Illinois
Environmental
Protection Agency

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August 2004

IEPA / BOA / 04-019

Illinois Annual Air Quality Report 2003

Governor Rod R. Blagojevich
Director Renee Cipriano

Cover: Since the creation of the Illinois EPA in 1970, Illinois has gained significant achievements in air quality. This has resulted in part by numerous environmental regulations that have been enacted but also through programs developed and implemented through the Illinois Environmental Protection Agency. The photographs featured on the cover of the 2003 Air Quality Report reflect the just a few of those programs.

Top left photograph: Launch of the Illinois Clean School Bus Program. The Illinois EPA is providing grants to Illinois School Districts to reduce particulate matter emissions from Illinois school buses. Visit www.epa.state.il.us/air/cleanbus for more information.

Bottom left photograph: Illinois EPA Director Renee Cipriano, Breathe Easy Man, and Jim Colon, Vice-President and General Manager of Toyota Motor Sales – Chicago Region, present Mr. Henry Kowalski and his family with the keys to a 2004 Toyota Prius. Mr. Kowalski was drawn as the Grand Prize Winner of the 2003 Green Pays on Green Days program. Additional information on the Green Pays on Green Days program and the Partners for Clean Air can be found at www.cleantheair.org.

Top right photograph: An 85 percent ethanol fuel pump at Becker's BP in Dwight, Illinois displays the E-85 emblem. Illinois EPA, working closely with Governor Blagojevich, has been a proponent for increasing the use of E-85 by individual residents as well as State employees.
Information on E-85 fuel stations in Illinois can be found at www.illinoisgreenfleets.org/stations.

Bottom right photograph: A natural gas-powered delivery van from Advance Presort Services displays an Illinois Green Fleet emblem. The company is one of forty fleets in Illinois that have received the designation of Illinois Green Fleets. Information on this fleets and other fleets receiving a designation by the Illinois EPA, visit www.illinoisgreenfleets.org.

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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; Renee Cipriano, Director; and published by the 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

In 2003, Illinois continued a renewed commitment to improve air quality throughout the State as officials worked to meet all federal air quality standards. This commitment requires the efforts of all Illinoisans -- businesses, state and local officials and individual citizens. Through our efforts, the State will meet air quality standards and residents will continue to enjoy the improved environment Illinois has achieved in the last twenty years.

The 33rd Annual Air Quality Report contains information gathered in 2003 from the Illinois EPA's statewide air-monitoring network, which is made up of more than 200 monitors measuring air pollutants and other toxic compounds. The data contained in the report indicated that Illinois' outdoor air quality in 2003 remained good or moderate 94 percent of the time, a five percent increase from 2002.

The year 2003 was a successful year in which none of the air quality monitors in Illinois recorded exceedances of the federal one-hour standard for ozone. Additionally, the St. Louis Metro East region was redesignated by the U.S. Environmental Protection Agency (U.S. EPA) as meeting the federal one-hour standard for ozone.

On behalf of Governor Rod Blagojevich, the Illinois EPA continues its commitment to improving air quality, serving as a regulator of air pollution sources and a proponent for innovative, proactive programs. Those programs include Partners for Clean Air and Green Pays on Green Days, encouraging residents to do their part to reduce air pollution, and the Illinois Clean School Bus Program, designed to provide a cleaner, healthier environment for Illinois school children. These programs have a real impact on reducing air pollution, and the Illinois EPA looks forward to developing and implementing additional programs to benefit all Illinois residents from the largest cities to the smallest towns. Everyone is entitled to clean air, and it is the mission of the Illinois Environmental Protection Agency to make that a reality.

This document, the 2003 Annual Air Quality report, was designed to provide a comprehensive, unbiased description of air quality in the State of Illinois. The information is presented to businesses, organizations and individual citizens. We are proud of the environmental achievements Illinois has made in the past decade and we further commit ourselves to work closely with businesses and residents to build on our past successes in air quality. Our work, together, must continue to further improve air quality for Illinois residents. Please contact the Illinois EPA with comments and/or questions regarding this report or air pollution control programs.

Renee Cipriano
Director

Illinois Annual Air Quality Report 2003

Contents

A Message from the Director iii

Tables vi

Figures vii

Executive Summary ix

Air Pollutants: Sources, Health & Welfare Effects 1

Statewide Summary of Air Quality for 2003 9

Air Quality Index 15

Statewide Summary of Point Source Emissions 23

Appendices

Appendix A: Air Sampling Network 29
- Description of the Air Sampling Network
- Directory of Air Monitoring Sites

Appendix B: Air Quality Data Summary Tables 45
- Air Quality Data Interpretation
- Ozone Data
- Particulate Matter ($PM_{2.5}$) Data
- Particulate Matter (PM_{10}) Data
- Carbon Monoxide Data
- Sulfur Dioxide Data
- Nitrogen Dioxide Data
- Lead Data
- Filter Analysis Data
- Volatile Organic Compounds Data
- Toxic Compounds Data
- $PM_{2.5}$ Speciation Data

Appendix C: Point Source Emission Inventory Summary Tables 77

Appendix D: Illinois EPA Bureau of Air/Division of Air Pollution Control 91

Tables

Table 1: Summary of National and Illinois Ambient Air Quality Standards 6

Table 2: Illinois Air Pollution Episode Levels 7

Table 3: AQI Descriptor Categories and Health Effects 16

Table 4: AQI Sectors in Illinois 18

Table 5: Distribution of Volatile Organic Material Emissions – 2003 24

Table 6: Distribution of Particulate Matter Emissions - 2003 25

Table 7: Distribution of Carbon Monoxide Emissions - 2003 26

Table 8: Distribution of Sulfur Dioxide Emissions - 2003 27

Table 9: Distribution of Nitrogen Oxide Emissions - 2003 28

Table A1: Illinois Ambient Air Monitoring Network
Directory of Cooperating Agencies in Illinois 30

Table A2: 2003 Non-Continuous Sampling Schedule 31

Table A3: Distribution of Air Monitoring Instruments 33

Table A4: Site Directory 36

Table D1: Bureau of Air Organization 93

Figures

Figure 1: Average 1-Hour Ozone Maximum 9
Figure 2: Statewide Ozone Exceedance Day Trend 9
Figure 3: Particulate Matter ($PM_{2.5}$) Annual Trends 10
Figure 4: Particulate Matter (PM_{10}) 24-hr Trends 10
Figure 5: Carbon Monoxide Trends 11
Figure 6: Sulfur Dioxide 24-hr Trends 11
Figure 7: Nitrogen Dioxide Annual Trend 12
Figure 8: Lead Maximum Quarterly Trend 12
Figure 9: Air Quality Index Summaries by Sector 19
Figure 10: Estimated Volatile Organic Material Emissions Trend 24
Figure 11: Estimated Particulate Emissions Trend 25
Figure 12: Estimated Carbon Monoxide Emissions Trend 26
Figure 13: Estimated Sulfur Dioxide Emissions Trend 27
Figure 14: Estimated Nitrogen Oxide Emissions Trend 28

2003
EXECUTIVE SUMMARY

This report presents a summary of air quality data collected throughout the State of Illinois during the calendar year - 2003. 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 and toxic compounds. Monitoring was conducted at over 80 different site locations collecting data from more than 200 instruments.

In terms of the Air Quality Index (AQI) air quality during 2003 was either good or moderate more than 94 percent of the time throughout Illinois. There were no days when air quality in some part of Illinois was considered Unhealthy (category Red). There were 19 days (11 for 8-hour ozone and 8 for $PM_{2.5}$) when air quality in some part of Illinois was considered Unhealthy for Sensitive Groups (category Orange). This compares with 38 Unhealthy or Unhealthy for Sensitive Groups days in 2002. Air quality trends for the criteria pollutants are continuing to show downward trends or stable trends well below the level of the standards. Percentage changes over the ten year period 1994 – 2003 are as follows: Particulate Matter (PM_{10}) 7 percent decrease, Sulfur Dioxide 37 percent decrease, Nitrogen Dioxide 10 percent decrease, Carbon Monoxide 52 percent decrease, Lead 36 percent decrease, and Ozone 2 percent decrease.

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, 2003. Emission estimates are for the calendar year 2002 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: AIR POLLUTANTS: SOURCES, HEALTH AND WELFARE EFFECTS

Ozone (O_3)

Photochemical oxidants result from a complex series of atmospheric reactions initiated by sunlight. When reactive (non-methane) hydrocarbons and nitrogen oxides accumulate in the atmosphere and are exposed to the ultraviolet component of sunlight, the formation of new compounds, including ozone and peroxyacetylnitrate, takes place.

Absorption of ultraviolet light energy by nitrogen dioxide results in its dissociation into nitric oxide and an oxygen atom. The oxygen atoms, for the most part, react with atmospheric molecular oxygen (O_2) to form ozone (O_3). In general, nitric oxide will react with ozone to re-form nitrogen dioxide, completing the cycle. A build-up of ozone above the equilibrium concentration defined by the reaction cycle given above results when nitrogen oxide reacts with non-methane hydrocarbons. Oxygen atoms from the hydrocarbon radical oxidize nitric oxide to nitrogen dioxide without ozone being used up. Thus ozone concentrations are not depleted and can build up quickly.

Ozone can also be formed naturally in the atmosphere by electrical discharge, and in the stratosphere by solar radiation. The former process is not capable of producing significant urban concentrations of this pollutant; however, there is some belief that incursion of ozone from the stratosphere can contribute significantly to elevated ground level concentrations of ozone under certain meteorological conditions.

Injury to vegetation is one of the earliest manifestations of photochemical air pollution, and sensitive plants are useful biological indicators of this type of pollution. The visible symptoms of photochemical oxidant produced injury to plants may be classified as:

- Acute injury, identified by cell collapse with subsequent development of necrotic patterns.
- Chronic injury, identified by necrotic patterns or with other pigmented patterns.
- Physiological effects, identified by growth alterations, reduced yields, and changes in the quality of plant products. The acute symptoms are generally characteristic of a specific photochemical oxidant; though chronic injury patterns are not. Ozone injury to leaves is identified as a stripling or flecking. Adverse effects on sensitive vegetation have been observed from exposure to photochemical oxidant concentrations of about 100 ug/m^3 (0.05 ppm) for 4 hours.

Adverse effects on materials (rubber products and fabrics) from exposure to photochemical oxidants have not been precisely quantified, but have been observed at the levels presently occurring in many urban atmospheres.

Ozone accelerates the aging of many materials, resulting in rubber cracking, dye fading and paint erosion. These effects are linearly related to the total dose of ozone and can occur at very low levels, given long duration exposures.

Ozone is a pulmonary irritant that affects the respiratory mucous membranes, other lung tissues and respiratory functions. Clinical and epidemiological studies have demonstrated that ozone impairs the normal mechanical function of the lung, causing alterations in respiration; the most characteristic of which are shallow, rapid breathing and a decrease in pulmonary compliance. Exposure to ozone results in clinical symptoms such as chest tightness, coughing, and wheezing.

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 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. Ozone (O_3) and a group of chemicals called peroxyacetylnitrates (PAN) are the major constituents of photochemical oxidants.

Lead (Pb)

Historically atmospheric lead came primarily from combustion of leaded gasoline. However, the use of unleaded gas since 1975 has reduced mobile source lead emissions by over 90%. Currently stationary sources, such as lead smelters, battery manufacturers, iron and steel producers and others can contribute significant amounts of lead to their immediate vicinity.

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

Consistent with the intent of the Environmental Protection Act of the State of Illinois, Illinois has adopted ambient air quality and episode standards that specify maximum permissible short-term and long-term concentrations of various contaminants in the atmosphere. Ambient air quality and episode standards are limits on atmospheric concentrations of air contaminants established for the purpose of protecting the public health and welfare.

The Illinois and National Ambient Air Quality Standards consist of a primary and secondary standard for each pollutant (contaminant) as presented in **Table 1**. The Illinois Air Pollution Episode Levels are presented in **Table 2**. The primary standard and episode criteria represents the level of air quality which is necessary to protect the public health. Air entering the respiratory tract must not menace health. Therefore, the air quality standards must, as a minimum, provide air which will not adversely affect, through acute or chronic symptoms, the public health. Air contaminants increase the aggravation and the production of respiratory and cardio-pulmonary diseases. The secondary standard defines the level of air quality which is necessary to protect the public welfare. This includes, among other things, effects on crops, vegetation, wildlife, visibility and climate, as well as effects on materials, economic values and on personal comfort and well-being. The standards are legally enforceable limitations, and any person causing or contributing to a violation of the standards is subject to enforcement proceedings under the Environmental Protection Act. The standards have also been designed for use as a basis for the development of implementation plans by State and local agencies for the abatement and control of pollutant emissions from existing sources, and for the determination of air contaminant emission limitations to ensure that population, industry and economic growth trends do not add to the region's air pollution problems.

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

The $PM_{2.5}$ standards are referenced to local conditions of temperature and pressure rather than standard conditions (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

SECTION 2: STATEWIDE SUMMARY OF AIR QUALITY FOR 2003

OZONE

Monitoring was conducted at 38 locations during at least part of the April-October "ozone season" and at least 75 percent data capture was obtained at all 38 sites. The Calumet City and Libertyville sites were discontinued.

Two sites (East St. Louis (2) and Edwardsville(1)) recorded hourly concentrations above the 0.12 parts per million (ppm) 1-hour standard. The highest 1-hour concentration was 0.134 ppm in East St. Louis compared with a statewide high 1-hour value of 0.136 ppm in 2002. The highest value recorded in the Chicago area was 0.117 ppm recorded in Evanston compared with a high in 2002 of 0.136 ppm in Zion.

Data is also presented to compare with the 8-hour standard of 0.08 ppm. The appropriate statistic for comparison with the 8-hour Standard is the fourth highest value, which is averaged over a three year period. A total of 2 sites in Illinois had fourth high values above 0.08 ppm in 2002 compared with 24 sites in 2002. The highest fourth high value was 0.111 ppm at East St. Louis. The highest level in the Chicago area was 0.099 ppm in Lemont. For the three year period 2001 – 2003, five sites (Chicago-SWFP, Evanston, Waukegan, Alton, and Jerseyville) had fourth high averages above 0.08 ppm.

Figure 1 shows for each year the statewide average of each site's highest hourly ozone value for the ten year period 1994-2003. The graph shows a great deal of year-to-year fluctuation and a fairly flat 10-year trend and slightly downward since 1995 even with the increase in 2002. The Statewide average for 2003 was 0.097 ppm compared with 0.109 ppm in 2002 and 0.099 ppm in 2001.

Statewide, the total number of excursion days in 2002 was six compared with one in 2001 and zero in 2000.

Figure 1
Average 1-Hour Ozone
Maximum (ppm)

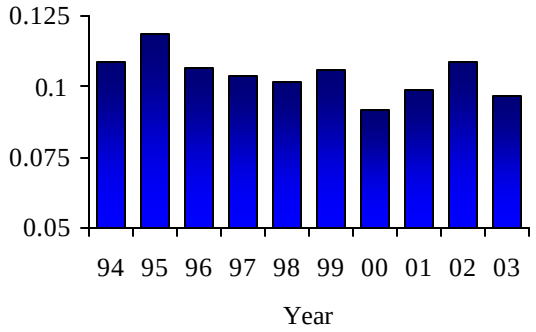


Figure 2
Statewide Ozone 1-Hour
Exceedance Day Trend

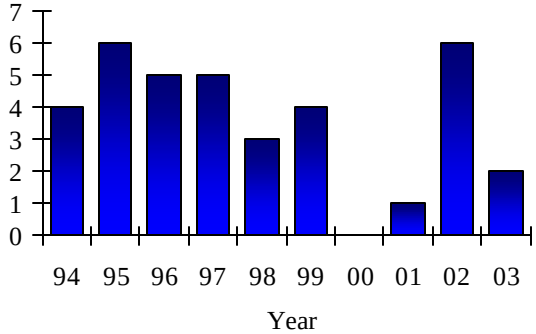


Figure 2 shows the trend of the total number of days on which one or more sites exceeded the ozone standard in Illinois for the same period 1994-2003. This trend is generally flat with a downward trend since 1995.

Overall, Illinois's weather was near normal in terms of meteorological conditions favorable to ozone formation and transport Statewide.

August was the most conducive month in terms of meteorological conditions Statewide followed by July. In terms of conducive days, the Chicago area had 15 percent above the average number and the Metro-East area had the average number.

PARTICULATE MATTER

Monitoring was conducted at 35 sites for $PM_{2.5}$. Valid annual averages were obtained for 32 of the 35 sites. A total of 9 sites recorded averages above 15.0 ug/m^3, the level of the annual standard compared with 14 sites in 2002 and 16 sites in 2001. The Statewide average of annual averages was 14.1 ug/m^3 in 2003 compared with 14.9 ug/m^3 in 2002 and 15.5 ug/m^3 in 2001. **Figure 3** shows the trend of the Statewide annual averages for $PM_{2.5}$ for the period 2000-2003. There were no exceedances of the 24-hour standard of 65 ug/m^3 in 2003. The Statewide peak of 56.8 ug/m^3 was recorded in Summit. The Statewide average of the 98th percentile of 24-hour averages was 34.1 ug/m^3 in 2003 compared with 33.9 ug/m^3 in 2002 and 35.5 ug/m^3 in 2001.

In 2001 there were 17 sites monitoring PM_{10}. The Statewide average in 2003 was 27 ug/m^3 compared with 27 ug/m^3 in 2002 and 28 ug/m^3 in 2001.

For PM_{10} the Statewide average of the maximum 24-hour averages in 2003 was 75 ug/m^3 compared with 78 ug/m^3 in 2002 and 79 ug/m^3 in 2001. **Figure 4** depicts this trend for the period 1994-2003.

No sites exceeded the primary annual standard of 50 ug/m^3. The highest annual average was 38 ug/m^3 in Granite City - 2040 Washington. The lowest annual was 19 ug/m^3 in Carbondale. There were no exceedances of the 24-hour primary standard of 150 ug/m^3. The highest 24-hour average was recorded in Lyons township with a value of 120 ug/m^3 compared with a high 24-hour value of 138 ug/m^3 at Granite City - 2040 Washington in 2001.

Figure 3
Particulate Matter (PM2.5)
Annual Trends (ug/m3)

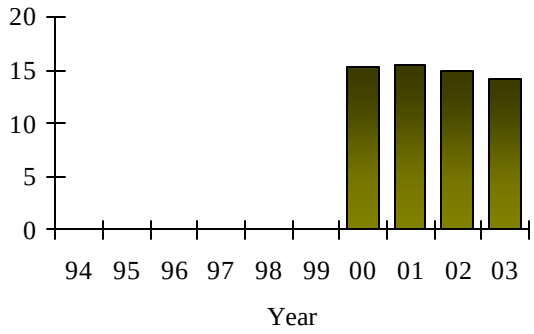
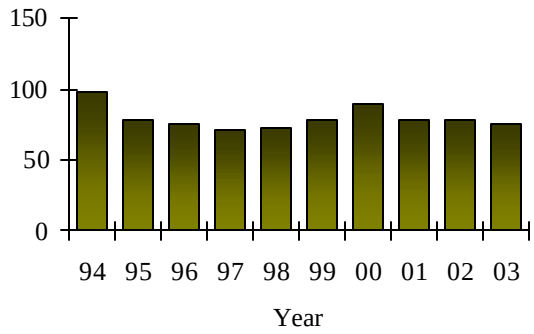


Figure 4
Particulate Matter (PM10) 24-Hour Trends (ug/m3)

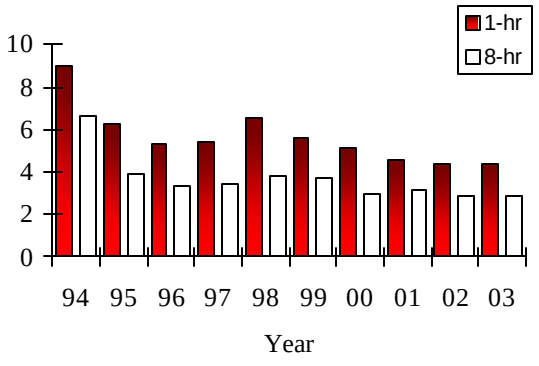


CARBON MONOXIDE

There were no exceedances of either the 1-hour primary standard of 35 ppm or the 8-hour primary standard of 9 ppm in 2003. The highest 1-hour average was 5.3 ppm recorded in Peoria. The highest 8-hour average was 4.0 ppm recorded in Peoria and Maywood.

Figure 5 shows the trend for the period 1994-2003 for the statewide average of the 1-hour and 8-hour high CO values. The overall trend for both averages is downward. The statewide average of the 1-hour high was 4.4 ppm in 2003 compared with 4.4 ppm in 2002. The statewide average for the 8-hour high was 2.9 ppm in 2003 compared with 2.9 ppm in 2002.

Figure 5
Carbon Monoxide Trends (ppm)

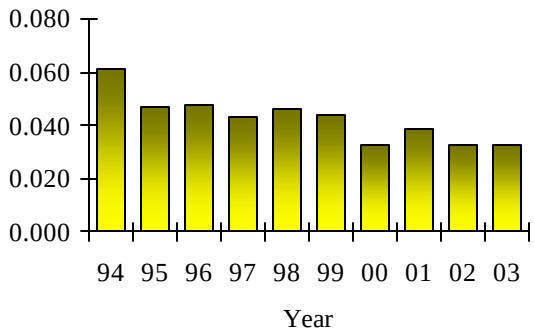


SULFUR DIOXIDE

There were no exceedances of the the annual primary standard of 0.03 ppm, or the 3-hour secondary standard of 0.5 ppm in 2003. There was 1 exceednace of the 24-hour primary standard of 0.14 ppm in Pekin.

The maximum 24-hour average was 0.152 ppm recorded in Pekin. This compares with a high 24-hour average in 2002 of 0.074 ppm. The highest 3-hour average of 0.292 ppm was also recorded in Pekin. The Statewide annual average for 2003 was 0.004 ppm. The Statewide average in 2002 was 0.004 ppm.

Figure 6
Sulfur Dioxide 24-Hour Trends
(ppm)



Since 1984 that Statewide trend of annual averages has been flat, ranging from 0.009 ppm to 0.004 ppm. **Figure 6** shows the statewide trend for the maximum 24-hour averages for the period 1994-2003. The 24-hour average trend has been overall downward; however a greater degree of year-to-year fluctuations have occurred. The statewide average for 2003 was ppm compared with the 2002 average of 0.033 ppm.

NITROGEN DIOXIDE

There were no violations of the annual primary standard of 0.053 ppm recorded in Illinois during 2003. The highest annual average of 0.031 ppm was recorded at Chicago - CTA. The Statewide average for 2003 was 0.024 ppm compared with 0.023 ppm in 2002 and 0.025 ppm in 2001.

Three sites operated only during part of the ozone season as PAMS. **Figure 7** depicts the trend of statewide averages from 1994-2003. The trend has been generally stable for the period ranging from 0.022 ppm to 0.027 ppm. There have been no violations of the annual standard since 1980.

Figure 7
Nitrogen Dioxide Annual Trend
(ppm)

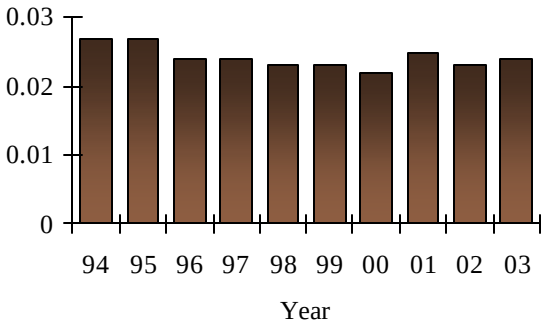


Figure 8
Lead Maximum Quarterly Trend
(ug/m3)

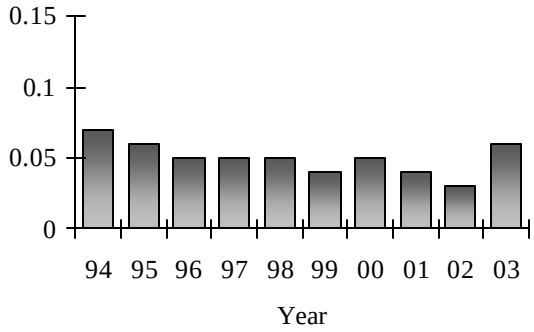


Figure 8 shows the trend of the statewide maximum quarterly average from 1994-2003 The trend shows that ambient lead levels have generally decreased during the period. Without the high quarter in Granite City, the statewide average would have been the same in 2003 as in 2002.

LEAD

Perhaps the greatest success story in controlling criteria pollutants is lead. As a direct result of the Federal Motor Vehicle Control Program which has required the use of unleaded gas in automobiles since 1975, lead levels have decreased by more than 90 percent statewide.

There were no violations of the Quarterly lead Standard of 1.5 ug/m3. The highest quarterly lead average in 2003 was 0.34 ug/m3 recorded at Granite City - 15th & Madison during the 4th quarter. This high value was due to some unusually high daily value in December.

FILTER ANALYSIS RESULTS

The TSP samples analyzed, in addition to lead, for specific metals, sulfates and nitrates. Several of the metals analyzed (arsenic, beryllium, cadmium, chromium, manganese, and nickel) have known toxic properties. Other metals such as iron 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 are also important constituents of the $PM_{2.5}$ 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 0.088 ug/m^3 measured in Summit. The highest annual average of 0.006 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 0.038 ug/m^3 and the highest annual average of 0.003 ug/m^3 . The highest 24-hour chromium average was 0.047 ug/m^3 recorded at Chicago - Washington. Maywood had the highest annual average at 0.012 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 Summit with a value of 0.036 ug/m^3. The highest annual average was in Maywood with an average of 0.010 ug/m^3. For nitrates the highest 24-hour average was 22.7 ug/m^3 recorded at Chicago - Washington. The highest annual average was 5.7 ug/m^3 at Chicago - Mayfair. For sulfates the highest 24-hour average was 25.4 ug/m^3 recorded at East St. Louis. The highest annual average was 10.5 ug/m^3 also at East St. Louis. In general metals values were somewhat higher, nitrate values were lower, and sulfates were similar in 2003 than in 2002.

VOLATILE ORGANIC COMPOUNDS

Sampling for volatile organic compounds (VOCs) continues as part of the photochemical assessment monitoring site (PAMS) network. The network consists of three sites: Chicago - Jardine - Type 2 source area and Northbrook - Type 3 peak ozone area. The Zion - Type 4 domain edge site was temporarily discontinued in 2003.

Sampling was conducted for the period June - August. Automated Gas Chromatograph (GC) systems providing hourly data were located at both sites. In addition, continuous formaldehyde data was collected in Northbrook and manual carbonyl samples were taken every six days at Northbrook. There were no supplemental high ozone days during 2003 so the 3-hour cartridge data was not available. 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 carbonyls are expressed in regular parts per billion volume.

In general VOC levels were lower in 2003 than in 2002. The highest compounds in terms of 24-hour and seasonal averages at Chicago - Jardine were Isopentane, Ethane, Propane, Toluene, 2,2,4 Trimethylpentane, and N-Butane. The lowest compounds were Isoprene, Methylheptanes, Ethyltoluenes, Diethylbenzenes, Butenes, and Pentenes. The highest compounds for 24-hour and seasonal averages at Northbrook were Isopentane, Ethane, Toluene, 2,2,4 Trimethylpentane, Formaldehyde, Isoprene, N-Butane, and Propane. The lowest compounds were Pentenes, Styrene, Diethylbenzenes, and Propylbenzenes.

TOXIC COMPOUNDS

Sampling for toxic compounds other than metals (see Filter Analysis Section) was conducted at two locations - Northbrook and Schiller Park. Most compounds were below the method detection limits. The highest compounds were toluene, formaldehyde, acetaldehyde, and benzene.

SECTION 3: AIR QUALITY INDEX

The Air Quality Index (AQI) is the national standard method for reporting air pollution levels to the general public in 2002. An index such as the AQI 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 AQI uses a single number and a short descriptor to define the air quality in an easy-to-remember and easy-to-understand way, taking all the pollutants into account.

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

- Ozone (O_3)
- Sulfur dioxide (SO_2)
- Carbon monoxide (CO)
- Particulate matter (PM_{10})
- Particulate matter ($PM_{2.5}$)
- Nitrogen dioxide (NO_2)

In each case (except $PM_{2.5}$ which uses a lower value), the short-term primary NAAQS corresponds to a AQI of 100 and a descriptor of Unhealthy for Sensitive Groups, the Significant Harm level corresponds to a AQI of 500 and a descriptor of Hazardous, and the episode criteria correspond to intermediate hundreds. NO_2 does not have short-term NAAQSs; AQI begins at 201 for it. For the AQI the health effects and cautionary statements are pollutant-specific. **Table 3** lists those for 8-hour ozone as an example.

Unhealthy for Sensitive Groups occurs on occasion for 8-hour ozone and $PM_{2.5}$. Unhealthy air quality is uncommon in Illinois, and Very Unhealthful air quality is rare. There has never been an occurrence of Hazardous air quality in Illinois.

The AQI is computed as follows: data from pollution monitors in an area are collected, and the AQI subindex for each pollutant is computed using formulas derived from the index/concentration relations noted above. Nomograms and tables are also available for this purpose. The data used are:

- O_3 estimate of the highest 8-hour average for that calendar day
- SO_2 the most recent 24-hour average
- CO the highest 8-hour average so far that calendar day
- PM_{10} the most recent 24-hour average
- $PM_{2.5}$ estimate of the highest 24-hour average for that calendar day
- NO_2 the highest 1-hour average (if above 600 ppb)

Continuous monitors are utilized for all the pollutants including PM_{10} and $PM_{2.5}$.

Table 3: AQI Descriptor Categories and Health Effects

AQI Range	Descriptor Category
0-50	Good (G)
51-100	Moderate (M)
101-150	Unhealthy for Sensitive Groups (USG)
151-200	Unhealthy (UH)
201-300	Very Unhealthy (VUH)
301 and above	Hazardous (HAZ)

Index & Category	Health Effects	Cautionary Statements
101-150, Unhealthy for Sensitive Groups	Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and prople with respiratory disease, such as asthma.	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor activity.
151-200, Unhealthy	Greater likelihood of respiratory symptoms and breathing difficulties in active children and adults and prople with respiratory disease, such as asthma. Possible respiratory effects in general population.	Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion;everyone else, especially children should limit prolonged outdoor exertion.
201-300, Very Unhealthful	Increasingly severe symptoms and inpaired breathing likely in active children and adults and people with respitatory disease, such as asthma: increasing likelihood of respiratory effects in general population.	Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else. especially children, should limit outdoor exertion.
301-500, Hazardous	Severe respiratory effects and inpaired breathing likely in active children and adults and people with respitatory disease, such as asthma: increasingly severe respiratory effects likely in general population.	Everyone should avoid all outdoor exertion.

SO_2 = 23
CO = 19
PM_{10} = 41
$PM_{2.5}$ = 61

Anytown's AQI for that day would be 61, which is in the Moderate category, and the Critical Pollutant would be particulates ($PM_{2.5}$). If data for one of the pollutants used in computing AQI is missing, the AQI 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.

The Illinois EPA issues the AQI for 10 areas, or Sectors, in Illinois (**Table 4**). These correspond to metropolitan areas with populations greater than 100,000.

Illinois AQI's are computed from data up to and including the 3 PM local time readings (4 PM during the May – September portion of the Ozone Season) every weekday. A bulletin giving the AQI numbers, descriptors, critical pollutants, and a forecast of the category for the next day's AQI for each of the sectors is issued over the Illinois Weatherwire, a service of the National Weather Service, about 3:30 PM each work day (4:30 PM during the summer). Almost all TV stations and many radio stations and newspapers receive the Illinois Weatherwire, and are therefore able to inform the public about the AQI either immediately or on the evening news. Also the AQI is available on IEPA's web site (URL http://www.epa.state.il.us/air/aqi/index.html) In the Chicago and Cook County area, AQI's are available on phone recordings maintained by the Cook County Department of Environmental Control and the Chicago Department of the Environment.

If the AQI subindex for any pollutant in any sector should reach or exceed the Unhealthy (or any higher) category late in the afternoon or on weekends when the AQI is not published, the IEPA puts out a special bulletin on the Illinois Weatherwire.

2003 Illinois AQI Summary

In order to present a more representative AQI, 24-hour calendar day $PM_{2.5}$ values from the total network were used to determine the percentages in **Figure 9** even though these values were not available for issuing the daily AQI. Air quality was still in the "Good" category most often in 2003. All Sectors had a higher frequency of "Good" than "Moderate" and "Unhealthy for Sensitive Groups". All sectors except Chicago and Metro-East had 75 percent or more of the days in the "Good" category. Within AQI sectors there were 2 occurrences of Unhealthy and 28 occurrences of Unhealthy for Sensitive Groups air quality in in 2003. The sector breakdown for Unhealthy was 2 in Metro East. The sector breakdown for Unhealthy for Sensitive Groups was 8 in Metro-East, 7 in Chicago, 5 in South & West Suburbs, 4 in the North & West Suburbs, 2 in Will County, 1 in Bloomington-Normal, and 1 in Peoria. Outside of AQI sectors there were 2 additional occurrences of Unhealthy for Sensitive Groups. **Figure 9** presents the AQI statistics for each sector. The pie chart shows the percent of time each sector was in a particular category.

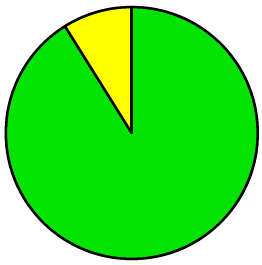
In 2003 there were no ozone advisories issued in the State. An Advisory is declared when ozone levels have reached the level of the 1-hour standard (0.12 ppm) on a particular day and meteorological conditions are such that these levels are expected again the next day.

Table 4: AQI Sectors in Illinois

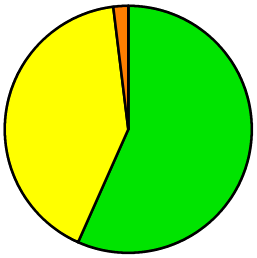
Chicago Metropolitan Area:	
Lake County Sector	Lake County only
North and West Suburbs Sector	Parts of Cook, Du Page, and Mc Henry Counties north of I-290 (the Eisenhower Expressway) and outside of Chicago city limits.
Chicago Sector	All areas within the city limits of Chicago
South and West Suburbs Sector	Parts of Cook and DuPage Counties south of I-290 and outside of Chicago city limits
Will County/Joliet Sector	Will County only
Aurora-Elgin Sector	The eastern part of Kane County
Downstate areas:	
Rockford Sector	Approximately 10 mile diameter circle centered on downtown Rockford
Quad Cities Sector	Illinois portion of the Quad Cities Area
Peoria Sector	Approximately 10 mile diameter circle centered on downtown Peoria in parts of Peoria, Woodford and Tazewell Counties
Champaign Sector	Champaign-Urbana Metropolitan Area
Normal Sector	Bloomington-Normal Metropolitan Area
Decatur Sector	Decatur Metropolitan Area
Springfield Sector	Springfield Metropolitan Area
Metro East Sector	Illinois portion of the St. Louis Metropolitan Area approximately 15 miles wide east of the Mississippi River in Madison and St. Clair Counties

Figure 9: 2003 Air Quality Index Summaries by Sector

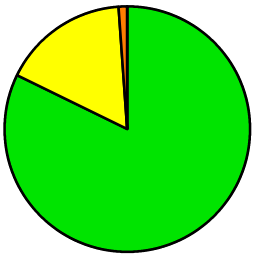
Chicago Sector - Lake County



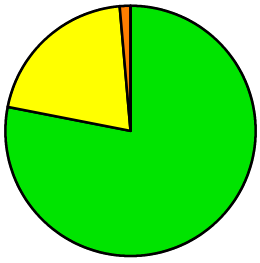
Chicago Sector - Chicago



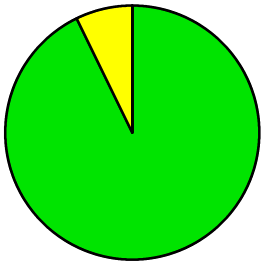
Chicago Sector - North & West Suburbs



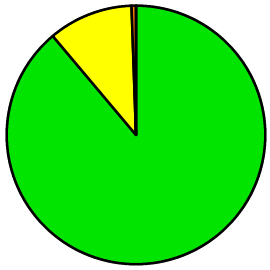
Chicago Sector - South & West Suburbs



Aurora - Elgin



Joliet/Will County



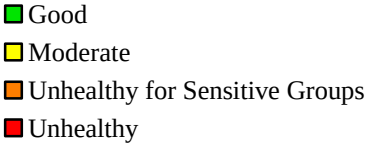


Figure 9: 2003 Air Quality Index Summaries by Sector

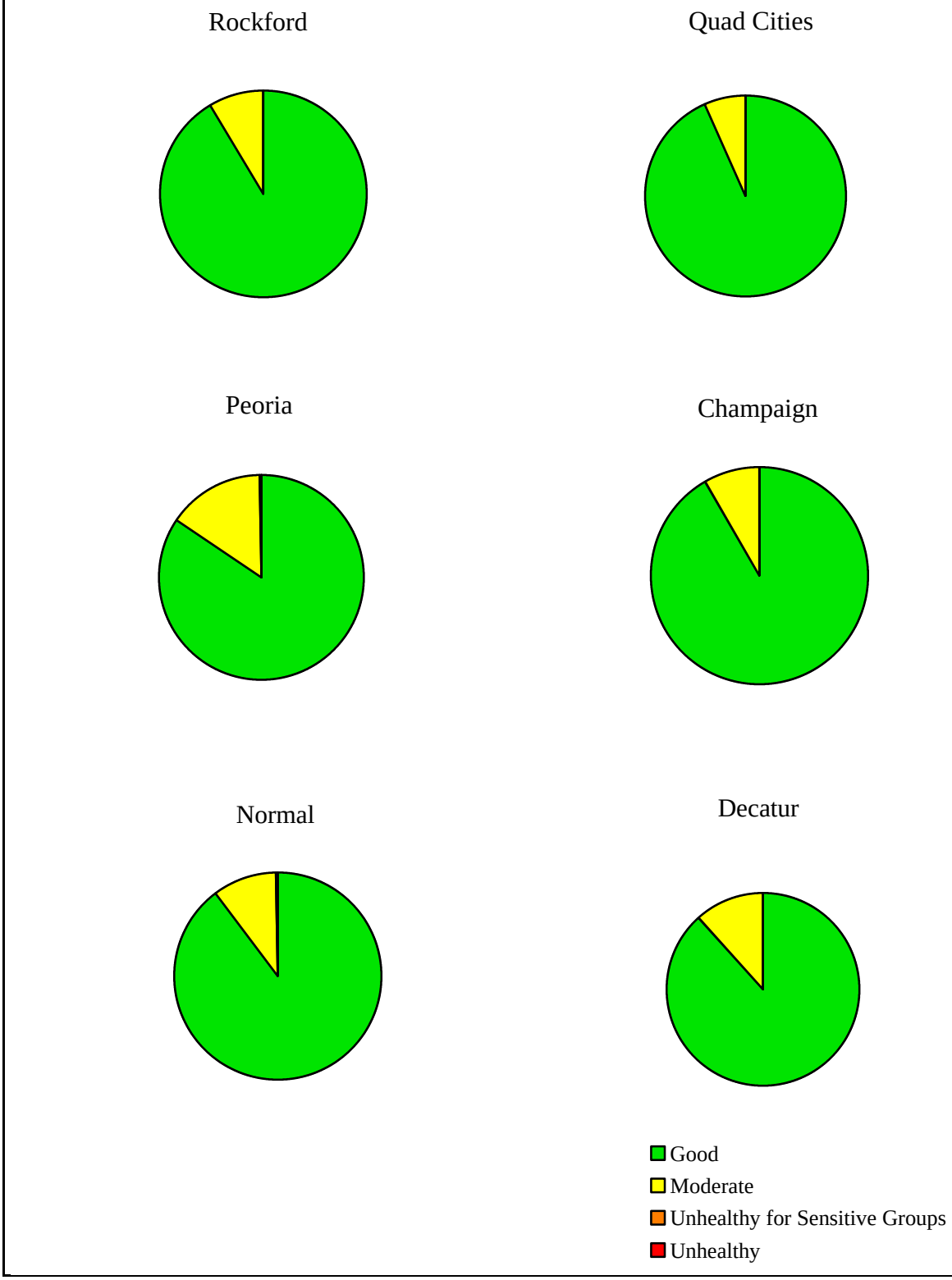


Figure 9: 2003 Air Quality Index Summaries by Sector

SECTION 4: STATEWIDE SUMMARY OF POINT SOURCE EMISSIONS

Since the late 1970's, the Division of Air Pollution Control has maintained a database of stationary point source emissions for the entire State. 40 CFR 51.211 requires Illinois to include in its State Implementation Plan "... procedures for requiring owners or operators of stationary sources to maintain records of... a) Information on the nature and amount of emissions from the stationary source and b) other information as may be necessary..." The emission database maintained by the Division of Air Pollution Control was originally called the Total Air System (TAS). Updates to the database were made through batch transactions every two weeks. In June 1989, the TAS was replaced with an on-line system known as the Emission Inventory System (EIS). Very few new data items to be stored were added when the Division switched to the EIS. The change was mainly to get to an on-line system and to enhance the structure of the database to make it more flexible.

In March, 1999, the Bureau of Air introduced a new emission inventory system known as ISSIS (Illinois Stationary Source Inventory System). This new inventory system, which was developed in Oracle, built upon the structure of the annual emission reporting system (CAERS - Computerized Annual Emission Reporting System) previously developed. Up until then, inventory data resided both in EIS and CAERS. Data from EIS was loaded annually into CAERS. ISSIS did away with this requirement. Now inventory data resides in one database.

ISSIS currently includes emission data on approximately 7,500 active sources throughout the State. The ISSIS data includes source addresses, source emission totals, permit data such as expiration date and status, emission unit data such as name, hours of operation, operating rate, fuel parameters and emissions, control equipment data such as control device name, type and removal efficiencies, and stack parameters. Reported emissions and Agency calculated emissions are stored separately.

Also in March, 1999, the group responsible for the entry of emission inventory data was switched from the Permit Section to the Inventory Unit of the Compliance and Systems Management Section. The Inventory Unit, now in the Air Quality Planning Section, uses permit applications, the issued permit and data reported on annual emission reports to compile the inventory.

The following tables and graphs are an analysis of the emissions data contained in ISSIS at the end of 2003. It is important to note emissions contained in the ISSIS are not necessarily the actual emissions that entered the atmosphere. This is due to the fact that when an air pollution permit is applied for, the applicant provides maximum and average emission rates. The maximum emission rate reflects what the applicant believes the emission rate would be at maximum production. The average emission rate reflects emissions at the applicant's most probable production rate. In the future, more and more reported data will be incorporated into the inventory.

To calculate the distribution of emissions for the individual categories, the source classification code (SCC) field was used from the ISSIS. The SCC is an eight digit code that breaks emission units into logical categories. SCCs are provided by the USEPA and are included in the Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS). Currently there are approximately 7,000 of these SCCs.

To produce the following tables, the first three digits of the SCC were used. Only categories that contributed significantly to the overall total are listed in the following sections. The complete category breakdown can be found in **Appendix D**.

VOLATILE ORGANIC MATERIAL

Figure 10
Volatile Organic Material
Emission Trend (1000's of Tons/Year)

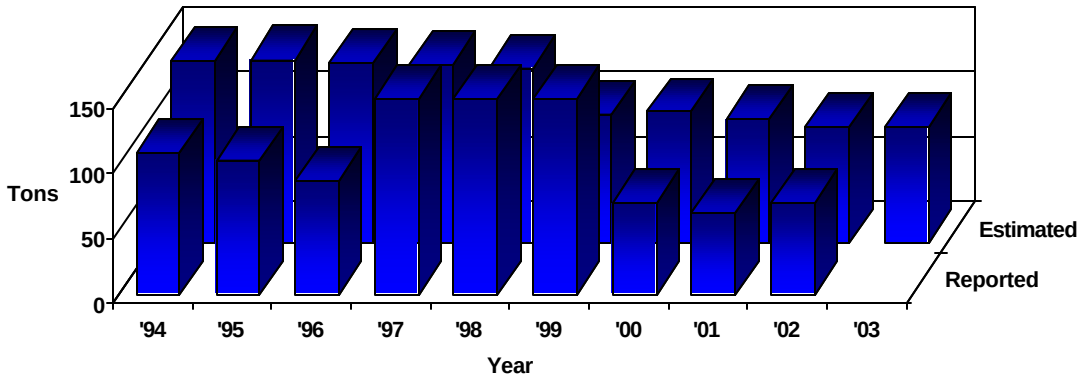


Table 5: Volatile Organic Material Emissions - 2003

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Surface Coating Operations	16,512.2	18.43%	18.43%
Chemical Manufacturing	12,405.2	13.85%	32.28%
Food/Agriculture	10,885.9	12.15%	44.43%
Printing/Publishing	10,062.2	11.23%	55.67%
Petroleum Product Storage	4,684.1	5.23%	60.90%
Fuel Combustion	4,652.2	5.19%	66.09%
Rubber and Plastic Products	4,607.2	5.14%	71.23%
Petroleum Industry	4,292.0	4.79%	76.02%
Organic Solvent Evaporation	3,147.4	3.51%	79.54%
Bulk Terminal/Plants	2,967.0	3.31%	82.85%
Mineral Products	2,543.6	2.84%	85.69%
Secondary Metal Production	1,829.4	2.04%	87.73%
Petroleum Marketing/Transport	1,413.0	1.58%	89.31%
Organic Solvent Use	1,371.0	1.53%	90.84%
Fabricated Metal Products	1,290.8	1.44%	92.28%
Site Remediation	1,131.0	1.26%	93.54%
Organic Chemical Storage	1,042.7	1.16%	94.71%
All Other Categories	4,742.4	5.29%	100.00%

PARTICULATE MATTER

Figure 11
Particulate Emission Trend
(1000's of Tons/Year)

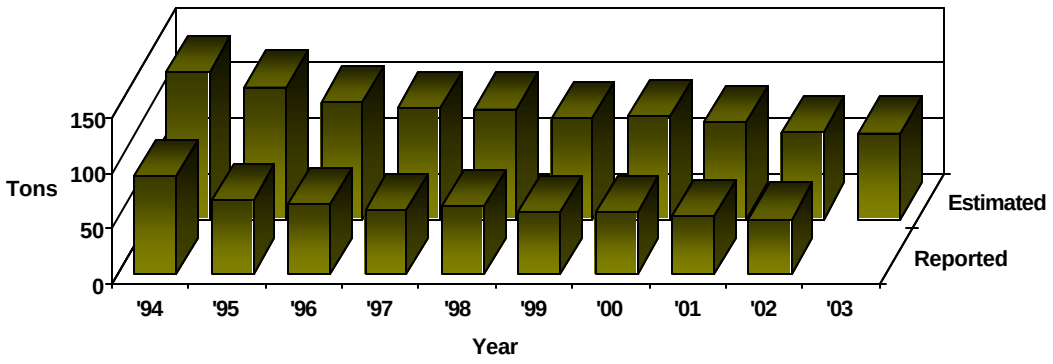


Table 6: Distribution of Particulate Matter Emissions - 2003

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Mineral Products	22,432.0	28.73%	28.73%
Fuel Combustion	20,251.3	25.94%	54.67%
Food/Agriculture	16,373.6	20.97%	75.64%
Secondary Metal Production	4,788.1	6.13%	81.77%
Primary Metal Production	2,942.3	3.77%	85.54%
Chemical Manufacturing	2,876.1	3.68%	89.22%
Petroleum Industry	2,540.6	3.25%	92.48%
Solid Waste Disposal	1,802.3	2.31%	94.78%
Fabricated Metal Products	861.7	1.10%	95.89%
Surface Coating Operations	744.7	0.95%	96.84%
Rubber and Plastic Products	521.2	0.67%	97.51%
All Other Categories	1,944.5	2.49%	100.00%

CARBON MONOXIDE

Figure 12
Carbon Monoxide Emission Trend (1000's of Tons/Year)

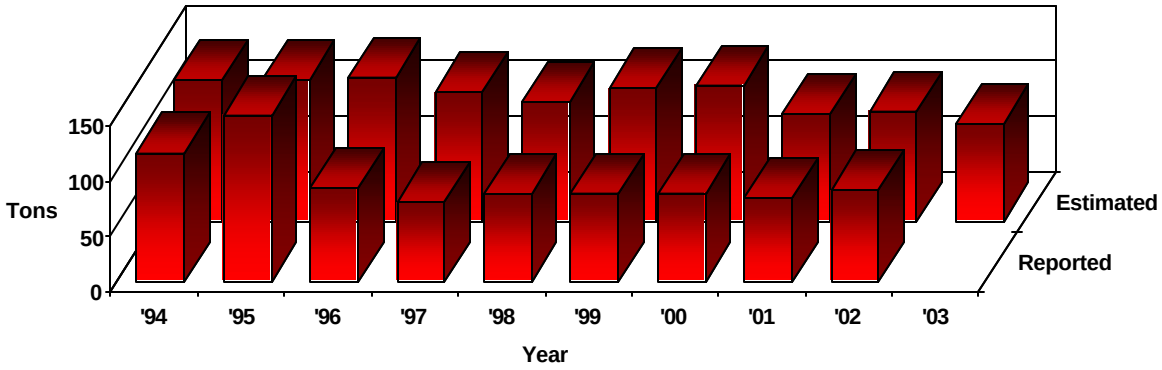


Table 7: Distribution of Carbon Monoxide Emissions - 2003

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	40,703.0	46.06%	46.06%
Primary Metal Production	13,969.3	15.81%	61.87%
Mineral Products	9,835.7	11.13%	73.00%
Solid Waste Disposal	6,477.5	7.33%	80.33%
Petroleum Industry	5,319.6	6.02%	86.35%
Chemical Manufacturing	4,172.7	4.72%	91.07%
Secondary Metal Production	3,154.6	3.57%	94.64%
Fabricated Metal Products	1,380.6	1.56%	96.20%
In-Process Fuel Use	1,267.9	1.43%	97.64%
Food/Agriculture	1,093.9	1.24%	98.88%
All Other Categories	991.8	1.12%	100.00%

SULFUR DIOXIDE

Figure 13
Sulfur Dioxide Emission
Trend (1000's of Tons/Year)

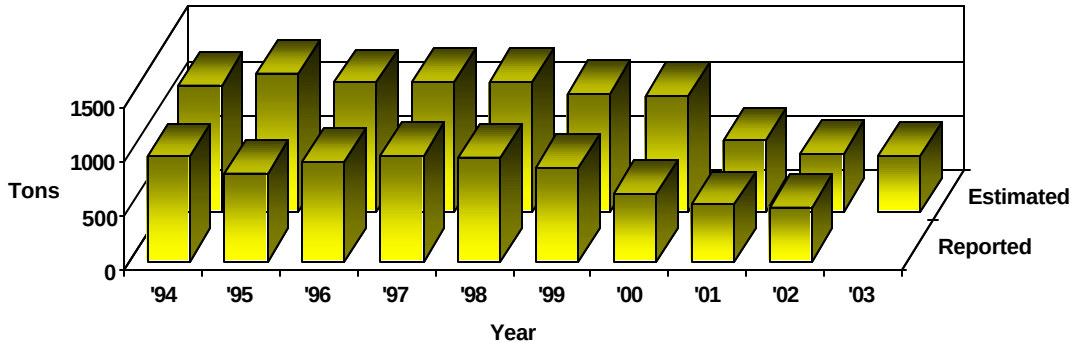


Table 8: Distribution of Sulfur Dioxide Emissions - 2003

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	414,050.0	80.82%	80.82%
Petroleum Industry	60,558.6	11.82%	92.64%
Mineral Products	14,046.1	2.74%	95.38%
Chemical Manufacturing	12,892.9	2.52%	97.90%
Primary Metal Production	3,243.0	0.63%	98.53%
All Other Categories	7,530.0	1.47%	100.00%

NITROGEN OXIDES

Figure 14
Nitrogen Oxide Emission
Trend (1000's of Tons/Year)

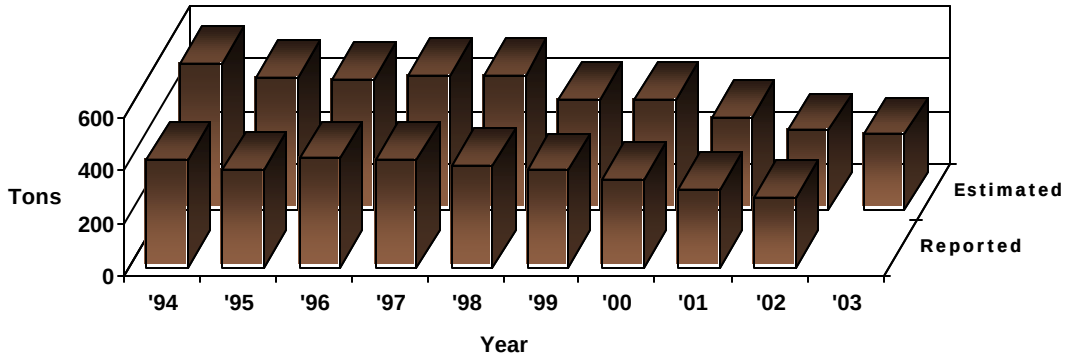


Table 9: Distribution of Nitrogen Oxide Emissions - 2003

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	241,018.9	83.13%	83.13%
Mineral Products	18,755.3	6.47%	89.60%
Petroleum Industry	14,794.2	5.10%	94.70%
Solid Waste Disposal	2,970.9	1.02%	95.73%
In-Process Fuel Use	2,439.7	0.84%	95.57%
Secondary Metal Production	2,359.6	0.81%	97.38%
Primary Metal Production	2,250.5	0.78%	98.16%
Chemical Manufacturing	1,575.5	0.54%	98.70%
Food/Agriculture	984.4	0.34%	99.04%
All Other Categories	2,772.3	0.96%	100.00%

APPENDIX A
AIR SAMPLING NETWORK

DESCRIPTION OF THE AIR SAMPLING NETWORK

The Illinois air monitoring network is composed of instrumentation owned and operated by both the Illinois Environmental Protection Agency and by cooperating local agencies. A directory of local agencies within Illinois and the environmental agencies of adjacent states can be found in **Table A1**. This network has been designed to measure ambient air quality levels in the various Illinois Air Quality Control Regions (AQCR). Historically, each AQCR was classified on the basis of known air pollutant concentrations or, where these were not known, estimated air quality. A map of the AQCR's in Illinois and overlapping into surrounding states can be found at the end of this section.

Many local agencies and volunteers cooperate and support the operation of the Illinois air monitoring network. The network contains both continuous and intermittent instruments. The continuous instruments operate throughout the year, while noncontinuous instruments operate intermittently based on the schedule shown in **Table A2**. This is the official noncontinuous sampling schedule used by the Illinois EPA during 2002.

The Illinois network is deployed along the lines described in the Illinois State Implementation Plan. An updated air monitoring plan is submitted to USEPA each year for review. In accordance with USEPA air quality monitoring requirements as set forth in Title 40 of the Code of Federal Regulations, Part 58 (40 CFR 58), four types of monitoring stations are used to collect ambient air data. The types of stations are distinguished from one another on the basis of the general monitoring objectives they are designed to meet

The SLAMS /NAMS /PAMS/ SPMS designations for the sites operated within the State of Illinois are provided by site in the Site Directory (**Table A4**). All of the industrial sites are considered to be SPMS. **Table A3** is a summary of the distribution of SLAMS/NAMS/PAMS/SPMS by pollutant.

1. **State/Local Air Monitoring Station (SLAMS) Network** - The SLAMS network is designed to meet a minimum of four basis monitoring objectives:

   a. To determine the highest concentrations expected to occur in the area covered by the network.

   b. To determine representative concentrations in areas of high population density.

   c. To determine the air quality impact of significant sources or source categories.

   d. To determine general background concentration levels.

2. **National Air Monitoring Station (NAMS) Network** - The NAMS network is a subset of stations selected from the SLAMS network with emphasis given to urban and multisource areas. The primary objectives of the NAMS network are:

   a. To measure expected maximum concentrations.

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
69 W. Washington, Suite 1900
Chicago, Illinois 60602
312/603-8200
Fax 312/603-9828

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

Iowa Dept. of Natural Resources
Air Quality Bureau
7900 Hickman Road
Suite 1
Urbandale, Iowa 50322
515/242-5100

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
2003 - 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	25
26	27	28	29	30	31	

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	22
23	24	25	26	27	28	29
30						

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	20
21	22	23	24	25	26	27
28	29	30	31			

15 6 Day Sampling Schedule 18 3 Day Sampling Schedule

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

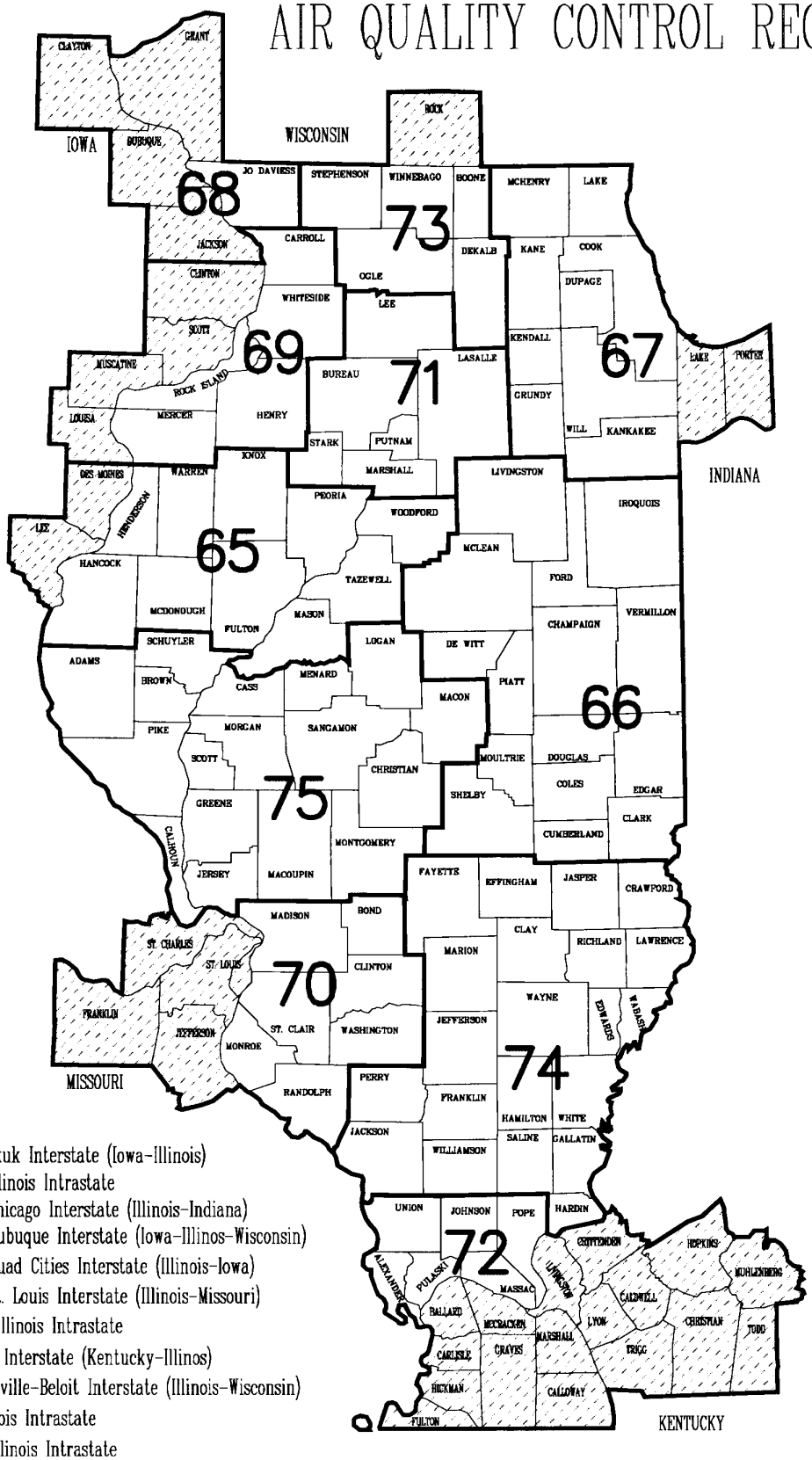
	PAMS	NAMS	SLAMS	SPMS	TOTAL
Particulate Matter ($PM_{2.5}$)	0	0	35	10	45
$PM_{2.5}$ Speciation	0	0	5	2	7
Particulate Matter (PM_{10})	0	8	7	1	16
Total Suspended Particulates (TSP)	0	0	0	12	12
Lead	0	2	11	0	13
Sulfur Dioxide	0	10	8	3	21
Nitrogen Dioxide	3	2	3	0	8
Ozone	4	9	25	1	39
Carbon Monoxide	0	2	6	0	8
Volatile Organic Compounds/Toxics	2	0	0	2	4
Wind Systems	4	0	0	18	22
Solar Radiation	4	0	0	5	9
Meteorological	4	0	0	0	4
Total	21	33	100	54	208

There were a several changes to the monitoring network from 2002 to 2003. Sites were discontinued in Calumet City (CO, NO/NO_2, O_3, SO_2), Libertyville (O_3) and Sauget (SO_2). PM_{10} was discontinued at Hoffman Estates and SO_2 was discontinued at Alton. Also PAMS O_3 and VOC was temporarily discontinued at Zion.

New $PM_{2.5}$ continuous monitors were installed at Alsip, Chicago-Springfield, Chicago-Washington, Hoffman Estates, Maywood and Naperville. $PM_{2.5}$ speciation monitors were installed at Decatur and Northbrook.

A map depicting the locations of the Statewide air monitoring network sites follows the AQCR map.

AIR QUALITY CONTROL REGIONS



65 - Bulington-Keokuk Interstate (Iowa-Illinois)
66 - East Central Illinois Intrastate
67 - Metropolitan Chicago Interstate (Illinois-Indiana)
68 - Metropolitan Dubuque Interstate (Iowa-Illinos-Wisconsin)
69 - Metropolitan Quad Cities Interstate (Illinois-Iowa)
70 - Metropolitan St. Louis Interstate (Illinois-Missouri)
71 - North Central Illinois Intrastate
72 - Paducah-Cairo Interstate (Kentucky-Illinos)
73 - Rockford-Janesville-Beloit Interstate (Illinois-Wisconsin)
74 - Southeast Illinois Intrastate
75 - West Central Illinois Intrastate

Statewide Map of Air Monitoring Locations

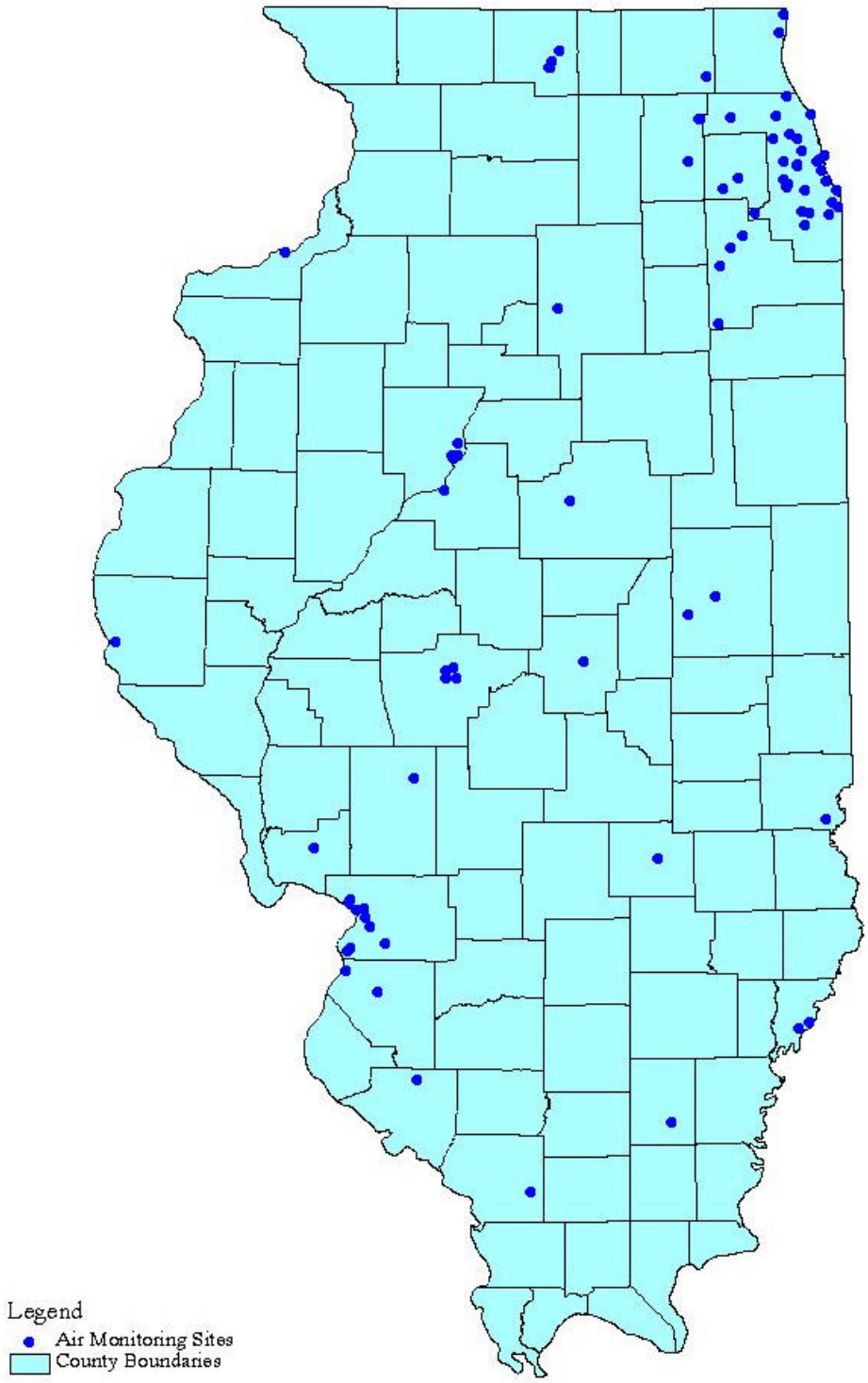


Table A4

2003
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. 4507.113	NAMS - SO_2, O_3
(1430024)	MacArthur & Hurlburt		E. 279.709	SPMS - WS/WD
Peoria	Commercial Building	Ill. EPA	N. 4508.534	SLAMS - CO
(1430036)	1005 N. University		E. 279.194	
Peoria	City Office Building	Ill. EPA	N. 4508.197	NAMS - PM_{10}
(1430037)	613 N.E. Jefferson		E. 281.675	SLAMS - Pb, $PM_{2.5}$
				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				
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				
Bondville	SWS Climate Station	Ill. EPA/SWS	N. 4434.201	SLAMS - $PM_{2.5}$
(0191001)	Twp. Rd. 500 E.		E. 382.959	
Champaign	Booker T. Washington Elem. Sch.	Ill. EPA	N. 4442.017	SLAMS - O_3, $PM_{2.5}$
(0190004)	606 E. Grove		E. 395.248	
McLEAN COUNTY				
Normal	University H.S.	Ill. EPA	N. 4486.625	SLAMS - $PM_{2.5}$
(1132003)	Main & Gregory		E. 330.925	
Normal	ISU Physical Plant	Ill. EPA	N. 4486.886	SLAMS – O_3
(1132003)	Main & Gregory		E. 330.771	
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)				
COOK COUNTY				
Alsip	Village Garage	Cook County DEC	N. 4613.287	SLAMS - O_3, Pb, PM_{10}
(0310001)	4500 W. 123rd St.		E. 439.015	SPMS - TSP,WS/WD,$PM_{2.5}{}^{n}$
Bedford Park	APC Laboratory	Cook County DEC	N. 4624.760	SLAMS - SO_2
(0311018)	7800 W. 65th St.		E. 432.241	SPMS - WS/WD
Blue Island	Eisenhower H.S.	Cook County DEC	N. 4612.286	NAMS - PM_{10}
(0312001)	12700 Sacramento		E. 442.003	SLAMS - $SO_2{}^{d}$, $PM_{2.5}$

Table A4

2003
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Chicago (0310060)	Carver H.S. 13100 S. Doty	Cook County DEC	N. 4611.594 E. 450.911	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 (0310063)	CTA Building 320 S. Franklin	Ill. EPA	N. 4636.096 E. 447.365	NAMS - CO, NO/NO_2, SO2
Chicago (0310076)	Com Ed Maintenance Bldg. 7801 Lawndale	Cook County DEC	N. 4622.217 E. 440.658	SLAMS - $PM_{2.5}$/SPEC NO/NO_2 SPMS – WS/WD, $PM_{2.5}$
Chicago (0310014)	Farr Dormitory 3300 S. Michigan Ave.	Cook County DEC	N. 4631.367 E. 448.202	SLAMS - $PM_{2.5}$
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, RAIN
Chicago (0310052)	Mayfair Pump Sta. 4850 Wilson Ave.	Cook County DEC	N. 4645.961 E. 437.866	NAMS - Pb SLAMS - $PM_{2.5}$ SPMS - TSP
Chicago (0310042)	Sears Tower Wacker @ Adams	Ill. EPA	N. 4636.320 E. 447.265	SPMS - O_3
Chicago (0310050)	Southeast Police Sta. 103rd & Luella	Cook County DEC	N. 4617.220 E. 452.700	NAMS - SO_2 SLAMS - O_3^d, $PM_{2.5}$
Chicago (0310032)	South Water Filtration Plant 3300 E. Cheltenham Pl.	Cook County DEC	N. 4622.596 E. 454.663	SLAMS - O_3
Chicago (0310057)	Springfield Pump Sta. 1745 N. Springfield. Ave.	Cook County DEC	N. 4640.189 E. 440.009	SLAMS - $PM_{2.5}$/SPEC SPMS - $PM_{2.5}^n$
Chicago (0311003)	Taft H.S. 6545 W. Hurlbut St.	Cook County DEC	N. 4648.125 E. 434.392	SLAMS - O_3
Chicago (0310064)	University of Chicago 5720 S. Ellis Ave.	Cook County DEC	N. 4626.508 E. 450.010	SLAMS - O_3 SPMS - SOL
Chicago (0310022)	Washington H.S. 3535 E. 114th St.	Cook County DEC	N. 4615.038 E. 455.155	SLAMS - Pb, $PM_{2.5}$, PM_{10} SPMS - TSP, $PM_{2.5}^n$
Cicero (0316005)	Liberty School 13^{th} St. & 50^{th} Ave.	Cook County DEC	N. 4634.780 E. 437.846	SLAMS - $PM_{2.5}$

Table A4

2003
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Cicero	Trailer	Cook County DEC	N. 4633.763	NAMS - SO_2, NO/NO_2
(0314002)	1820 S. 51st Ave.		E. 437.541	SLAMS - O_3, CO
Des Plaines	Regional Office Building	Ill EPA	N. 4656.615	SLAMS - O_3, $PM_{2.5}$
(0314007)	9511 W. Harrison St.		E. 428.577	SPMS - $PM_{2.5}$
Evanston	Water Pumping Sta.	Ill. EPA	N. 4656.649	NAMS - O_3
(0317002)	531 E. Lincoln		E. 444.221	SPMS - WS/WD
Hoffman Estates	Hoffman Estates H.S.	Cook County DEC	N. 4656.069	SPMS - $PM_{2.5}^n$
(0314101)	1100 W. Higgins Rd.		E. 408.304	
Lemont	Trailer	Cook County DEC	N. 4613.184	SLAMS - SO_2, O_3
(0311601)	729 Houston		E. 417.532	
Lyons Township	Village Hall	Ill. EPA	N. 4627.820	SLAMS - PM_{10}, $PM_{2.5}$
(0311016)	50th St. & Glencoe		E. 430.886	
Maywood	4th District Court Bldg	Cook County DEC	N. 4635.705	NAMS - Pb
(0316003)	1500 Maybrook Dr.		E. 431.435	
Maywood	Com Ed Maintenance	Cook County DEC	N. 4635.695	NAMS - CO
(0316004)	1505 S. First Ave.		E. 431.200	
Maywood (NEW)	4th District Court Bldg	Cook County DEC	N. 4635.994	SPMS - PM_{10}, $PM_{2.5}$
(0316006)	1500 Maybrook Dr.		E. 431.466	
Midlothian	Bremen High Sch.	Cook County DEC	N. 4607.103	SLAMS - PM_{10}
(0311901)	15205 Crawford Ave.		E. 440.416	
Northbrook	Northbrook Water Plant	Ill. EPA	N. 4665.414	PAMS - O_3, NO/NO_2, VOC
(0314201)	750 Dundee Rd.		E. 433.955	WS/WD, SOL, MET
				SLAMS - $PM_{2.5}/SPEC^n$
				SPMS - Hg, TOX
Schiller Park	IEPA Trailer	Ill. EPA	N. 4646.084	SLAMS - CO, NO/NO_2, Pb
(0313103)	4743 Mannheim Rd.		E. 427.387	SPMS - TSP, TOX, WS/WD
Summit	Graves Elem. Sch.	Cook County DEC	N. 4625.756	SLAMS - PM_{10}, Pb, $PM_{2.5}$
(0313301)	60th St. & 74th Ave.		E. 433.074	SPMS - TSP
DUPAGE COUNTY				
Lisle	Morton Arboretum	Ill. EPA	N. 4629.361	SLAMS - O_3
(0436001)	Route 53		E. 410.891	SPMS - WS/WD
Naperville	City Hall	Ill. EPA	N. 4624.786	SLAMS - $PM_{2.5}$
(0434002)	400 S. Eagle St.		E. 404.208	SPMS - $PM_{2.5}^n$

Table A4

2003
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
KANE COUNTY				
Elgin (0890005)	Larsen Junior H.S. 665 Dundee Rd.	Ill. EPA	N. 4655.844 E. 394.654	NAMS - O_3
Elgin (0890003)	McKinley School 258 Lovell St.	Ill. EPA	N. 4655.941 E. 394.048	SLAMS - $PM_{2.5}$
LAKE COUNTY				
Waukegan (0971002)	North Fire Station Golf & Jackson Sts.	Ill. EPA	N. 4693.854 E. 430.744	NAMS - O_3
Zion (0971007)	Camp Logan Illinois Beach State Park	Ill. EPA	N. 4701.795 E. 433.407	PAMS - O_3, NO/NO_2, VOC WS/WD, SOL, MET SLAMS - $PM_{2.5}$
Mc HENRY COUNTY				
Cary (1110001)	Cary Grove H.S. 1st St. & Three Oaks Rd.	Ill. EPA	N. 4674.900 E. 397.486	NAMS - O_3 SLAMS - $PM_{2.5}$
WILL COUNTY				
Braidwood (1971011)	Com Ed Training Center 36400 S. Essex Road	Ill. EPA	N. 4563.825 E. 400.172	PAMS - O_3, NO/NO_2, WS/WD, SOL, MET SLAMS - $PM_{2.5}$
Joliet (1971002)	Pershing Elem. Sch. Midland & Campbell Sts.	Ill. EPA	N. 4597.636 E. 406.854	NAMS - PM10 SLAMS - $PM_{2.5}$
Joliet (1970013)	Water Plant West Rte. 6 & Young Rd.	Ill. EPA	N. 4590.279 E. 401.284	NAMS - SO_2
South Lockport (1971008)	Fitness Forum 2021 Lawrence	Ill. EPA	N. 4602.982 E. 412.039	SLAMS - O_3
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)				
ROCK ISLAND COUNTY				
Rock Island (1613002)	Rock Island Arsenal 32 Rodman Ave.	Ill. EPA	N. 4598.661 E. 707.185	NAMS - O_3 SLAMS - $PM_{2.5}$ SPMS - WS/WD, SOL

Table A4

2003
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
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 - O_3
Alton (1192009)	SIU Dental Clinic 1700 Annex. St.	Ill. EPA	N. 4309.690 E. 747.752	SLAMS - $PM_{2.5}$/SPEC
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 - $PM_{2.5}$
Granite City (1190010)	Air Products 15th & Madison	Ill. EPA	N. 4286.516 E. 747.561	NAMS - PM_{10} SLAMS - Pb SPMS - TSP
Granite City (1190023)	VFW Building 2040 Washington	Ill.EPA	N. 4287.099 E. 748.427	NAMS - PM_{10} SLAMS - $PM_{2.5}$
Maryville (1191009)	Southwest Cable TV 200 W. Division	Ill. EPA	N. 4290.382 E. 242.680	SLAMS - O_3
South Roxana (1191010)	S. Roxana Grade Sch. Michigan St.	Ill. EPA	N. 4301.623 E. 755.369	SLAMS - SO_2
Wood River (1193007)	Water Treatment Plant 54 N. Walcott	Ill. EPA	N. 4305.084 E. 751.138	NAMS - SO_2, O_3, PM_{10} SLAMS - Pb, $PM_{2.5}$ SPMS – TSP
Wood River (1193009)	VIM Test Station 1710 Vaughn Road	Ill. EPA	N. 4305.786 E. 754.204	SLAMS - SO_2
RANDOLPH COUNTY				
Houston (1570001)	Baldwin Site #2 County Rds. 25.0 N. & 23.5 E.	Ill. EPA	N. 4228.843 E. 255.741	SLAMS - SO_2, O_3, $PM_{2.5}$

Table A4

2003
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
ST. CLAIR COUNTY				
East St. Louis (1630010)	RAPS Trailer 13th & Tudor	Ill. EPA	N. 4277.363 E. 747.251	NAMS - SO_2, PM_{10} SLAMS - NO/NO_2, Pb, O_3, $PM_{2.5}$, CO SPMS - TSP,WS/WD,$PM_{2.5}$
Swansea (1634001)	Village Maintenance Bldg. 1500 Caseyville Ave.	Ill. EPA	N. 4268.615 E. 239.086	SLAMS - $PM_{2.5}$
71 NORTH CENTRAL ILLINOIS INTRASTATE				
LA SALLE COUNTY				
Oglesby (0990007)	308 Portland Ave.	Ill. EPA	N. 4573.105 E. 328.412	SLAMS - PM_{10}, $PM_{2.5}$ SPMS - SO_2^n, WS/WD
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)				
WINNEBAGO COUNTY				
Loves Park (2012003)	Maple Elem. Sch. 1405 Maple Ave.	Ill. EPA	N. 4688.756 E. 332.098	NAMS - O_3 SPMS - WS/WD
Rockford (2010009)	Walker Elem. Sch. 1500 Post St.	Ill. EPA	N. 4683.537 E. 328.760	NAMS - O_3
Rockford (2010010)	Fire Dept. Administration Bldg. 204 S. 1st St.	Ill. EPA	N. 4681.324 E. 327.670	SLAMS - $PM_{2.5}$
Rockford (2010011)	City Hall 425 E. State	Ill. EPA	N. 4681.390 E. 327.817	SLAMS - CO
74 SOUTHEAST ILLINOIS INTRASTATE				
EFFINGHAM COUNTY				
Effingham (0491001)	Central Junior H.S. Route 45 South	Ill. EPA	N. 4325.158 E. 365.999	SLAMS - O_3 SPMS - WS/WD^d, SOL^d
HAMILTON COUNTY				
Dale (0650001)	Dale Elem. School SR 142	Ill. EPA	N. 4206.452 E. 368.899	SLAMS - O_3 SPMS - WS/WD^n
JACKSON COUNTY				
Carbondale (0770004)	Maintenance Bldg. 607 E. College	Ill. EPA SIU	N. 4177.180 E. 305.291	SLAMS - PM_{10}

Table A4

2003
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
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	N. 4421.320 E. 636.351	SLAMS - $PM_{2.5}$, SO_2, O_3 SPMS - WS/WD
JERSEY COUNTY				
Jerseyville (0831001)	Illini Jr. H.S. Liberty St. & County Rd.	Ill. EPA	N. 4332.242 E. 731.369	SLAMS - O_3
MACON COUNTY				
Decatur (1150013)	IEPA Trailer 2200 N. 22nd	Ill. EPA	N. 4414.538 E. 335.308	NAMS - SO_2 SLAMS - O_3, $PM_{2.5}$/SPEC SPMS - WS/WD, $PM_{2.5}$
MACOUPIN COUNTY				
Nilwood (1170002)	IEPA Trailer Heaton & Dubois	Ill. EPA	N. 4364.287 E. 258.053	SLAMS - O_3, SO_2, Pb,PM_{10} SPMS - TSP, WS/WD, SOL CO_2, UV
SANGAMON COUNTY				
Springfield (1670006)	Sewage Treatment Plant 3300 Mechanicsburg Rd.	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 - $PM_{2.5}$

Table A4

2003
SITE DIRECTORY

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

Summary of Equipment Codes for the Site Directory

TSP	- Total Suspended Particulates
PM_{10}	- Particulate Matter (10 microns or smaller)
$PM_{2.5}$	Particulate Matter (2.5 microns or smaller)
SPEC	- $PM_{2.5}$ Speciation
SO_2	- Sulfur Dioxide
NO	- Nitric Oxide
NO_2	- Nitrogen Dioxide
CO	- Carbon Monoxide
CO_2	- Carbon Dioxide
O_3	- Ozone
Pb	- Lead
VOC	- Volatile Organic Compounds
TOX	- Toxic Compounds
Hg	- Mercury
WS/WD	- Wind Speed and Wind Direction
SOL	- Total Solar Radiation
MET	- Temperature, Relative Humidity, Barometric Pressure
UV	- Ultra-violet Radiation
RAIN	- Rainfall
(n)	- Instrument installed during 2003
(d)	- Instrument removed during 2003
NEW	- Site started during 2003
DISC	- Site discontinued during or at the end of 2003

SLAMS Designations

NAMS	- National Air Monitoring Site
PAMS	- Photochemical Assessment Monitoring Site
SLAMS	- State and Local Air Monitoring Site
SPMS	- Special Purpose Air Monitoring Site

UTM Coordinates

N.	- Northing Coordinate (in kilometers)
E.	- Easting Coordinate (in kilometers)

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 2003. 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, forward 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 within the 8-hour period. 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}) has a 24-hour standard which cannot average more than 1 over a three year period (total of 3 in three years). Particulate Matter ($PM_{2.5}$) has a 24-hour standard which is a 3-year average of each year's 98^{th} percentile values. 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 of pollution both in terms of acute and chronic health effects.

The following data tables detail and summarize air quality in Illinois in 2003. 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

2003
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)
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)			
MADISON COUNTY			
Edwardsville	Poag Road	August 26	0.128
ST. CLAIR COUNTY			
East St. Louis	13th & Tudor	July 17	0.125
		August 26	0.134

Table B1

2003
OZONE IN EXCESS OF THE 8-HOUR PRIMARY STANDARD OF 0.08 PARTS PER MILLION

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
June 18	East St. Louis	13th & Tudor	0.086
June 24	Alton	409 Main St.	0.090
	Jerseyville	Liberty St.	0.095
	Nilwood	Heaton & DuBois	0.090
July 2	Alsip	4500 W. 123rd St.	0.090
	Alton	409 Main St.	0.086
	Braidwood	36400 S. Essex Rd.	0.085
	Des Plaines	9511 W. Harrison	0.085
	Lemont	729 Houston	0.099
	Maryville	200 W. Division	0.091
	South Lockport	2021 Lawrence	0.093
July 4	Chicago - SWFP	3300 E. Cheltenham	0.086
	Evanston	531 Lincoln	0.091
July 5	Chicago - Jardine	100 E. Ohio	0.086
	Evanston	531 Lincoln	0.089
July 17	Alton	409 Main St.	0.101
	Edwardsville	Poag Road	0.090
	East St. Louis	13th & Tudor	0.106
	Maryville	200 W. Division	0.095
	Wood River	54 N. Walcott	0.101
July 31	Alton	409 Main St.	0.089
	Wood River	54 N. Walcott	0.093
August 14	Chicago - SWFP	3300 E. Cheltenham	0.087
August 21	Maryville	200 W. Division	0.088
August 25	Jerseyville	Liberty St.	0.090
August 26	Alton	409 Main St.	0.095
	Edwardsville	Poag Road	0.104
	East St. Louis	13th & Tudor	0.111
	Maryville	200 W. Division	0.096
	Wood River	54 N. Walcott	0.102

Table B2

2003
OZONE

STATION	ADDRESS	NUMBER OF DAYS GREATER THAN 0.12 PPM	NUMBER OF DAYS GREATER THAN 0.08 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	1-HOUR 2ND	1-HOUR 3RD	1-HOUR 4TH	8-HOUR 1ST	8-HOUR 2ND	8-HOUR 3RD	8-HOUR 4TH
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)											
PEORIA COUNTY											
Peoria	Hurlburt & MacArthur	0	0	0.085	0.079	0.076	0.076	0.072	0.071	0.070	0.068
Peoria Heights	508 E. Glen	0	0	0.091	0.090	0.090	0.083	0.079	0.078	0.078	0.076
66 EAST CENTRAL ILLINOIS INTRASTATE											
CHAMPAIGN COUNTY											
Champaign	606 E. Grove	0	0	0.084	0.081	0.081	0.080	0.078	0.077	0.075	0.075
McLEAN COUNTY											
Normal	Main & Gregory	0	0	0.085	0.082	0.082	0.082	0.078	0.075	0.075	0.074
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)											
COOK COUNTY											
Alsip	4500 W. 123rd St.	0	1	0.097	0.090	0.088	0.084	0.090	0.080	0.078	0.077
Chicago - Jardine	1000 E. Ohio	0	1	0.098	0.087	0.085	0.085	0.086	0.078	0.075	0.075
Chicago - SE Police	103rd & Luella	0	0	0.080	0.079	0.078	0.076	0.073	0.073	0.072	0.069
Chicago - SWFP	3300 E Cheltenham	0	2	0.095	0.095	0.093	0.091	0.087	0.086	0.080	0.080
Chicago - Taft	6545 W. Hurlbut	0	0	0.093	0.090	0.088	0.087	0.084	0.078	0.077	0.077
Chicago - University	5720 S. Ellis	0	0	0.083	0.082	0.079	0.075	0.072	0.069	0.069	0.067
Cicero	1830 S. 51st Ave.	0	0	0.086	0.081	0.081	0.080	0.075	0.072	0.071	0.070
Des Plaines	9511 W. Harrison	0	1	0.092	0.088	0.085	0.083	0.085	0.075	0.074	0.073
Evanston	531 Lincoln	0	2	0.117	0.096	0.091	0.090	0.091	0.089	0.082	0.082
Lemont	729 Houston	0	1	0.109	0.096	0.088	0.080	0.099	0.080	0.076	0.075
Northbrook	750 Dundee Rd.	0	0	0.095	0.091	0.090	0.089	0.084	0.083	0.081	0.080
DuPAGE COUNTY											
Lisle	Morton Arboretum	0	0	0.090	0.084	0.076	0.074	0.083	0.069	0.067	0.066
KANE COUNTY											
Elgin	665 Dundee	0	0	0.094	0.091	0.082	0.081	0.078	0.077	0.077	0.076
LAKE COUNTY											
Waukegan	Golf & Jackson	0	0	0.094	0.093	0.090	0.084	0.081	0.081	0.076	0.074
Zion	Camp Logan	0	0	0.094	0.094	0.093	0.091	0.084	0.082	0.079	0.078
McHENRY COUNTY											
Cary	1st St. & Three Oaks	0	0	0.093	0.087	0.085	0.084	0.084	0.080	0.080	0.079
WILL COUNTY											
Braidwood	36400 S. Essex Rd.	0	1	0.095	0.093	0.087	0.085	0.085	0.079	0.075	0.073
South Lockport	2021 Lawrence	0	1	0.104	0.101	0.087	0.083	0.093	0.080	0.079	0.077

Primary 1-Hour Standard 0.12 ppm; 8-Hour Standard 0.08 ppm

Table B2

2003
OZONE

STATION	ADDRESS	NUMBER OF DAYS GREATER THAN 0.12 PPM	NUMBER OF DAYS GREATER THAN 0.08 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	1-HOUR 2ND	1-HOUR 3RD	1-HOUR 4TH	8-HOUR 1ST	8-HOUR 2ND	8-HOUR 3RD	8-HOUR 4TH
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)											
ROCK ISLAND COUNTY											
Rock Island	32 Rodman Ave.	0	0	0.092	0.080	0.079	0.079	0.084	0.074	0.071	0.068
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)											
MADISON COUNTY											
Alton	409 Main St.	0	5	0.117	0.107	0.102	0.098	0.101	0.095	0.090	0.089
Edwardsville	Poag Road	1	2	0.128	0.112	0.104	0.094	0.104	0.090	0.082	0.082
Maryville	200 W. Division	0	4	0.122	0.115	0.109	0.098	0.096	0.095	0.091	0.088
Wood River	54 N. Walcott	0	3	0.118	0.115	0.102	0.091	0.102	0.101	0.093	0.083
RANDOLPH COUNTY											
Houston	Twp Rds. 150 & 45	0	0	0.093	0.092	0.091	0.089	0.081	0.078	0.077	0.077
ST. CLAIR COUNTY											
East St. Louis	13th & Tudor	2	3	0.134	0.125	0.100	0.097	0.111	0.106	0.086	0.079
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)											
WINNEBAGO COUNTY											
Loves Park	1405 Maple	0	0	0.086	0.080	0.080	0.078	0.077	0.075	0.074	0.071
Rockford	1500 Post	0	0	0.087	0.086	0.085	0.082	0.081	0.079	0.078	0.076
74 SOUTHEAST ILLINOIS INTRASTATE											
EFFINGHAM COUNTY											
Effingham	Route 45 South	0	0	0.086	0.075	0.074	0.074	0.083	0.071	0.070	0.069
HAMILTON COUNTY											
Dale	Route 142	0	0	0.102	0.089	0.088	0.085	0.080	0.079	0.078	0.077
75 WEST CENTRAL ILLINOIS INTRASTATE											
ADAMS COUNTY											
Quincy	732 Hampshire	0	0	0.090	0.087	0.078	0.077	0.077	0.077	0.071	0.071
JERSEY COUNTY											
Jerseyville	Liberty St.	0	2	0.110	0.108	0.106	0.095	0.095	0.090	0.084	0.083
MACON COUNTY											
Decatur	2200 N. 22nd St.	0	0	0.085	0.084	0.080	0.078	0.079	0.072	0.071	0.071
MACOUPIN COUNTY											
Nilwood	Heaton & DuBois	0	1	0.097	0.087	0.086	0.086	0.090	0.078	0.077	0.077
SANGAMON COUNTY											
Springfield	2875 N. Dirksen	0	0	0.092	0.085	0.085	0.084	0.080	0.077	0.076	0.075

Primary 1-Hour Standard 0.12 ppm; 8-Hour Standard 0.08 ppm

Table B3

2003

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	>65 ug/m^3	HIGHEST SAMPLES 1st	2nd	3rd	4th	ANNUAL ARITHMETIC MEAN
65 BURLINGTON-KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	3-day	112	0	37.8	35.5	35.2	31.6	13.7
66 EAST CENTRAL ILLINOIS INTRASTATE									
CHAMPAIGN COUNTY									
Bondville	Twp. Rd. 500 E.	6-day	55	0	37.2	35.7	29.7	25.0	+
Champaign	606 E. Grove	6-day	59	0	34.9	32.8	27.8	25.1	13.1
Mc LEAN COUNTY									
Normal	Main & Gregory	6-day	56	0	41.1	33.8	30.1	28.2	13.2
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Blue Island	12700 Sacramento	3-day	110	0	45.1	43.8	39.6	32.8	14.9
Chicago-Com Ed	7801 Lawndale	3-day	102	0	47.5	43.3	32.6	29.7	14.9
Chicago-Farr	3300 S. Michigan Ave.	3-day	115	0	51.4	39.3	39.0	33.4	15.1
Chicago-Mayfair	4850 Wilson Ave.	1-day	327	0	50.7	46.2	44.4	37.9	15.8
Chicago-SE Police	103rd & Luella	3-day	120	0	47.7	39.8	34.8	34.3	15.3
Chicado-Springfield	1745 N. Springfield Ave.	3-day	105	0	48.6	38.3	36.4	35.3	15.6
Chicago-Washington HS	3535 E. 114th St.	3-day	111	0	49.0	39.8	37.7	31.5	15.6
Cicero	13th St. & 50th Ave.	3-day	89	0	44.5	38.5	37.3	36.4	+
Des Plaines	9511 W. Harrison	3-day	118	0	46.0	39.9	35.8	32.5	13.2
Lyons Township	50th St. & Glencoe Ave.	3-day	109	0	50.1	47.3	45.0	40.2	16.7
Northbrook	750 Dundee Road	3-day	118	0	44.0	35.2	31.9	29.5	12.2
Summit	60th St. & 74th Ave.	3-day	120	0	56.8	40.6	38.4	37.9	15.6
Du PAGE COUNTY									
Naperville	400 S. Eagle St.	3-day	117	0	38.5	36.5	34.0	30.1	13.1
KANE COUNTY									
Elgin	258 Lovell St.	6-day	59	0	35.0	34.5	32.7	31.8	13.3
LAKE COUNTY									
Zion	Camp Logan	6-day	59	0	23.4	21.4	21.2	20.8	11.3
Mc HENRY COUNTY									
Cary	1st St. & Three Oaks Rd.	3-day	116	0	35.4	35.0	32.7	31.0	12.2
WILL COUNTY									
Braidwood	36400 S. Essex Rd.	6-day	61	0	36.2	27.9	25.2	24.7	11.9
Joliet	Midland & Campbell	6-day	61	0	45.7	30.8	30.8	30.1	13.8

+ - 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 B3

2003

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	>65 ug/m^3	HIGHEST SAMPLES 1st	2nd	3rd	4th	ANNUAL ARITHMETIC MEAN
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
ROCK ISLAND COUNTY									
Rock Island	32 Rodman Ave.	6-day	60	0	30.5	30.1	29.0	28.7	12.8
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	1700 Annex St.	3-day	117	0	51.1	36.1	31.5	28.6	14.1
Granite city	23rd & Madison	3-day	113	0	49.9	41.7	40.8	37.3	17.5
Granite City	2040 Washington	3-day	119	0	48.3	39.1	38.0	37.6	18.1
Wood River	54 N. Walcott	3-day	117	0	33.2	32.7	31.6	31.3	14.0
RANDOLPH COUNTY									
Houston	Twp Rds. 150 & 45	6-day	56	0	36.3	34.3	34.2	27.1	13.4
ST. CLAIR COUNTY									
East St. Louis	13th & Tudor	3-day	110	0	50.9	32.9	32.6	29.1	14.8
Swansea	1500 Caseyville Ave.	3-day	112	0	45.0	36.2	34.2	32.8	+
71 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	3-day	114	0	36.5	33.9	30.0	28.8	13.0
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)									
WINNEBAGO COUNTY									
Rockford	204 S. 1st St.	6-day	56	0	35.8	26.6	24.3	22.2	12.2
75 WEST CENTRAL ILLINOIS INTRASTATE									
ADAMS COUNTY									
Quincy	732 Hampshire	6-day	61	0	34.9	31.6	30.7	25.3	13.4
MACON COUNTY									
Decatur	2200 N. 22nd	3-day	107	0	36.3	35.8	34.4	33.1	13.6
SANGAMON COUNTY									
Springfield	State Fair Grounds	3-day	118	0	36.6	34.6	33.7	31.0	13.0

+ - 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 B4

2003
SHORT-TERM TRENDS
PARTICULATE MATTER ($PM_{2.5}$)

STATION	ADDRESS	ANNUAL ARITHMETIC MEANS (ug/m^3) 1998	1999	2000	2001	2002	2003
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	-	+	14.9	13.9	13.9	13.7
66 EAST CENTRAL ILLINOIS INTRASTATE							
CHAMPAIGN COUNTY							
Bondville	Twp. Rd. 500 E.	-	+	14.5	+	12.2	+
Champaign	606 E. Grove	-	-	14.8	12.6	12.2	13.1
McLEAN COUNTY							
Normal	Main & Gregory	-	-	14.9	14.8	12.9	13.2
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Blue Island	12700 Sacramento	-	17.4	16.8	17.1	+	14.9
Chicago-Com Ed	7801 Lawndale	-	-	16.6	+	15.7	14.9
Chicago-Farr	3300 S. Michigan Ave.	-	18.0	+	17.1	15.5	15.1
Chicago-Mayfair	48500 Wilson Ave.	-	+	18.3	19.4	16.5	15.8
Chicago-SE Police	103rd & Luella	-	17.2	+	+	15.5	15.3
Chicago-Springfield	1745 N. Springfield Ave.	-	-	17.3	16.2	15.2	15.6
Chicago - Washington HS	3535 E. 114th St.	-	17.4	17.9	17.1	15.3	15.6
Cicero	13th St. & 50th Ave.	-	-	+	17.4	16.0	+
Des Plaines	9511 W. Harrison	-	-	15.3	14.8	14.4	13.2
Lyons Township	50th St. & Glencoe Ave.	-	21.8	20.2	2.08	17.7	16.7
Northbrook	750 Dundee Road	-	15.5	14.3	14.7	13.2	12.2
Summit	60th St. & 74th Ave.	-	17.5	16.9	16.5	16.1	15.6
Du PAGE COUNTY							
Naperville	400 S. Eagle St.	-	15.6	15.3	15.5	14.7	13.1
KANE COUNTY							
Elgin	258 Lovell St.	-	-	+	15.1	14.3	13.3
LAKE COUNTY							
Zion	Camp Logan	-	-	12.2	+	13.5	11.3
Mc HENRY COUNTY							
Cary	1st St. & Three Oaks Rd.	-	-	14.8	13.7	12.3	12.2
WILL COUNTY							
Braidwood	36400 S. Essex Rd.	-	+	14.2	12.9	13.5	11.9
Joliet	Midland & Campbell Sts.	-	15.5	16.0	16.1	14.4	13.8

- Station not in operation during the year.

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

Primary Annual Standard 15.0 ug/m^3

Table B4

2003
SHORT-TERM TRENDS
PARTICULATE MATTER ($PM_{2.5}$)

STATION	ADDRESS	ANNUAL ARITHMETIC MEANS (ug/m^3) 1998	1999	2000	2001	2002	2003
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)							
ROCK ISLAND COUNTY							
Rock Island	32 Rodman Ave.	-	-	13.6	12.8	11.8	12.8
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Alton	1700 Annex St.	-	-	16.0	15.8	14.7	14.1
Granite City	23rd & Madison	-	+	17.4	17.3	17.7	17.5
Granite City	2040 Washington	-	20.6	2.06	19.7	19.6	18.1
Wood River	54 N. Walcott	-	15.7	15.9	15.0	15.1	14.0
RANDOLPH COUNTY							
Houston	Twp Rds. 150 & 45	-	14.5	15.2	12.1	11.6	13.4
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	-	17.9	17.4	17.0	16.7	14.8
Swansea	1500 Caseyville Ave.	-	-	15.0	15.5	15.1	+
71 NORTH CENTRAL ILLINOIS INTRASTATE							
LASALLE COUNTY							
Oglesby	308 Portland Ave.	-	-	15.2	14.5	14.8	13.0
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)							
WINNEBAGO COUNTY							
Rockford	204 S. 1st St.	-	+	15.0	+	14.8	12.2
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	-	-	13.1	12.3	13.7	13.4
MACON COUNTY							
Decatur	2200 N. 22nd	-	+	15.0	14.3	14.1	13.6
SANGAMON COUNTY							
Springfield	State Fair Grounds	-	15.9	13.4	13.3	13.6	13.0

\- Station not in operation during the year.

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

Primary Annual Standard 15.0 ug/m^3

Table B5

2003
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	2nd	3rd	4th	ANNUAL ARITHMETIC MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	6-day	58	0	60	55	52	50	25
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd St.	6-day	59	0	54	47	44	44	23
Blue Island	12700 Sacramento	6-day	56	0	66	65	64	64	30
Chicago - Carver	13100 S. Doty	6-day	60	0	80	75	74	70	33
Chicago - Washington HS	3535 E. 114th St.	1-day	344	0	66	64	61	58	23
Lyons Township	50th St. & Glencoe Ave.	1-day	362	0	120	103	92	92	32
Midlothian	15205 Crawford Ave.	6-day	59	0	62	45	44	43	24
Summit	60th St. & 74th Ave.	6-day	60	0	69	67	56	54	31
WILL COUNTY									
Joliet	Midland & Campbell Sts.	6-day	60	0	109	66	65	64	27
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	6-day	59	0	78	66	62	59	32
Granite City	2040 Washington	1-day	365	0	105	95	92	88	38
Wood River	54 N. Walcott	6-day	61	0	56	46	44	44	24
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	6-day	60	0	70	63	60	58	34
71 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	1-day	365	0	101	86	72	66	22
74 SOUTHEAST ILLINOIS INTRASTATE									
JACKSON COUNTY									
Carbondale	607 E. College	1-day	59	0	57	43	42	35	19
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & Dubois	6-day	59	0	53	44	42	39	21

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

Table B6

2003
SHORT-TERM TRENDS
PARTICULATE MATTER (PM_{10})

ANNUAL ARITHMETIC MEANS (ug/m^3)

STATION	ADDRESS	1998	1999	2000	2001	2002	2003
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	26	23	24	22	21	25
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	30	25	26	27	23	23
Blue Island	12700 Sacramento	33	30	30	28	27	30
Chicago - Carver	13100 S. Doty	58	32	+	35	31	33
Chicago - Washington HS	3535 E. 114th St.	33	-	-	28	24	23
Lyons Township	50th St. & Glencoe Ave.	35	36	35	38	36	32
Midlothian	15205 Crawford Ave.	28	25	24	26	23	24
Summit	60th St. & 74th Ave.	35	34	32	+	31	31
WILL COUNTY							
Joliet	Midland & Campbell Sts.	23	23	+	24	21	27
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison	46	31	36	39	35	32
Granite City	2040 Washington	40	44	46	47	46	38
Wood River	54 N. Walcott	30	26	29	27	23	24
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	37	32	32	30	30	34
71 NORTH CENTRAL ILLINOIS INTRASTATE							
LASALLE COUNTY							
Oglesby	308 Portland Ave.	29	28	26	22	26	22
74 SOUTHEAST ILLINOIS INTRASTATE							
JACKSON COUNTY							
Carbondale	607 E. College	23	22	23	19	19	19
75 WEST CENTRAL ILLINOIS INTRASTATE							
MACOUPPIN COUNTY							
Nilwood	Heaton & Dubois	22	-	23	19	18	21

\- 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 B7

2003
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	8704	0	0	5.3	4.9	4.0	3.3	2.9	2.7
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)										
COOK COUNTY										
Chicago - CTA Building	320 S. Franklin	8584	0	0	3.4	3.2	2.9	2.4	2.1	1.9
Cicero	1830 S. 51st Ave.	8667	0	0	4.3	4.2	3.8	2.9	2.6	2.3
Maywood	1505 S. First Ave	8696	0	0	4.7	4.4	4.0	3.5	3.4	3.3
Schiller Park	4743 N. Mannheim	8644	0	0	3.7	3.6	3.3	2.9	2.2	1.8
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)										
St. CLAIR COUNTY										
East St. Louis	13th & Tudor	8699	0	0	4.4	4.1	3.5	3.2	2.4	2.4
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)										
WINNEBAGO COUNTY										
Rockford	425 E. State	8364	0	0	3.9	3.3	3.3	2.7	2.4	2.1
75 WEST CENTRAL ILLINOIS INTRASTATE										
SANGAMON COUNTY										
Springfield	6th & Monroe	8693	0	0	5.1	3.9	3.0	2.5	2.0	1.4

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

Table B8

2003
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

STATION	ADDRESS	DATE	AVERAGING TIME	NUMBER OF EXCURSIONS	TIME PERIOD	MAXIMUM AVERAGE
70 BURLINGTON-KEOKUK INTERSTATE (IA - IL)						
TAZEWELL COUNTY						
Pekin	272 Derby	May 10-11	24-hour	1	1800-2400	0.152

Table B9

2003
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	8678	0	0	0.155	0.095	0.038	0.033	0.004
TAZEWELL COUNTY									
Pekin	272 Derby	8583	0	1	0.292	0.257	0.152	0.051	0.005
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Bedford Park	7800 W. 65th St.	8674	0	0	0.065	0.053	0.034	0.025	0.006
Blue Island	12700 Sacramento	8671	0	0	0.045	0.035	0.023	0.021	0.005
Chicago - CTA	320 S. Franklin	8694	0	0	0.051	0.048	0.019	0.018	0.003
Chicago - SE Police	103rd & Luella	8648	0	0	0.068	0.052	0.020	0.017	0.003
Cicero	1830 S. 51st Ave.	8667	0	0	0.051	0.049	0.019	0.018	0.005
Lemont	729 Houston	8689	0	0	0.077	0.061	0.020	0.019	0.004
WILL COUNTY									
Joliet	Rte 6 & Young Rd.	8654	0	0	0.040	0.039	0.014	0.014	0.004
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
South Roxana	Michigan Ave.	8699	0	0	0.114	0.105	0.032	0.027	0.004
Wood River	54 N. Walcott	8700	0	0	0.100	0.075	0.031	0.027	0.004
Wood River	1710 Vaughn Rd.	8653	0	0	0.140	0.136	0.065	0.064	0.006
RANDOLPH COUNTY									
Houston	Twp Rd 150 & Twp Rd 45	8669	0	0	0.027	0.023	0.013	0.010	0.002
ST. CLAIR COUNTY									
East St. Louis	13th & Tudor	8648	0	0	0.169	0.161	0.049	0.048	0.005
71 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	508 Portland	5052	0	0	0.213	0.186	0.086	0.071	+
74 SOUTHEAST ILLINOIS INTRASTATE									
WABASH COUNTY									
Mount Carmel	Division St	7834	0	0	0.132	0.126	0.055	0.049	0.004
Rural Wabash County	South of SR-1	6804	0	0	0.129	0.121	0.035	0.031	0.003

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

Table B9

2003
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
75 WEST CENTRAL ILLINOIS INTRASTATE									
ADAMS COUNTY									
Quincy	732 Hampshire	8611	0	0	0.019	0.018	0.010	0.009	0.002
MACON COUNTY									
Decatur	2200 N. 22nd St.	8515	0	0	0.049	0.047	0.030	0.027	0.003
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	8698	0	0	0.033	0.027	0.012	0.009	0.002
SANGAMON COUNTY									
Springfield	Sewage Plant	8655	0	0	0.103	0.103	0.044	0.034	0.003

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

Table B10

2003
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1998	1999	2000	2001	2002	2003
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	Hurlburt & MacArthur	0.007	0.007	0.006	0.005	0.005	0.004
TAZEWELL COUNTY							
Pekin	272 Derby	0.006	0.005	0.005	0.006	0.005	0.005
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Bedford Park	7800 W. 65th St.	0.007	0.008	0.006	0.005	0.006	0.006
Blue Island	12700 Sacramento	0.008	0.009	0.011	0.004	0.004	0.005
Chicago -CTA	320 S. Franklin	0.005	0.004	0.005	0.005	0.004	0.003
Chicago - SE Police	103rd & Luella	0.002	0.003	0.004	0.003	0.002	0.003
Cicero	1830 S. 51st Ave.	0.005	0.006	0.005	0.005	0.004	0.005
Lemont	729 Houston	0.006	0.006	0.006	0.005	0.005	0.004
WILL COUNTY							
Joliet	Rte 6 & Young Rd.	0.004	0.005	0.005	0.005	0.004	0.004
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
South Roxanna	Michigan Ave.	0.008	0.008	0.004	0.007	0.005	0.004
Wood River	54 N. Walcott	0.006	0.007	0.006	0.006	0.004	0.004
Wood River	1710 Vaughn Rd.	+	0.009	0.008	0.004	0.005	0.006
RANDOLPH COUNTY							
Houston	Twp Rd 150 & Twp Rd 45	0.005	0.004	0.002	0.002	0.002	0.002
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.008	0.008	0.007	0.007	0.005	0.005
74 SOUTHEAST ILLINOIS INTRASTATE							
WABASH COUNTY							
Mount Carmel	Division St.	0.004	0.007	0.005	0.005	0.004	0.004
Rural Wabash County	South of SR-1	0.005	0.005	0.006	0.005	0.003	0.003

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

Primary Annual Standard 0.03 ppm

Table B10

2002
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1998	1999	2000	2001	2002	2003
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	0.004	0.005	0.003	0.003	0.003	0.002
MACON COUNTY							
Decatur	2200 N. 22nd St.	0.005	0.005	0.005	0.005	0.004	0.003
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	0.003	0.003	0.002	0.002	0.002	0.002
SANGAMON COUNTY							
Springfield	Sewage Plant	0.006	0.006	0.005	0.003	0.003	0.003

\- 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

2003
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							
Chicago - CTA	320 S. Franklin	8489	0.100	0.095	0.061	0.057	0.031
Chicago - Com Ed	7801 Lawndale	8578	0.097	0.087	0.056	0.047	0.022
Chicago - Jardine [1]	1000 E. Ohio	3628	0.082	0.079	0.042	0.042	+
Cicero	1830 S. 51st Ave.	8635	0.094	0.091	0.062	0.058	0.027
Northbrook	750 Dundee Rd.	7449	0.084	0.070	0.044	0.044	0.018
Schiller Park	4743 N. Mannheim	8440	0.104	0.093	0.065	0.063	0.030
WILL COUNTY							
Braidwood [1]	36400 S. Essex Rd.	3421	0.048	0.048	0.027	0.017	+
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	8568	0.123	0.088	0.033	0.033	0.016

[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 B12

2003
SHORT-TERM TRENDS
NITROGEN DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1998	1999	2000	2001	2002	2003
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Chicago - CTA	320 S. Franklin	0.032	0.032	0.032	0.032	0.032	0.031
Chicago - Com Ed	7801 Lawndale	-	-	-	-	0.022	0.022
Cicero	1820 S. 51st St.	0.026	0.027	0.027	0.028	0.023	0.027
Northbrook	750 Dundee Rd.	0.017	0.017	0.018	0.018	0.017	0.018
Schiller Park	4743 N. Mannheim	0.031	0.031	0.029	0.028	0.030	0.030
WILL COUNTY							
Braidwood	36400 S. Essex Rd.	0.009	0.010	0.009	+	+	+
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.018	0.019	0.018	0.019	0.017	0.016

- Station not in operation during year shown

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

Primary Annual Standard 0.053 ppm

Table B13

2003
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	0.01	0.01	0.01
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	0	0.01	0.02	0.02	0.01	0.01
Chicago - Cermak	735 W. Harrison	0	0.04	0.06	0.05	0.03	0.04
Chicago - Mayfair	4850 Wilson Ave.	0	0.01	0.02	0.03	0.02	0.02
Chicago - Washington	3535 E. 114th St.	0	0.02	0.02	0.03	0.02	0.02
Maywood	1500 Maybrook Dr.	0	0.03	0.04	0.04	0.02	0.03
Northbrook	750 Dundee Rd.	0	0.01	0.01	0.01	0.01	0.01
Schiller Park	4243 N. Mannheim Rd.	0	0.02	0.02	0.01	0.01	0.02
Summit	60th St. & 74th Ave.	0	0.02	0.03	0.03	0.08	0.04
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison	0	0.03	0.03	0.04	0.34	0.11
Wood River	54 N. Walcott	0	0.01	0.02	0.02	0.02	0.02
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	0	0.02	0.03	0.06	0.05	0.04
75 WEST CENTRAL ILLINOIS INTRASTATE							
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	0	0.01	0.01	0.01	0.01	0.01

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

Primary Quarterly Standard 1.5 ug/m3

Table B14

2003
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
			ARSENIC				**BERYLLIUM**		
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	61	0.005	0.003	0.001	61	0.000	0.000	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	500 W. 123rd. St.	56	0.045	0.027	0.005	NA			
Chicago - Cermak	735 W. Harrison	58	0.026	0.019	0.004	NA			
Chicago - Mayfair	4850 Wilson Ave	55	0.031	0.016	0.004	NA			
Chicago - Washington	3535 E. 114th St.	58	0.024	0.019	0.004	NA			
Maywood	1500 Maybrook Dr.	58	0.031	0.020	0.004	NA			
Northbrook	750 Dundee Rd.	61	0.003	0.003	0.001	61	0.000	0.000	0.000
Schiller Park	4743 N. Mannheim Rd.	61	0.004	0.004	0.001	61	0.000	0.000	0.000
Summit	60th St. & 74th Ave.	59	0.088	0.035	0.006	NA			
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.021	0.016	0.003	58	0.000	0.000	0.000
Wood River	54 N. Walcott	60	0.007	0.005	0.001	60	0.000	0.000	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	0.042	0.017	0.004	60	0.000	0.000	0.000
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	58	0.005	0.005	0.001	58	0.000	0.000	0.000

Table B14

2003
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	61	0.000	0.000	0.000	61	0.006	0.006	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	0.015	0.003	0.001	56	0.014	0.013	0.006
Chicago - Cermak	735 W. Harrison	58	0.016	0.014	0.002	58	0.019	0.016	0.006
Chicago - Mayfair	4850 Wilson Ave	55	0.015	0.003	0.002	55	0.020	0.017	0.005
Chicago - Washington	3535 E. 114th St.	58	0.005	0.003	0.001	58	0.047	0.033	0.008
Maywood	1500 Maybrook Dr.	58	0.013	0.010	0.002	58	0.030	0.025	0.012
Northbrook	750 Dundee Rd	61	0.006	0.000	0.000	61	0.003	0.003	0.000
Schiller Park	4743 N. Mannheim Rd.	61	0.006	0.000	0.000	61	0.010	0.007	0.004
Summit	60th St. & 74th Ave.	59	0.010	0.009	0.002	59	0.025	0.015	0.006
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.000	0.000	0.000	58	0.014	0.014	0.004
Wood River	54 N. Walcott	60	0.013	0.000	0.000	60	0.003	0.003	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	0.038	0.019	0.003	60	0.004	0.004	0.001
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	58	0.006	0.000	0.000	58	0.003	0.000	0.000

Table B14

2003
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	61	1.55	1.44	0.50	61	0.078	0.057	0.020
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	1.91	1.79	0.64	56	0.156	0.087	0.028
Chicago - Cermak	735 W. Harrison	58	2.93	2.66	1.44	58	0.185	0.117	0.048
Chicago - Mayfair	4850 Wilson Ave	55	4.21	2.37	1.17	55	0.099	0.097	0.039
Chicago - Washington	3535 E. 114th St.	58	3.23	2.36	1.03	58	0.765	0.430	0.130
Maywood	1500 Maybrook Dr.	58	32.37	17.50	4.03	58	0.181	0.168	0.075
Northbrook	750 Dundee Rd.	61	1.29	1.28	0.47	61	0.072	0.053	0.014
Schiller Park	4743 N. Mannheim Rd.	61	2.95	2.80	1.50	61	0.092	0.085	0.033
Summit	60th St. & 74th Ave.	59	10.85	1.56	0.94	59	0.212	0.121	0.034
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	3.75	3.71	1.32	58	0.451	0.349	0.089
Wood River	54 N. Walcott	60	1.56	1.29	0.44	60	0.079	0.052	0.018
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	3.78	2.23	1.06	60	0.139	0.080	0.041
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	58	0.92	0.78	0.26	58	0.047	0.032	0.010

Table B14

2003
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					
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	61	0.013	0.007	0.000				
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	0.018	0.017	0.007				
Chicago - Cermak	735 W. Harrison	58	0.014	0.012	0.008				
Chicago - Mayfair	4850 Wilson Ave	55	0.014	0.012	0.007				
Chicago - Washington	3535 E. 114th St.	58	0.013	0.011	0.007				
Maywood	1500 Maybrook Dr.	58	0.016	0.015	0.010				
Northbrook	750 Dundee Rd.	61	0.013	0.010	0.001				
Schiller Park	4743 N. Mannheim Rd.	61	0.013	0.010	0.001				
Summit	60th St. & 74th Ave.	59	0.036	0.023	0.008				
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.013	0.007	0.000				
Wood River	54 N. Walcott	60	0.020	0.010	0.001				
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	0.010	0.010	0.000				
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	58	0.007	0.000	0.000				

Table B14

2003
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	NITRATES TOTAL SAMPLES	NITRATES HIGHEST 1st	NITRATES HIGHEST 2nd	NITRATES ARITH. MEAN	SULFATES TOTAL SAMPLES	SULFATES HIGHEST 1st	SULFATES HIGHEST 2nd	SULFATES ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	61	15.2	15.1	5.0	61	24.2	21.6	8.2
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	21.0	18.8	5.5	56	22.3	19.7	7.8
Chicago - Cermak	735 W. Harrison	58	19.5	16.3	5.6	58	20.8	15.6	9.0
Chicago - Mayfair	4850 Wilson Ave	55	18.8	17.6	5.7	55	22.7	17.3	8.3
Chicago - Washington	3535 E. 114th St.	58	22.7	13.5	5.1	58	20.9	18.1	8.6
Maywood	1500 Maybrook Dr.	58	16.8	14.7	5.0	58	19.6	17.2	9.4
Northbrook	750 Dundee Rd.	61	19.3	14.0	5.1	61	20.6	17.4	7.7
Schiller Park	4743 N. Mannheim Rd.	61	17.4	15.8	5.5	61	21.7	17.6	8.9
Summit	60th St. & 74th Ave.	59	21.9	19.9	5.6	59	20.6	18.3	8.8
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	11.2	10.9	3.9	58	23.1	18.4	8.8
Wood River	54 N. Walcott	60	10.5	10.2	3.8	60	20.8	19.7	8.2
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	13.4	12.9	4.8	60	25.4	24.5	10.5
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	58	13.6	12.8	4.4	58	23.0	18.2	7.6

Table B15

2003
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)						
COOK COUNTY						
Chicago	1000 E. Ohio					
COMPOUNDS						
Ethane		9.5	9.3	8.4	8.2	4.8
Ethylene		5.3	4.4	4.2	4.2	1.8
Propane		6.0	5.9	5.7	5.6	2.7
Propylene		3.1	3.0	2.2	2.1	0.9
Acetylene		2.4	2.3	2.2	2.1	0.8
N - Butane		6.0	5.8	4.9	4.1	1.8
Isobutane		4.8	4.1	3.2	2.5	0.9
Trans - 2 - Butene		1.1	0.3	0.1	0.1	0.0
Cis - 2 - Butene		0.6	0.2	0.1	0.1	0.0
N - Pentane		3.6	3.4	2.8	2.8	1.3
Isopentane		9.1	8.6	8.1	7.6	3.2
1 - Pentene		0.1	0.1	0.1	0.1	0.0
Trans - 2 - Pentene		0.2	0.2	0.1	0.1	0.0
Cis - 2 - Pentene		0.1	0.0	0.0	0.0	0.0
3 - Methylpentane		1.5	1.1	1.1	1.0	0.3
N - Hexane		2.5	2.0	1.9	1.9	0.6
N - Heptane		1.1	0.9	0.7	0.7	0.2
N - Octane		1.9	0.8	0.3	0.2	0.1
N - Nonane		1.4	0.7	0.6	0.6	0.2
N - Decane		2.1	1.3	1.2	1.0	0.3
Cyclopentane		1.0	0.1	0.1	0.1	0.0
Isoprene		0.4	0.4	0.3	0.3	0.1
2,2 - Dimethylbutane		1.3	0.3	0.2	0.2	0.1
2,4 - Dimethylpentane		1.1	0.9	0.7	0.6	0.1
Cyclohexane		0.3	0.2	0.2	0.1	0.0
3 - Methylhexane		1.7	1.3	1.3	1.2	0.3
2,2,4 - Trimethylpentane		6.8	6.1	4.8	4.8	1.8
2,3,4 - Trimethylpentane		2.5	2.0	1.5	1.4	0.4
3 - Methylheptane		0.3	0.3	0.1	0.1	0.0
Methylcyclohexane		1.6	0.5	0.4	0.3	0.1
Methylcyclopentane		1.6	1.1	1.0	1.0	0.2
2 - Methylhexane		1.2	0.9	0.9	0.9	0.2
1 - Butene		0.4	0.3	0.3	0.3	0.1
2,3 - Dimethylbutane		1.3	1.0	0.8	0.7	0.2
2 - Methylpentane		2.5	2.2	2.1	2.1	0.7
2,3 - Dimethylpentane		2.1	1.7	1.7	1.5	0.4
N - Undecane		1.0	0.6	0.5	0.5	0.1

Table B15

2003
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
COMPOUNDS						
2 - Methylheptane		0.2	0.1	0.1	0.1	0.0
M/P Xylene		5.1	2.9	2.5	2.4	0.8
Benzene		3.4	2.2	1.9	1.8	0.7
Toluene		15.2	12.8	8.3	8.1	2.5
Ethylbenzene		1.4	0.6	0.5	0.5	0.1
O - Xylene		1.8	1.5	1.3	0.8	0.2
1,3,5 - Trimethylbenzene		0.5	0.4	0.3	0.3	0.0
1,2,4 - Trimethylbenzene		1.7	1.3	1.2	1.2	0.4
N - Propylbenzene		0.1	0.1	0.1	0.0	0.0
Isopropylbenzene		0.4	0.2	0.2	0.2	0.0
O-Ethyltolune		0.2	0.1	0.1	0.1	0.0
M-Ethyltolune		0.7	0.7	0.5	0.5	0.1
P-Ethyltolune		0.2	0.1	0.1	0.0	0.0
M-Diethylbenzene		0.2	0.1	0.1	0.0	0.0
P-Diethylbenzene		0.2	0.1	0.1	0.1	0.0
Styrene		0.0	0.0	0.0	0.0	0.0
1,2,3 - Trimethylbenzene		0.4	0.4	0.3	0.3	0.0
Northbrook	750 Dundee Rd.					
COMPOUNDS						
Ethane		12.5	9.6	9.2	8.7	5.0
Ethylene		2.2	2.0	2.0	1.9	0.8
Propane		5.6	5.4	5.4	5.3	2.9
Propylene		2.0	1.8	1.6	1.5	0.6
Acetylene		1.7	0.4	0.4	0.4	0.1
N - Butane		5.3	4.5	4.5	4.4	2.0
Isobutane		2.4	2.4	2.1	1.9	0.9
Trans - 2 - Butene		1.7	1.7	1.7	1.7	1.1
Cis - 2 - Butene		0.3	0.2	0.2	0.2	0.0
N - Pentane		5.0	3.8	3.6	3.2	1.5
Isopentane		9.5	8.4	8.4	8.0	3.5
1 - Pentene		0.2	0.1	0.1	0.1	0.0
Trans - 2 - Pentene		0.5	0.4	0.4	0.4	0.1
Cis - 2 - Pentene		0.2	0.2	0.2	0.1	0.0
3 - Methylpentane		1.5	1.5	1.3	1.3	0.4
N - Hexane		2.7	2.6	2.4	2.3	1.0
N - Heptane		1.2	1.1	1.1	1.1	0.4
N - Octane		0.6	0.5	0.5	0.5	0.1
N - Nonane		0.7	0.6	0.6	0.4	0.2
N - Decane		0.9	0.8	0.7	0.6	0.2

Table B15

2003
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
COMPOUNDS						
Cyclopentane		0.2	0.2	0.2	0.2	0.0
Isoprene		5.3	5.1	5.0	4.6	1.9
2,2 - Dimethylbutane		0.3	0.3	0.2	0.2	0.1
2,4 - Dimethylpentane		1.4	1.1	1.1	1.1	0.4
Cyclohexane		0.7	0.5	0.5	0.4	0.1
3 - Methylhexane		1.8	1.5	1.4	1.4	0.5
2,2,4 - Trimethylpentane		6.8	6.6	5.9	5.5	2.3
2,3,4 - Trimethylpentane		2.1	1.9	1.7	1.6	0.6
3 - Methylheptane		0.5	0.4	0.4	0.3	0.1
Methylcyclohexane		0.7	0.6	0.6	0.5	0.2
Methylcyclopentane		1.6	1.5	1.4	1.4	0.5
2 - Methylhexane		1.2	1.2	1.1	1.0	0.4
1 - Butene		0.2	0.2	0.2	0.1	0.0
2,3 - Dimethylbutane		1.2	1.1	1.1	1.0	0.3
2 - Methylpentane		2.8	2.7	2.5	2.5	0.9
2,3 - Dimethylpentane		1.9	1.9	1.7	1.7	0.6
N - Undecane		0.6	0.6	0.5	0.4	0.2
2 - Methylheptane		0.3	0.3	0.2	0.2	0.1
M/P Xylene		2.6	2.4	2.2	2.1	0.7
Benzene		1.8	1.7	1.6	1.5	0.6
Toluene		7.2	7.1	6.9	6.8	2.5
Ethylbenzene		0.7	0.6	0.5	0.5	0.1
O - Xylene		2.9	0.9	0.8	0.7	0.3
1,3,5 - Trimethylbenzene		0.5	0.4	0.4	0.3	0.1
1,2,4 - Trimethylbenzene		1.6	1.4	1.3	1.3	0.5
N - Propylbenzene		0.1	0.1	0.1	0.1	0.0
Isopropylbenzene		0.1	0.1	0.1	0.1	0.0
N-Decane		1.8	1.8	1.6	1.3	0.4
N-Undecane		1.6	1.3	1.3	1.3	0.4
O-Ethyltolune		0.3	0.3	0.3	0.2	0.1
M-Ethyltolune		0.7	0.6	0.6	0.6	0.2
P-Ethyltolune		0.4	0.3	0.2	0.2	0.1
M-Diethylbenzene		0.3	0.2	0.2	0.1	0.0
P-Diethylbenzene		0.2	0.1	0.1	0.1	0.0
Styrene		0.1	0.1	0.1	0.1	0.0
1,2,3 Trimethylbenzene		1.1	1.0	0.7	0.6	0.2
Formaldehyde [1]		8.9	8.1	7.2	7.0	6.0

[1] Values in ppb (volume)

Table B16

2003

TOXIC COMPOUNDS[1]
(parts per billion volume)

STATION	ADDRESS	HIGHEST SAMPLES (ppbv) 24-HOUR 1ST	2ND	3RD	4TH	AVERAGE
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)						
COOK COUNTY						
Northbrook	750 Dundee Rd.					
COMPOUNDS						
1,3 Butadiene		0.2	0.2	0.2	0.2	0.1
Methylene Chloride		1.4	0.9	0.7	0.7	0.2
Chlorform		5.1	0.5	0.4	0.3	0.2
Carbon Tetrachloride		0.2	0.2	0.2	0.2	0.1
Tetrachloroethylene		0.8	0.3	0.2	0.1	0.1
Trichlorethylene		16.7	0.4	0.2	0.2	0.4
Benzene		0.9	0.8	0.6	0.5	0.3
Toluene		14.5	3.9	3.8	1.1	0.8
Formaldehyde		3.8	3.0	2.9	2.7	1.4
Acetaldehyde		1.1	1.1	0.9	0.9	0.5
Mercury[2]		6.5	5.6	5.4	4.9	2.2
Schiller Park	4743 Mannheim Rd.					
COMPOUNDS						
1,3 Butadiene		0.2	0.2	0.2	0.2	0.1
Methylene Chloride		1.7	0.9	0.8	0.6	0.2
Chlorform		0.2	0.1	0.1	0.1	0.0
Carbon Tetrachloride		0.5	0.2	0.2	0.2	0.1
Tetrachloroethylene		1.1	0.8	0.6	0.2	0.1
Trichlorethylene		20.4	0.9	0.7	0.6	0.5
Benzene		4.9	1.1	0.8	0.7	0.5
Toluene		6.5	4.2	1.9	1.6	0.8
Formaldehyde		4.0	4.0	3.4	3.1	1.9
Acetaldehyde		1.5	1.4	1.2	1.1	0.6

1 - Toxic metals data (As,Be,Cd,Cr,Mn,Ni) summarized in Section B14 Filter analysis Data

2 - Units of nanograms per cubic meter

Table B17

2003

$PM_{2.5}$ SPECIATION
(micrograms per cubic meter)

STATION	ADDRESS	HIGHEST SAMPLES (ug/m3) 24-HOUR 1ST	2ND	3RD	4TH	ANNUAL AVERAGE
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)						
COOK COUNTY						
Chicago - Com Ed	7801 Lawndale					
MAJOR CONSTITUENTS						
Inorganic Elements		3.0	2.4	2.3	2.1	0.6
Ammonium		9.2	8.5	7.6	7.0	1.8
Nitrate		17.8	14.5	12.6	12.1	2.7
Sulfate		10.4	10.3	10.1	9.9	3.2
Elemental Carbon		2.0	1.7	1.4	1.4	0.7
Organic Carbon		7.3	5.7	5.5	5.3	3.2
Chicago - Springfield	1745 N. Springfield Ave.					
MAJOR CONSTITUENTS						
Inorganic Elements		2.1	1.6	1.5	1.4	0.6
Ammonium		7.5	7.1	6.4	4.7	2.0
Nitrate		14.3	14.2	13.2	10.5	3.2
Sulfate		13.5	10.4	9.9	9.2	3.6
Elemental Carbon		1.8	1.6	1.5	1.4	0.7
Organic Carbon		9.1	7.3	7.3	7.1	4.4
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)						
MADISON COUNTY						
Alton	1700 Annex St.					
MAJOR CONSTITUENTS						
Inorganic Elements		1.9	1.8	1.5	1.2	0.5
Ammonium		6.0	5.6	4.8	3.8	1.8
Nitrate		9.4	9.4	6.0	5.6	2.0
Sulfate		16.6	15.6	14.0	10.8	4.0
Elemental Carbon		1.1	1.1	0.9	0.9	0.4
Organic Carbon		8.3	6.9	6.6	6.5	3.4

Table B17

2003

$PM_{2.5}$ SPECIATION
(micrograms per cubic meter)

STATION	ADDRESS	HIGHEST SAMPLES (ug/m3) 24-HOUR 1ST	2ND	3RD	4TH	ANNUAL AVERAGE
75 WEST CENTRAL ILLINOIS INTRASTATE						
MACON COUNTY						
Decatur	2200 N. 22nd St.					
MAJOR CONSTITUENTS						
Inorganic Elements		2.1	1.6	1.4	1.3	0.5
Ammonium		8.4	6.2	5.8	5.5	1.9
Nitrate		8.7	8.7	8.1	7.2	2.2
Sulfate		20.8	16.9	13.6	10.5	4.0
Elemental Carbon		0.7	0.7	0.7	0.7	0.5
Organic Carbon		9.0	6.5	6.5	6.0	3.8

APPENDIX C
POINT SOURCE EMISSION INVENTORY SUMMARY TABLES

Table C1

2003
Carbon Monoxide Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
External Fuel Combustion					
Electric Generation	12,184.8	12,119.2	13,208.0	12,939.3	14,120.6
Industrial	16,960.3	11,175.2	9,714.8	10,833.3	11,330.7
Commercial/Institutional	2,659.1	2,655.1	2,504.1	2,713.8	2,667.7
Space Heating	133.1	118.3	88.9	64.7	54.5
Internal Fuel Combustion					
Electric Generation	2,523.1	3,728.5	3,811.0	2,302.7	5,622.9
Industrial	4,156.9	4,165.9	6,564.4	4,653.2	5,642.9
Commercial/Institutional	179.1	601.1	735.3	629.4	451.5
Engine Testing	421.5	411.8	366.8	886.4	811.7
Off Highway 2-stroke Gasoline Engines	20.0	20.0	0.0	0.0	0.0
Fugitive Emissions	1.0	1.5	0.0	0.5	0.5
Industrial Processes					
Chemical Manufacturing	15,661.8	15,642.5	13,780.8	12,618.8	4,172.7
Food/Agriculture	250.1	1,114.8	1,000.3	1,063.5	1,093.9
Primary Metal Production	51,038.6	51,029.4	24,201.9	23,021.0	13,969.3
Secondary Metal Production	2,755.8	2,912.6	2,866.4	3,198.0	3,154.6
Mineral Products	2,697.1	3,487.5	4,087.2	9,158.7	9,835.7
Petroleum Industry	1,620.5	6,052.8	5,992.5	5,363.6	5,319.6
Paper and Wood Products	1.1	1.1	10.9	26.6	26.6
Rubber and Plastic Products	37.4	34.1	35.9	127.2	18.7
Fabricated Metal Products	1,192.7	1,236.4	1,266.7	1,307.3	1,380.6
Oil and Gas Production	214.9	195.9	98.4	92.2	332.3
Building Construction	0.0	0.0	0.0	0.0	0.0
Miscelaneous Machinery	6.1	5.0	3.9	3.7	3.7
Electrical Equipment	0.6	1.9	2.2	2.7	2.3
Transportation Equipment	1.2	1.2	1.2	1.2	5.8
Health Services	2.1	6.4	18.8	28.4	102.9
Leather and Leather Products	0.0	0.0	0.0	0.0	0.0
Textile Products	0.9	0.4	0.1	0.1	0.0
Printing/Publishing (typesetting)	0.0	0.0	0.0	0.0	0.0
Process Cooling	0.0	0.0	0.0	0.0	0.0
In-Process Fuel Use	796.8	675.1	964.4	1,258.4	1,267.9
Miscellaneous Manufacturing	188.3	207.7	197.0	361.0	134.3
Organic Solvent Emissions					
Organic Solvent Use	0.6	0.0	0.1	0.0	0.0
Surface Coating Operations	157.1	174.1	197.5	179.2	200.8
Petroleum Product Storage	74.8	74.8	76.4	3.1	3.3
Bulk Terminals/Plants	20.1	7.0	17.7	11.8	10.7
Printing/Publishing	15.0	14.8	71.4	63.5	48.2
Petroleum Marketing/Transport	0.4	0.4	0.0	0.0	0.0
Organic Chemical Storage (large)	0.4	0.4	0.0	0.0	0.0
Organic Chemical Transportation	0.7	0.7	0.7	0.1	0.1
Dry Cleaning (petroleum based)	0.0	0.0	0.0	0.0	0.0
Organic Chemical Storage (small)	0.0	0.0	0.0	0.0	0.0
Organic Solvent Evaporation	213.5	218.5	301.7	215.1	101.8
Solid Waste Disposal					
Government	1,294.4	1,345.0	1,585.4	2,036.7	3,623.3
Commercial/Institutional	664.8	608.8	421.3	309.7	284.7
Industrial	2,758.8	2,655.6	2,595.6	2,465.0	2,549.3
Site Remediation	0.4	0.5	1.0	10.4	20.2

Table C1

2003

Carbon Monoxide Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
MACT Processes					
Food and Agriculture Processes	0.0	0.0	0.0	0.0	0.0
Agricultural Chemical Production	0.0	0.0	0.0	0.0	0.0
Styrene or Methacrylate Based Resins	0.0	0.0	0.0	0.0	0.0
Cellulose Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Resin Production	0.0	0.0	0.0	0.0	0.0
Alkyd Resin Production	0.0	0.0	0.0	0.0	0.0
Vinyl Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Polymers	0.0	0.0	0.0	0.0	0.0
Fibers Production	0.0	0.0	0.0	0.0	0.0
Consumer Product Mfg Facilities	0.0	0.0	0.0	0.0	0.0
Miscellaneous Processes	0.0	0.0	0.0	0.0	0.0
Paint Stripper Use	0.0	0.0	0.0	0.0	0.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	0.0
Totals	**120,905.9**	**122,702.0**	**96,970.4**	**99,173.4**	**88,366.6**

Table C2

2003

Nitrogen Oxides Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
External Fuel Combustion					
Electric Generation	294,926.5	294,672.3	221,518.3	183,590.6	170,471.8
Industrial	48,406.4	49,443.5	41,230.8	35,474.1	34,001.0
Commercial/Institutional	6,330.9	6,056.1	5,197.8	6,074.8	5,645.5
Space Heating	637.3	568.2	426.0	319.2	276.5
Internal Fuel Combustion					
Electric Generation	4,769.2	6,237.0	5,996.0	3,932.9	7,294.4
Industrial	18,508.8	18,605.0	32,154.3	21,551.8	21,536.9
Commercial/Institutional	494.9	686.0	2,453.7	2,519.0	692.1
Engine Testing	492.3	518.6	519.8	1,152.9	1,098.3
Off Highway 2-stroke Gasoline Engines	4.3	4.3	0.0	0.0	0.0
Fugitive Emissions	2.9	1.1	0.0	2.4	2.4
Industrial Processes					
Chemical Manufacturing	1,570.1	1,538.7	2,953.0	1,362.1	1,575.5
Food/Agriculture	615.1	1,121.7	990.5	924.8	984.4
Primary Metal Production	4,611.4	4,601.5	4,188.0	3,620.2	2,250.5
Secondary Metal Production	2,308.0	1,821.7	1,111.2	1,853.9	2,359.6
Mineral Products	11,237.8	11,725.0	11,845.3	15,278.5	18,755.3
Petroleum Industry	20,695.3	20,703.7	20,239.8	15,737.0	14,794.2
Paper and Wood Products	1.2	1.6	12.7	31.0	30.3
Rubber and Plastic Products	57.7	49.5	57.3	134.0	26.3
Fabricated Metal Products	455.6	476.0	420.3	414.7	471.0
Oil and Gas Production	166.5	164.0	80.4	270.1	834.1
Building Construction	0.0	0.0	0.0	0.0	0.0
Miscelaneous Machinery	16.5	8.6	6.3	5.1	5.1
Electrical Equipment	1.2	3.1	5.9	5.0	4.7
Transportation Equipment	1.9	1.9	1.9	1.9	0.2
Health Services	1.1	1.7	2.0	1.6	5.5
Leather and Leather Products	0.0	0.0	0.0	0.0	0.0
Textile Products	4.4	3.9	1.4	1.4	0.9
Printing/Publishing (typesetting)	0.0	0.0	0.0	0.0	0.0
Process Cooling	0.0	0.0	0.0	0.0	0.0
In-Process Fuel Use	2,373.5	2,305.2	3,037.3	2,665.2	2,439.7
Miscellaneous Manufacturing	275.6	288.0	246.4	278.1	62.5
Organic Solvent Emissions					
Organic Solvent Use	2.7	0.1	1.5	1.5	1.4
Surface Coating Operations	1,080.0	1,112.7	1,106.0	866.1	945.5
Petroleum Product Storage	4.4	3.1	7.7	6.7	6.1
Bulk Terminals/Plants	53.7	1.3	9.3	12.3	22.0
Printing/Publishing	160.1	145.2	205.9	180.6	123.8
Petroleum Marketing/Transport	3.1	3.1	2.3	2.3	2.3
Organic Chemical Storage (large)	0.6	0.6	0.5	0.4	0.4
Organic Chemical Transportation	10.8	10.8	10.8	0.0	0.0
Dry Cleaning (petroleum based)	0.0	0.0	0.0	0.0	0.0
Organic Chemical Storage (small)	0.0	0.0	0.0	0.0	0.0
Organic Solvent Evaporation	104.5	105.3	307.9	343.6	230.2

Table C2

2003

Nitrogen Oxides Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
Solid Waste Disposal					
Government	800.8	820.3	1,108.1	1,248.2	2,015.1
Commercial/Institutional	138.3	125.2	99.9	98.3	105.9
Industrial	665.1	666.4	706.1	669.2	826.0
Site Remediation	1.6	4.5	1.1	7.0	23.9
MACT Processes					
Food and Agriculture Processes	0.0	0.0	0.0	0.0	0.0
Agricultural Chemical Production	0.0	0.0	0.0	0.0	0.0
Styrene or Methacrylate Based Resins	0.0	0.0	0.0	0.0	0.0
Cellulose Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Resin Production	0.0	0.0	0.0	0.0	0.0
Alkyd Resin Production	0.0	0.0	0.0	0.0	0.0
Vinyl Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Polymers	0.0	0.0	0.0	0.0	0.0
Fibers Production	0.0	0.0	0.0	0.0	0.0
Consumer Product Mfg Facilities	0.0	0.0	0.0	0.0	0.0
Miscellaneous Processes	0.0	0.0	0.0	0.0	0.0
Paint Stripper Use	0.0	0.0	0.0	0.0	0.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	0.0
Totals	**421,992.9**	**424,609.4**	**358,263.3**	**301,215.7**	**289,921.3**

Table C3

2003

Particulate Matter Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
External Fuel Combustion					
Electric Generation	17,048.2	17,042.7	17,275.6	16,273.9	15,336.4
Industrial	5,272.8	3,788.7	3,116.0	2,980.2	2,938.6
Commercial/Institutional	884.2	861.6	714.9	773.7	746.6
Space Heating	25.6	22.4	22.8	20.0	10.8
Internal Fuel Combustion					
Electric Generation	294.8	392.0	624.2	188.2	634.4
Industrial	112.6	114.2	176.3	245.3	509.0
Commercial/Institutional	20.2	43.0	43.7	41.7	28.8
Engine Testing	38.1	39.6	39.6	62.0	46.6
Off Highway 2-stroke Gasoline Engines	0.1	0.1	0.0	0.0	0.0
Fugitive Emissions	0.1	0.0	0.0	0.0	0.1
Industrial Processes					
Chemical Manufacturing	4,121.5	3,934.0	3,299.0	3,253.8	2,876.1
Food/Agriculture	18,164.8	20,140.4	18,950.1	18,919.3	16,373.6
Primary Metal Production	6,460.6	6,539.9	5,408.2	3,897.2	2,942.3
Secondary Metal Production	7,741.9	7,599.3	6,334.8	4,728.6	4,788.1
Mineral Products	20,767.2	23,872.1	23,458.7	19,984.3	22,432.0
Petroleum Industry	2,929.3	2,930.1	3,061.1	2,442.1	2,540.6
Paper and Wood Products	780.6	800.3	451.7	327.5	306.9
Rubber and Plastic Products	608.5	688.1	663.8	580.4	521.2
Fabricated Metal Products	1,222.7	1,254.5	992.5	943.0	861.7
Oil and Gas Production	7.1	7.2	3.3	11.9	18.4
Building Construction	0.0	0.0	1.5	1.5	1.9
Miscelaneous Machinery	98.1	126.0	94.3	91.2	69.6
Electrical Equipment	25.4	13.0	37.9	24.3	21.4
Transportation Equipment	94.7	72.7	54.7	54.7	73.2
Health Services	1.9	4.2	14.8	31.4	858.0
Leather and Leather Products	48.7	48.7	50.5	4.3	4.3
Textile Products	10.2	10.2	10.4	12.4	2.9
Printing/Publishing (typesetting)	0.3	0.3	0.3	0.3	1.9
Process Cooling	16.2	24.3	259.9	342.3	352.1
In-Process Fuel Use	252.9	201.6	228.9	341.8	356.0
Miscellaneous Manufacturing	420.8	266.4	236.0	142.1	118.0
Organic Solvent Emissions					
Organic Solvent Use	48.6	14.7	9.3	20.0	16.1
Surface Coating Operations	965.1	996.5	564.5	642.0	744.7
Petroleum Product Storage	55.6	51.1	50.9	36.3	31.7
Bulk Terminals/Plants	3.4	3.4	3.0	3.2	3.0
Printing/Publishing	127.5	86.4	100.1	68.3	62.9
Petroleum Marketing/Transport	0.6	0.6	2.2	10.4	13.7
Organic Chemical Storage (large)	13.7	21.3	19.4	17.6	16.7
Organic Chemical Transportation	12.4	12.4	10.8	0.1	0.1
Dry Cleaning (petroleum based)	0.0	0.0	0.0	0.0	0.0
Organic Chemical Storage (small)	0.0	0.0	0.0	0.0	0.0
Organic Solvent Evaporation	52.4	46.6	67.0	109.9	74.1

Table C3

2003

Particulate Matter Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
Solid Waste Disposal					
Government	275.2	280.4	432.9	331.0	1,364.0
Commercial/Institutional	362.1	378.9	208.6	38.0	106.7
Industrial	642.7	675.3	217.2	386.9	331.6
Site Remediation	2.7	19.3	45.9	26.6	84.6
MACT Processes					
Food and Agriculture Processes	0.0	0.0	0.0	0.0	0.0
Agricultural Chemical Production	0.0	0.0	0.0	0.0	0.0
Styrene or Methacrylate Based Resins	5.0	5.0	5.4	5.5	5.5
Cellulose Based Resins	0.2	0.2	0.2	0.2	0.2
Miscellaneous Resin Production	0.0	0.0	0.0	3.4	3.9
Alkyd Resin Production	0.0	1.8	2.1	0.0	0.0
Vinyl Based Resins	276.3	276.3	285.3	240.0	243.1
Miscellaneous Polymers	0.9	1.2	1.2	3.2	3.4
Fibers Production	0.0	0.0	0.0	0.2	0.0
Consumer Product Mfg Facilities	0.7	0.0	0.0	0.3	0.3
Miscellaneous Processes	0.0	0.0	0.0	0.9	0.0
Paint Stripper Use	0.9	0.9	0.9	0.0	0.9
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	0.0
Totals	**90,316.4**	**93,709.9**	**87,652.5**	**79,140.9**	**78,078.4**

Table

2003 C4

Sulfur Dioxide Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
External Fuel Combustion					
Electric Generation	856,765.9	856,754.9	444,940.4	359,266.7	348,602.0
Industrial	82,081.6	69,164.5	64,292.1	59,419.5	54,386.4
Commercial/Institutional	12,968.5	12,922.1	11,556.4	11,303.3	9,917.7
Space Heating	163.0	157.1	43.4	42.4	2.4
Internal Fuel Combustion					
Electric Generation	421.4	460.2	660.1	188.2	633.7
Industrial	213.1	226.5	216.4	245.3	415.2
Commercial/Institutional	16.8	34.3	39.9	41.7	29.9
Engine Testing	27.2	28.6	28.2	62.0	62.7
Off Highway 2-stroke Gasoline Engines	0.3	0.3	0.0	0.0	0.0
Fugitive Emissions	0.3	0.0	0.0	0.0	0.0
Industrial Processes					
Chemical Manufacturing	16,470.5	16,414.6	17,134.5	13,946.0	12,892.9
Food/Agriculture	500.2	1,073.2	1,037.8	1,648.1	1,695.7
Primary Metal Production	4,301.2	4,301.3	6,804.5	6,342.7	3,243.0
Secondary Metal Production	3,682.0	1,130.4	150.3	113.4	2,235.8
Mineral Products	15,391.5	14,560.9	14,183.8	13,918.1	14,046.1
Petroleum Industry	87,880.5	87,880.9	87,866.5	62,241.0	60,558.6
Paper and Wood Products	0.0	0.0	0.1	0.2	0.2
Rubber and Plastic Products	0.7	1.1	1.1	0.7	0.8
Fabricated Metal Products	213.5	214.4	212.1	20.4	21.2
Oil and Gas Production	150.0	147.6	103.9	292.3	651.8
Building Construction	0.0	0.0	0.0	0.0	0.0
Miscelaneous Machinery	2.7	2.7	2.3	2.3	2.3
Electrical Equipment	0.5	0.7	0.9	2.0	0.9
Transportation Equipment	0.0	0.0	0.0	0.0	0.1
Health Services	0.6	0.6	0.7	0.7	7.3
Leather and Leather Products	0.0	0.0	0.0	7.6	0.0
Textile Products	0.0	0.0	0.0	0.0	0.0
Printing/Publishing (typesetting)	0.0	0.0	0.0	0.0	0.0
Process Cooling	0.0	0.0	0.0	0.0	0.0
In-Process Fuel Use	3,517.5	3,517.5	3,608.5	707.8	1,006.0
Miscellaneous Manufacturing	92.2	92.2	33.3	97.1	84.3
Organic Solvent Emissions					
Organic Solvent Use	0.0	0.0	0.0	0.0	0.0
Surface Coating Operations	58.3	58.6	56.5	49.2	23.8
Petroleum Product Storage	12.6	8.9	7.9	31.4	43.9
Bulk Terminals/Plants	0.0	0.0	0.0	0.0	0.0
Printing/Publishing	0.1	0.1	0.2	0.2	0.5
Petroleum Marketing/Transport	0.0	0.0	0.0	0.0	0.0
Organic Chemical Storage (large)	0.0	0.0	0.0	0.0	0.0
Organic Chemical Transportation	0.0	0.0	0.0	1.1	1.1
Dry Cleaning (petroleum based)	0.0	0.0	0.0	0.0	0.0
Organic Chemical Storage (small)	0.0	0.0	0.0	0.0	0.0
Organic Solvent Evaporation	77.3	77.3	59.5	61.7	39.6

Table C4

2003

Sulfur Dioxide Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
Solid Waste Disposal					
Government	216.9	218.5	301.0	331.0	640.8
Commercial/Institutional	36.2	36.1	37.6	38.0	45.4
Industrial	562.1	569.0	395.3	386.9	528.6
Site Remediation	3.2	3.2	22.4	26.6	27.1
MACT Processes					
Food and Agriculture Processes	0.0	0.0	0.0	472.6	472.6
Agricultural Chemical Production	0.0	0.0	0.0	0.0	0.0
Styrene or Methacrylate Based Resins	0.0	0.0	0.0	0.0	0.0
Cellulose Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Resin Production	0.0	0.0	0.0	0.0	0.0
Alkyd Resin Production	0.0	0.0	0.0	0.0	0.0
Vinyl Based Resins	0.1	0.0	0.0	0.0	0.0
Miscellaneous Polymers	0.0	0.0	0.0	0.0	0.0
Fibers Production	0.0	0.0	0.0	0.0	0.0
Consumer Product Mfg Facilities	0.0	0.0	0.0	0.0	0.0
Miscellaneous Processes	0.0	0.0	0.0	0.0	0.0
Paint Stripper Use	0.0	0.0	0.0	0.0	0.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	0.0
Totals	**1,085,828.3**	**1,070,058.3**	**653,797.5**	**531,342.7**	**512,320.6**

Table C5

2003

Volatile Organic Material Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
External Fuel Combustion					
Electric Generation	1,247.4	1,235.9	1,337.5	1,342.2	1,461.3
Industrial	3,008.4	1,232.2	1,130.6	854.1	814.4
Commercial/Institutional	258.4	250.0	258.2	380.8	344.9
Space Heating	25.7	26.0	18.2	13.4	14.8
Internal Fuel Combustion					
Electric Generation	349.8	443.3	709.2	292.9	639.8
Industrial	2,000.7	1,979.2	1,932.4	1,022.2	1,066.1
Commercial/Institutional	35.3	79.8	139.1	122.1	78.1
Engine Testing	93.2	93.8	72.5	236.9	232.5
Off Highway 2-stroke Gasoline Engines	4.5	4.5	0.0	0.0	0.0
Fugitive Emissions	0.1	0.0	37.9	19.6	0.3
Industrial Processes					
Chemical Manufacturing	13,515.1	14,441.9	12,504.9	12,698.4	12,405.2
Food/Agriculture	8,662.8	10,503.5	9,942.7	10,503.8	10,885.9
Primary Metal Production	3,089.0	3,098.3	1,756.9	674.2	645.3
Secondary Metal Production	1,290.3	1,439.0	1,178.0	1,914.9	1,829.4
Mineral Products	1,331.1	1,661.9	1,476.9	1,694.3	2,543.6
Petroleum Industry	6,066.9	6,049.7	6,027.9	5,197.5	4,292.0
Paper and Wood Products	139.1	146.4	198.5	177.0	240.1
Rubber and Plastic Products	4,543.1	4,487.4	4,096.4	5,061.1	4,607.2
Fabricated Metal Products	1,446.5	1,470.1	1,743.6	1,545.4	1,290.8
Oil and Gas Production	574.3	720.9	564.0	252.5	465.7
Building Construction	0.0	0.0	0.0	0.0	0.0
Miscelaneous Machinery	113.0	114.7	31.3	28.7	25.8
Electrical Equipment	213.0	224.5	200.4	185.7	142.2
Transportation Equipment	21.8	26.3	26.3	40.4	267.8
Health Services	80.6	86.6	75.2	81.2	70.6
Leather and Leather Products	69.2	69.2	90.0	108.6	107.0
Textile Products	4.9	4.9	4.9	4.9	7.3
Printing/Publishing (typesetting)	0.0	0.0	0.0	0.0	0.0
Process Cooling	0.0	0.0	10.1	11.6	12.6
In-Process Fuel Use	232.8	235.1	329.7	180.4	141.5
Miscellaneous Manufacturing	301.2	354.5	332.8	287.5	261.7
Organic Solvent Emissions					
Organic Solvent Use	1,784.5	1,914.4	1,484.4	1,403.8	1,371.0
Surface Coating Operations	22,854.7	22,338.8	20,049.9	17,979.3	16,512.2
Petroleum Product Storage	5,805.0	5,773.7	5,214.4	5,058.6	4,684.1
Bulk Terminals/Plants	1,744.6	1,755.8	2,117.9	2,402.2	2,967.0
Printing/Publishing	10,930.4	11,028.1	11,517.9	9,012.0	10,062.2
Petroleum Marketing/Transport	1,221.5	1,250.8	1,319.1	1,519.7	1,413.0
Organic Chemical Storage (large)	769.4	1,184.3	1,147.5	1,222.3	1,042.7
Organic Chemical Transportation	64.3	69.8	40.2	38.6	29.0
Dry Cleaning (petroleum based)	361.6	389.0	380.7	457.7	550.9
Organic Chemical Storage (small)	1.9	1.9	1.9	2.9	1.0
Organic Solvent Evaporation	3,657.1	3,590.0	4,027.4	3,537.6	3,147.4

Table C5

2003

Volatile Organic Material Point Source Emission Distribution (Tons/Year)

Category	1999	2000	2001	2002	2003
Solid Waste Disposal					
Government	215.4	232.0	253.8	352.3	685.8
Commercial/Institutional	68.8	64.9	57.2	32.5	46.5
Industrial	326.8	305.2	292.1	226.1	325.9
Site Remediation	454.0	595.9	659.0	990.7	1,131.0
MACT Processes					
Food and Agriculture Processes	0.1	3.2	3.0	42.8	42.8
Agricultural Chemical Production	16.0	1.7	1.8	1.7	0.0
Styrene or Methacrylate Based Resins	0.0	18.3	63.6	68.2	55.7
Cellulose Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Resin Production	0.0	0.0	0.0	0.0	0.0
Alkyd Resin Production	28.6	32.5	221.8	228.5	239.8
Vinyl Based Resins	84.6	95.1	112.7	124.0	123.3
Miscellaneous Polymers	0.0	13.3	18.0	16.7	13.8
Fibers Production	0.3	0.3	0.3	0.3	0.0
Consumer Product Mfg Facilities	9.6	3.9	6.5	57.0	235.3
Paint Stripper Use	3.8	3.8	3.8	1.0	3.8
Miscellaneous Processes	0.0	0.0	6.5	3.8	1.4
Phthalate Plasticizers Production	0.0	0.6	0.6	0.7	0.0
Totals	**99,121.32**	**101,146.9**	**95,221.1**	**90,013.5**	**89,579.3**

Table C6

2003
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Adams	273.0	297.1	485.2	758.0	2,043.8
Alexander	193.0	332.6	140.5	934.8	1,299.3
Bond	182.9	43.7	66.6	13.7	37.3
Boone	210.5	337.0	260.9	14.7	1,364.8
Brown	15.8	7.4	32.3	1.4	3.9
Bureau	42.7	94.5	300.0	37.0	245.5
Calhoun	0.6	0.7	34.6	0.0	0.0
Carroll	73.7	92.2	153.5	5.5	58.3
Cass	82.5	128.5	141.7	18.2	67.1
Champaign	2,450.2	2,190.8	690.0	710.4	1,258.5
Christian	1,122.2	19,765.0	568.5	16,429.7	262.4
Clark	11.1	8.3	110.1	1.1	123.3
Clay	39.6	109.7	88.8	17.4	226.8
Clinton	237.2	912.6	103.3	161.4	170.9
Coles	306.9	228.3	400.4	104.1	1,929.5
Cook	10,285.1	24,941.8	11,322.6	24,557.3	18,997.3
Crawford	981.9	4,362.7	777.2	19,034.4	1,258.4
Cumberland	16.7	3.3	102.0	0.4	16.4
DeKalb	114.5	107.0	244.1	30.1	401.9
DeWitt	131.7	58.3	235.3	16.7	121.3
Douglas	1,624.3	5,620.6	557.5	9,360.0	330.1
DuPage	1,732.7	2,127.6	861.8	335.5	2,020.4
Edgar	31.1	53.0	229.6	0.3	352.1
Edwards	2.2	2.2	50.7	0.0	112.6
Effingham	109.9	125.3	196.4	5.4	971.6
Fayette	128.8	467.6	249.3	213.1	253.7
Ford	160.0	331.7	390.6	258.6	662.6
Franklin	22.2	58.1	109.3	0.5	281.2
Fulton	359.5	5,117.7	614.0	11,501.2	63.8
Gallatin	4.5	18.1	127.7	6.4	7.5
Greene	0.4	1.5	92.9	0.0	33.4
Grundy	3,564.9	3,135.2	1,220.2	1,427.1	1,251.8
Hamilton	0.4	1.7	43.5	0.0	8.3
Hancock	46.7	32.7	230.8	8.4	16.1

Table C6

2003
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Hardin	245.3	25.4	138.4	58.0	37.7
Henderson	0.4	0.0	152.6	0.0	3.4
Henry	1,392.0	3,597.8	315.9	26.5	382.7
Iroquois	53.4	65.4	546.4	4.8	310.1
Jackson	267.8	206.4	152.5	763.8	73.0
Jasper	1,067.1	5,237.6	1,089.8	17,843.9	175.1
Jefferson	427.5	93.1	763.7	291.1	683.4
Jersey	0.7	0.0	43.4	0.0	18.7
Jo Daviess	266.8	331.8	497.7	0.7	721.0
Johnson	45.2	38.4	101.6	370.3	24.4
Kane	928.1	1,244.7	1,070.6	255.7	2,314.8
Kankakee	1,089.1	3,739.5	893.4	33.3	1,520.6
Kendall	424.8	1,569.0	283.1	322.3	543.3
Knox	100.7	113.0	306.1	44.4	343.6
Lake	2,803.0	11,310.3	2,368.0	13,194.7	1,756.1
La Salle	4,615.3	6,617.1	3,559.3	5,179.0	1,929.7
Lawrence	10.9	44.7	84.9	49.1	89.4
Lee	179.8	110.1	339.3	8.9	489.7
Livingston	487.5	902.5	648.8	30.0	1,016.8
Logan	75.1	616.6	429.2	679.3	151.7
McDonough	78.7	329.9	216.4	761.5	118.7
McHenry	591.7	1,331.3	679.6	66.6	954.3
McLean	370.6	734.1	684.4	40.8	3,089.8
Macon	3,025.6	14,018.2	4,992.4	17,918.5	7,500.3
Macoupin	6.5	16.5	211.2	3.4	124.3
Madison	17,978.9	16,738.7	4,861.3	44,895.4	4,904.7
Marion	32.0	51.9	184.6	3.9	803.6
Marshall	38.3	298.2	358.6	3,894.5	151.6
Mason	150.9	56.7	372.6	67.1	57.5
Massac	1,882.7	11,728.3	2,162.6	24,121.9	350.5
Menard	0.7	0.8	53.7	0.0	16.4
Mercer	0.7	4.4	110.2	0.3	19.9
Monroe	4.0	10.8	106.5	0.1	33.1
Montgomery	758.0	15,668.1	921.1	47,221.0	138.9

Table C6

2003
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Morgan	507.1	4,562.9	1,044.8	22,777.0	636.5
Moultrie	141.1	367.0	142.9	6.2	311.3
Ogle	542.8	363.4	692.1	44.9	2,048.1
Peoria	2,044.9	11,635.8	1,995.0	39,189.2	2,617.1
Perry	336.9	456.4	141.4	49.7	112.3
Piatt	92.8	989.2	183.1	0.7	135.1
Pike	199.7	1,601.6	447.6	1,574.6	67.5
Pope	0.0	0.0	0.0	0.0	2.1
Pulaski	22.4	61.8	198.4	101.0	20.7
Putnam	772.8	4,285.5	881.7	6,967.2	215.2
Randolph	1,888.0	22,473.9	3,627.5	26,240.7	353.4
Richland	0.7	3.1	20.1	0.4	100.8
Rock Island	1,332.7	1,034.3	926.0	3,103.4	1,534.7
St. Clair	1,141.8	891.9	1,645.5	1,530.3	2,477.4
Saline	39.0	15.5	355.3	1.3	38.8
Sangamon	943.1	10,385.6	875.4	10,820.4	357.7
Schuyler	5.4	6.1	98.7	0.0	12.6
Scott	47.8	126.8	128.3	22.6	7.1
Shelby	451.6	367.2	329.0	120.2	125.9
Stark	0.0	0.0	72.8	0.0	9.2
Stephenson	179.8	153.4	187.0	3.7	530.5
Tazewell	2,342.0	30,349.9	2,615.1	30,293.0	709.5
Union	33.8	43.2	129.6	679.0	17.2
Vermilion	726.7	2,542.8	1,514.1	17,642.3	2,735.8
Wabash	6.2	6.7	127.6	2.4	29.4
Warren	43.1	58.1	252.3	251.2	58.5
Washington	20.0	43.2	204.2	0.2	166.3
Wayne	363.5	902.2	68.8	445.0	111.9
White	48.4	113.2	91.8	0.3	146.8
Whiteside	176.9	197.6	428.1	17.9	170.6
Will	8,802.2	25,355.5	5,987.3	79,429.0	5,084.5
Williamson	240.9	1,573.0	407.9	6,815.0	276.3
Winnebago	907.0	981.5	1,098.0	78.0	1,163.3
Woodford	6.6	7.2	228.9	0.0	94.3

Table C7

Annual Estimated Emissions Trends (Tons)

Year	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
1981	240,421	826,427	276,529	1,577,992	270,814
1982	163,704	693,054	184,716	1,404,040	233,951
1983	144,622	759,453	185,931	1,363,292	207,405
1984	110,922	746,367	204,490	1,435,066	197,418
1985	107,876	715,556	174,102	1,406,300	191,070
1986	109,777	676,181	164,246	1,400,761	180,148
1987	98,213	644,511	166,292	1,379,407	176,406
1988	127,758	653,521	162,124	1,393,628	165,792
1989	132,214	610,214	212,778	1,254,474	193,499
1990	134,744	623,466	266,888	1,272,445	170,378
1991	148,667	619,161	220,903	1,239,690	154,008
1992	129,054	610,214	163,529	1,228,949	156,867
1993	130,097	556,460	142,123	1,170,549	152,288
1994	127,848	555,893	133,275	1,158,555	140,492
1995	127,661	505,966	119,726	1,273,786	141,381
1996	130,040	495,267	105,842	1,183,278	139,445
1997	117,046	510,729	100,038	1,197,404	136,541
1998	108,117	509,676	99,619	1,196,461	134,924
1999	120,906	421,993	90,316	1,085,828	99,121
2000	122,702	424,609	93,710	1,070,058	101,147
2001	96,970	358,263	87,652	653,797	95,221
2002	99,173	301,216	79,141	531,343	90,014
2003	88,367	289,921	78,078	512,321	89,579

Table C8

Annual Source Reported Emissions Trends (Tons)

Year	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
1992	112,394	38,1940	95,653	1,045,102	143,852
1993	113,777	41,8211	90,153	1,001,125	108,847
1994	116,183	40,4488	88,829	967,215	108,897
1995	160,247	36,6980	67,039	814,230	103,143
1996	84,282	40,7680	63,693	914,297	87,263
1997	71,360	40,4251	57,451	974,234	76,232
1998	79,313	37,7201	61,395	964,264	77,836
1999	80,126	36,0651	56,117	863,660	71,317
2000	80,044	32,8925	55,681	620,456	70,862
2001	76,023	29,1165	53,178	528,219	62,398
2002	82,230	26,2057	49,504	499,284	70,441

APPENDIX D

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 Enforcement, 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.

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.

- Coordination of the Bureau's Stationary Source Inventory.

Compliance and Enforcement

The Compliance and Enforcement Section provides Management oversight for all aspects of the compliance program.

The work of the section is currently focused on the following areas:

- Formulating and interpreting policy regarding the Bureau's Air Pollution Compliance and Enforcement Program.

- Coordinating the Air Pollution Compliance and Enforcement Program with USEPA's Compliance and Enforcement Program.

- Coordinating, through the Bureau's Compliance Decision Group, the work of the Bureau's staff in order to provide an effective and efficient compliance program.

- Evaluate the Annual Emission Reports provided by Illinois industry.

- Oversees the source emissions monitoring program including continuous emission monitors (cems), stack testing, and escess emissions reporting

Permits

Permits are required in Illinois prior to construction and operation of emission sources and control equipment. The permit program provides a consistent and systemic way of ensuring that air emission sources are built and operated in compliance with air pollution control regulations.

In a permit application the IEPA requires: a description of the emission source, a list of types and amounts of the contaminants which will be emitted, and a description of the emission control equipment to be utilized. This information is used to determine if the emissions comply with standards adopted by the Illinois Pollution Control Board. Operating permits are granted for periods up to five years, after which they must be renewed. Operating permits for smaller facilities may run indefinitely. When a facility constructs a new emission source or makes modifications to existing emission sources, it must apply for a new construction permit.

Large sources also need a Federal Operating Permit which is administered by the IEPA. Under the Clean Air Act Permit Program (CAAPP) these large sources will be required to consolidate all of their existing State operating permits into one permit which will be available for public review and is subject to Federal oversight.

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 D1

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