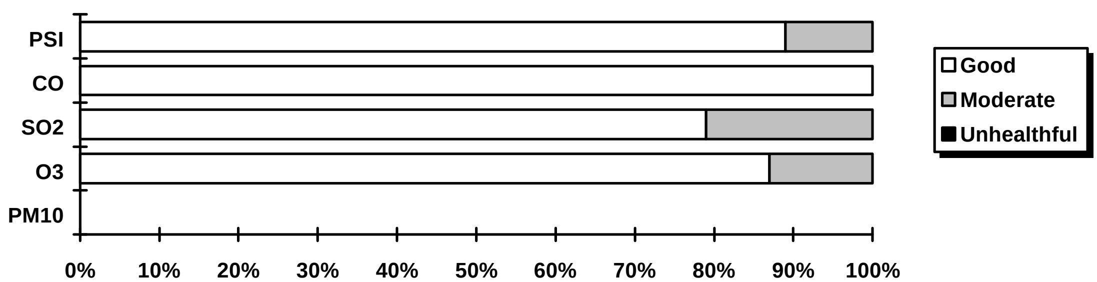


Figure 9: 1998 Pollutant Standards Index Summaries by Sector (continued)

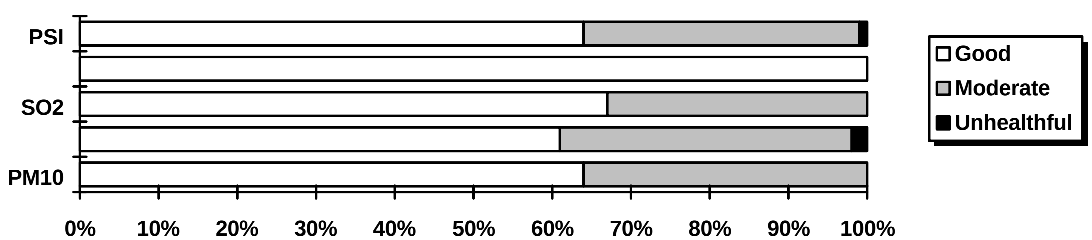
Quad Cities



Peoria



Metro-East (St. Louis)



Description of the Point Source

production schedule and demand. Also, inspections may reveal an operating rate that is only valid for that day the plant was inspected. The average emission rate can be best thought of as an estimate of emissions to the atmosphere. Through data contained in Annual Emission Reports, a better determination of actual emissions will be more readily available.

To calculate the distribution of emissions for miscellaneous fabricated product manufacturing processes, miscellaneous formulation manufacturing processes and miscellaneous organic chemical manufacturing processes. These new rules became effective April 8, 1988.

Identifying these types of sources and providing a more accurate inventory of emissions data reflects this apparent increase. In actuality, these sources were operating prior to 1989, so emissions from the period 1982 to 1988 should be increased by 20 percent to account for emissions not in the prior inventories.

Table 5 shows the distribution of volatile organic material emissions for 1998. A primary contributor to volatile organic material emissions is surface coating. Surface coating includes all painting operations (i.e. can coating, miscellaneous metal parts coating, paper coating, etc.). Coatings typically include an organic solvent which evaporates when the coating dries.

Chemical manufacturing is a significant contributor to volatile organic material emissions from the use of the many chemicals used and produced in the manufacturing process. Most of the chemical manufacturing sources are located in the Chicago and St. Louis areas.

The printing and publishing industry is more significant in Illinois than in other states, so this is reflected in its large percentage of volatile organic material emissions. Inks used by the printing and publishing industry include organic solvents which evaporate when the ink dries. Printing and publishing is

Table 5: Distribution of Volatile Organic Material Emissions for 1998

Category	Estimated Emissions in tons	Category Contribution	Cumulative Percent
Surface Coating Operations	26,998.9	20.0%	20.0%
Chemical Manufacturing	16,092.5	11.9%	31.9%
Printing/Publishing	13,145.4	9.7%	41.7%
Petroleum Product Storage	12,588.9	9.3%	51.0%
Primary Metal Production	10,951.7	8.1%	59.1%
Food/Agriculture	10,814.9	8.0%	67.1%
Fuel Combustion	8,191.1	6.1%	73.2%
Petroleum Industry	7,748.4	5.7%	79.0%
Rubber and Plastic Products	5,562.8	4.1%	83.1%
Organic Solvent Evaporation	4,387.5	3.3%	86.3%
Fabricated Metal Products	3,821.9	2.8%	89.2%
Organic Solvent Use	3,276.0	2.4%	91.6%
Bulk Terminals/Plants	3,221.6	2.4%	94.0%
Mineral Products	1,573.0	1.2%	95.1%
Petroleum Marketing/Transport	1,300.0	1.0%	96.1%
Organic Chemical Storage	940.3	0.7%	96.8%
Secondary Metal Production	863.1	0.6%	97.4%
All Other Categories	3,446.0	2.6%	100.0%

almost exclusive to the Chicago area.

Petroleum product storage emissions are from primarily large crude oil and gasoline storage tanks. Displacement of vapors when filling the tank and daily temperature changes are what cause emissions to occur.

Particulate Matter

From **Figure 11**, particulate matter emissions for the years 1982 through 1988 remained fairly constant with a slight decrease.

The large increase in particulate emissions in the years 1989 and 1990 can be attributed to the process of developing rules to regulate PM_{10} emissions. PM_{10} is a subset of particulate matter where the particle diameter is less than or equal to 10 micrometers.

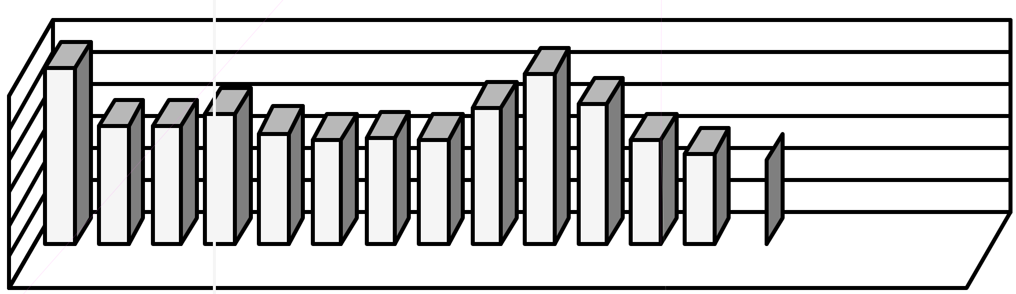
Prior to the development of these new regulations, no data existed in the EIS on PM_{10} emissions. Therefore, a database of PM_{10} emissions was developed. As the PM_{10} inventory was being developed, particulate matter data was also updated in the EIS. To establish a trend, prior year emission rates would need to be increased approximately 60 percent.

PM_{10} emissions were first included in the stationary point source inventory when the EIS began in June 1989. Therefore, no PM_{10} emission data exists prior to 1989. While PM_{10} data exists for the years 1989 to present, limits of the EIS prevent the extraction of the data to obtain prior year's totals. Even if those totals existed, the inventory is by no means complete.

PM_{10} emissions were compiled for the purpose of developing regulations. These regulations were developed for specific areas of the state where the possibility to exceed the standard existed. The areas with the greatest possibly of exceeding the standard included the Granite City area in Madison County, LaSalle in LaSalle County and the McCook and Lake Calumet areas in Cook County.

Other areas of the state did not receive the

Figure 11: Particulate Emission Trend in thousands of tons/year



Section 4:

to see, but this can be explained. Carbon monoxide is primarily generated by combustion of some material, be it coal, natural gas or waste in an incinerator. Illinois has several large electric utilities, so fuel-combustion carbon monoxide emissions should possibly be the largest contributor.

Why fuel-combustion carbon monoxide emissions only account for one-fifth of the total emissions can be explained using the same logic described above. There are literally thou-

Figure 12: Carbon Monoxide Emission Trend in thousands of tons/year

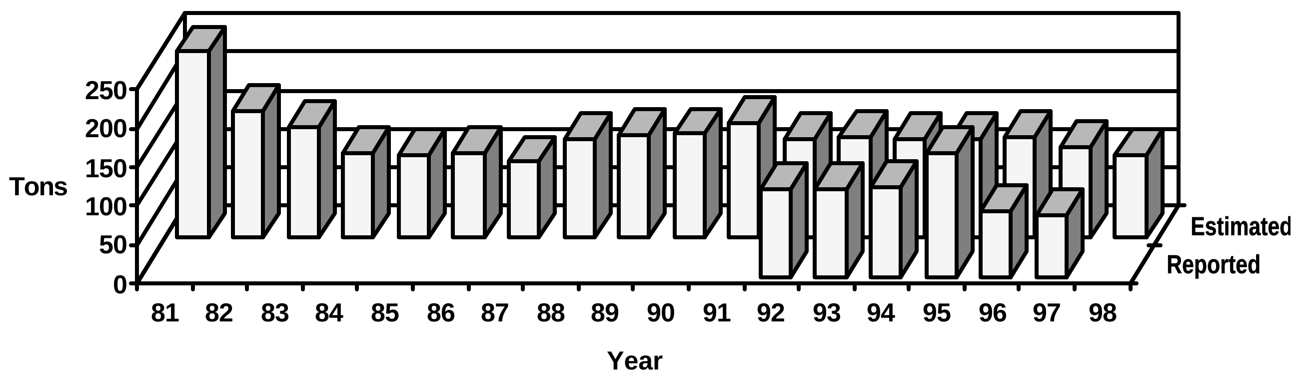


Table 7: Distribution of Carbon Monoxide Emissions for 1998

Category	Estimated Emissions in tons	Category Contribution	Cumulative Percent
Primary Metal Production	44,610.6	41.3%	41.3%
Fuel Combustion	27,935.1	25.8%	67.1%
Chemical Manufacturing	21,891.5	20.2%	87.3%
Solid Waste Disposal	4,253.3	3.9%	91.3%
Mineral Products	2,621.9	2.4%	93.7%
Secondary Metal Production	2,620.6	2.4%	96.1%
Petroleum Industry	1,351.7	1.3%	97.4%
Fabricated Metal Products	1,121.9	1.0%	98.4%
All Other Categories	1,710.7	1.6%	100.0%

sands of boilers (large and small) in Illinois. When the emission rates for these boilers were entered into the TAS, many emission rates were too low to enter.

When the TAS data was loaded into the EIS, many emission rates were still missing. To enter the missing carbon monoxide emission rates for boilers would be a tremendous burden due to the limitations of the EIS. Fuel combustion carbon monoxide emissions definitely account for more than 24 percent of the total.

Carbon monoxide emissions from primary metal production processes are from fuel combustion necessary to heat the ore to recover the metal. Chemical manufacturing carbon monoxide emissions are also due to fuel combustion emissions used to heat chemical manufacturing equipment such as reactors and other process equipment.

Sulfur Dioxide

Figure 13 shows that sulfur dioxide emissions have remained very constant over the past years and have consistently decreased. Sulfur dioxide emissions are due to sulfur present in the fuel (mainly coal and oil). When the fuel is combusted, the sulfur in the fuel combines with oxygen to form sulfur dioxide (SO_2).

The increase in sulfur dioxide emissions seen in 1995 can be primarily attributed to an increase in hours of operation for some sources. Significant increases in emissions (via increases in hours of operation) occurred at Commonwealth Edison's Kincaid Power Plant and Central Illinois Public Service's Coffeen Power Plant. Additionally, Quantum USI switched to burning coal. These changes account for about 49,000 tons of emissions.

In future years, these emissions should decrease more rapidly than in previous years.

Figure 13: Sulfur Dioxide Trend in thousands of tons/year

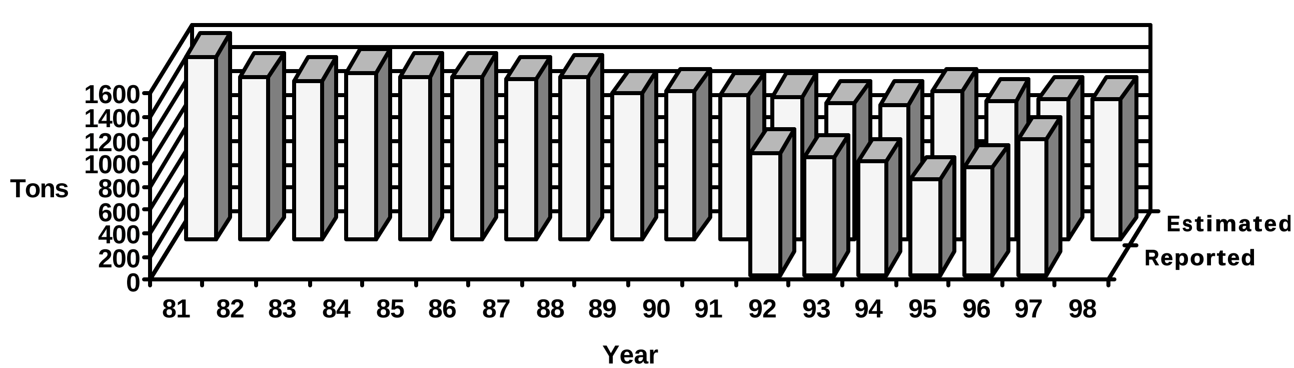


Table 8: Distribution of Sulfur Dioxide Emissions for 1998

Category	Estimated Emissions in tons	Category Contribution	Cumulative Percent
Fuel Combustion	1048359.4	87.6%	87.6%
Petroleum Industry	98148.5	8.2%	95.8%
Mineral Products	22259.2	1.9%	97.7%
Chemical Manufacturing	15138.5	1.3%	99.0%
Primary Metal Production	7786.0	0.6%	99.6%
All Other Categories	4769.4	0.4%	100.0%

Table 9: Distribution of Fuel Combustion Sulfur Dioxide Emissions for 1998

Category	Estimated Emissions in tons	Category Contribution	Cumulative Percent
Electric Generation	958,961.9	91.5%	91.5%
Industrial	71,663.1	6.8%	98.3%
Commercial/Institutional	17,502.3	1.7%	100.0%
All Other Categories	232.1	negligible	100.0%

The Clean Air Act Amendments of 1990 have included new emission limits for SO_2 that would decrease the amount of acid rain.

Table 8 provides the distribution of SO_2 emissions. Since fuel combustion contributes significantly to sulfur dioxide emissions, that category has been broken further in **Table 9**.

The SO_2 emissions in fuel combustion are related to the sulfur content of the coal being burned. The number of power plants in Illinois makes this category a significant contributor.

The SO_2 emissions in the petroleum industry are due to the processing and combustion of gaseous and liquid materials that contain sulfur. Crude oil, by nature, has some impurities or contaminants included in it. One of these impurities is sulfur. When refined, this sulfur is removed and is emitted to the atmosphere.

The SO_2 emissions from the remaining categories are due to combustion of fuel oil, which also contains sulfur.

Nitrogen Oxides

Figure 14 shows that the trend of nitrogen oxide emissions mirrors sulfur dioxide emissions very closely. This is to be expected since both sulfur dioxide and nitrogen oxide emissions come from primarily the same source, combustion of coal, oil and natural gas. When the fuel is combusted, the nitrogen in the air, and also the fuel, can combine with oxygen to form nitrogen oxides (NO_x).

Figure 14: Nitrogen Oxide Emission Trend in thousands of tons/year

Table 10 provides the distribution of nitrogen

Table 10: Distribution of Nitrogen Oxide Emissions for 1998

Category	Estimated Emissions in tons	Category Contribution	Cumulative Percent
Fuel Combustion	458,502.5	90.0%	90.0%
Petroleum Industry	20,558.3	4.0%	94.0%
Mineral Products	11,426.6	2.2%	96.2%
Primary Metal Production	7,694.7	1.5%	97.7%
Secondary Metal Production	3,521.2	0.7%	98.4%
In-process Fuel Use	1,959.2	0.4%	98.8%
Chemical Manufacturing	1,746.2	0.3%	99.2%
Solid Waste Disposal	1,475.5	0.3%	99.5%
All Other Categories	2,792.0	0.5%	100.0%

Table 11: Distribution of Fuel Combustion Nitrogen Oxide Emissions for 1998

Category	Estimated Emissions in tons	Category Contribution	Cumulative Percent
*Electric Generation	379,438.9	82.8%	82.8%
*Industrial	51,547.4	11.2%	94.0%
**Industrial	14,775.3	3.2%	97.2%
*Commercial/Institutional	6,680.3	1.5%	98.7%
**Electric Generation	3,470.0	0.8%	99.4%
All Other Categories	2,590.6	0.6%	100.0%

* = External Fuel Combustion
** = Internal Fuel Combustion

APPENDIX A
AIR SAMPLING NETWORK

TABLE A1

ILLINOIS AMBIENT AIR MONITORING NETWORK DIRECTORY OF COOPERATING AGENCIES IN ILLINOIS

Village of Bedford Park
P.O. Box 128
Argo, Illinois 60501
708/458-2067
Fax 708/458-2079

Bensenville Public Works Department
700 W. Irving Park Road
Bensenville, Illinois 60106
708/766-8200
Fax 708/350-0260

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

DuPage County Health Department
111 N. County Farm Road
Wheaton, Illinois 60187
708/682-7400
Fax 708/462-9249

Kane County Health Department
600 Lincoln Avenue
Elgin, Illinois
630/208-3801
Fax 630/208-5147

Lake County Health Department
Environmental Health Division
3010 Grand Avenue
Waukegan, Illinois 60085
847/360-6700
Fax 847/249-4972

Quincy Department of Public Works
730 Main Street
Quincy, Illinois 623B9 Tj Tc 0.2291 Tw (Waukegan, Illino
Cook County D12/744-64521

TABLE A1

DIRECTORY OF AIR POLLUTION AGENCIES IN ADJACENT STATES

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
1998 - Noncontinous Sampling Schedule

January

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

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				

April

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		

May

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						

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	

August

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					

September

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			

October

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

30 31 28 29 27

November

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

December

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

b. To measure concentrations in areas where poor air quality is combined with high population exposure.

c. To provide data useable for the determination of national trends.

d. To provide data necessary to allow the development of nationwide control strategies.

3. Photochemical Assessment Monitoring Station (PAMS) Network - The PAMS network is required in serious, severe, and extreme ozone non-attainment areas to obtain detailed data for ozone, precursors (NOx and VOC), and meteorology. VOC and NOx sampling is required for the period June - August each year. Ozone sampling occurs during the ozone season, April - October. Network design is based on four monitoring types. In Illinois PAMS are required in the Chicago metropolitan area only.

a. Type 1 sites are located upwind of the non-attainment area and are located to measure background levels of ozone and precursors coming into the area

b. Type 2 sites are located slightly downwind of the major source areas of ozone precursors.

c. Type 3 sites are located at the area of maximum ozone concentrations.

d. Type 4 sites are located at the domain edge of the non-attainment area and measure ozone and precursors leaving the area.

4. Special Purpose Monitoring Station (SPMS) Network - Any monitoring site that is not a designated SLAMS or NAMS is considered a special purpose monitoring station. Some of the SPMS network objectives are as follows:

a. To provide data as a supplement to stations used in developing local control strategies, including enforcement actions.

b. To verify the maintenance of ambient standards in areas not covered by the SLAMS/NAMS network.

c. To provide data on noncriteria pollutants.

Table A3

DISTRIBUTION OF AIR MONITORING INSTRUMENTS

	PAMS	NAMS	SLAMS	SPMS	TOTAL
Particulate Matter (PM_{10})	0	15	28	0	43
Total Suspended Particulates (TSP)	0	0	0	19	19
Particulate Matter ($PM_{2.5}$)	0	0	0	10	10
Lead	0	2	17	3	22

AIR QUALITY CONTROL REGIONS

Table A4

1998
SITE DIRECTORY

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

65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)

PEORIA COUNTY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)		EQUIPMENT
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.	281.675	SLAMS - Pb
					SPMS - TSP
Peoria Heights	Peoria Heights H.S.	Ill. EPA	N.	4513.476	NAMS - O_3
(1431001)	508 E. Glen Ave.		E.	281.660	

TAZEWELL COUNTY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)		EQUIPMENT
East Peoria (DISC)	East Peoria Medical Center	Ill. EPA	N.	4504.500	SLAMS - PM_{10}
(1790002)	235 E. Washington		E.	282.200	
Pekin	Fire Station #3	Ill. EPA	N.	4492.693	NAMS - SO_2
(1790004)	272 Derby		E.	275.291	

66 EAST CENTRAL ILLINOIS INTRASTATE

CHAMPAIGN COUNTY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)		EQUIPMENT
Champaign	Booker T. Washington Elem. Sch.	Ill. EPA	N.	4442.017	SLAMS - SO_2, O_3
(0190004)	606 E. Grove		E.	395.248	
Champaign	Post Office	Ill. EPA	N.	4441.819	SLAMS - PM_{10}
(0190005)	600 N. Neil		E.	394.066	

67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)

COOK COUNTY

CITY NAME AIRS CODE	ADDRESS				
Alsip	Village Garage	SLAMS - SO Tw ( ) Tj 18 0 T 008 0.72 12 r6.96 Tf 0.0555 412T 47.28 208ty DEC18 0 .078TD -0.0279 Tc (4441.819)			
	1	394.066			

Table A4

1998
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)		EQUIPMENT
COOK COUNTY					
Calumet City	Trailer	Cook County DEC	N.	4608.775	

Table A4

1998
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR

Table A4

1998
SITE DIRECTORY

CITY NAME	OWNER/

Table A4

1998
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)		EQUIPMENT
WILL COUNTY					
Braidwood	Com Ed Training Center	Ill. EPA	N.	4563.890	PAMS - O_3, NO/NO_2, VOC
(1971011)	36400 S. Essex Road		E.	400.178	WS/WD, SOL, MET
					SLAMS - CO
Joliet	Pershing Elem. Sch.	Ill. EPA	N.	4597.636	NAMS - PM_{10}
(1971002)	Midland & Campbell Sts.		E.	406.854	SLAMS - Pb[d]
					SPMS - TSP[d]
Joliet	Water Plant West	Ill. EPA	N.	4590.279	NAMS - SO_2
(1970013)	Rte. 6 & Young Rd.		E.	401.284	SLAMS - PM_{10}[d]
					SPMS - WS/WD
Rockdale (DISC)	Volunteer Fire Dept.	Ill. EPA	N.	4595.330	SLAMS - PM_{10}
(1971009)	Midland & Otis		E.	406.953	
South Lockport	Fitness Forum	Ill. EPA	N.	4603.045	SLAMS - O_3
(1971008)	2021 Lawrence		E.	412.075	

69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)

ROCK ISLAND COUNTY					
East Moline (DISC)	City Hall	Ill. EPA	N.	4598.836	NAMS - PM_{10}
(1610001)	915 16th Ave.		E.	713.616	SLAMS - Pb
					SPMS - TSP
Moline	Water Treatment Plant	Ill. EPA	N.	4598.361	NAMS - SO_2, O_3
(1610003)	30 18th St.		E.	707.461	SPMS - WS/WD, SOL
Rock Island (DISC)	City Hall	Ill. EPA	N.	4597.904	SLAMS - PM_{10}
(1613001)	1528 3rd Ave.		E.	702.190	
MADISON COUNTY					
Alton	Clara Barton Elem. Sch.	Ill. EPA	N.	4308.245	SLAMS - SO_2, O_3, PM_{10}
(1190008)	409 Main St.		E.	747.375	SPMS - WS/WD
Edwardsville	RAPS Trailer	Ill. EPA	N.	4297.793	SLAMS - O_3
(1192007)	Poag Road		E.	757.118	SPMS - WS/WD, SOL
Granite City	Fire Station #1	Ill. EPA	N.	4287.661	NAMS - PM_{10}[d]
(1191007)	23rd & Madison		E.	748.745	

Granite City

Granite City

Table A4

1998
SITE DIRECTORY

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

70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)

MADISON COUNTY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)		EQUIPMENT
Granite City (DISC)	Plaza Furniture	Ill. EPA	N.	4287.673	SLAMS - PM_{10}
(1190022)	2420 Nameoki Road		E.	750.333	
Granite City	VFW Building	Ill.EPA	N.	4287.099	NAMS - PM_{10}
(1190023)	2040 Washington		E.	748.427	SLAMS - Pb[d]
					SPMS - TSP[d], $PM_{2.5}$
Maryville	Southwest Cable TV	Ill. EPA	N.	4290.389	SLAMS - O_3
(1191009)	200 W. Division		E.	242.739	SPMS - WS/WD
South Roxana	S. Roxana Grade Sch.	Ill. EPA	N.	4301.635	SLAMS - SO_2
(1191010)	Michigan St.		E.	755.442	
South Roxana (DISC)	Village Hall	Ill. EPA	N.	4301.923	SLAMS - PM_{10}
(1191011)	211 Sinclair Ave.		E.	754.922	
Wood River	Water Treatment Plant	Ill. EPA	N.	4305.084	NAMS - SON.

Table A4**Table A4**

Table A4

1998
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
74 SOUTHEAST ILLINOIS INTRASTATE				
WABASH COUNTY				
Mount Carmel (1850001)	Division St.	Public Service of Indiana	N. 4249.965 E. 432.444	SPMS - SO_2
Rural Wabash County (1851001)	South of SR-1	Public Service of Indiana	N. 4246.929 E. 427.104	SPMS - SO_2
75 WEST CENTRAL ILLINOIS INTRASTATE				
ADAMS COUNTY				
Quincy (0010006)	St. Boniface Elem. Sch. 732 Hampshire	Ill. EPA / City (PM_{10})	N. 4421.358 E. 636.388	SLAMS - PM_{10}, SO_2, O_3 SPMS - WS/WD
JERSEY COUNTY				
Jerseyville (0831001)	Illini Jr. H.S. Liberty St. & County Rd.	Ill. EPA	N. 4332.169 E. 730.997	SLAMS - O_3
MACON COUNTY				
Decatur (DISC) (1150002)	Grant Elem. Sch. 2300 Geddes	Ill. EPA	N. 4413.735 E. 335.358	NAMS - PM_{10} SLAMS - Pb SPMS - TSP
Decatur (1150013)	IEPA Trailer 2200 N. 22nd	Ill. EPA	N. 4414.538 E. 335.308	NAMS - SO_2 SLAMS - O_3 SPMS - WS/WD
MACOUPIN COUNTY				
Nilwood (1170002)	IEPA Trailer Heaton & Dubois	Ill. EPA	N. 4364.287 E. 258.053	SLAMS - O_3, SO_2, Pb PM_{10}^{d} SPMS - TSP, WS/WD, SOL CO_2, UV
SANGAMON COUNTY				
Springfield (1670006)	Sewage Treatment Plant I55 & I72 at Old 36	Ill. EPA	N. 4408.650 E. 278.194	NAMS - SO_2 SPMS - WS/WD
Springfield (1670008)	Federal Building 6th St. & Monroe	Ill. EPA	N. 4408.623 E. 273.327	SLAMS - CO
Springfield (1670010)	Public Health Warehouse 2875 N. Dirksen Pkwy.	Ill. EPA	N. 4413.490 E. 277.134	SLAMS - O_3
Springfield (1670012)	Agriculture Building State Fair Grounds	Ill. EPA	N. 4412.240 E. 273.720	SLAMS - PM_{10}

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 1998. 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,

Everyqmu i balance.4 n each q -12

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 particulate matter (PM_{10}), 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. 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 1998. The tables of rankings list the sites with valid annual averages from highest to lowest. 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 B1

1998
OZONE IN EXCESS OF THE PRIMARY STANDARD OF ONE HOUR PER DAY GREATER THAN 0.12 PARTS PER MILLION

STATION	ADDRESS	DATE	MAXIMUM VALUE (PPM)
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)			
COOK COUNTY			
Evanston	531 Lincoln	Sep 6	0.133
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)			
ST. CLAIR COUNTY			
East St. Louis	13th & Tudor	Sep 4	0.140
75 WEST CENTRAL ILLINOIS INTRASTATE			
JERSEY COUNTY			
Jerseyville	Liberty St.	Sep 12	0.125

Table B2

1998
OZONE

	NUMBER OF DAYS GREATER	HIGHEST SAMPLES

Table B2

[redacted] **1998**
[redacted] **ZONE**

[redacted] R	HIGHEST SAMPLES (parts per million)	
	1-HOUR	8-HOUR

[redacted]

Table B3

1998
PARTICULATE MATTER (PM_{10}) VALUES IN EXCESS
OF THE 24-HOUR PRIMARY STANDARD OF
150 MICROGRAMS PER CUBIC METER

STATION	ADDRESS	DATE	VALUE (ug/m^3)
75 NORTH CENTRAL ILLINOIS INTRASTATE			
LASALLE COUNTY			
Oglesby	308 Portland	November 27	168

Table B4

1998
PARTICULATE MATTER (PM$_{10}$)

Table B4

1998
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
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
WILL COUNTY									
Joliet	Midland & Campbell Sts.	6-day	58	0	58	47	47	46	23
Joliet	Rte. 6 and Young Rd.	6-day	58	0	53	46	43	43	24
Rockdale	Midland & Otis	6-day	57	0	52	49	49	49	27
ROCK ISLAND COUNTY									
East Moline	915 16th Ave.	6-day	60	0	88	57	55	53	30
Rock Island	1528 3rd Ave.	6-day	58	0	54	49	48	46	26
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	409 Main St.	6-day	60	0	66	64	60	58	32
Granite City	23rd & Madison	6-day	61	0	91	75	68	68	38
Granite City	15th & Madison	6-day	60	0	152	121	92	85	46
Granite City	2420 Nameoki	6-day	57	0	73	67	66	56	32
Granite City	2040 Washington	1-day	355	0	136	120	108	106	40
South Roxana	211 Sinclair	6-day	60	0	61	56	52	50	32
Wood River	54 N. Walcott	6-day	57	0	59	56	55	53	30

Table B4

1998
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
75 WEST CENTRAL ILLINOIS INTRASTATE									
ADAMS COUNTY									
Quincy	732 Hampshire	6-day	60	0	49	45	45	42	22
MACON COUNTY									
Decatur	2300 Geddes	6-day	61	0	77	68	59	55	32
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	6-day	58	0	46	44	43	41	22
SANGAMON COUNTY									
Springfield	State Fair Grounds	6-day	59	0	75	65	51	45	25

Primary 24-Hour Standard 150 ug/m^3; Primary Annual Standard 50 ug/m^3

Table B5

1998
SHORT-TERM TRENDS
PARTICULATE MATTER (PM_{10})

ANNUAL ARITHMETIC)

Table B5

1998
SHORT-TERM TRENDS
PARTICULATE MATTER (PM_{10})

STATION	ADDRESS	1993	1994	1995	1996	1997	1998
		ANNUAL ARITHMETIC MEANS (ug/m^3)					
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)							
WILL COUNTY							
Joliet	Midland & Campbell Sts.	26	25	24	22	23	23
Joliet	Rte. 6 and Young Rd.	-	20	22	21	24	24
Rockdale	[illegible]	[illegible]	[illegible]	[illegible]	24	25	25
ROCK ISLAND COUNTY							
East Moline	915 16th Ave.	21	20	20	20	24	30
Rock Island							

2021 37.28 62a853 3D (1997) Tj 44.88 04 TD (30) Tj ET 39.28 519.84 0.72 12 re f 39.28 519.84 0.72 12 re f 47390.4 510.24 T5 TDE4f
2021 37.28 62a853 3 TD (20) Tj 44.88 0 9TD (37.28 62a853 3 TD (20) Tj 44.88 032COUNT 915 16449Ge Tc 0.047 Tw re f 47.38.4 510.24 0.0104 T14 2.1182Gran

Table B5

1998
SHORT-TERM TRENDS
PARTICULATE MATTER (PM_{10})

STATION	ADDRESS	1993	1994	1995	1996	1997	1998
		ANNUAL ARITHMETIC MEANS (ug/m^3)					
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	20	25	23	21	20	22
MACON COUNTY							
Decatur	2300 Geddes	28	29	30	28	27	32
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	19	20	18	17	19	22
SANGAMON COUNTY							
Springfield	State Fair Grounds	-	-	-	-	23	25

- 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 B6

1998
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	2ND	3RD	8-HOUR AVERAGE 1ST	2ND	3RD
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)										
PEORIA COUNTY										
Peoria	1005 N. University	8368	0	0	8.0	7.8	7.7	6.5	5.8	4.5
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)										
COOK COUNTY										
Calumet City	1703 State St.	8636	0	0	4.6	4.0	4.0	3.7	3.3	2.6
Chicago - CTA Building	320 S. Franklin	8693	0	0	9.2	7.0	6.4	4.4	4.2	3.3
Cicero	1830 S. 51st Ave.	8691	0	0	5.6	5.5	5.2	3.3	3.1	3.0
Maywood	1505 S. First Ave	8722	0	0	6.3	6.2	6.0	5.1	5.0	4.6
Schiller Park	4743 N. Mannheim	8278	0	0	4.7	4.5	3.9	3.6	2.6	2.6
WILL COUNTY										
Braidwood	36400 S. Essex Rd.	8467	0	0	1.7	1.1	1.0	0.8	0.7	0.7
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)										
MADISON COUNTY										
Granite City	2001 Edison	8418	0	0	6.8	6.0	4.8	3.7	2.9	2.7
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)										
WINNEBAGO COUNTY										
Rockford	425 E. State	8703	0	0	7.8	6.8	6.6	4.2	3.6	3.6
75 WEST CENTRAL ILLINOIS INTRASTATE										
SANGAMON COUNTY										
Springfield	6th & Monroe	8493	0	0	10.2	6.4	3.2	3.1	1.9	1.7

Primary 1-Hour Standard 35 ppm; Primary 8-Hour Standard 9 ppm

Table B7

1998
SULFUR DIOXIDE VALUES IN EXCESS
OF THE 24-HOUR PRIMARY STANDARD OF 0.14 PPM OR
THE 3-HOUR SECONDARY STANDARD OF 0.5 PPM

Table B7

1998
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	8518	0	0	0.144	0.132	0.048	0.048	0.007
TAZEWELL COUNTY									
Pekin	272 Derby	8673	0	0	0.317	0.224	0.125	0.040	0.006
66 EAST CENTRAL ILLINOIS INTRASTATE									
CHAMPAIGN COUNTY									
Champaign	606 E. Grove	8654	0	0	0.049	0.047	0.019	0.014	0.003
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Bedford Park	7800 W. 65th St.	8657	0	0	0.103	0.093	0.035	0.034	0.007
Blue Island	12700 Sacramento	8596	0	0	0.166	0.113	0.062	0.054	0.008
Calumet City	1703 State Sr.	8652	0	0	0.042	0.037	0.017	0.016	0.004
Chicago - CTA	320 S. Franklin	8663	0	0	0.120	0.080	0.041	0.040	0.005
Chicago - SE Police	103rd & Luella	8697	0	0	0.040	0.035	0.016	0.015	0.002
Chicago - Washington ES	3611 E. 114th St.	8583	0	0	0.105	0.068	0.028	0.025	0.005
Cicero	1830 S. 51st Ave.	8673	0	0	0.090	0.078	0.032	0.031	0.005
Lemont	729 Houston	8684	0	0	0.094	0.093	0.038	0.024	0.006
DuPAGE COUNTY									
Lisle	Morton Arboretum	8633	0	0	0.076	0.053	0.026	0.022	0.003
WILL COUNTY									
Joliet	Rte 6 & Young Rd.	8537	0	0	0.073	0.063	0.033	0.022	0.004
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
ROCK ISLAND COUNTY									
Moline	30 18th St.	8623	0	0	0.026	0.024	0.009	0.009	0.002

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

Table B7

1998
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
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	409 Main St.	8648	0	0	0.156	0.120	0.087	0.041	0.008
Granite City	2001 Edison	8585	0	0	0.090	0.073	0.025	0.025	0.006
South Roxana	Michigan Ave.	8600	0	0	0.124	0.102	0.044	0.043	0.008
Wood River	54 N. W37v64Wood River0425 Tc -0.0574 Tw (Wood River) Tj 115.2 0 TD 0.0669 Tc -0.0818 Y								

Table B8

1998
SHORT-TERM TRENDS

Table B8

1998
SHORT-TERM TRENDS
SULFUR DIOXIDE

Table B9

1998
NITROGEN DIOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES	HIGHEST SAMPLES 1-HOUR 1ST	1-HOUR 2ND	24-HOUR 1ST	24-HOUR 2ND	ANNUAL ARITHMETIC MEAN
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Calumet City	1703 State St.	8649	0.097	0.092	0.049	0.046	0.025
Chicago - CTA	320 S. Franklin	8348	0.112	0.109	0.068	0.067	0.032
Chicago - Jardine [1]	1000 E. Ohio	3612	0.091	0.090	0.048	0.045	+
Chicago - Truman	1145 W. Wilson	8394	0.094	0.091	0.053	0.049	0.024
Chicago - University	5720 S. Ellis	8695	0.094	0.093	0.051	0.049	0.023
Cicero	1830 S. 51st Ave.	8674	0.104	0.103	0.053	0.052	0.026
Northbrook	750 Dundee Rd.	8616	0.070	0.069	0.033	0.032	0.017
Schiller Park	4743 N. Mannheim	8460	0.103	0.098	0.069	0.062	0.031
LAKE COUNTY							
Zion [1]	Camp Logan	3533	0.065	0.064	0.021	0.020	+
WILL COUNTY							
Braidwood	36400 S. Essex Rd.	8309	0.044	0.042	0.027	0.024	0.009
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	8238	0.065	0.064	0.033	0.033	0.018

1 PAMS monitor operated only during “ozone season”

\+ Did nor meet minimum statistical selection criteria (See Appendix B.1)

Primary Annual Standard 0.053 ppm

Table B10

1998
SHORT-TERM TRENDS
NITROGEN DIOXIDE

STATION	ADDRESS	1993	1994	1995	1996	1997	1998
		ANNUAL MEANS (ppm)					
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Calumet City	1703 State St.	0.021	0.024	0.024	0.022	0.024	0.025
Chicago - CTA	320 S. Franklin	0.030	0.032	0.032	0.031	0.034	0.032
Chicago - Truman	1145 W. Wilson	-	-	-	-	-	0.024
Chicago - University	5720 S. Ellis	0.023	0.025	0.027	0.024	0.024	0.023
Cicero	1820 S. 51st St.	0.025	0.026	0.027	0.027	0.027	0.026
Northbrook	750 Dundee Rd.	-	-	-	-	+	0.017
Schiller Park	4743 N. Mannheim	-	-	-	-	-	0.031
WILL COUNTY							
Braidwood	36400 S. Essex Rd.	-	-	+	0.009	0.009	0.009
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY0.009							

Table B11

1998
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	0.02	0.02	0.02	0.02
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	0	0.02	0.02	0.02	0.02	0.02
Chicago - Bright	10740 S. Calhoun	0	0.04	0.03	0.06	0.03	0.04
Chicago - Cermak	735 W. Harrison	0	0.07	0.10	0.05	0.09	0.08
Chicago - Mayfair	4850 Wilson Ave.	0	0.03	0.03	0.03	0.02	0.03
Chicago - Washington	3535 E. 114th St.	0	0.03	0.03	0.04	0.03	0.03
Maywood	1500 Maybrook Dr.	0	0.05	0.05	0.04	0.03	0.04
Schiller Park	4243 N. Mannheim Rd.	0	0.02	0.02	0.02	0.02	0.02
Summit	60th St. & 74th Ave.	0	0.02	0.03	0.04	0.02	0.03
DuPAGE COUNTY							
Bensenville	711 E. Jefferson	0	0.03	0.03	0.03	0.02	0.03
WILL COUNTY							
Joliet	Midland & Campbell Sts.	0	0.01	0.01	0.01	0.01	0.01
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)							
ROCK ISLAND COUNTY							
East Moline	915 16th Ave.	0	0.01	0.01	0.01	0.01	0.01
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison	0	0.10	0.08	0.06	0.10	0.08
Granite City	2044 Washington	0	0.04	0.06	0.07	0.08	0.06
Wood River	54 N. Walcott	0	0.04	0.09	0.06	0.14	0.08
Chemetco - 1N	Rural County	1	+	2.59	-	-	+
Chemetco - 2E	Rural County	0	0.70	0.33	0.15	0.58	0.43
Chemetco - 4SE	Rural County	0	0.15	0.26	0.06	1.01	0.38
Chemetco - 5N	Rural County	0	-	-	0.83	1.11	+
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	0	0.04	0.06	0.05	0.10	0.07

- Station not in operation during quarter

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

Primary Quarterly Standard 1.5 ug/m3

Table B12

1998
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	ARSENIC TOTAL SAMPLES	ARSENIC HIGHEST 1st	ARSENIC HIGHEST 2nd	ARSENIC ARITH. MEAN	BERYLLIUM TOTAL SAMPLES	BERYLLIUM HIGHEST 1st	BERYLLIUM HIGHEST 2nd	BERYLLIUM ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	60	0.005	0.004	0.001	60	0.000	0.000	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	500 W. 123rd. St.	60	0.009	0.007	0.002	NA			
Chicago - Bright	10740 S. Calhoun	59	0.012	0.008	0.002	NA			
Chicago - Cermak	735 W. Harrison	61	0.008	0.007	0.002	NA			
Chicago - Mayfair	4850 Wilson Ave	60	0.011	0.006	0.002	NA			
Chicago - Washington	3535 E. 114th St.	59	0.007	0.006					

Table B12

1998
FILTER ANALYSIS DATA
(micrograms per cubic meter)

	TOTAL	HIGHEST	ARITH.	TOTAL	HIGHEST	ARITH.
STATIO						

Table B12

1998
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	IRON TOTAL SAMPLES	IRON HIGHEST 1st	IRON HIGHEST 2nd	IRON ARITH. MEAN	MANGANESE TOTAL SAMPLES	MANGANESE HIGHEST 1st	MANGANESE HIGHEST 2nd	MANGANESE ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	60	1.67	1.23	0.48	60	0.104	0.074	0.022
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	60	1.32	1.30	0.58	60	0.112	0.101	0.033
Chicago - Bright	10740 S. Calhoun	59	2.98	2.85	1.12	59	0.607	0.550	0.176
Chicago - Cermak	735 W. Harrison	61	5.63	5.15	1.87	61	0.210	0.206	0.070
Chicago - Mayfair	4850 Wilson Ave	60	7.87	4.16	1.27	60	0.346	0.212	0.063
Chicago - Washington	3535 E. 114th St.	59	5.64	3.35	1.14	59	0.547	0.537	0.155
Maywood	1500 Maybrook Dr.	60	8.85	8.06	3.22	60	0.462	0.408	0.142
Schiller Park	4743 N. Mannheim Rd.	59	2.61	2.39	1.27	59	0.117	0.071	0.031
Summit	60th St. & 74th Ave.	57	6.54	1.43	0.77	57	0.388	0.187	0.041
DuPAGE COUNTY									
Bensenville	711 E. Jefferson	62	3.77	2.20	0.88	62	0.092	0.072	0.028
WILL COUNTY									
Joliet	Midland & Campbell Sts.	57	1.61	1.18	0.47	57	0.054	0.054	0.019
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
ROCK ISLAND COUNTY									
East Moline	915 16th Ave.	57	1.16	1.00	0.41	57	0.073	0.068	0.023
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	9.34	5.19	2.01	58	0.635	0.353	0.144
Granite City	2044 Washington	57	15.22	9.15	2.97	57	1.511	0.642	0.228
Wood River	54 N. Walcott	56	1.64	1.31	0.55	56	0.074	0.056	0.024
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	55	2.72	2.53	1.03	55	0.146	0.093	0.042
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)									
WINNEBAGO COUNTY									
Rockford	204 S. 1st St.	58	1.92	1.82	0.70	58	0.266	0.124	0.031
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACON COUNTY									
Decatur	2300 Geddes	59	2.04	1.44	0.68	59	0.086	0.067	0.024
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	59	0.60	0.54	0.22	59	0.025	0.025	0.007

Table B12

1998
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	NICKEL TOTAL SAMPLES	NICKEL HIGHEST 1st	NICKEL HIGHEST 2nd	NICKEL ARITH. MEAN	SELENIUM TOTAL SAMPLES	SELENIUM HIGHEST 1st	SELENIUM HIGHEST 2nd	SELENIUM ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	60	0.000	0.000	0.000	60	0.006	0.006	0.002
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	60	0.036	0.013	0.007	NA			
Chicago - Bright	10740 S. Calhoun	59	0.021	0.020	0.009	NA			
Chicago - Cermak	735 W. Harrison	61	0.017	0.017	0.010	NA			
Chicago - Mayfair	4850 Wilson Ave	60	0.018	0.014	0.008	NA			
Chicago - Washington	3535 E. 114th St.	59	0.020	0.016	0.008	NA			
Maywood	1500 Maybrook Dr.	60	0.023	0.020	0.011	NA			
Schiller Park	4743 N. Mannheim Rd.	59	0.000	0.000	0.000	59	0.005	0.004	0.001
Summit	60th St. & 74th Ave.	57	0.022	0.015	0.008	NA			
DuPAGE COUNTY									
Bensenville	711 E. Jefferson	62	0.000	0.000	0.000	62	0.006	0.004	0.001
WILL COUNTY									
Joliet	Midland & Campbell Sts.	57	0.000	0.000	0.000	57	0.006	0.004	0.001
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
ROCK ISLAND COUNTY									
East Moline	915 16th Ave.	57	0.000	0.000	0.000	57	0.005	0.003	0.001
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.000	0.000	0.000	58	0.005	0.004	0.001
Granite City	2044 Washington	57	0.000	0.000	0.000	57	0.007	0.005	0.002
Wood River	54 N. Walcott	56	0.116	0.046	0.004	56	0.004	0.003	0.002
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	55	0.010	0.000	0.000	55	0.005	0.004	0.001
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)									
WINNEBAGO COUNTY									
Rockford	204 S. 1st St.	58	0.000	0.000	0.000	58	0.005	0.005	0.001
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACON COUNTY									
Decatur	2300 Geddes	59	0.013	0.000	0.000	59	0.007	0.004	0.001
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	59	0.000	0.000	0.000	59	0.004	0.004	0.001

Table B12

1998
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

VANADIUM

65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
PEORIA COUNTY					
Peoria	613 N.E. Jefferson	60	0.002	0.002	0.000

67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
COOK COUNTY					
Alsip	4500 W. 123rd. St.	NA			
Chicago - Bright	10740 S. Calhoun	NA			
Chicago - Cermak	735 W. Harrison	NA			
Chicago - Mayfair	4850 Wilson Ave	NA			
Chicago - Washington	3535 E. 114th St.	NA			
Maywood	1500 Maybrook Dr.	NA			
Schiller Park	4743 N. Mannheim Rd.	59	0.005	0.002	0.000
Summit	60th St. & 74th Ave.	NA			
DuPAGE COUNTY					
Bensenville	711 E. Jefferson	62	0.002	0.002	0.000
WILL COUNTY					
Joliet	Midland & Campbell Sts.	57	0.002	0.002	0.000

69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
ROCK ISLAND COUNTY					
East Moline	915 16th Ave.	58	0.000	0.000	0.000

70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
MADISON COUNTY					
Granite City	15th & Madison	58	0.022	0.012	0.004
Granite City	2044 Washington	57	0.026	0.025	0.007
Wood River	54 N. Walcoot	56	0.005	0.005	0.001
ST. CLAIR COUNTY					
East St. Louis	13th St. & Tudor Ave.	55	0.008	0.005	0.001

73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
WINNEBAGO COUNTY					
Rockford	204 S. 1st St.	58	0.002	0.000	0.000

75 WEST CENTRAL ILLINOIS INTRASTATE

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
MACON COUNTY					
Decatur	2300 Geddes	59	0.000	0.000	0.000
MACOUPIN COUNTY					
Nilwood	Heaton & DuBois	59	0.002	0.002	0.000

Table B12

1998
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	60	15.6	14.1	5.5	60	27.5	19.4	8.2
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									

Table B13

1998
(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								
Ethane						18.0	15.3	8.5
Ethylene						14.7	12.4	4.6
Propane						17.7	14.7	6.6
Propylene						5.4	4.7	1.8
Acetylene						12.9	9.1	4.3
N - Butane						24.9	15.5	5.8
Isobutane						25.3	20.5	5.0
Trans - 2 - Butene						1.7	0.5	0.2
Cis - 2 - Butene						38.2	18.1	1.2
N - Pentane						12.6	6.9	3.4
Isopentane						46.7	36.3	11.1
1 - Pentene						8.9	5.2	0.3
Trans - 2 - Pentene						1.3	0.6	0.1
Cis - 2 - Pentene						0.9	0.6	0.0
3 - Methylpentane						7.6	5.7	2.0
N - Hexane						8.1	5.1	1.6
N - Heptane						6.5	4.1	1.3
N - Octane						1.8	1.3	0.5
N - Nonane						6.1	2.3	0.9
Cyclopentane						3.6	2.6	0.4
Isoprene						1.2	0.9	0.1
2,2 - Dimethylbutane						1.1	0.7	0.1
2,4 - Dimethylpentane						2.1	1.9	0.5
Cyclohexane						6.4	5.4	1.2
3 - Methylhexane						6.6	6.0	1.7
2,2,4 - Trimethylpentane						9.3	5.4	2.5
2,3,4 - Trimethylpentane						2.6	1.6	0.5
3 - Methylheptane						1.4	1.3	0.2
Methylcyclohexane						2.2	1.5	0.5
Methylcyclopentane						5.8	4.1	0.8
2 - Methylhexane						5.0	4.0	0.7
1 - Butene						6.0	5.6	2.0
2,3 - Dimethylbutane						1.1	1.0	0.5
2 - Methylpentane						9.1	7.9	2.4
2,3 - Dimethylpentane						6.0	5.4	1.5
2 - Methylheptane						16.0	11.4	2.0
Benzene						19.6	7.4	2.2

Table B13

1998
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

Table B13

1998
(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
N - Heptane		6.9	6.4			1.6	1.5	0.6
N - Octane		12.9	2.6			0.7	0.5	0.2
N - Nonane		16.9	15.4			3.4	2.5	0.5
Cyclopentane		37.9						

Table B13

1998
(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
LAKE COUNTY								
Zion	Camp Logan							
COMPOUNDS								
Ethane		28.2	15.7			8.9	8.2	4.5
Ethylene		11.4	10.4			3.9	3.3	1.4
Propane		51.9	46.4			7.3	6.9	3.2
Propylene		19.3	6.8			1.6	1.5	.0.5
Acetylene		26.2	5.7			2.2	1.6	0.7
N - Butane		31.6	17.8			4.9	4.7	2.0
Isobutane		18.1	9.6			2.4	2.4	0.9
Trans - 2 - Butene		1.4	0.9			0.4	0.3	0.3
Cis - 2 - Butene		30.4	0.5			1.3	0.1	0.0
N - Pentane		52.2	43.5			11.7	9.7	2.4
Isopentane		34.7	25.0			12.4	11.1	3.9
1 - Pentene		1.0	0.8			0.2	0.2	0.1
Trans - 2 - Pentene		10.0	1.3			0.5	0.3	0.1
Cis - 2 - Pentene		12.6	0.7			0.5	0.2	0.0
3 - Methylpentane		20.2	5.9			2.0	2.0	0.7
N - Hexane		25.4	6.6			2.4	2.2	0.8
N - Heptane		2.8	2.3			0.9	0.9	0.3
N - Octane		13.0	3.2			0.9	0.5	0.1
N - Nonane		1.5	1.4			0.6	0.5	0.1
Cyclopentane		24.7	14.1			1.3	1.3	0.1
Isoprene		47.5	42.9			12.1	11.3	4.8
2,2 - Dimethylbutane		1.1	0.1			0.4	0.3	0.1
2,4 - Dimethylpentane		22.9	2.9			0.9	0.9	0.2
Cyclohexane		1.5	1.5			0.9	0.9	0.1
3 - Methylhexane		3.6	3.1			1.1	1.1	0.4
2,2,4 - Trimethylpentane		14.5	12.4			3.2	3.0	1.2
2,3,4 - Trimethylpentane		17.8	4.1			1.1	1.0	0.3
3 - Methylheptane		8.6	1.0			0.4	0.3	0.1
Methylcyclohexane		19.8	2.0			1.1	0.5	0.1
Methylcyclopentane		25.1	6.5			1.8	1.4	0.4
2 - Methylhexane		17.9	3.2			1.0	1.0	0.3
1 - Butene		1.8	1.0			0.3	0.2	0.1
2,3 - Dimethylbutane		5.4	4.5			1.0	1.0	0.3
2 - Methylpentane		37.1	7.9			3.3	2.7	3.2
2,3 - Dimethylpentane		14.2	3.8			1.3	1.2	0.4
2 - Methylheptane		0.9	0.8					

Tc 0 Tw (0.9-0.0696 Tc c3.2 12841918106 (2.7) Tje.1g1/106 (2

Table B13

1998
(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								
O - Xylene		6.5	6.4			2.2	1.7	0.5
M/P Xylene		23.2	23.2			5.5	4.4	1.0
1,3,5 - Trimethylbenzene		2.8	2.4			0.5	0.4	0.1
1,2,4 - Trimethylbenzene		7.0	5.9			2.0	1.7	0.6
N - Propylbenzene		1.1	0.9			0.3	0.3	0.1
Isopropylbenzene		2.6	1.0			0.2	0.2	0.0
Styrene		2.3	1.8			0.4	0.3	0.1
N-Decane		26.1	2.6			1.0	0.3	0.0
N-Undecane		17.0	5.1			2.3	0.7	0.1
O-Ethyltolune		1.8	1.6			0.4	0.4	1.0
M-Ethyltolune		4.3	5.3			1.1	1.0	0.3
P-Ethyltolune		2.7	2.3			0.4	0.3	0.1
M-Diethylbenzene		10.5	1.2			1.4	0.3	0.1
P-Diethylbenzene		2.1	1.3			0.4	0.3	0.1
1,2,3 Trimethylbenzen		4.5	4.1			1.1	1.0	0.3
Formaldehyde[1]				10.7	7.2			1.8
Acetaldehyde[1]				6.8	3.1			0.9
WILL COUNTY								
Braidwood	36400 S. Essex Road							
COMPOUNDS								
Ethane		28.0	20.2			7.0	7.0	3.9
Ethylene		29.4	24.9			4.1	3.2	0.1
Propane		83.7	79.0			11.9	10.4	3.6
Propylene		19.2	13.4			2.6	2.1	0.4
Acetylene		3.4	2.3			1.1	0.7	0.2
N - Butane		77.7	32.6			3.6	3.5	4.6
Isobutane		55.2	12.7			4.4	2.7	0.1
Trans - 2 - Butene		0.6	0.0			0.0	0.0	0.0
Cis - 2 - Butene		0.0	0.0			0.0	0.0	0.0
N - Pentane		14.6	8.8			3.3	2.6	1.0
Isopentane		17.5	16.9			5.0	4.8	1.6
1 - Pentene		0.4	0.4			0.0	0.0	0.0
Trans - 2 - Pentene		0.9	0.1			0.1	0.0	0.0
Cis - 2 - Pentene		12.3	0.0			0.5	0.0	0.0
3 - Methylpentane		24.1	22.7			9.9	6.7	1.7
N - Hexane		9.3	6.8			1.1	1.0	0.3
N - Heptane		5.3	5.2			0.5	0.4	0.1
N - Octane		7.7	5.0			0.6	0.5	0.0

[1] Values in ppb (volume)

Table B13

1998
(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								
N - Nonane		4.0	3.3			0.4	0.3	0.4
Cyclopentane		5.2	2.6			1.1	0.2	0.0
Isoprene		9.4	4.5			0.8	0.7	0.2
2,2 - Dimethylbutane		1.5	1.3			0.2	0.1	0.0
2,4 - Dimethylpentane		23.7	11.2			1.0	0.3	0.0
Cyclohexane		2.8	2.6			0.3	0.2	0.0
3 - Methylhexane		7.9	6.6			0.8	0.6	0.1
2,2,4 - Trimethylpentane		11.6	10.9			1.4	1.2	0.2
2,3,4 - Trimethylpentane		18.6	5.5			0.8	0.4	0.1
3 - Methylheptane		9.9	8.8			0.8	0.4	0.0
Methylcyclohexane		11.5	7.4			1.3	0.6	0.1
Methylcyclopentane		4.2	4.1			0.8	0.5	0.1
2 - Methylhexane		18.2	6.2			0.8	0.7	0.1
1 - Butene		16.0	6.8			1.4	0.8	0.1
2,3 - Dimethylbutane		2.1	1.8			0.6	0.2	0.0
2 - Methylpentane		4.8	4.6			1.0	0.8	0.1
2,3 - Dimethylpentane		4.2	2.7			0.3	0.3	0.1
2 - Methylheptane		4.6	3.3			0.5	0.3	0.0
Benzene		14.3	13.5			1.7	1.5	0.7
Toluene		10.4	8.5			4.0	3.0	1.2
Ethylbenzene		9.8	8.9			0.9	0.4	0.2
O - Xylene		4.4	3.8			0.5	0.5	0.1
M/P Xylene		7.0	6.1			1.3	1.2	0.3
1,3,5 - Trimethylbenzene		6.9	4.1			0.4	0.2	0.0
1,2,4 - Trimethylbenzene		4.3	3.1			0.5	0.5	0.1
N - Propylbenzene		5.1	4.8			0.3	0.3	0.0
Isopropylbenzene		6.0	2.6			0.3	0.3	0.0
Styrene		7.0	6.9			0.6	0.6	0.1
N-Decane		5.8	3.3			0.2	0.2	0.1
N-Undecane		7.8	4.4			0.8	0.7	0.2
O-Ethyltolune		9.5	8.4			0.5	0.4	0.1
M-Ethyltolune		4.6	2.3			0.2	0.2	0.0
P-Ethyltolune		7.2	5.7			0.4	0.4	0.1
M-Diethylbenzene		9.6	8.7			0.5	0.5	0.1
P-Diethylbenzene		8.6	3.8			0.5	0.5	0.1
1,2,3 Trimethylbenzen		6.9	4.3			1.0	0.9	0.2
Formaldehyde[1]				3.9	3.6			1.7
Acetaldehyde[1]				1.4	1.3			0.7

[1] Values in ppb (volume)

Table B14

1998

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

	ANNUAL
SAMPLING	

Table B15

APPENDIX C
PRECISION AND ACCURACY DATA SUMMARY AND TABLES

C.1 PRECISION AND ACCURACY DATA SUMMARY

The U.S. Environmental Protection Agency (USEPA) regulations governing the SLAMS/NAMS network were published in 40 CFR, Part 58. These regulations specify, in addition to other criteria, the minimum quality assurance requirements for monitoring of pollutants for which National Ambient Air Quality Standards (NAAQS) have been established. This section summarizes one aspect of the quality assurance program, that being, the assessment of the quality of the monitoring data by the determination of the accuracy and precision of the monitoring equipment. Each agency that is responsible for a portion of the SLAMS network is required to perform this precision and accuracy testing. Illinois EPA and Cook County DEC are responsible for the testing of their respective parts of the Illinois SLAMS network. USEPA has established guidelines for evaluating the upper and lower 95% probability limits. The quarterly probability limits for precision data should fall within a range of -15% to +15% and the quarterly probability limits for accuracy data should fall within a range of -20% to +20%. These ranges are only guidelines, but when they are exceeded, procedures should be reviewed to determine the reason for the wide variation in the data.

Table C1

1998
PRECISION DATA SUMMARY

Table C1

1998
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	4	-4
	2nd Quarter	6	75	5	-5
	3rd Quarter	6	79	4	-5
	4th Quarter	6	78	4	-4
	Year		310	4	-4
Ozone	1st Quarter	3	40	3	-4
	2nd Quarter	10	126	4	-5
	3rd Quarter	10	126	3	-4
	4th Quarter	10	61	3	-4
	Year		353	3	-4
Carbon Monoxide	1st Quarter	3	39	5	-4
	2nd Quarter	3	48	6	-5
	3rd Quarter	3	40	4	-4
	4th Quarter	3	37	5	-2
	Year		164	5	-4
Nitrogen Dioxide	1st Quarter	4	49	5	-4
	2nd Quarter	4	49	5	-4
	3rd Quarter	4	51	7	-4
	4th Quarter	4	49	7	-3
	Year		198	6	-4
Inhalable Particulate PM_{10}	1st Quarter	1	13	5	-12
	2nd Quarter	1	14	10	-13
	3rd Quarter	1	13	19	-33
	4th Quarter	1	16	13	-7
	Year		56	12	-16
Lead	1st Quarter	1	14	(1)	(1)
	2nd Quarter	1	15	(1)	(1)
	3rd Quarter	1	15	(1)	(1)
	4th Quarter	1	15	(1)	(1)

Table C2

1998
ACCURACY DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF AUDITS	PROBABILITY LIMITS LEVEL 1 +95%	LEVEL 1 -95%	LEVEL 2 +95%	LEVEL 2 -95%	LEVEL 3 +95%	LEVEL 3 -95%	LEVEL 4 +95%	LEVEL 4 -95%
SITES OPERATED BY ILLINOIS EPA										
Sulfur Dioxide	1st Quarter	5	10	-5	9	-9	6	-10		
	2nd Quarter	4	1	-10	0	-7	1	-7		
	3rd Quarter	5	-3	-10	9	-2	9	-5		
	4th Quarter	8	2	-14	4	-13	6	-14	13	-21
	Year	22	2	-10	5	-8	5	-9	13	-21
Ozone	1st Quarter	7	3	-9	4	-11	4	-12		
	2nd Quarter	13	11	-16	4	-13	3	-10		
	3rd Quarter	12	7	-11	5	-10	3	-8		
	4th Quarter	6	6	-18	9	-18	6	-18		
	Year	38	7	-14	5	-13	4	-12		
Carbon Monoxide	1st Quarter	2	5	-11	1	-1	5	-4		
	2nd Quarter	0 (1)	NA	NA	NA	NA	NA	NA		
	3rd Quarter	2	4	+2	6	0	7	-4		
	4th Quarter	1 (1)	NA	NA	NA	NA	NA	NA		
	Year	5	4	-4	4	0	6	-4		
Nitrogen Dioxide	1st Quarter	1 (1)	NA	NA	NA	NA	NA	NA		
	2nd Quarter	1 (1)	NA	NA	NA	NA	NA	NA		
	3rd Quarter	2	17	+15	28	-6	30	-13		
	4th Quarter	1 (1)	NA	NA	NA	NA	NA	NA		
	Year	5	17	+15	28	-6	30	-13		
Inhalable Particulate PM_{10}	1st Quarter	12			11	-10				
	2nd Quarter	14			-1	-10				
	3rd Quarter	15			9	-12				
	4th Quarter	13			13	-2				
	Year	54			8	-8				
Lead	1st Quarter	3	-1	-7	-1	-9				
	2nd Quarter	3	3	-9	-4	-7				
	3rd Quarter	3	1	-4	-2	-7				
	4th Quarter	3	2	-6	3	-10				
	Year	12	1	-6	-1	-8				

1. Only one or no audits was performed for this parameter during the quarter. Probability Limits could not be calculated.

APPENDIX D
POINT SOURCE EMISSION INVENTORY SUMMARY TABLES

Table D1

1998
Point Source Emission Distribution (Tons/Year)

Category	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide

Table D1

1998
Point Source Emission Distribution (Tons/Year)

Category	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Solid Waste Disposal					
Government	226.4	72.9	661.9	308.7	750.2
Commercial/Institutional	342.2	39.1	138.2	51.9	707.4
Industrial	641.2	296.1	664.7	265.5	2794.2
Site Remediation	10.5	3.2	10.5	147.4	1.6
MACT Processes					
Food and Agriculture Processes	0.0	0.0	0.0	0.1	0.0
Styrene or Methacrylate Based Resins	0.0	0.0	0.0	16.0	0.0
Alkyd Resin Production	0.0	0.0	0.0	28.6	0.0
Vinyl Based Resins	185.5	0.1	0.0	108.5	0.0
Consumer Product Manufacturing Facilities	0.0	0.0	0.0	0.9	0.0
Paint Stripper Use	0.9	0.0	0.0	3.8	0.0
Totals	**99619.0**	**1196461.0**	**509676.25**	**134924.0**	**108117.3**

MACT stands for Maximum Achievable Control Technology. Many new SCC codes have been added to begin to identify emission points to begin to determine MACT requirements. Many of these emission points are still associated with the Chemical Manufacturing SCC codes that begin with 301. As time passes, the emissions in the Chemical Manufacturing category will shift to the MACT Processes category.

Table D2

1998

Table D2

1998
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Morgan	2167.7	27619.3	5715.9	913.5	282.9
Moultrie	202.7	68.6	134.8	309.2	32.4
Ogle	400.1	37.3	606.2	1539.8	243.5
Peoria	2778.3	32933.2	17585.8	2976.6	1186.5
Perry	56.2	9.6	16.1	134.9	3.0
Piatt	289.2	4.2	1982.0	830.5	271.6
Pike	234.2	2771.4	742.4	52.2	72.6
Pope	0.0	0.0	0.0	2.1	0.0
Pulaski	161.0	416.6	53.5	0.5	0.2
Putnam	1022.8	34567.2	6742.5	199.5	402.6
Randolph	3615.9	233845.5	63398.4	1450.6	2161.1
Richland	52.8	0.6	24.4	205.3	12.1
Rock Island	537.2	4111.0	1987.8	4082.1	781.1

1186.537.0

APPENDIX E

THE BUREAU OF AIR/ DIVISION OF AIR POLLUTION CONTROL

Organization and Programs

The Bureau of Air consists of two divisions: the Division of Air Pollution Control and the Division of Vehicle Inspection and Maintenance. The focus of this section is on the programs of the Division of Air Pollution Control which is responsible for developing, implementing and enforcing regulations to assure that the air we breathe is clean and healthful. This mission is accomplished by finding, correcting and controlling air pollution hazards. The Division of Air Pollution Control also works to prevent air quality problems from occurring in areas which have clean air.

The basic strategy to improve air quality is to control the pollutants which are emitted by industry and motor vehicles. This strategy requires the IEPA to monitor the air, identify emission sources, impose limitations on the amount of emissions which can be released to the air and take the necessary enforcement action against violators.

The Division of Air Pollution Control is divided into five sections: Air Monitoring, Air Quality Planning, Compliance and Systems Management, Permits, and Field Operations. Each of these sections is briefly described below.

Air Monitoring

The Division of Air Pollution Control operates a statewide air quality monitoring network which includes more than 200 monitors. The Air Monitoring Section is responsible for the maintenance of this network, which operates year round monitoring the quality of the air that we breathe.

The IEPA monitors the air for a variety of pollutants including particulate matter, sulfur dioxide, ozone, carbon monoxide, lead and nitrogen dioxide. Specialized sampling projects for other hazardous pollutants are also conducted by the Air Monitoring Section.

Illinois residents can be proud of the IEPA's record of efficiency in data collection. The system ranks as one of the best in the nation with over 90 percent efficiency in the collection of high quality data. This high efficiency rate guarantees that the network is operating with a minimum amount of "down-time" thereby providing the IEPA with a complete and accurate description of air quality in Illinois.

The Air Monitoring Section is also responsible for validating and summarizing the data in this report. It provides notification of air quality exceedances and issues any episodes as required. Special air quality studies are performed which identify pollution trends and evaluate special air quality problems. The Section additionally oversees the source emission monitoring program: continuous emission monitors (cems), stack testing, and excess emissions reporting.

Air Quality Planning

The Air Quality Planning Section is responsible for developing Agency programs which are designed to achieve and maintain National Ambient Air Quality Standards and to prevent deterioration of air quality. This is accomplished by:

- Assessment of strategies and technologies for the elimination or reduction of air pollutant emissions.

- Conducting and reviewing detailed air quality studies using computerized air quality models.

- 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 local jurisdictions.

Compliance and Systems Management

Field Operations

The Field Operations Section investigates sources of air pollution and works with industry to control air pollution. The major functions of the Field Operations Section 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.

Table E1

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