Illinois
Environmental
Protection Agency

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

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Illinois Annual Air Quality Report

Illinois Environmental Protection Agency
Bureau of Air

Cover: Air pollutant measurements continue to be performed at more than 100 locations throughout the state. In addition, special air monitoring projects have been performed to provide data in support of various air quality analyses, e.g. regional ozone modeling and pollutant transport studies.

Top Left photo: Aircraft equipped with ozone, nitrogen oxides and volatile organic compound monitors are used to measure pollutant concentrations over Lake Michigan, over and around the Chicago metropolitan area and in downstate Illinois. These data have been used to validate modeling results and to track urban plumes.

Top Right photo: The 90th floor of Sears Tower has been used as a platform to allow for the measurement of ozone levels at 1,200 feet above the Chicago urban center. These measurements have provided useful data in understanding the relationship of ozone levels aloft to the peak concentrations found at ground level.

Bottom photo: Special short-term monitoring at locations with no previous air quality information has been used to validate data collected at other locations and to select sites to establish new permanent monitoring stations.

ILLINOIS ANNUAL AIR QUALITY REPORT 2001

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To Obtain Additional Information

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

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

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A MESSAGE FROM THE DIRECTOR

The year 2001 marked the third year in a row that air monitoring equipment in the Illinois portion of the Chicago Metropolitan area did not register any exceedances of the federal one-hour health standard for ozone (smog). In addition, 2001 marked a milestone in air quality when monitoring data in the Chicago non-attainment area showed that the region was able to meet or attain the one-hour standard. The Chicagoland area was both the largest metropolitan area and the first severe ozone non-attainment area in the nation to achieve this goal.

The data in this 2001 Annual Air Quality Report indicates that outdoor air quality in Illinois is good most of the time. According to the Air Quality Index (AQI), which includes eight-hour ozone and $PM_{2.5}$, in 2001, Illinois had 40 days when air quality was considered "orange" or "unhealthy for sensitive groups" in one or more portions of the State. Of the 40 "orange" days, 22 were due to $PM_{2.5}$ (fine particles), 14 were due to 8-hour ozone, 3 were both $PM_{2.5}$ and 8-hour ozone, and 1 was due to PM_{10}.

The greatest air pollution problems in Illinois effect the large populations found in the Chicago and St. Louis Metro East regions. Ozone, which is formed by Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx) reacting with sunlight, has been linked to respiratory problems for humans as well as damaging the ecosystem.

Data collected by the Illinois Environmental Protection Agency shows the State has been experiencing an on-going trend of decreased levels of $PM_{2.5}$ and ozone. Still, there is further work to be done by both individuals and businesses, to ensure that Illinois air quality continues to improve for all of our residents. In recent years, the Illinois EPA and the Partners for Clean Air coalition have joined together to promote the benefits of individual actions to reduce air pollution. The Ozone Action Day program has had a major impact on air quality in the Chicagoland area, with an estimated reduction of 20 tons of VOCs each day through individual "clean air actions." During the summer of 2002, as a result of the "Green Pays on Green Days" program sponsored by Illinois EPA and Partners for Clean Air, several thousand more Chicago area residents "took the clean air pledge" and became part of the solution to air pollution.

The Illinois EPA has been committed to fighting air pollution since the Agency was formed in 1970. Illinois has vigorously implemented a variety of regulatory and voluntary programs impacting both industry sources and vehicles to reduce harmful pollutants in our air.

This 31st Annual Air Quality Report provides information collected in 2001 from the IEPA Bureau of Air's statewide air monitoring network. The more than 200 monitors that make up the network measure a number of pollutants and air toxic compounds. This report is being provided in hopes that it will be helpful to citizens, business, organizations and all other interested parties. Your comments and/or questions are welcomed so that we can better address your informational needs.

Renee Cipriano
Director

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Illinois Annual Air Quality Report 2001

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2001
EXECUTIVE SUMMARY

This report presents a summary of air quality data collected throughout the State of Illinois during the calendar year - 2001. Data is presented for the six criteria pollutants (those for which air quality standards have been developed - particulate matter (PM_{10} and $PM_{2.5}$), ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead) along with some heavy metals, nitrates, sulfates, and volatile organic compounds. Monitoring was conducted at over 90 different site locations collecting data from more than 200 instruments.

In terms of the Air Quality Index (AQI) air quality during 2001 was either good or moderate more than 89% of the time throughout Illinois. There were 40 days when air quality in some part of Illinois was considered Unhealthy for Sensitive Groups (17 for 8-hour ozone ,25 for $PM_{2.5}$, and 1 day for PM_{10}, 3 days were high for both ozone and PM2.5). This compares with 25 Unhealthy for Sensitive Groups days in 2000. The increase is more due to 2000 being a cleaner year in terms of weather patterns than an indication of worsening air quality. 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 1992 – 2001 are as follows: Particulate Matter (PM_{10}) 16% decrease, Sulfur Dioxide 34% decrease, Nitrogen Dioxide 4% increase, Carbon Monoxide 43% decrease, Lead 44% decrease, and Ozone 7% 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, 2001. Emission estimates are for the calendar year 2000 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.

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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	Annual Arithmetic Mean	50 ug/m^3	Same as Primary
10 micrometers (PM_{10})	24-hour	150 ug/m^3	Same as Primary
Particulate Matter	Annual Arithmetic Mean	15.0 ug/m^3	Same as Primary
2.5 micrometers ($PM_{2.5}$)	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

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SECTION 2: STATEWIDE SUMMARY OF AIR QUALITY FOR 2001

OZONE

Monitoring was conducted at 41 locations during at least part of the April-October "ozone season" and at least 75% data capture was obtained at all 41 sites. The Chicago-CTA and Deerfield sites were discontinued and a new site was installed in Normal.

Two sites (Jerseyville and Wood River) recorded hourly concentrations above the 0.12 parts per million (ppm) 1-hour standard. The highest 1-hour concentration was 0.131 ppm in Jerseyville compared with a statewide high 1-hour value of 0.122 ppm in 2000. The highest value recorded in the Chicago area was 0.122 ppm recorded in Evanston compared with a high in 2000 of 0.100 ppm in Wuakegan.

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. Only two sites (Chicago-SWFP and Evanston) in Illinois had fourth high values above 0.08 ppm in 2001. The highest fourth high value was 0.087 ppm at Chicago-SWFP. The highest fourth high in the St. Louis area was 0.082 ppm at Alton. For the three year period 1999 – 2001, two sites (Chicago-SWFP 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 1992-2001. The graph shows a great deal of year-to-year fluctuation and a fairly flat 10-year trend and slightly downward since 1995. The Statewide average for 2001 was 0.099 ppm compared with 0.092 ppm in 2000 and 0.106 ppm in 1999. Statewide, the total number of excursion days in 2001 was one compared with zero in 2000 and four in 1999.

Figure 1
Average 1-Hour Ozone
Maximum (ppm)

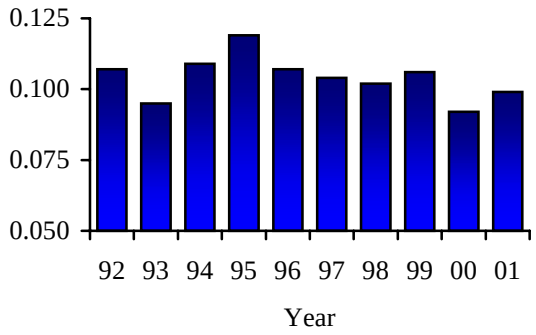


Figure 2
Statewide Ozone 1-Hour
Exceedance Day Trend

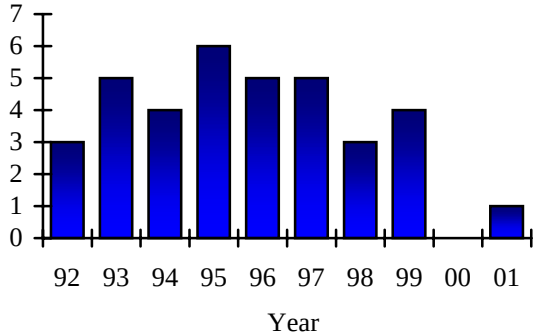


Figure 2 shows the trend of the total number of days on which one or more sites exceeded the ozone standard in Illinois for the same period 1992-2001. This trend is generally flat with a downward trend since 1995.

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

July was the most conducive months in terms of meteorological conditions Statewide. In terms of conducive days, the Chicago area had the normal number and the Metro-East area had 20% below the normal number.

PARTICULATE MATTER

In 2001 there were 17 sites monitoring PM_{10}. **Figure 3** shows the trend of the statewide annual averages for PM_{10} from 1992-2001. The Statewide average in 2001 was 28 ug/m^3 compared with 29 ug/m^3 in 2000 and 28 ug/m^3 in 1999.

For PM_{10} the Statewide average of the maximum 24-hour averages in 2001 was 79 ug/m^3 compared with 89 ug/m^3 in 2000 and 78 ug/m^3 in 1999. **Figure 4** depicts this trend for the period 1992-2001.

No sites exceeded the primary annual standard of 50 ug/m^3. The highest annual average was 47 ug/m^3 in Granite City - 2040 Washington. The lowest annual was 19 ug/m^3 in Carbondale and Nilwood. There was one exceedance of the 24-hour primary standard of 150 ug/m^3. The highest 24-hour average recorded in Granite City - 2040 Washington with a value of 157 ug/m^3 compared with a high 24-hour value of 159 ug/m^3 at Oglesby in 2000.

Figure 3
Particulate Matter (PM10)
Annual Trends (ug/m3)

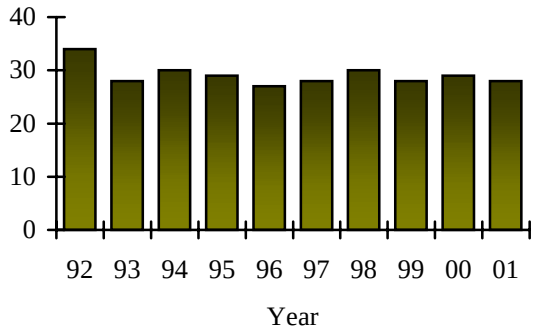
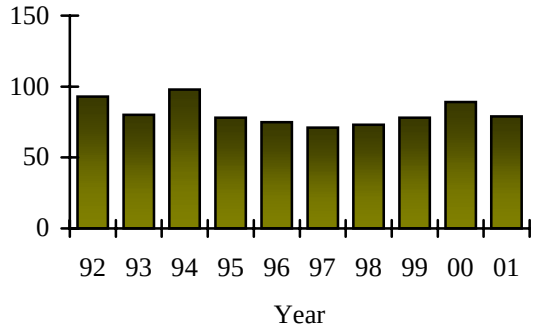


Figure 4
Particulate Matter (PM10) 24-Hour Trends (ug/m3)



In addition to PM_{10}, Federal Reference Method (FRM) monitoring was conducted at 35 sites for $PM_{2.5}$ in the third year sampling. Valid annual averages were obtained for 30 of the 35 sites. A total of 16 sites recorded averages above 15.0 ug/m^3, the level of the annual standard compared with 17 sites in 2000. The Statewide average of annual averages was 15.5 ug/m^3 in 2001 compared with 15.3 ug/m^3 in 2000. There were no exceedances of the 24-hour standard of 65

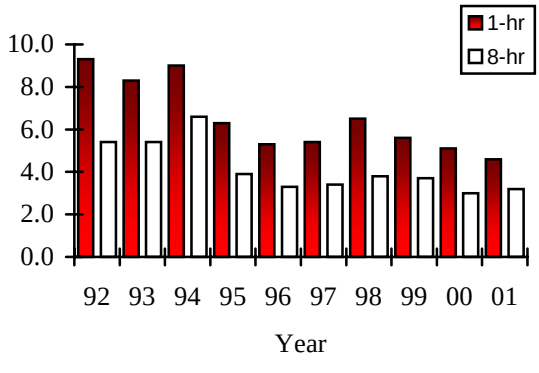
ug/m^3 in 2001. The Statewide peak of 64.9 ug/m^3 was recorded in Quincy. The Statewide average of the 98th percentile of 24-hour averages was 35.5 ug/m^3 in 2001 compared with 34.1 ug/m^3 in 2000.

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 2001. The highest 1-hour average was 6.1 ppm recorded in Springfield. The highest 8-hour average was 4.7 ppm recorded in Maywood and Peoria.

Figure 5 shows the trend for the period 1992-2001 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 4.6 ppm in 2001 compared with 5.1 ppm in 2000. The statewide average for the 8-hour high was 3.2 ppm in 2001 compared with 3.0 ppm in 2000.

Figure 5
Carbon Monoxide Trends (ppm)

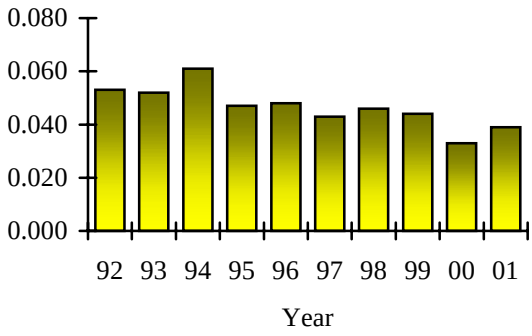


SULFUR DIOXIDE

There were no exceedances of the 24-hour primary standard of 0.14 ppm, the annual primary standard of 0.03 ppm, or the 3-hour secondary standard of 0.5 ppm in 2001.

The maximum 24-hour average was a value of 0.103 ppm recorded in East St. Louis. This compares with a high 24-hour average in 2000 of 0.078 ppm. The highest 3-hour average of 0.358 ppm was recorded in Pekin. The Statewide annual average for 2001 was 0.005 ppm. The Statewide average in 2000 also was 0.005 ppm.

Figure 6
Sulfur Dioxide 24-Hour Trends (ppm)



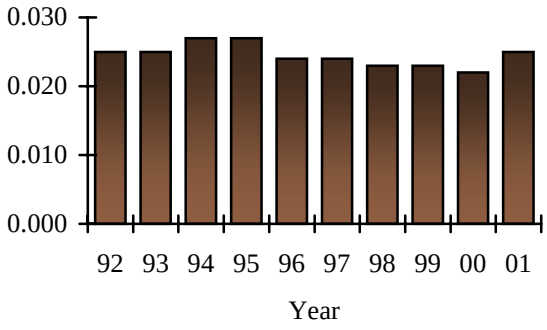
Since 1984 that Statewide trend of annual averages has been flat, ranging from 0.009 ppm to 0.005 ppm. **Figure 6** shows the statewide trend for the maximum 24-hour averages for the period 1992-2001. The 24-hour average trend has been overall downward; however a greater degree of year-to-year fluctuations have occurred. The statewide average for 2001 was 0.039 ppm compared with the 2000 average of 0.033 ppm.

NITROGEN DIOXIDE

There were no violations of the annual primary standard of 0.053 ppm recorded in Illinois during 2001. The highest annual average of 0.032 ppm was recorded at Chicago - CTA. The Statewide average for 2001 was 0.025 ppm compared with 0.022 ppm in 2000 and 0.023 ppm in 1999.

Three sites only operated during part of the ozone season as PAMS. **Figure 7** depicts the trend of statewide averages from 1992-2001. The trend has been generally stable for the period ranging from 0.020 ppm to 0.027 ppm. There have been no violations of the annual standard since 1980.

Figure 7
Nitrogen Dioxide Annual Trend
(ppm)



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% statewide.

The source oriented sites at Chemetco continue to record the highest quarterly lead averages in the State in 2001. One site in the Chemetco network (Site 5-N) recorded a violation of the quarterly primary standard of 1.5 ug/m^3 in 2001. The highest quarterly lead average was measured at Chemetco - Site 5-N with a value of 2.26 ug/m^3. Monitoring was discontinued at these sites in the 4th quarter, 2001 because the Chemetco facility was shut down.

Figure 8
Lead Maximum Quarterly Trend
(ug/m3)

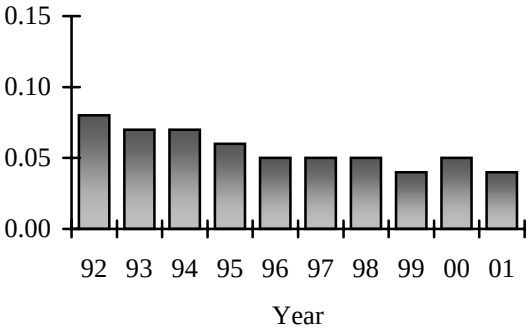


Figure 8 shows the trend of the statewide maximum quarterly average from 1991-2000. This trend does not include the industrial sites. The trend shows that ambient lead levels have decreased by over 50% during the period.

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, and nickel) have known toxic properties. Other metals such as iron and manganese can be used as tracers to help identify sources of high particulate values. Sulfates and nitrates are precursors of acid precipitation/deposition and add to the understanding of this inter-regional

problem. They 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 0.046 ug/m^3 measured in Granite City. The highest annual average of 0.004 ug/m^3 was recorded at the same site and East St. Louis. 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 0.073 ug/m^3 and the highest annual average of 0.007 ug/m^3 . The highest 24-hour chromium average was 0.079 ug/m^3 recorded at Summit. Maywood had the highest annual average at 0.019 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 Peoria with a value of 0.089 ug/m^3. The highest annual average was in Maywood with an average of 0.009 ug/m^3. All selenium 24-hour averages were less than 0.010 ug/m^3 . The highest 24-hour value for vanadium was 0.016 ug/m^3 recorded at Granite City – 15th & Madison. The highest annual average was 0.003 ug/m^3 also recorded at 15th & Madison in Granite City. For nitrates the highest 24-hour average was 24.4 ug/m^3 recorded in Alsip. The highest annual average was 7.1 ug/m^3 at Schiller Park. For sulfates the highest 24-hour average was 39.2 ug/m^3 recorded at Maywood. The highest annual average was 10.0 ug/m^3 at Schiller Park.

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, Northbrook - Type 3 peak ozone area, and Zion - Type 4 domain edge. VOC sampling was discontinued at Braidwood - Type 1 background.

Sampling was conducted for the period June - August. Automated Gas Chromatograph (GC) systems providing hourly data were located at all four 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 2001 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.

The highest compounds in terms of 24-hour and seasonal averages at Chicago - Jardine were Isopentane, Ethane, Propane, Toluene, 2,2,4 Trimethylpentane, N-Butane, and Formaldehyde. The lowest compounds were Isoprene, Methylheptanes, Ethyltoluenes, Diethylbenzenes, and pentenes. The highest compounds for 24-hour and seasonal averages at Northbrook were Isopentane, Ethane, Toluene, 2,2,4 Trimethylpentane, Isoprene, N-Butane, and M/P Xylene. The lowest compounds were Butenes, Pentenes, Methylheptanes, Diethylbenzenes, and Ethyltoluenes. The highest compounds for 24-hour and seasonal averages at Zion were Isoprene, Ethane, Propane, Toluene, Isopentane, and N-Butane. The lowest compounds were Butenes, Pentenes, Methylheptanes, Diethylbenzenes, and Ethyltoluenes.

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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 2000. This index replaced the previously used Pollutant Standards Index. Major changes include the addition of a new category "Unhealthy for Sensitive Groups" and using 8-hour ozone and $PM_{2.5}$ in the index. 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; PSI 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 the highest 8-hour average so far 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
- $PM_{2.5}$ the most recent 24-hour average
- NO_2 the highest 1-hour average (if above 600 ppb)

Continuous monitors are necessary for all the pollutants except PM_{10} and $PM_{2.5}$. These readings are based on both continuous monitors and manually operated samplers.

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.

Once all the subindices for the various pollutants have been computed, the highest is chosen by inspection. That is the AQI for the area, and the pollutant giving rise to it is the "critical pollutant". Thus if, for Anytown, Illinois, we obtained the following subindices:

O_3 = 45
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 ($PM_{2.5}$).

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 audience about the AQI either immediately or on the evening news. 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. 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.

2001 Illinois AQI Summary

In order to present a more representative AQI, 24-hour $PM_{2.5}$ 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. As a result the percentage of "Moderate" days has increased compared to previous years. Air quality was still in the "Good" category most often in 2001. All Sectors had a higher frequency of "Good" than "Moderate" and "Unhealthy for Sensitive Groups" except Chicago and Metro-East. All sectors except Chicago, North & West Suburbs, South & West Suburbs and Metro-East had 75% or more of the days in the "Good" category. Within AQI sectors there were 65 occurrences of Unhealthy for Sensitive Groups air quality in in 2001. The sector breakdown was 24 in Chicago (17 due to $PM_{2.5}$ and 7 due to 8-hour ozone), 11 in the North & West Suburbs (9 due to $PM_{2.5}$ and 2 due to 8-hour ozone), 9 in Metro-East (3 due to 8-hour ozone and 6 due to $PM_{2.5}$), 5 in South & West Suburbs (all $PM_{2.5}$), 3 in Lake County (all 8-hour ozone), 3 in Will County (2 due to 8-hour ozone and 1 due to $PM_{2.5}$), 2 in Aurora-Elgin (1 due to 8-hour ozone and 1 due to $PM_{2.5}$), 2 in Peoria (all $PM_{2.5}$), 2 in Rockford (all $PM_{2.5}$), 2 in Springfield (1 due to 8-hour ozone and 1 due to $PM_{2.5}$), 1 in Decatur ($PM_{2.5}$), and 1 in Normal (8-hour ozone). Outside of AQI sectors there were 7 additional occurrences of Unhealthy for Sensitive Groups (5 due to 8-hour ozoneand 2 due to $PM_{2.5}$). **Figure 9** presents the AQI statistics for each sector. The pie chart shows the percent of time each sector was in a particular category.

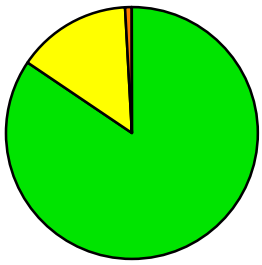
In 2001 no ozone advisories were issued in the State. An Advisory is declared when ozone levels have reached the level of the 1-hour standard (0.12 ppm) on a particular day and meteorological conditions are such that these levels are expected again the next day.

Table 4: AQI Sectors in Illinois

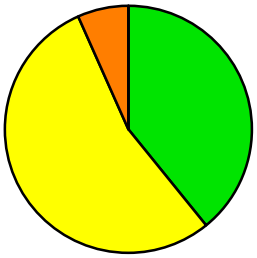
Chicago Metropolitan Area:	
Lake County Sector	Lake County only
North and West Suburbs Sector	Parts of Cook, Du Page, and Mc Henry Counties north of I-290 (the Eisenhower Expressway) and outside of Chicago city limits.
Chicago Sector	All areas within the city limits of Chicago
South and West Suburbs 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: 2001 Air Quality Index Summaries by Sector

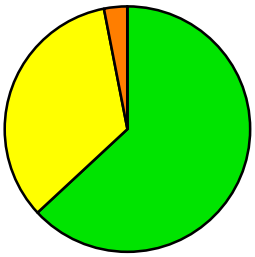
Chicago Sector - Lake County



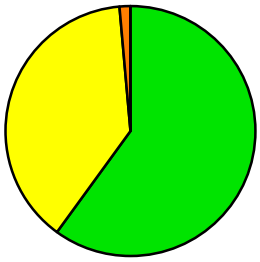
Chicago Sector - Chicago



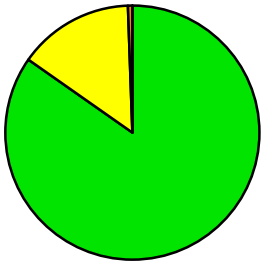
Chicago Sector - North & West Suburbs



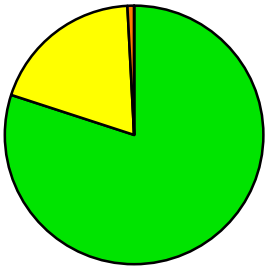
Chicago Sector - South & West Suburbs



Aurora - Elgin



Joliet/Will County



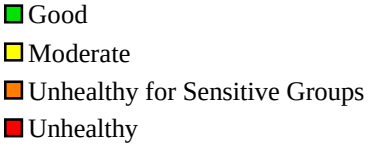


Figure 9: 2001 Air Quality Index Summaries by Sector

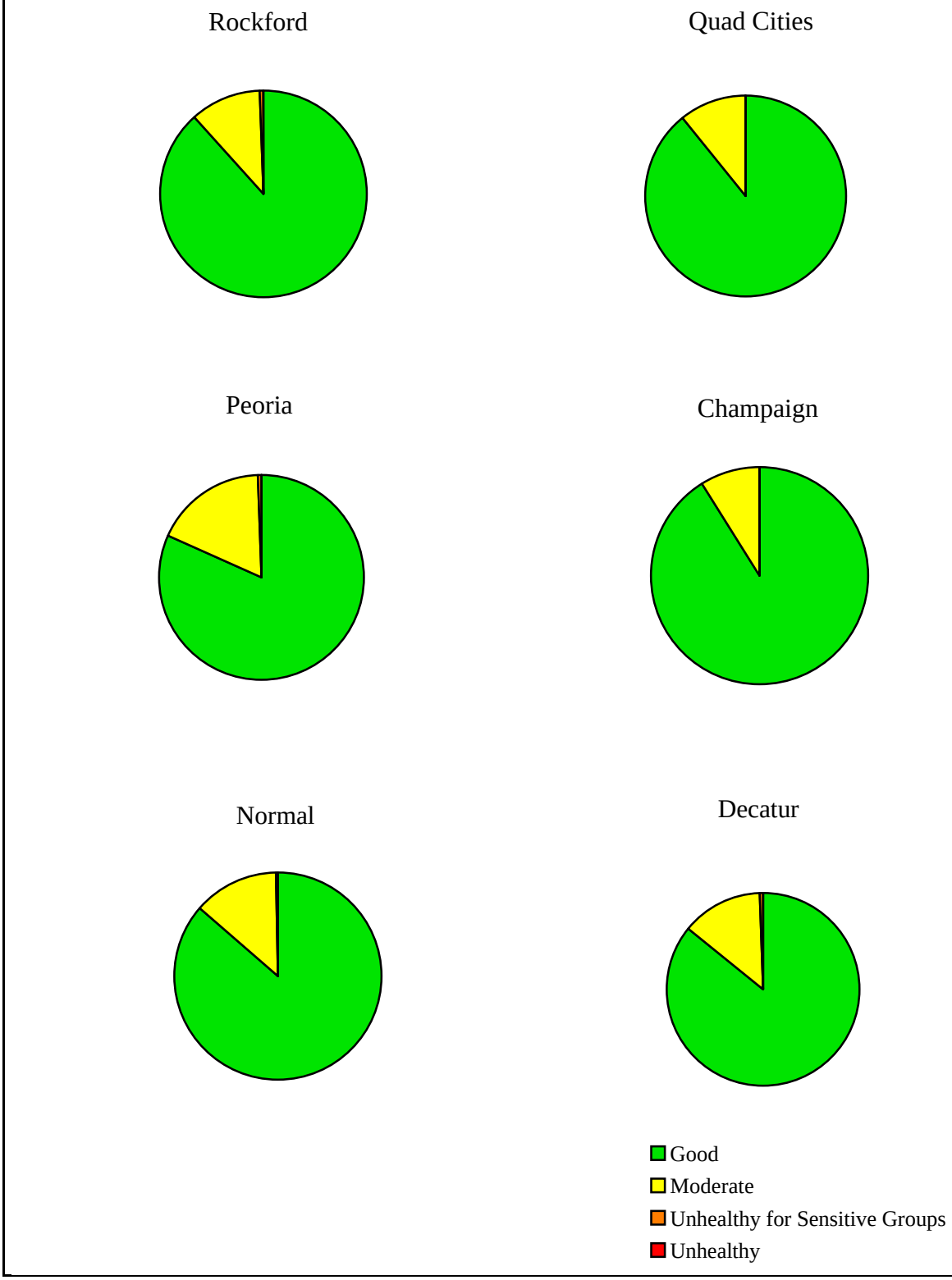


Figure 9: 2001 Air Quality Index Summaries by Sector

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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 8,000 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 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 2001. 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)

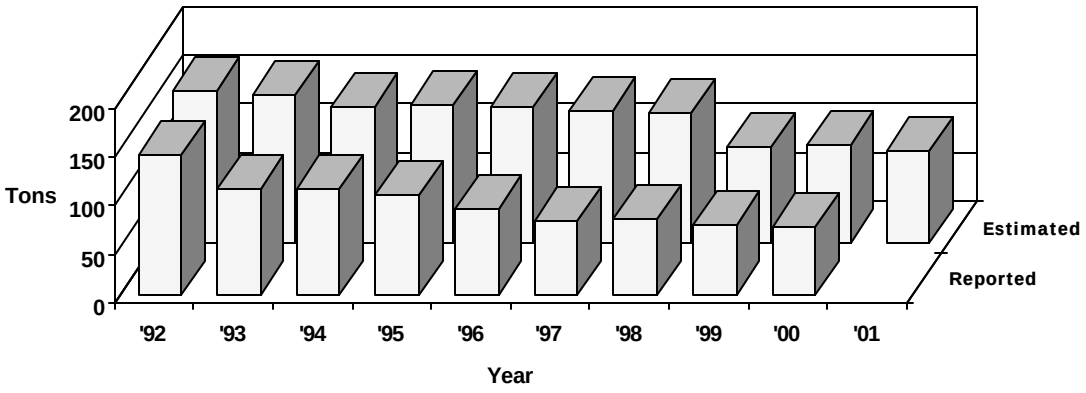


Table 5: Volatile Organic Material Emissions - 2001

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Surface Coating Operations	20,049.9	21.1%	21.1%
Chemical Manufacturing	12,504.9	13.1%	34.2%
Printing/Publishing	11,517.9	12.1%	46.3%
Food/Agriculture	9,942.7	10.4%	56.7%
Fuel Combustion	7,820.3	8.2%	64.9%
Petroleum Industry	6,027.9	6.3%	71.3%
Petroleum Product Storage	5,214.4	5.5%	76.7%
Rubber and Plastic Products	4,096.4	4.3%	81.0%
Organic Solvent Evaporation	4,027.4	4.2%	85.3%
Bulk Terminal/Plants	2,117.9	2.2%	87.5%
Primary Metal Production	1,756.9	1.8%	89.3%
Fabricated Metal Products	1,743.6	1.8%	91.2%
Organic Solvent Use	1,484.4	1.6%	92.7%
Mineral Products	1,476.9	1.6%	94.3%
Petroleum Marketing/Transport	1,319.1	1.4%	95.7%
Secondary Metal Production	1,178.0	1.2v	96.9%
Organic Chemical Storage	1,147.5	1.2%	98.1%
All Other Categories	1,795.0	1.9%	100.0%

PARTICULATE MATTER

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

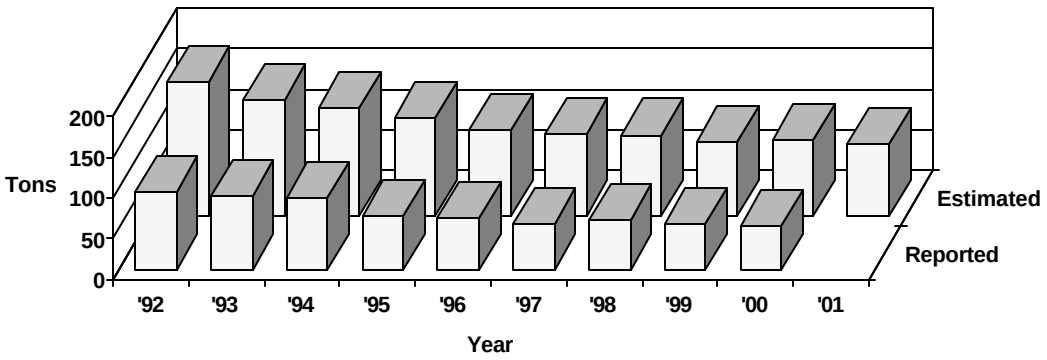


Table 6: Distribution of Particulate Matter Emissions - 2001

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Mineral Products	23,458.7	26.8%	26.8%
Fuel Combustion	22,013.1	25.1%	51.9%
Food/Agriculture	18,950.1	21.6%	73.5%
Secondary Metal Production	6,334.8	7.2%	80.7%
Primary Metal Production	5,408.2	6.2%	86.9%
Chemical Manufacturing	3,299.0	3.8%	90.7%
Petroleum Industry	3,061.1	3.5%	94.2%
Fabricated Metal Products	992.5	1.1%	95.3%
Solid Waste Disposal	904.6	1.0%	96.3%
Rubber and Plastic Products	663.8	0.8%	97.1%
Surface Coating Operations	564.5	0.6%	97.7%
All Other Categories	2,002.0	2.3%	100.1%

CARBON MONOXIDE

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

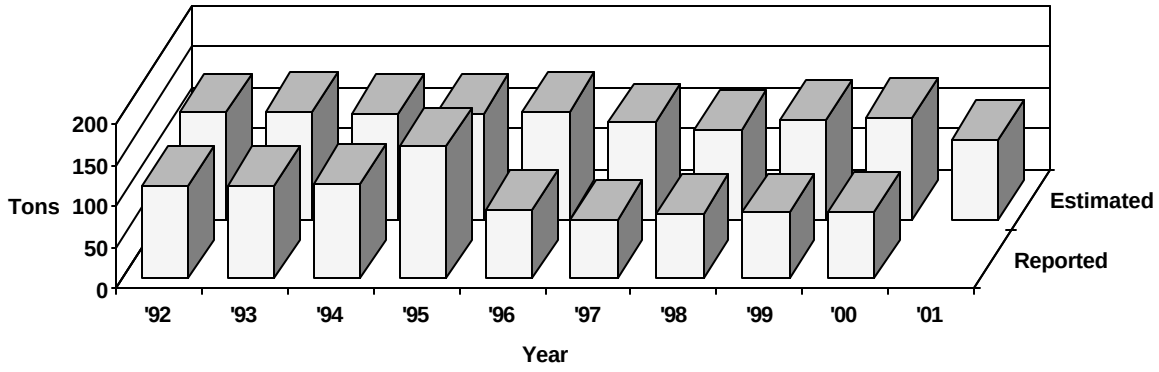


Table 7: Distribution of Carbon Monoxide Emissions - 2001

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	36,993.3	38.1%	38.1%
Primary Metal Production	24,201.9	25.0%	63.1%
Chemical Manufacturing	13,780.8	14.2%	77.3%
Petroleum Industry	5,992.5	6.2%	83.5%
Solid Waste Disposal	4,603.3	4.7%	88.2%
Mineral Products	4,087.2	4.2%	92.5%
Secondary Metal Production	2,866.4	3.0%	95.4%
Fabricated Metal Products	1,266.7	1.3%	96.7%
Food/Agriculture	1,000.3	1.0%	97.8%
All Other Categories	2,178.0	2.2%	100.0%

SULFUR DIOXIDE

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

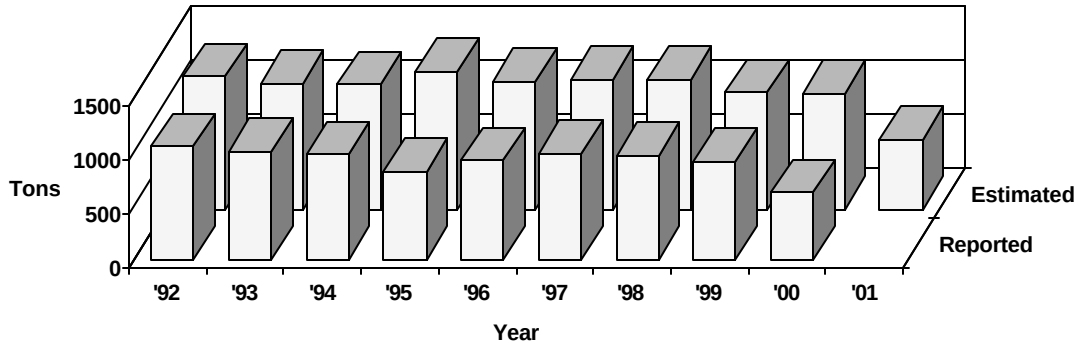


Table 8: Distribution of Sulfur Dioxide Emissions - 2001

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	521,776.9	79.8%	79.8%
Petroleum Industry	87,866.5	13.4%	93.2%
Chemical Manufacturing	17,134.5	2.6%	95.9%
Mineral Products	14,183.8	2.2%	98.0%
Primary Metal Production	6,804.5	1.0%	99.1%
All Other Categories	6,031.3	0.9%	100.0%

NITROGEN OXIDES

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

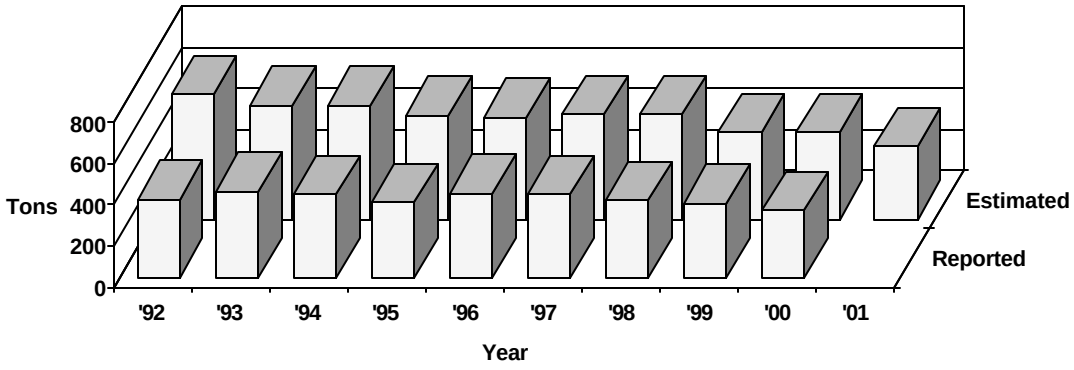


Table 9: Distribution of Nitrogen Oxide Emissions - 2001

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	309,496.7	86.4%	86.4%
Petroleum Industry	20,239.8	5.6%	92.0%
Mineral Products	11,845.3	3.3%	95.3%
Primary Metal Production	4,188.0	1.2%	96.5%
In-Process Fuel Use	3,037.3	0.8%	97.4%
Chemical Manufacturing	2,953.0	0.8%	98.2%
Solid Waste Disposal	1,915.2	0.5%	98.7%
Secondary Metal Production	1,111.2	0.3%	99.0%
Surface Coating Operations	1,106.0	0.3%	99.3%
Food/Agriculture	990.5	0.3%	99.6%
All Other Categories	1,380.3	0.4%	100.0%

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 2001.

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
Wallace State Office Building
502 E. 9th.
Des Moines, Iowa 50319-0034
515/281-5145
Fax 515/281-8895

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

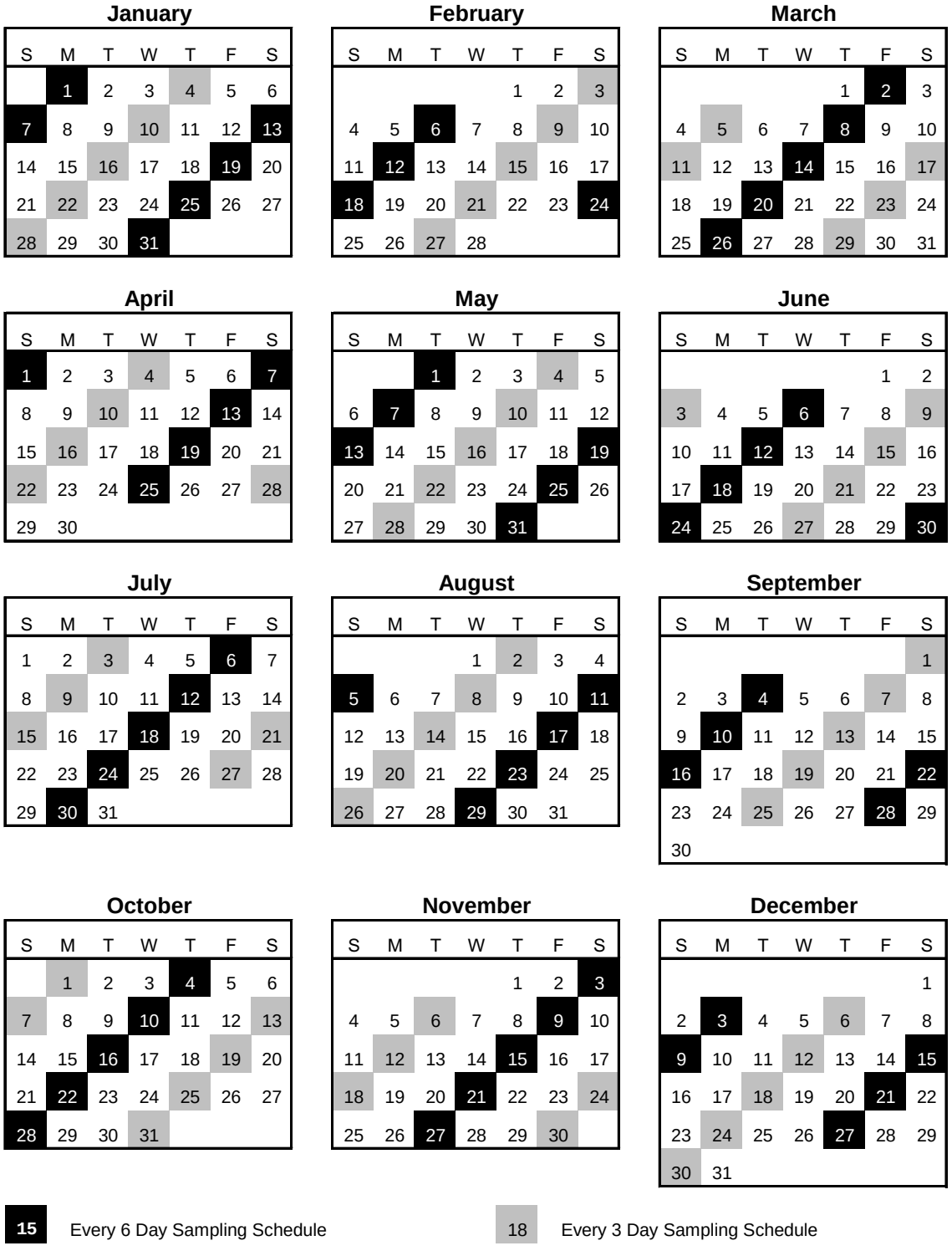
Michigan Dept. of Natural Resources
Air Quality Division
P.O. Box 30260
Lansing, Michigan 48909
517/373-7023
Fax 517/373-1265

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

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

TABLE A2

2001 - Noncontinous 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

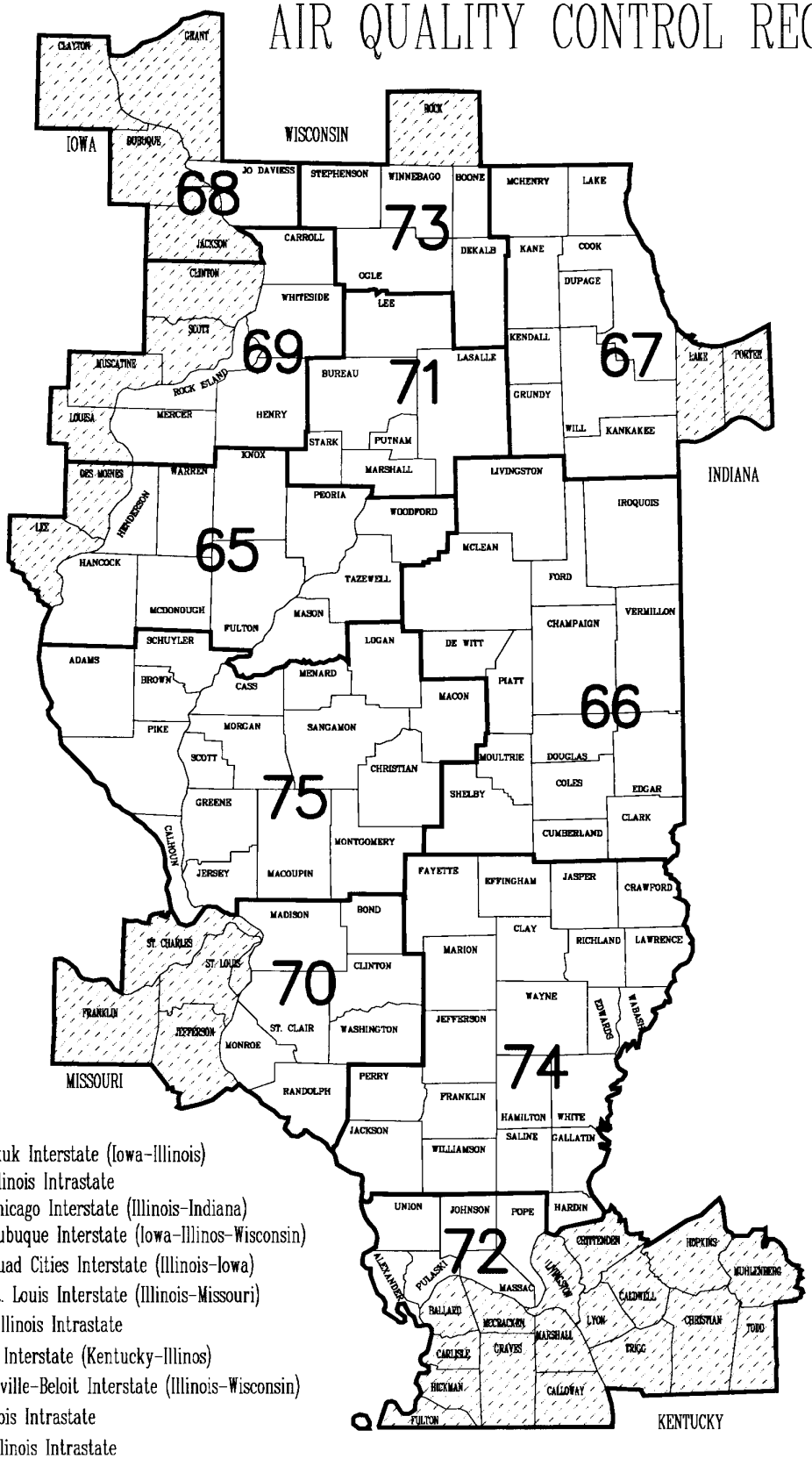
DISTRIBUTION OF AIR MONITORING INSTRUMENTS

	PAMS	NAMS	SLAMS	SPMS	TOTAL
Particulate Matter ($PM_{2.5}$)	0	0	35	0	35
Particulate Matter (PM_{10})	0	8	8	0	16
Total Suspended Particulates (TSP)	0	0	0	11	11
Lead	0	2	10	3	15
Sulfur Dioxide	0	10	12	2	24
Nitrogen Dioxide	4	2	4	0	10
Ozone	4	10	27	1	42
Carbon Monoxide	0	2	7	0	9
Volatile Organic Compounds	3	0	0	0	3
Wind Systems	4	0	0	23	27
Solar Radiation	4	0	0	6	10
Meteorological	4	0	0	0	4
Total	23	34	103	46	206

There were several changes to the monitoring network from 2000 to 2001. Sulfur Dioxide monitors were discontinued in Champaign, Chicago-Washington, Granite City, Lisle and Moline. Ozone monitors were discontinued in Chicago-CTA, Deerfield and Moline. New ozone sites were installed in Normal and Rock Island. A nitrogen dioxide monitor was discontinued at Chicago-University. Carbon monoxide monitors were discontinued in Braidwood and Granite City and a new monitor was installed in East St. Louis. A PM10 monitor was discontinued at Chicago-Washington. PM2.5 monitors were discontinued in Alsip, Des Plaines, Merrionette Park and Midlothian. PM2.5 monitors were established at a new location in Des Plaines and in Rock Island.

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

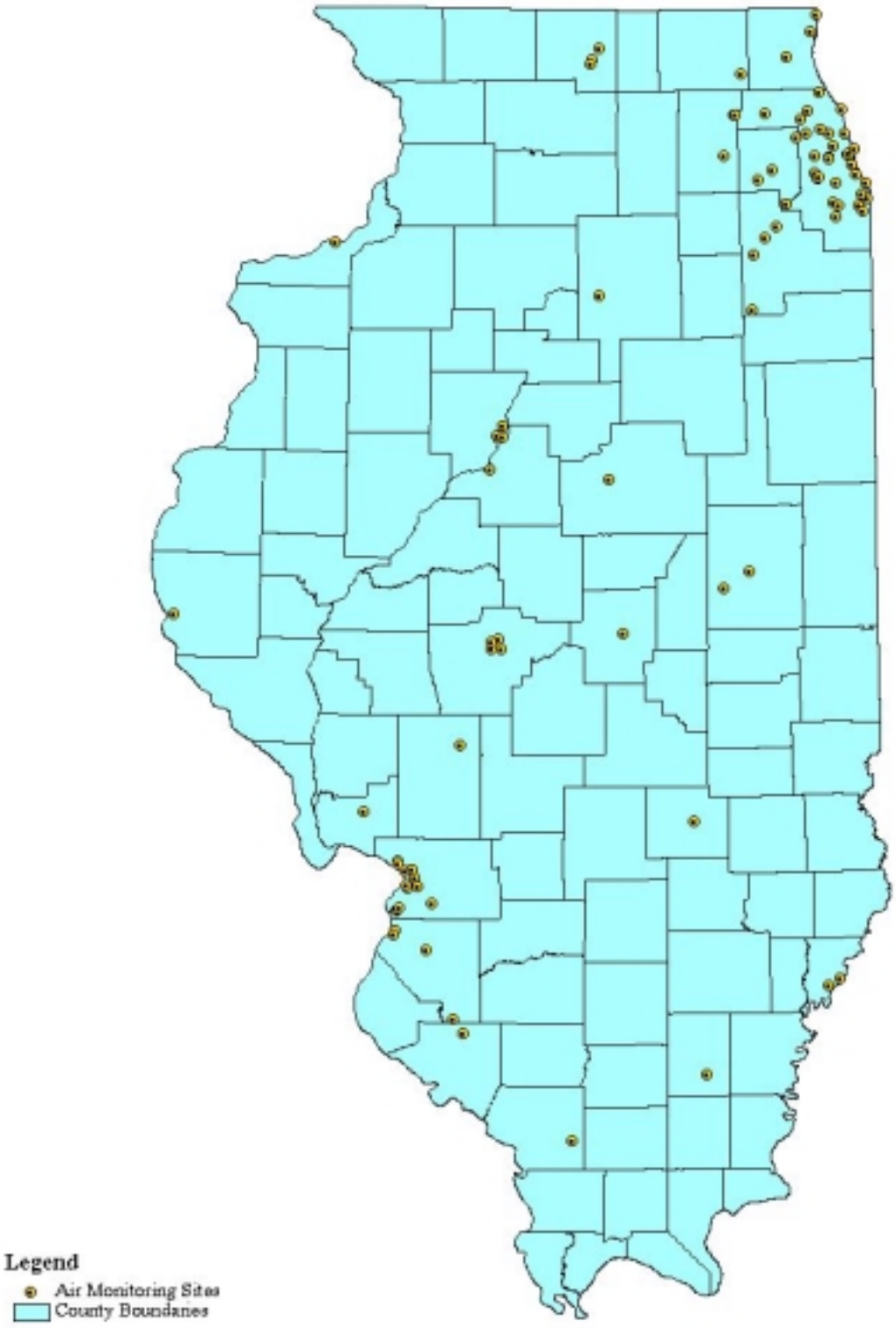


Table A4

2001
SITE DIRECTORY

CITY NAME / AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)				
PEORIA COUNTY				
Peoria	Fire Station #8	Ill. EPA	N. 4507.050	NAMS - SO_2, O_3
(1430024)	MacArthur & Hurlburt		E. 279.679	SPMS - WS/WD
Peoria	Commercial Building	Ill. EPA	N. 4508.585	SLAMS - CO
(1430036)	1005 N. University		E. 279.196	
Peoria	City Office Building	Ill. EPA	N. 4508.197	NAMS - PM_{10}
(1430037)	613 N.E. Jefferson		E. 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 - $PM_{2.5}$
(1132002)	Main & Gregory		E. 330.925	
Normal (NEW)	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,
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, $PM_{2.5}$

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Calumet City (0318003)	Trailer 1703 State St.	Cook County DEC	N. 4608.775 E. 452.673	SLAMS - SO_2, NO/NO_2, O_3, CO
Chicago (0310060)	Carver H.S. 13100 S. Doty	Cook County DEC	N. 4611.597 E. 451.007	NAMS - PM_{10}
Chicago (0310026)	Cermak Pump Sta. 735 W. Harrison	Cook County DEC	N. 4635.707 E. 446.469	SLAMS - Pb SPMS - TSP
Chicago (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. 4622.575 E. 440.655	SLAMS - $PM_{2.5}$ SPMS – WS/WD^n
Chicago (0310014)	Farr Dormitory 3300 S. Michigan Ave.	Cook County DEC	N. 4631.393 E. 448.232	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. 4645.900 E. 437.878	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, $PM_{2.5}$
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. 4640.231 E. 439.962	SLAMS - $PM_{2.5}$
Chicago (0311003)	Taft H.S. 6545 W. Hurlbut St.	Cook County DEC	N. 4648.125 E. 434.392	SLAMS - O_3
Chicago (DISC) (0310075)	Truman College 1145 W. Wilson	Cook County DEC	N. 4645.802 E. 445.417	SLAMS - O_3, NO/NO_2
Chicago (0310064)	University of Chicago 5720 S. Ellis Ave.	Cook County DEC	N. 4626.508 E. 450.010	SLAMS - O_3 SPMS - SOL

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Chicago (0310022)	Washington H.S. 3535 E. 114th St.	Cook County DEC	N. 4615.038 E. 455.155	SLAMS - Pb, $PM_{2.5}$ SPMS - TSP
Cicero (0316005)	Liberty School 13^{th} St. & 50^{th} Ave.	Cook County DEC	N. 4634.770 E. 437.695	SLAMS - $PM_{2.5}$
Cicero (0314002)	Trailer 1820 S. 51st Ave.	Cook County DEC	N. 4633.763 E. 437.541	NAMS - SO_2, NO/NO_2 SLAMS - O_3, CO
Des Plaines (DISC) (0314006)	Forest Elem. Sch. 1375 5th St.	Cook County DEC	N. 4653.049 E. 425.055	SLAMS - O_3
Des Plaines (NEW) (0314007)	Regional Office Building 9511 W. Harrison St.	Ill EPA	N. 4656.615 E. 428.577	SLAMS - $PM_{2.5}$
Evanston (0317002)	Water Pumping Sta. 531 E. Lincoln	Ill. EPA	N. 4656.695 E. 444.260	NAMS - O_3 SPMS - WS/WD
Hoffman Estates (0314101)	Hoffman Estates H.S. 1100 W. Higgins Rd.	Cook County DEC	N. 4656.069 E. 408.304	SLAMS - PM_{10}
Lemont (0311601)	Trailer 729 Houston	Cook County DEC	N. 4613.184 E. 417.532	SLAMS - SO_2, O_3
Lyons Township (0311016)	Village Hall 50th St. & Glencoe	Ill. EPA	N. 4627.820 E. 430.886	SLAMS - PM_{10}, $PM_{2.5}$
Maywood (0316003)	Maybrook Civic Center 1500 Maybrook Dr.	Cook County DEC	N. 4635.705 E. 431.435	NAMS - Pb
Maywood (0316004)	Maybrook Civic Center 1505 S. First Ave.	Cook County DEC	N. 4635.695 E. 431.200	NAMS - CO
Midlothian (0311901)	Bremen High Sch. 15205 Crawford Ave.	Cook County DEC	N. 4607.103 E. 440.416	SLAMS - PM_{10}
Northbrook (0314201)	Northbrook Water Plant 750 Dundee Rd.	Ill. EPA	N. 4665.414 E. 433.955	PAMS - O_3, NO/NO_2, VOC WS/WD, SOL, MET SLAMS - $PM_{2.5}$
Schiller Park (0313103)	IEPA Trailer 4743 Mannheim Rd.	Ill. EPA	N. 4646.084 E. 427.387	SLAMS - CO, NO/NO_2, Pb SPMS - TSP, WS/WD
Summit (0313301)	Graves Elem. Sch. 60th St. & 74th Ave.	Cook County DEC	N. 4625.756 E. 433.074	SLAMS - PM_{10}, Pb, $PM_{2.5}$ SPMS - TSP

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
DUPAGE COUNTY				
Lisle (0436001)	Morton Arboretum Route 53	Ill. EPA	N. 4629.361 E. 410.891	SLAMS - O_3 SPMS - WS/WD
Naperville (0434002)	City Hall 400 S. Eagle St.	Ill. EPA	N. 4624.841 E. 404.230	SLAMS - $PM_{2.5}$
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				
Libertyville (0973001)	Butterfield Elem. Sch. 1441 Lake St.	Ill. EPA	N. 4682.279 E. 419.062	SLAMS - O_3 SPMS - WS/WD
Waukegan (0971002)	North Fire Station Golf & Jackson Sts.	Ill. EPA	N. 4693.854 E. 430.744	NAMS - O_3 SPMS - WS/WD
Zion (0971007)	Camp Logan Illinois Beach State Park	Ill. EPA	N. 4701.735 E. 433.384	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. 4674.862 E. 397.562	NAMS - O_3 SLAMS - $PM_{2.5}$
WILL COUNTY				
Braidwood (1971011)	Com Ed Training Center 36400 S. Essex Road	Ill. EPA	N. 4563.890 E. 400.198	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 SPMS - WS/WD
South Lockport (1971008)	Fitness Forum 2021 Lawrence	Ill. EPA	N. 4603.045 E. 412.075	SLAMS - O_3

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)				
ROCK ISLAND COUNTY				
Rock Island (NEW) (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
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)				
MADISON COUNTY				
Alton (1190008)	Clara Barton Elem. Sch. 409 Main St.	Ill. EPA	N. 4308.245 E. 747.375	SLAMS - SO_2, O_3 SPMS - WS/WD
Alton (1192009)	SIU Dental Clinic 1700 Annex. St.	Ill. EPA	N. 4309.690 E. 747.752	SLAMS - $PM_{2.5}$
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. 4290.389 E. 242.739	SLAMS - O_3 SPMS - WS/WD
South Roxana (1191010)	S. Roxana Grade Sch. Michigan St.	Ill. EPA	N. 4301.635 E. 755.442	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. 4305.709 E. 754.190	SLAMS - SO_2
Rural Madison County (DISC) (1191013)	Chemetco Site 2-E	Chemetco	N. 4297.892 E. 752.506	SPMS - Pb
Rural Madison County (DISC) (1191015)	Chemetco Site 4-SE	Chemetco	N. 4297.470 E. 752.268	SPMS - Pb

Table A4

2001
SITE DIRECTORY

CITY NAME / AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
MADISON COUNTY				
Rural Madison County (DISC)	Chemetco	Chemetco	N. 4298.370	SPMS - Pb
(1191016)	Site 5-N		E. 751.935	
RANDOLPH COUNTY				
Houston	Baldwin Site #2	Ill. EPA	N. 4228.843	SLAMS - SO_2, O_3, $PM_{2.5}$
(1570001)	County Rds. 25.0 N. & 23.5 E.		E. 255.741	
ST. CLAIR COUNTY				
East St. Louis	RAPS Trailer	Ill. EPA	N. 4277.363	NAMS - SO_2, PM_{10}
(1630010)	13th & Tudor		E. 747.251	SLAMS - NO/NO_2, Pb, O_3, $PM_{2.5}$, CO^n
				SPMS - TSP, WS/WD
Marissa (DISC)	Baldwin Site #1	Ill. EPA	N. 4235.505	SLAMS - SO_2
(1631011)	Risdon School Rd.		E. 251.259	SPMS - WS/WD
Sauget	IEPA Trailer	Ill. EPA	N. 4275.123	SLAMS - SO_2
(1631010)	Little Ave.		E. 746.921	
Swansea	Village Maintenance Bldg.	Ill. EPA	N. 4268.615	SLAMS - $PM_{2.5}$
(1634001)	1500 Caseyville Ave.		E. 239.086	
71 NORTH CENTRAL ILLINOIS INTRASTATE				
LA SALLE COUNTY				
Oglesby	308 Portland Ave.	Ill. EPA	N. 4573.105	SLAMS - PM_{10}, $PM_{2.5}$
(0990007)			E. 328.412	SPMS - WS/WD
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)				
WINNEBAGO COUNTY				
Loves Park	Maple Elem. Sch.	Ill. EPA	N. 4688.756	NAMS - O_3
(2012001)	1405 Maple Ave.		E. 332.098	SPMS - WS/WD, SOL
Rockford	Walker Elem. Sch.	Ill. EPA	N. 4683.537	NAMS - O_3
(2010009)	1500 Post St.		E. 328.760	
Rockford	Fire Dept. Administration Bldg.	Ill. EPA	N. 4681.324	SLAMS - $PM_{2.5}$
(2010010)	204 S. 1st St.		E. 327.670	
Rockford	City Hall	Ill. EPA	N. 4681.390	SLAMS - CO
(2010011)	425 E. State		E. 327.817	

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
74 SOUTHEAST ILLINOIS INTRASTATE				
EFFINGHAM COUNTY				
Effingham	Central Junior H.S.	Ill. EPA	N. 4325.131	SLAMS - O_3
(0491001)	Route 45 South		E. 366.053	SPMS - WS/WD, SOL
HAMILTON COUNTY				
Dale	Dale Elem. School	Ill. EPA	N. 4206.378	SLAMS - O_3
(0650001)	SR 142		E. 368.939	
JACKSON COUNTY				
Carbondale	Maintenance Bldg.	Ill. EPA	N. 4177.177	SLAMS - PM_{10}
(0770004)	607 E. College	SIU	E. 305.348	
WABASH COUNTY				
Mount Carmel	Division St.	Public Service	N. 4249.965	SPMS - SO_2
(1850001)		of Indiana	E. 432.444	
Rural Wabash County	South of SR-1	Public Service	N. 4246.929	SPMS - SO_2
(1851001)		of Indiana	E. 427.104	
75 WEST CENTRAL ILLINOIS INTRASTATE				
ADAMS COUNTY				
Quincy	St. Boniface Elem. Sch.	Ill. EPA	N. 4421.320	SLAMS - $PM_{2.5}$, SO_2, O_3
(0010006)	732 Hampshire		E. 636.351	SPMS - WS/WD
JERSEY COUNTY				
Jerseyville	Illini Jr. H.S.	Ill. EPA	N. 4332.169	SLAMS - O_3
(0831001)	Liberty St. & County Rd.		E. 730.997	
MACON COUNTY				
Decatur	IEPA Trailer	Ill. EPA	N. 4414.538	NAMS - SO_2
(1150013)	2200 N. 22nd		E. 335.308	SLAMS - O_3, $PM_{2.5}$
				SPMS - WS/WD
MACOUPIN COUNTY				
Nilwood	IEPA Trailer	Ill. EPA	N. 4364.287	SLAMS - O_3, SO_2, Pb,PM_{10}
(1170002)	Heaton & Dubois		E. 258.053	SPMS - TSP, WS/WD, SOL
				CO_2, UV
SANGAMON COUNTY				
Springfield	Sewage Treatment Plant	Ill. EPA	N. 4408.650	NAMS - SO_2
(1670006)	3300 Mechanicsburg Rd.		E. 278.194	SPMS - WS/WD
Springfield	Federal Building	Ill. EPA	N. 4408.623	SLAMS - CO
(1670008)	6th St. & Monroe		E. 273.327	

Table A4

2001
SITE DIRECTORY

CITY NAME / AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
SANGAMON COUNTY				
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 - $PM_{2.5}$

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)
SO_2	- Sulfur Dioxide
NO	- Nitric Oxide
NO_2	- Nitrogen Dioxide
CO	- Carbon Monoxide
CO_2	- Carbon Dioxide
O_3	- Ozone
Pb	- Lead
WS/WD	- Wind Speed and Wind Direction
SOL	- Total Solar Radiation
MET	- Temperature, Relative Humidity, Barometric Pressure
UV	- Ultra-violet Radiation
RAIN	- Rainfall
VOC	- Volatile Organic Compounds
(n)	- Instrument installed during 2001
(d)	- Instrument removed during 2001
NEW	- Site started during 2001
DISC	- Site discontinued during or at the end of 2001

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)

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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 2001. 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-hur 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 2001. 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

2001
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			
Wood River	54 N. Walcott	July 23	0.125
75 WEST CENTRAL ILLINOIS INTRASTATE			
JERSEY COUNTY			
Jerseyville	Liberty St.	Jun 12	0.131

Table B1

2001
OZONE IN EXCESS OF THE 8-HOUR PRIMARY STANDARD OF 0.08 PARTS PER MILLION

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
June 12	Alton	409 Main St.	0.090
	Jerseyville	Liberty St.	0.094
June 13	Chicago – SWFP	3300 E. Cheltenham	0.089
	Evanston	531 Lincoln	0.086
June 18	Alton	409 Main St.	0.087
	Braidwood	36400 S. Essex Rd.	0.085
	Nilwood	Heaton & DuBois	0.091
	Normal	Main & Gregory	0.085
	Springfield	2875 N. Dirksen	0.095
June 25	Chicago – SWFP	3300 E. Cheltenham	0.087
	Evanston	531 Lincoln	0.085
	Jerseyville	Liberty St.	0.091
June 26	Cary	1st & Three Oaks	0.088
	Chicago – SWFP	3300 E. Cheltenham	0.087
June 27	Cary	1st & Three Oaks	0.086
	Chicago – SWFP	3300 E. Cheltenham	0.087
	Evanston	531 Lincoln	0.086
June 28	Cary	1st & Three Oaks	0.089
	Chicago – Jardine	1000 E. Ohio	0.086
	Chicago – SWFP	3300 E. Cheltenham	0.098
	Evanston	531 Lincoln	0.085
June 29	Evanston	531 Lincoln	0.085
June 30	Chicago – SWFP	3300 E. Cheltenham	0.085
July 9	South Lockport	2021 Lawrence	0.086
July 16	Jerseyville	Liberty St.	0.089
July 20	Libertyville	1441 Lake St.	0.087
July 23	Alton	409 Main St.	0.085
	Wood River	54 N. Walcott	0.088
July 24	Elgin	665 Dundee	0.086
July 31	Chicago – Jardine	1000 E. Ohio	0.085
	Chicago – SWFP	3300 E. Cheltenham	0.091
	Evanston	531 Lincoln	0.090
	Northbrook	750 Dundee Rd.	0.090
	Waukegan	Golf & Jackson	0.095
	Zion	Camp Logan	0.088
August 5	Northbrook	750 Dundee Rd.	0.087
	Waukegan	Golf & Jackson	0.091
	Zion	Camp Logan	0.087
August 7	Evanston	531 Lincoln	0.103
	Quincy	732 Hampshire	0.088

Table B2

2001
OZONE

STATION	ADDRESS	NUMBER OF DAYS VALID APR-OCT	NUMBER OF DAYS GREATER THAN 0.12 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	211	0	0.077	0.077	0.076	0.075	0.072	0.072	0.069	0.068
Peoria Heights	508 E. Glen	214	0	0.093	0.084	0.083	0.083	0.084	0.080	0.080	0.080
66 EAST CENTRAL ILLINOIS INTRASTATE											
CHAMPAIGN COUNTY											
Champaign	606 E. Grove	211	0	0.081	0.080	0.079	0.078	0.074	0.073	0.073	0.073
McLEAN COUNTY											
Normal	Main & Gregory	212	0	0.093	0.085	0.083	0.082	0.085	0.079	0.074	0.072
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)											
COOK COUNTY											
Alsip	4500 W. 123rd St.	212	0	0.091	0.089	0.088	0.088	0.081	0.079	0.078	0.077
Calumet City	1703 State St.	211	0	0.082	0.081	0.079	0.079	0.077	0.073	0.072	0.071
Chicago - Jardine	1000 E. Ohio	212	0	0.106	0.106	0.105	0.100	0.086	0.085	0.082	0.081
Chicago - SE Police	103rd & Luella	214	0	0.087	0.084	0.081	0.081	0.074	0.074	0.072	0.071
Chicago - SWFP	3300 E Cheltenham	214	0	0.107	0.104	0.102	0.100	0.098	0.091	0.089	0.087
Chicago - Taft	6545 W. Hurlbut	206	0	0.101	0.101	0.094	0.094	0.084	0.084	0.083	0.078
Chicago - Truman	1145 W. Wilson	212	0	0.105	0.097	0.094	0.090	0.083	0.080	0.080	0.079
Chicago - University	5720 S. Ellis	214	0	0.089	0.089	0.087	0.085	0.079	0.078	0.076	0.076
Cicero	1830 S. 51st Ave.	214	0	0.080	0.079	0.077	0.077	0.074	0.070	0.069	0.067
Des Plaines	1375 5th St.	214	0	0.099	0.086	0.086	0.085	0.079	0.076	0.075	0.075
Evanston	531 Lincoln	206	0	0.122	0.108	0.103	0.100	0.103	0.090	0.086	0.086
Lemont	729 Houston	211	0	0.090	0.090	0.082	0.082	0.077	0.071	0.070	0.068
Northbrook	750 Dundee Rd.	211	0	0.100	0.100	0.096	0.091	0.090	0.087	0.083	0.082
DuPAGE COUNTY											
Lisle	Morton Arboretum	211	0	0.099	0.095	0.089	0.089	0.078	0.071	0.071	0.071
KANE COUNTY											
Elgin	665 Dundee	214	0	0.101	0.087	0.086	0.086	0.086	0.082	0.081	0.080
LAKE COUNTY											
Libertyville	1441 Lake St.	210	0	0.108	0.097	0.095	0.089	0.087	0.080	0.079	0.078
Waukegan	Golf & Jackson	213	0	0.105	0.105	0.101	0.099	0.095	0.091	0.084	0.082
Zion	Camp Logan	214	0	0.103	0.099	0.097	0.096	0.088	0.087	0.084	0.083
McHENRY COUNTY											
Cary	1st St. & Three Oaks	211	0	0.100	0.098	0.098	0.093	0.089	0.088	0.086	0.084
WILL COUNTY											
Braidwood	36400 S. Essex Rd.	208	0	0.111	0.098	0.096	0.089	0.085	0.080	0.080	0.078
South Lockport	2021 Lawrence	208	0	0.109	0.094	0.093	0.089	0.086	0.078	0.078	0.076

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

Table B2

2001
OZONE

STATION	ADDRESS	VALID APR-OCT	NUMBER OF DAYS GREATER THAN 0.12 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	2ND	3RD	4TH	8-HOUR 1ST	2ND	3RD	4TH
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)											
ROCK ISLAND COUNTY											
Rock Island	32 Rodman Ave.	201	0	0.087	0.083	0.082	0.082	0.082	0.080	0.078	0.073
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)											
MADISON COUNTY											
Alton	409 Main St.	214	0	0.117	0.116	0.108	0.108	0.090	0.087	0.085	0.082
Edwardsville	Poag Road	214	0	0.107	0.089	0.086	0.084	0.083	0.079	0.077	0.075
Maryville	200 W. Division	211	0	0.103	0.091	0.084	0.084	0.078	0.075	0.075	0.073
Wood River	54 N. Walcott	212	1	0.125	0.116	0.100	0.098	0.088	0.080	0.079	0.078
RANDOLPH COUNTY											
Houston	Twp Rds. 150 & 45	214	0	0.095	0.092	0.091	0.088	0.082	0.081	0.081	0.077
ST. CLAIR COUNTY											
East St. Louis	13th & Tudor	214	0	0.110	0.101	0.091	0.089	0.082	0.080	0.079	0.078
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)											
WINNEBAGO COUNTY											
Loves Park	1405 Maple	213	0	0.090	0.084	0.080	0.080	0.081	0.081	0.076	0.075
Rockford	1500 Post	204	0	0.091	0.086	0.083	0.082	0.082	0.082	0.078	0.078
74 SOUTHEAST ILLINOIS INTRASTATE											
EFFINGHAM COUNTY											
Effingham	Route 45 South	213	0	0.094	0.090	0.084	0.084	0.079	0.078	0.078	0.077
HAMILTON COUNTY											
Dale	Route 142	207	0	0.082	0.080	0.079	0.078	0.077	0.074	0.073	0.071
75 WEST CENTRAL ILLINOIS INTRASTATE											
ADAMS COUNTY											
Quincy	732 Hampshire	213	0	0.097	0.088	0.088	0.087	0.088	0.082	0.078	0.078
JERSEY COUNTY											
Jerseyville	Liberty St.	213	1	0.131	0.102	0.101	0.101	0.094	0.091	0.089	0.084
MACON COUNTY											
Decatur	2200 N. 22nd St.	213	0	0.084	0.078	0.078	0.075	0.074	0.073	0.072	0.071
MACOUPIN COUNTY											
Nilwood	Heaton & DuBois	214	0	0.100	0.098	0.094	0.086	0.091	0.077	0.075	0.074
SANGAMON COUNTY											
Springfield	2875 N. Dirksen	208	0	0.107	0.095	0.094	0.090	0.095	0.080	0.073	0.073

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

Table B3

20001
PARTICULATE MATTER (PM_{10}) VALUES IN EXCESS OF THE 24-HOUR PRIMARY STANDARD OF 150 MICROGRAMS PER CUBIC METER

STATION	ADDRESS	DATE	VALUE (ug/m^3)
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)			
MADISON COUNTY			
Granite City	2040 Washington	October 31	157

Table B4

2001

PARTICULATE MATTER (PM_{10})

(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	>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	57	0	60	51	47	45	22
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd St.	6-day	60	0	54	51	44	44	27
Blue Island	12700 Sacramento	6-day	60	0	62	56	50	47	28
Chicago - Carver	13100 S. Doty	6-day	60	0	86	76	72	67	35
Chicago - Washington HS	3535 E. 114th St.	1-day	353	0	84	79	70	67	28
Hoffman Estates	1100 W. Higgins Rd.	6-day	58	0	55	51	48	40	24
Lyons Township	50th St. & Glencoe Ave.	1-day	346	0	137	124	122	117	38
Midlothian	15205 Crawford Ave.	6-day	59	0	51	49	48	46	26
Summit	60th St. & 74th Ave.	6-day	56	0	64	56	52	50	+
WILL COUNTY									
Joliet	Midland & Campbell Sts.	6-day	59	0	63	56	53	49	24
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	6-day	58	0	80	75	74	66	39
Granite City	2040 Washington	1-day	359	1	157	141	136	131	47
Wood River	54 N. Walcott	6-day	59	0	81	66	58	52	27
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	6-day	58	0	71	54	52	48	30
71 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	1-day	358	0	140	107	73	71	22
74 SOUTHEAST ILLINOIS INTRASTATE									
JACKSON COUNTY									
Carbondale	607 E. College	1-day	60	0	47	39	36	34	19
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & Dubois	6-day	55	0	54	39	34	33	19

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

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

Table B5

2001
SHORT-TERM TRENDS
PARTICULATE MATTER (PM_{10})

ANNUAL ARITHMETIC MEANS (ug/m^3)

STATION	ADDRESS	1996	1997	1998	1999	2000	2001
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	20	21	26	23	24	22
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	25	25	30	25	26	27
Blue Island	12700 Sacramento	30	28	33	30	30	28
Chicago - Carver	13100 S. Doty	31	31	58	32	+	35
Chicago - Washington HS	3535 E. 114th St.	31	+	33	-	-	28
Hoffman Estates	1100 W. Higgins Rd.	22	21	26	25	21	24
Lyons Township	50th St. & Glencoe Ave.	36	34	35	36	35	38
Midlothian	15205 Crawford Ave.	28	25	28	25	24	26
Summit	60th St. & 74th Ave.	34	37	35	34	32	+
WILL COUNTY							
Joliet	Midland & Campbell Sts.	22	23	23	23	+	24
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison	39	47	46	31	36	39
Granite City	2040 Washington	40	37	40	44	46	47
Wood River	54 N. Walcott	26	25	30	26	29	27
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	33	34	37	32	32	30
71 NORTH CENTRAL ILLINOIS INTRASTATE							
LASALLE COUNTY							
Oglesby	308 Portland Ave.	29	28	29	28	26	22
74 SOUTHEAST ILLINOIS INTRASTATE							
JACKSON COUNTY							
Carbondale	607 E. College	19	22	23	22	23	19
75 WEST CENTRAL ILLINOIS INTRASTATE							
MACOUPPIN COUNTY							
Nilwood	Heaton & Dubois	17	19	22	-	23	19

\- Station not in operation during the year.

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

Primary Annual Standard 50 ug/m^3

Table B6

2001

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	119	0	46.0	44.4	36.4	32.6	13.9
66 EAST CENTRAL ILLINOIS INTRASTATE									
CHAMPAIGN COUNTY									
Bondville	Twp. Rd. 500 E.	6-day	55	0	38.8	23.3	18.9	18.8	+
Champaign	606 E. Grove	6-day	56	0	36.8	29.3	22.4	21.1	12.6
Mc LEAN COUNTY									
Normal	Main & Gregory	6-day	57	0	37.4	32.4	29.1	26.1	14.8
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Blue Island	12700 Sacramento	3-day	109	0	43.9	40.0	38.2	36.7	17.1
Chicago-Com Ed	7801 Lawndale	3-day	109	0	51.5	38.9	37.4	36.8	+
Chicago-Farr	3300 S. Michigan Ave.	3-day	114	0	49.4	45.5	41.9	41.1	17.1
Chicago-Mayfair	4850 Wilson Ave.	1-day	325	0	56.4	55.4	52.9	47.5	19.4
Chicago-SE Police	103rd & Luella	1-day	282	0	44.0	43.7	42.0	41.4	+
Chicado-Springfield	1745 N. Springfield Ave.	3-day	116	0	40.6	40.4	38.8	34.6	16.2
Chicago-Washington HS	3535 E. 114th St.	3-day	113	0	50.6	42.6	39.9	35.1	17.1
Cicero	13th St. & 50th Ave.	3-day	107	0	48.2	39.1	38.9	38.8	17.4
Des Plaines	9511 W. Harrison	3-day	114	0	51.4	39.2	34.4	32.4	14.8
Lyons Township	50th St. & Glencoe Ave.	3-day	116	0	62.3	51.4	47.5	45.5	20.8
Northbrook	750 Dundee Road	1-day	308	0	46.9	42.5	40.6	39.7	14.7
Summit	60th St. & 74th Ave.	3-day	118	0	48.3	41.4	35.8	35.0	16.5
Du PAGE COUNTY									
Naperville	400 S. Eagle St.	3-day	110	0	49.3	36.9	36.8	36.1	15.5
KANE COUNTY									
Elgin	258 Lovell St.	3-day	118	0	46.9	39.0	33.6	31.8	15.1
LAKE COUNTY									
Zion	Camp Logan	3-day	101	0	35.0	34.8	33.8	33.8	+
Mc HENRY COUNTY									
Cary	1st St. & Three Oaks Rd.	3-day	118	0	38.0	35.1	33.3	32.5	13.7
WILL COUNTY									
Braidwood	36400 S. Essex Rd.	6-day	61	0	35.0	26.1	23.5	23.2	12.9
Joliet	Midland & Campbell	3-day	113	0	51.6	40.3	40.1	38.4	16.1

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

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

Table B6

2001

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	59	0	31.8	30.4	27.5	27.1	12.8
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	1700 Annex St.	3-day	114	0	43.1	40.9	39.6	38.1	15.8
Granite city	23rd & Madison	3-day	111	0	40.8	36.4	35.0	34.3	17.3
Granite City	2040 Washington	3-day	111	0	51.6	46.1	42.9	38.7	19.7
Wood River	54 N. Walcott	3-day	117	0	36.5	35.7	33.9	33.6	15.0
RANDOLPH COUNTY									
Houston	Twp Rds. 150 & 45	6-day	61	0	30.7	26.6	25.5	23.4	12.1
ST. CLAIR COUNTY									
East St. Louis	13th & Tudor	3-day	112	0	52.2	36.6	33.7	33.6	17.0
Swansea	1500 Caseyville Ave.	3-day	111	0	41.8	39.5	39.3	37.8	15.5
72 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	3-day	114	0	41.0	31.4	28.9	28.6	14.5
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)									
WINNEBAGO COUNTY									
Rockford	204 S. 1st St.	3-day	96	0	58.5	42.6	31.4	31.0	+
75 WEST CENTRAL ILLINOIS INTRASTATE									
ADAMS COUNTY									
Quincy	732 Hampshire	6-day	59	0	64.9	28.2	27.4	23.1	12.3
MACON COUNTY									
Decatur	2200 N. 22nd	3-day	118	0	42.8	37.4	34.7	34.3	14.3
SANGAMON COUNTY									
Springfield	State Fair Grounds	3-day	114	0	41.1	34.0	33.3	31.9	13.3

+ - 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 B7

2001
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	8457	0	0	6.0	5.5	5.3	4.7	3.5	3.2
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)										
COOK COUNTY										
Calumet City	1703 State St.	8673	0	0	3.0	2.8	2.8	2.2	2.0	1.9
Chicago - CTA Building	320 S. Franklin	8701	0	0	3.9	3.0	2.9	2.3	2.0	2.0
Cicero	1830 S. 51st Ave.	8586	0	0	4.4	4.0	4.0	3.2	3.1	3.0
Maywood	1505 S. First Ave	8703	0	0	5.5	5.0	4.8	4.7	3.8	3.7
Schiller Park	4743 N. Mannheim	8532	0	0	3.5	3.4	3.0	2.4	2.4	2.1
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)										
St. CLAIR COUNTY										
East St. Louis	13th & Tudor	8535	0	0	4.2	4.1	4.1	3.0	2.7	2.7
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)										
WINNEBAGO COUNTY										
Rockford	425 E. State	8627	0	0	5.2	4.9	4.4	2.9	2.9	2.5
75 WEST CENTRAL ILLINOIS INTRASTATE										
SANGAMON COUNTY										
Springfield	6th & Monroe	8632	0	0	6.1	4.0	3.9	3.5	2.8	1.4

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

Table B9

2001
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	8552	0	0	0.107	0.099	0.039	0.031	0.005
TAZEWELL COUNTY									
Pekin	272 Derby	8654	0	0	0.358	0.331	0.102	0.079	0.006
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Bedford Park	7800 W. 65th St.	8658	0	0	0.050	0.048	0.023	0.020	0.005
Blue Island	12700 Sacramento	8621	0	0	0.049	0.047	0.023	0.020	0.004
Calumet City	1703 State St.	8649	0	0	0.038	0.037	0.017	0.014	0.004
Chicago - CTA	320 S. Franklin	8650	0	0	0.072	0.069	0.040	0.033	0.005
Chicago - SE Police	103rd & Luella	8694	0	0	0.046	0.041	0.015	0.014	0.003
Cicero	1830 S. 51st Ave.	8682	0	0	0.072	0.064	0.045	0.035	0.005
Lemont	729 Houston	8668	0	0	0.084	0.066	0.037	0.026	0.005
WILL COUNTY									
Joliet	Rte 6 & Young Rd.	8606	0	0	0.077	0.077	0.037	0.028	0.005
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	409 Main St.	8688	0	0	0.097	0.072	0.025	0.024	0.006
South Roxana	Michigan Ave.	8659	0	0	0.086	0.084	0.058	0.044	0.007
Wood River	54 N. Walcott	8571	0	0	0.095	0.085	0.036	0.023	0.006
Wood River	1710 Vaughn Rd.	8689	0	0	0.134	0.080	0.032	0.031	0.004
RANDOLPH COUNTY									
Houston	Twp Rd 150 & Twp Rd 45	8682	0	0	0.031	0.028	0.009	0.009	0.002
ST. CLAIR COUNTY									
East St. Louis	13th & Tudor	8603	0	0	0.235	0.193	0.103	0.070	0.007
Marissa	Risdon School Rd.	8675	0	0	0.040	0.036	0.010	0.009	0.002
Sauget	Little Ave.	8683	0	0	0.117	0.111	0.062	0.034	0.006
74 SOUTHEAST ILLINOIS INTRASTATE									
WABASH COUNTY									
Mount Carmel	Division St	7371	0	0	0.161	0.117	0.042	0.042	0.005
Rural Wabash County	South of SR-1	8015	0	0	0.216	0.198	0.049	0.044	0.005

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

Table B9

2001
SULFUR DIOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES TOTAL	3-HR > 0.5	24-HR > 0.14	HIGHEST 3-HR AVG. 1ST	3-HR AVG. 2ND	HIGHEST 24-HR AVG. 1ST	24-HR AVG. 2ND	ANNUAL ARITHMETIC MEAN
75 WEST CENTRAL ILLINOIS INTRASTATE									
ADAMS COUNTY									
Quincy	732 Hampshire	8612	0	0	0.117	0.109	0.039	0.034	0.003
MACON COUNTY									
Decatur	2200 N. 22nd St.	8674	0	0	0.060	0.059	0.036	0.027	0.005
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	8578	0	0	0.037	0.028	0.013	0.010	0.002
SANGAMON COUNTY									
Springfield	Sewage Plant	8658	0	0	0.133	0.085	0.032	0.031	0.003

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

Table B10

2001
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1996	1997	1998	1999	2000	2001
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	Hurlburt & MacArthur	0.007	0.007	0.007	0.007	0.006	0.005
TAZEWELL COUNTY							
Pekin	272 Derby	0.006	0.007	0.006	0.005	0.005	0.006
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Bedford Park	7800 W. 65th St.	0.007	0.008	0.007	0.008	0.006	0.005
Blue Island	12700 Sacramento	0.005	0.007	0.008	0.009	0.011	0.004
Calumet City	1703 State St.	0.003	0.004	0.004	0.009	0.010	0.004
Chicago -CTA	320 S. Franklin	0.005	0.005	0.005	0.004	0.005	0.005
Chicago - SE Police	103rd & Luella	0.002	0.002	0.002	0.003	0.004	0.003
Cicero	1830 S. 51st Ave.	0.004	0.006	0.005	0.006	0.005	0.005
Lemont	729 Houston	0.006	0.005	0.006	0.006	0.006	0.005
WILL COUNTY							
Joliet	Rte 6 & Young Rd.	0.004	0.005	0.004	0.005	0.005	0.005
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Alton	409 Main St.	0.009	0.007	0.008	0.007	0.005	0.006
South Roxanna	Michigan Ave.	0.010	0.010	0.008	0.008	0.004	0.007
Wood River	54 N. Walcott	0.007	0.006	0.006	0.007	0.006	0.006
Wood River	1710 Vaughn Rd.	0.011	0.009	+	0.009	0.008	0.004
RANDOLPH COUNTY							
Houston	Twp Rd 150 & Twp Rd 45	0.006	0.005	0.005	0.004	0.002	0.002
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.009	0.009	0.008	0.008	0.007	0.007
Marissa	Risdon School Rd.	0.004	0.005	0.005	0.004	0.002	0.002
Sauget	Little Ave.	0.009	0.009	0.008	0.008	0.006	0.006
74 SOUTHEAST ILLINOIS INTRASTATE							
WABASH COUNTY							
Mount Carmel	Division St.	0.009	0.007	0.004	0.007	0.005	0.005
Rural Wabash County	South of SR-1	0.009	0.007	0.005	0.005	0.006	0.005

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

Primary Annual Standard 0.03 ppm

Table B10

2001
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1996	1997	1998	1999	2000	2001
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	0.004	0.004	0.004	0.005	0.003	0.003
MACON COUNTY							
Decatur	2200 N. 22nd St.	0.005	0.006	0.005	0.005	0.005	0.005
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	0.002	0.003	0.003	0.003	0.002	0.002
SANGAMON COUNTY							
Springfield	Sewage Plant	0.006	0.006	0.006	0.006	0.005	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

2001
NITROGEN DIOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES	HIGHEST SAMPLES 1-HOUR 1ST	1-HOUR 2ND	24-HOUR 1ST	24-HOUR 2ND	ANNUAL ARITHMETIC MEAN
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Calumet City	1703 State St.	8657	0.087	0.079	0.046	0.044	0.024
Chicago - CTA	320 S. Franklin	8644	0.097	0.096	0.064	0.059	0.032
Chicago - Jardine [1]	1000 E. Ohio	3255	0.081	0.078	0.049	0.039	+
Chicago - Truman	1145 W. Wilson	8360	0.074	0.074	0.053	0.047	0.025
Cicero	1830 S. 51st Ave.	8676	0.081	0.080	0.057	0.056	0.028
Northbrook	750 Dundee Rd.	7980	0.077	0.077	0.046	0.041	0.018
Schiller Park	4743 N. Mannheim	8421	0.092	0.086	0.073	0.052	0.028
LAKE COUNTY							
Zion [1]	Camp Logan	2870	0.041	0.041	0.020	0.017	+
WILL COUNTY							
Braidwood [1]	36400 S. Essex Rd.	3198	0.033	0.033	0.022	0.018	+
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	8663	0.066	0.065	0.041	0.040	0.019

[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

2001
SHORT-TERM TRENDS
NITROGEN DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1996	1997	1998	1999	2000	2001
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Calumet City	1703 State St.	0.022	0.024	0.025	0.024	0.022	0.024
Chicago - CTA	320 S. Franklin	0.031	0.034	0.032	0.032	0.032	0.032
Chicago - Truman	1145 W. Wilson	-	-	0.024	0.024	0.023	0.025
Cicero	1820 S. 51st St.	0.027	0.027	0.026	0.027	0.027	0.028
Northbrook	750 Dundee Rd.	-	+	0.017	0.017	0.018	0.018
Schiller Park	4743 N. Mannheim	-	-	0.031	0.031	0.029	0.028
WILL COUNTY							
Braidwood	36400 S. Essex Rd.	0.009	0.009	0.009	0.010	0.009	+
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.020	0.019	0.018	0.019	0.018	0.019

- 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

2001
LEAD
(micrograms per cubic meter)

STATION	ADDRESS	NUMBER OF QUARTERS >1.5	QUARTERLY AVERAGES 1st	2nd	3rd	4th	ANNUAL MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	0	0.01	0.01	0.01	0.02	0.01
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	0	0.01	0.02	0.02	0.01	0.02
Chicago - Cermak	735 W. Harrison	0	0.05	0.04	0.06	0.06	0.05
Chicago - Mayfair	4850 Wilson Ave.	0	0.02	0.02	0.02	0.02	0.02
Chicago - Washington	3535 E. 114th St.	0	0.03	0.03	0.02	0.02	0.02
Maywood	1500 Maybrook Dr.	0	0.04	0.03	0.03	0.03	0.03
Schiller Park	4243 N. Mannheim Rd.	0	0.01	0.01	0.01	0.02	0.01
Summit	60th St. & 74th Ave.	0	0.02	0.02	0.02	0.02	0.02
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison	0	0.07	0.05	0.03	0.05	0.05
Wood River	54 N. Walcott	0	0.05	0.09	0.04	0.06	0.06
Chemetco - 2E	Rural County	0	1.08	0.96	0.22	+	+
Chemetco - 4SE	Rural County	0	0.40	0.22	0.15	+	+
Chemetco - 5N	Rural County	1	1.20	2.26	0.51	+	+
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	0	0.04	0.07	0.06	0.09	0.06
75 WEST CENTRAL ILLINOIS INTRASTATE							
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	0	0.01	0.01	0.01	0.02	0.01

Primary Quarterly Standard 1.5 ug/m3

Table B14

2001
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	59	0.005	0.005	0.002	59	0.000	0.000	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	500 W. 123rd. St.	59	0.011	0.009	0.002	NA			
Chicago - Cermak	735 W. Harrison	59	0.009	0.005	0.002	NA			
Chicago - Mayfair	4850 Wilson Ave	60	0.005	0.005	0.002	NA			
Chicago - Washington	3535 E. 114th St.	61	0.010	0.006	0.002	NA			
Maywood	1500 Maybrook Dr.	61	0.007	0.005	0.002	NA			
Schiller Park	4743 N. Mannheim Rd.	58	0.005	0.003	0.001	58	0.000	0.000	0.000
Summit	60th St. & 74th Ave.	58	0.009	0.007	0.002	NA			
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.046	0.020	0.004	58	0.000	0.000	0.000
Wood River	54 N. Walcott	59	0.009	0.009	0.002	59	0.000	0.000	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	58	0.015	0.012	0.004	58	0.000	0.000	0.000
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	57	0.005	0.002	0.001	57	0.000	0.000	0.000

Table B14

2001
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	58	0.000	0.000	0.000	58	0.011	0.009	0.001
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	58	0.003	0.003	0.002	58	0.021	0.013	0.005
Chicago - Cermak	735 W. Harrison	58	0.017	0.004	0.003	58	0.030	0.029	0.012
Chicago - Mayfair	4850 Wilson Ave	59	0.004	0.003	0.002	59	0.026	0.022	0.008
Chicago - Washington	3535 E. 114th St.	61	0.004	0.004	0.002	61	0.032	0.027	0.009
Maywood	1500 Maybrook Dr.	60	0.010	0.006	0.003	60	0.071	0.044	0.019
Schiller Park	4743 N. Mannheim Rd.	58	0.010	0.000	0.000	58	0.011	0.008	0.004
Summit	60th St. & 74th Ave.	57	0.004	0.003	0.002	57	0.079	0.027	0.007
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.006	0.006	0.001	58	0.014	0.011	0.005
Wood River	54 N. Walcott	59	0.019	0.013	0.002	59	0.005	0.004	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	58	0.073	0.038	0.007	58	0.005	0.004	0.001
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	57	0.000	0.000	0.000	57	0.000	0.000	0.000

Table B14

2001
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
			IRON				**MANGANESE**		
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	59	1.69	1.59	0.57	59	0.101	0.090	0.025
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	58	1.53	1.43	0.56	58	0.117	0.105	0.032
Chicago - Cermak	735 W. Harrison	58	4.28	3.21	1.51	58	0.136	0.135	0.060
Chicago - Mayfair	4850 Wilson Ave	59	4.90	1.83	1.04	59	0.113	0.077	0.036
Chicago - Washington	3535 E. 114th St.	60	6.53	4.68	1.17	60	1.127	0.601	0.178
Maywood	1500 Maybrook Dr.	60	23.42	11.69	3.61	60	0.200	0.171	0.079
Schiller Park	4743 N. Mannheim Rd.	58	3.48	2.55	1.53	58	0.092	0.072	0.035
Summit	60th St. & 74th Ave.	57	3.25	1.67	0.62	57	0.133	0.114	0.028
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	4.50	4.24	1.64	58	0.400	0.296	0.105
Wood River	54 N. Walcott	59	2.64	2.16	0.57	59	0.075	0.071	0.022
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	58	2.39	2.13	0.89	58	0.117	0.110	0.036
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	57	1.86	0.84	0.28	57	0.057	0.044	0.009

Table B14

2001
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	NICKEL TOTAL SAMPLES	NICKEL HIGHEST 1st	NICKEL HIGHEST 2nd	NICKEL ARITH. MEAN	SELENIUM TOTAL SAMPLES	SELENIUM HIGHEST 1st	SELENIUM HIGHEST 2nd	SELENIUM ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	58	0.089	0.053	0.002	58	0.004	0.004	0.001
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	58	0.026	0.021	0.006	NA			
Chicago - Cermak	735 W. Harrison	58	0.017	0.016	0.008	NA			
Chicago - Mayfair	4850 Wilson Ave	59	0.013	0.013	0.006	NA			
Chicago - Washington	3535 E. 114th St.	60	0.012	0.010	0.006	NA			
Maywood	1500 Maybrook Dr.	60	0.020	0.017	0.009	NA			
Schiller Park	4743 N. Mannheim Rd.	58	0.010	0.000	0.000	58	0.004	0.003	0.001
Summit	60th St. & 74th Ave.	57	0.065	0.016	0.007	NA			
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.000	0.000	0.000	58	0.003	0.002	0.001
Wood River	54 N. Walcott	59	0.016	0.010	0.000	59	0.003	0.003	0.001
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	58	0.000	0.000	0.000	58	0.002	0.002	0.001
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	57	0.000	0.000	0.000	57	0.004	0.003	0.001

Table B14

2001
FILTER ANALYSIS DATA
(micrograms per cubic meter)

VANADIUM

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	58	0.005	0.002	0.000				
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	NA							
Chicago - Cermak	735 W. Harrison	NA							
Chicago - Mayfair	4850 Wilson Ave	NA							
Chicago - Washington	3535 E. 114th St.	NA							
Maywood	1500 Maybrook Dr.	NA							
Schiller Park	4743 N. Mannheim Rd.	58	0.005	0.003	0.000				
Summit	60th St. & 74th Ave.	NA							
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.016	0.013	0.003				
Wood River	54 N. Walcoot	59	0.006	0.006	0.001				
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	58	0.006	0.006	0.001				
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	57	0.005	0.003	0.000				

Table B14

2001
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	59	16.5	15.0	6.0	59	33.9	17.4	8.5
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	59	24.4	21.5	6.4	59	26.1	17.1	7.4
Chicago - Cermak	735 W. Harrison	59	19.7	18.3	6.0	59	27.2	27.0	8.6
Chicago - Mayfair	4850 Wilson Ave	60	21.5	19.3	6.0	60	20.3	19.4	7.8
Chicago - Washington	3535 E. 114th St.	61	15.2	14.7	5.7	61	18.4	18.1	8.3
Maywood	1500 Maybrook Dr.	61	18.0	15.3	5.4	61	39.2	20.3	9.0
Schiller Park	4743 N. Mannheim Rd.	58	19.5	16.8	7.1	58	23.2	22.0	10.0
Summit	60th St. & 74th Ave.	58	19.2	17.8	5.4	58	20.8	18.5	7.7
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	11.2	10.1	4.7	58	19.5	17.5	9.4
Wood River	54 N. Walcott	59	10.1	8.2	3.9	59	16.0	15.9	8.3
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	58	10.0	9.6	4.5	58	17.1	16.5	9.6
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	57	15.5	11.2	4.8	57	14.8	13.5	7.3

Table B15

2001
(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		16.1	15.3	13.6	13.0	6.1
Ethylene		8.1	7.9	7.7	6.0	2.5
Propane		9.8	9.6	8.0	7.9	3.9
Propylene		4.8	4.8	4.7	4.6	1.7
Acetylene		2.3	2.2	2.0	1.9	0.6
N - Butane		5.7	4.8	4.8	4.5	2.6
Isobutane		3.7	3.5	3.2	3.1	1.3
Trans - 2 - Butene		0.3	0.3	0.2	0.2	0.0
Cis - 2 - Butene		0.5	0.4	0.1	0.1	0.0
N - Pentane		5.6	5.4	5.0	4.9	2.1
Isopentane		15.1	13.6	12.8	12.8	5.3
1 - Pentene		0.4	0.3	0.3	0.2	0.0
Trans - 2 - Pentene		0.5	0.4	0.4	0.4	0.0
Cis - 2 - Pentene		0.4	0.4	0.2	0.2	0.0
3 - Methylpentane		3.2	2.7	2.6	2.6	1.1
N - Hexane		6.8	3.9	3.8	3.4	1.3
N - Heptane		1.8	1.6	1.5	1.4	0.4
N - Octane		0.9	0.7	0.6	0.5	0.1
N - Nonane		1.7	1.4	1.3	1.2	0.4
Cyclopentane		0.8	0.5	0.5	0.3	0.1
Isoprene		0.9	0.5	0.4	0.4	0.1
2,2 - Dimethylbutane		0.5	0.4	0.4	0.4	0.1
2,4 - Dimethylpentane		2.4	2.0	1.9	1.9	0.4
Cyclohexane		0.6	0.6	0.6	0.6	0.1
3 - Methylhexane		2.5	2.3	2.1	1.9	0.7
2,2,4 - Trimethylpentane		9.3	8.9	8.3	8.0	2.8
2,3,4 - Trimethylpentane		3.2	3.1	2.8	2.8	0.8
3 - Methylheptane		0.7	0.6	0.6	0.5	0.1
Methylcyclohexane		9.2	5.6	4.7	3.2	0.5
Methylcyclopentane		2.0	2.0	1.8	1.7	0.5
2 - Methylhexane		1.7	1.8	1.6	1.6	0.5
1 - Butene		0.7	0.5	0.5	0.5	0.1
2,3 - Dimethylbutane		1.9	1.7	1.6	1.6	0.6
2 - Methylpentane		4.6	4.1	3.9	3.8	1.6
2,3 - Dimethylpentane		4.0	3.5	3.1	3.1	1.0
2 - Methylheptane		0.5	0.4	0.3	0.3	0.0
Benzene		4.3	4.2	3.9	3.7	1.4

Table B15

2001
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
COMPOUNDS						
Toluene		24.9	12.9	11.8	10.0	3.8
Ethylbenzene		9.8	7.4	7.0	5.3	0.7
O - Xylene		9.9	7.2	5.4	5.2	0.9
M/P Xylene		23.8	18.5	12.6	12.3	2.6
1,3,5 - Trimethylbenzene		0.8	0.5	0.4	0.4	0.1
1,2,4 - Trimethylbenzene		3.3	2.5	2.1	2.1	0.6
N - Propylbenzene		0.4	0.3	0.1	0.1	0.0
Isopropylbenzene		1.2	0.7	0.5	0.4	0.1
Styrene		0.5	0.2	0.1	0.0	0.0
N-Decane		2.1	2.1	1.8	1.6	0.7
N-Undecane		1.3	1.1	1.1	1.0	0.4
O-Ethyltolune		0.5	0.4	0.3	0.2	0.0
M-Ethyltolune		1.2	1.1	0.9	0.9	0.2
P-Ethyltolune		0.4	0.4	0.2	0.1	0.0
M-Diethylbenzene		0.4	0.4	0.3	0.3	0.0
P-Diethylbenzene		0.3	0.3	0.2	0.2	0.0
1,2,3 Trimethylbenzene		1.3	1.0	0.8	0.7	0.2
Northbrook	750 Dundee Rd.					
COMPOUNDS						
Ethane		10.8	10.4	10.4	10.3	5.5
Ethylene		2.6	2.1	2.1	2.0	0.8
Propane		13.8	13.7	13.1	12.5	4.1
Propylene		2.1	2.1	2.1	1.9	0.8
Acetylene		0.5	0.5	0.5	0.5	0.1
N - Butane		13.2	10.2	8.6	6.4	2.7
Isobutane		3.8	2.9	2.8	2.7	1.2
Trans - 2 - Butene		0.2	0.1	0.1	0.1	0.0
Cis - 2 - Butene		0.1	0.1	0.1	0.1	0.1
N - Pentane		4.7	4.5	4.4	4.4	2.2
Isopentane		11.4	11.3	9.9	9.8	4.7
1 - Pentene		0.2	0.1	0.1	0.1	0.0
Trans - 2 - Pentene		0.3	0.2	0.2	0.1	0.0
Cis - 2 - Pentene		0.0	0.0	0.0	0.0	0.0
3 - Methylpentane		0.0	0.0	0.0	0.0	0.0
N - Hexane		6.5	4.1	3.7	3.6	1.7
N - Heptane		2.7	2.2	2.0	1.9	0.7
N - Octane		0.9	0.8	0.8	0.8	0.3
N - Nonane		1.8	1.6	1.6	1.5	0.7
Cyclopentane		0.3	0.1	0.1	0.1	0.0
Isoprene		0.1	0.1	0.0	0.0	0.0

Table B15

2001
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
COMPOUNDS						
2,2 - Dimethylbutane		0.2	0.1	0.1	0.0	0.0
2,4 - Dimethylpentane		2.3	1.6	1.5	1.5	0.5
Cyclohexane		0.6	0.6	0.5	0.5	0.2
3 - Methylhexane		2.1	1.8	1.7	1.6	0.8
2,2,4 - Trimethylpentane		10.5	7.3	6.4	6.4	2.7
2,3,4 - Trimethylpentane		3.1	2.2	2.1	1.8	0.8
3 - Methylheptane		0.6	0.5	0.4	0.4	0.2
Methylcyclohexane		3.5	2.3	1.9	1.2	0.5
Methylcyclopentane		2.3	1.8	1.7	1.7	0.6
2 - Methylhexane		1.9	1.5	1.4	1.3	0.6
1 - Butene		0.4	0.4	0.3	0.3	0.1
2,3 - Dimethylbutane		2.4	2.1	2.0	1.8	0.7
2 - Methylpentane		0.2	0.2	0.2	0.1	0.0
2,3 - Dimethylpentane		3.4	2.5	2.4	2.0	0.9
2 - Methylheptane		0.6	0.5	0.4	0.4	0.1
Benzene		2.6	2.4	2.3	2.3	1.2
Toluene		24.8	19.7	16.0	16.0	5.5
Ethylbenzene		7.2	1.5	1.3	1.3	0.7
O - Xylene		7.1	1.5	1.5	1.5	0.8
M/P Xylene		25.3	4.6	4.4	4.2	2.3
1,3,5 - Trimethylbenzene		0.7	0.7	0.7	0.7	0.3
1,2,4 - Trimethylbenzene		2.2	2.2	2.0	2.0	1.2
N - Propylbenzene		0.4	0.4	0.3	0.3	0.1
Isopropylbenzene		0.4	0.3	0.2	0.2	0.1
Styrene		0.5	0.5	0.4	0.4	0.1
N-Decane		1.8	1.8	1.7	1.6	0.8
N-Undecane		3.5	1.3	1.2	1.2	0.8
O-Ethyltolune		0.5	0.4	0.4	0.4	0.2
M-Ethyltolune		1.3	1.2	0.9	0.7	0.4
P-Ethyltolune		0.7	0.7	0.6	0.6	0.2
M-Diethylbenzene		0.5	0.5	0.5	0.5	0.1
P-Diethylbenzene		0.5	0.5	0.5	0.5	0.2
1,2,3 Trimethylbenzene		1.3	1.3	1.1	1.1	0.5
Formaldehyde [1]		5.0	4.7	4.5	4.3	1.8
Acetaldehyde [1]		4.9	2.9	1.2	1.1	1.1

[1] Values in ppb (volume)

Table B15

2001
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
LAKE COUNTY						
Zion	Camp Logan					
COMPOUNDS						
Ethane		8.0	7.8	7.3	7.2	4.0
Ethylene		2.9	2.5	2.5	2.2	0.8
Propane		6.0	5.8	5.4	5.4	3.0
Propylene		1.8	1.6	1.6	1.4	0.5
Acetylene		0.8	0.5	0.4	0.4	0.2
N - Butane		3.7	3.2	3.1	3.1	1.6
Isobutane		2.1	2.0	1.9	1.7	0.8
Trans - 2 - Butene		0.3	0.3	0.2	0.1	0.0
Cis - 2 - Butene		0.1	0.1	0.1	0.0	0.0
N - Pentane		6.0	4.3	3.9	3.6	1.6
Isopentane		8.1	6.3	5.9	5.9	2.9
1 - Pentene		0.2	0.2	0.1	0.1	0.0
Trans - 2 - Pentene		0.2	0.2	0.2	0.1	0.0
Cis - 2 - Pentene		0.1	0.1	0.1	0.0	0.0
3 - Methylpentane		1.6	1.5	1.4	1.2	0.5
N - Hexane		1.9	1.5	1.5	1.4	0.5
N - Heptane		1.1	1.1	1.0	0.9	0.3
N - Octane		0.5	0.5	0.4	0.4	0.1
N - Nonane		0.5	0.5	0.5	0.4	0.1
Cyclopentane		2.3	0.6	0.5	0.3	0.1
Isoprene		15.1	14.8	14.7	14.3	5.7
2,2 - Dimethylbutane		0.3	0.2	0.2	0.2	0.1
2,4 - Dimethylpentane		1.1	1.0	0.8	0.8	0.2
Cyclohexane		0.4	0.3	0.2	0.2	0.0
3 - Methylhexane		1.2	1.1	1.1	1.0	0.3
2,2,4 - Trimethylpentane		4.4	4.3	3.4	3.0	1.3
2,3,4 - Trimethylpentane		1.3	1.3	1.0	1.0	0.4
3 - Methylheptane		0.3	0.2	0.2	0.2	0.0
Methylcyclohexane		1.1	0.5	0.4	0.4	0.1
Methylcyclopentane		1.0	0.9	0.9	0.8	0.3
2 - Methylhexane		0.8	0.8	0.7	0.7	0.2
1 - Butene		0.3	0.3	0.2	0.2	0.1
2,3 - Dimethylbutane		1.1	1.0	0.9	0.7	0.3
2 - Methylpentane		2.5	2.4	2.1	1.9	0.8
2,3 - Dimethylpentane		1.8	1.7	1.3	1.3	0.5
2 - Methylheptane		0.2	0.2	0.2	0.1	0.0
Benzene		2.8	2.6	2.1	2.0	0.9
Toluene		9.8	7.9	7.8	7.1	3.0
Ethylbenzene		2.0	1.5	1.0	0.9	0.3

Table B15

2001
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
COMPOUNDS						
O - Xylene		1.5	1.3	1.0	0.9	0.3
M/P Xylene		5.2	4.9	3.2	2.4	0.9
1,3,5 - Trimethylbenzene		0.4	0.4	0.3	0.2	0.0
1,2,4 - Trimethylbenzene		1.5	1.4	1.1	1.0	0.4
N - Propylbenzene		0.3	0.2	0.1	0.1	0.0
Isopropylbenzene		0.2	0.1	0.0	0.0	0.0
Styrene		0.5	0.3	0.2	0.2	0.0
N-Decane		0.8	0.7	0.7	0.6	0.2
N-Undecane		0.5	0.4	0.4	0.4	0.1
O-Ethyltolune		0.4	0.3	0.2	0.2	0.0
M-Ethyltolune		0.8	0.6	0.5	0.5	0.2
P-Ethyltolune		0.4	0.3	0.2	0.1	0.0
M-Diethylbenzene		0.3	0.2	0.2	0.2	0.0
P-Diethylbenzene		0.2	0.2	0.1	0.1	0.0
1,2,3 Trimethylbenzene		0.9	0.9	0.8	0.8	0.3

APPENDIX C
PRECISION AND ACCURACY DATA SUMMARY AND TABLES

C.1 PRECISION AND ACCURACY DATA SUMMARY

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

Table C1

2001
PRECISION DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF SITES	TOTAL SAMPLES	PROBABILITY LIMITS (percent) UPPER 95%	LOWER 95%
SITES OPERATED BY ILLINOIS EPA					
Sulfur Dioxide	1st Quarter	16	184	6	-6
	2nd Quarter	16	193	6	-3
	3rd Quarter	16	184	6	-4
	4th Quarter	16	172	4	-7
	Year		733	6	-5
Ozone	1st Quarter	24	250	6	-7
	2nd Quarter	32	375	5	-7
	3rd Quarter	32	376	5	-6
	4th Quarter	30	274	7	-8
	Year		1275	6	-7
Carbon Monoxide	1st Quarter	6	69	8	-8
	2nd Quarter	6	70	5	-8
	3rd Quarter	6	68	7	-7
	4th Quarter	6	62	5	-5
	Year		269	6	-7
Nitrogen Dioxide	1st Quarter	5	51	7	-12
	2nd Quarter	7	69	5	-10
	3rd Quarter	6	68	7	-7
	4th Quarter	4	44	11	-7
	Year		232	8	-9
Inhalable Particulate PM_{10}	1st Quarter	1	13	10	-12
	2nd Quarter	1	14	7	-17
	3rd Quarter	1	14	13	-20
	4th Quarter	1	14	4	-14
	Year		55	8	-16
Inhalable Particulate $PM_{2.5}$	1st Quarter	6	54	10	-10
	2nd Quarter	6	74	11	-9
	3rd Quarter	6	67	7	-11
	4th Quarter	6	48	15	-10
	Year		243	11	-10
Lead	1st Quarter	1	14	(1)	(1)
	2nd Quarter	1	13	(1)	(1)
	3rd Quarter	1	13	(1)	(1)
	4th Quarter	1	14	(1)	(1)
	Year		54	(1)	(1)

1. All collected samples were below USEPA established minimums. Probability Limits could not be calculated.

Table C1

2001
PRECISION DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF SITES	TOTAL SAMPLES	PROBABILITY LIMITS (percent) UPPER 95%	LOWER 95%
SITES OPERATED BY COOK COUNTY DEPARTMENT OF ENVIRONMENTAL CONTROL					
Sulfur Dioxide	1st Quarter	6	76	4	-4
	2nd Quarter	6	72	4	-4
	3rd Quarter	6	73	4	-4
	4th Quarter	6	69	5	-4
	Year		290	4	-4
Ozone	1st Quarter	3	37	5	-4
	2nd Quarter	10	121	4	-3
	3rd Quarter	10	119	4	-4
	4th Quarter	10	66	4	-4
	Year		343	4	-4
Carbon Monoxide	1st Quarter	3	38	4	-3
	2nd Quarter	3	36	4	-2
	3rd Quarter	3	38	3	-2
	4th Quarter	3	37	4	-2
	Year		149	4	-2
Nitrogen Dioxide	1st Quarter	3	37	6	-5
	2nd Quarter	3	37	3	-4
	3rd Quarter	3	38	6	-4
	4th Quarter	3	35	3	-4
	Year		147	4	-4
Inhalable Particulate PM_{10}	1st Quarter	1	15	4	-14
	2nd Quarter	1	15	11	-3
	3rd Quarter	1	15	2	-3
	4th Quarter	1	14	5	-12
	Year		59	6	-8
Inhalable Particulate $PM_{2.5}$	1st Quarter	3	22	9	-12
	2nd Quarter	3	36	15	-16
	3rd Quarter	3	30	17	-9
	4th Quarter	3	41	9	-14
	Year		129	12	-13
Lead	1st Quarter	1	15	(1)	(1)
	2nd Quarter	1	15	(1)	(1)
	3rd Quarter	1	15	(1)	(1)
	4th Quarter	1	15	(1)	(1)
	Year		60	(1)	(1)

1. All collected samples were below USEPA established minimums. Probability Limits could not be calculated.

Table C2

2001
ACCURACY DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF AUDITS	PROBABILITY LIMITS LEVEL 1 +95%	LEVEL 1 -95%	LEVEL 2 +95%	LEVEL 2 -95%	LEVEL 3 +95%	LEVEL 3 -95%
SITES OPERATED BY ILLINOIS EPA								
Sulfur Dioxide	1st Quarter	7	2	-11	-2	-10	0	-14
	2nd Quarter	4	11	-12	9	-13	6	-14
	3rd Quarter	4	-6	-9	-5	-10	-4	-9
	4th Quarter	5	8	-14	-1	-10	-2	-11
	Year	20	4	-12	0	-11	0	-12
Ozone	1st Quarter	7	8	-14	9	-12	13	-14
	2nd Quarter	9	14	-10	11	-7	9	-8
	3rd Quarter	9	4	-8	12	-11	11	-11
	4th Quarter	6	8	-10	13	-7	9	-1
	Year	31	8	-10	11	-9	10	-8
Carbon Monoxide	1st Quarter	2	20	-22	10	-14	4	-10
	2nd Quarter	1(1)	NA	NA	NA	NA	NA	NA
	3rd Quarter	1(1)	NA	NA	NA	NA	NA	NA
	4th Quarter	2	3	-10	24	-23	14	-13
	Year	6	12	-16	17	-18	9	-12
Nitrogen Dioxide	1st Quarter	1(1)	NA	NA	NA	NA	NA	NA
	2nd Quarter	2	15	-1	11	-2	9	-3
	3rd Quarter	2	8	-6	-1	-4	16	-10
	4th Quarter	2	16	-11	11	-10	9	-11
	Year	7	13	-6	7	-5	11	-8
Inhalable Particulate PM_{10}	1st Quarter	5			14	-13		
	2nd Quarter	3			11	-10		
	3rd Quarter	4			6	-3		
	4th Quarter	5			14	-5		
	Year	17			11	-8		
Inhalable Particulate $PM_{2.5}$	1st Quarter	25			15	-22		
	2nd Quarter	27			8	-10		
	3rd Quarter	26			10	-9		
	4th Quarter	26			11	-12		
	Year	104			11	-13		
Lead	1st Quarter	3	5	+1	2	-3		
	2nd Quarter	3	8	0	3	-5		
	3rd Quarter	3	8	-4	9	-5		
	4th Quarter	3	6	-6	2	-3		
	Year	12	7	-2	4	-4		

1. Less than two audits were performed for this parameter during the quarter. Probability Limits could not be calculated.

Table C2

2001
ACCURACY DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF AUDITS	PROBABILITY LIMITS LEVEL 1 +95%	LEVEL 1 -95%	LEVEL 2 +95%	LEVEL 2 -95%	LEVEL 3 +95%	LEVEL 3 -95%
SITES OPERATED BY COOK COUNTY DEPARTMENT OF ENVIRONMENTAL CONTROL								
Sulfur Dioxide	1st Quarter	6	10	-4	6	-2	2	-2
	2nd Quarter	2	14	-8	17	-16	16	-15
	3rd Quarter	4	3	-1	5	-1	7	-5
	4th Quarter	4	6	-5	8	-2	12	-5
	Year	16	8	-4	9	-5	9	-7
Ozone	1st Quarter	3	2	-8	8	-8	7	-8
	2nd Quarter	10	16	-13	4	-4	4	-4
	3rd Quarter	11	4	-6	5	-5	2	-3
	4th Quarter	9	8	-10	4	-5	4	-4
	Year	33	8	-9	5	-6	4	-5
Carbon Monoxide	1st Quarter	3	5	-4	3	-9	-3	-4
	2nd Quarter	2	15	-13	10	-14	1	-14
	3rd Quarter	3	4	+4	1	-1	5	-6
	4th Quarter	3	8	-1	2	-1	2	-4
	Year	11	8	-3	4	-6	1	-10
Nitrogen Dioxide	1st Quarter	3	6	-4	5	-5	5	-5
	2nd Quarter	1[(1)]	NA	NA	NA	NA	NA	NA
	3rd Quarter	2	3	+3	4	+1	4	-1
	4th Quarter	3	0	-9	8	-12	12	-16
	Year	9	3	-3	6	-5	7	-7
Inhalable Particulate PM_{10}	1st Quarter	6			12	-5		
	2nd Quarter	6			12	-5		
	3rd Quarter	7			18	-5		
	4th Quarter	6			10	-1		
	Year	25			13	-4		
Inhalable Particulate $PM_{2.5}$	1st Quarter	10			4	-9		
	2nd Quarter	9			7	-7		
	3rd Quarter	9			3	-3		
	4th Quarter	9			3	-3		
	Year	37			4	-6		
Lead	1st Quarter	3	-6	-8	-2	-5		
	2nd Quarter	3	-6	-8	-4	-6		
	3rd Quarter	3	0	-4	10	-7		
	4th Quarter	3	0	-2	6	-5		
	Year	12	-3	-6	2	-6		

1. Less than two audits were performed for this parameter during the quarter. Probability Limits could not be calculated.

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APPENDIX D
POINT SOURCE EMISSION INVENTORY SUMMARY TABLES

Table D1

2001
Point Source Emission Distribution (Tons/Year)

Category	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
External Fuel Combustion					
Electric Generation	17,275.6	444,940.4	221,518.3	1,337.5	13,208.0
Industrial	3,116.0	64,292.1	41,230.8	1,130.6	9,714.8
Commercial/Institutional	714.9	11,556.4	5,197.8	258.2	2,504.1
Space Heating	22.8	43.4	426.0	18.2	88.9
Internal Fuel Combustion					
Electric Generation	624.2	660.1	5,996.0	709.2	3,811.0
Industrial	176.3	216.4	32,154.3	1,932.4	6,564.4
Commercial/Institutional	43.7	39.9	2,453.7	139.1	735.3
Engine Testing	39.6	28.2	519.8	72.5	366.8
Fugitive Emissions	0.0	0.0	0.0	37.9	0.0
Industrial Processes					
Chemical Manufacturing	3,299.0	17,134.5	2,953.0	12,504.9	13,780.8
Food/Agriculture	18,950.1	1,037.8	990.5	9,942.7	1,000.3
Primary Metal Production	5,408.2	6,804.5	4,188.0	1,756.9	24,201.9
Secondary Metal Production	6,334.8	150.3	1,111.2	1,178.0	2,866.4
Mineral Products	23,458.7	14,183.8	11,845.3	1,476.9	4,087.2
Petroleum Industry	3,061.1	87,866.5	20,239.8	6,027.9	5,992.5
Paper and Wood Products	451.7	0.1	12.7	198.5	10.9
Rubber and Plastic Products	663.8	1.1	57.3	4,096.4	35.9
Fabricated Metal Products	992.5	212.1	420.3	1,743.6	1,266.7
Oil and Gas Production	3.3	103.9	80.4	564.0	98.4
Building Construction	1.5	0.0	0.0	0.0	0.0
Miscelaneous Machinery	94.3	2.3	6.3	31.3	3.9
Electrical Equipment	37.9	0.9	5.9	200.4	2.2
Transportation Equipment	54.7	0.0	1.9	26.3	1.2
Health Services	14.8	0.7	2.0	75.2	18.8
Leather and Leather Products	50.5	0.0	0.0	90.0	0.0
Textile Products	10.4	0.0	1.4	4.9	0.1
Printing/Publishing (typesetting)	0.3	0.0	0.0	0.0	0.0
Process Cooling	259.9	0.0	0.0	10.1	0.0
In-Process Fuel Use	228.9	3,608.5	3,037.3	329.7	964.4
Miscellaneous Manufacturing	236.0	33.3	246.4	332.8	197.0
Organic Solvent Emissions					
Organic Solvent Use	9.3	0.0	1.5	1,484.4	0.1
Surface Coating Operations	564.5	56.5	1,106.0	20,049.9	197.5
Petroleum Product Storage	50.9	7.9	7.7	5,214.4	76.4
Bulk Terminals/Plants	3.0	0.0	9.3	2,117.9	17.7
Printing/Publishing	100.1	0.2	205.9	11,517.9	71.4
Petroleum Marketing/Transport	2.2	0.0	2.3	1,319.1	0.0
Organic Chemical Storage (large)	19.4	0.0	0.5	1,147.5	0.0
Organic Chemical Transportation	10.8	0.0	10.8	40.2	0.7
Dry Cleaning (petroleum based)	0.0	0.0	0.0	380.7	0.0
Organic Chemical Storage (small)	0.0	0.0	0.0	1.9	0.0
Organic Solvent Evaporation	67.0	59.5	307.9	4,027.4	301.7

Table D1

2001
Point Source Emission Distribution (Tons/Year)

Category	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Solid Waste Disposal					
Government	432.9	301.0	1,108.1	253.8	1,585.4
Commercial/Institutional	208.6	37.6	99.9	57.2	421.3
Industrial	217.2	395.3	706.1	292.1	2,595.6
Site Remediation	45.9	22.4	1.1	659.0	1.0
***MACT Processes**					
Food and Agriculture Processes	0.0	0.0	0.0	3.0	0.0
Agricultural Chemical Production	0.0	0.0	0.0	1.8	0.0
Styrene or Methacrylate Based Resins	5.4	0.0	0.0	63.6	0.0
Cellulose Based Resins	0.2	0.0	0.0	0.0	0.0
Alkyd Resin Production	2.1	0.0	0.0	221.8	0.0
Vinyl Based Resins	285.3	0.0	0.0	112.7	0.0
Miscellaneous Polymers	1.2	0.0	0.0	18.0	0.0
Fibers Production	0.0	0.0	0.0	0.3	0.0
Consumer Product Mfg Facilities	0.0	0.0	0.0	6.5	0.0
Paint Stripper Use	0.9	0.0	0.0	3.8	0.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.6	0.0
Totals	**87,652.5**	**653,797.5**	**358,263.3**	**95,221.1**	**96,970.4**

* MACT stands for Maximum Achievable Control Technology.

Table D2

2001
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Adams	558.6	5,636.1	1,016.8	2,290.1	313.4
Alexander	478.9	459.9	278.5	63.3	39.9
Bond	95.5	5.8	37.2	70.8	146.3
Boone	235.8	618.9	333.9	1,243.3	133.4
Brown	30.5	0.0	2.4	0.3	0.4
Bureau	326.0	36.1	82.9	163.1	84.6
Calhoun	34.6	0.0	0.8	0.0	0.6
Carroll	96.6	5.2	20.2	149.4	28.7
Cass	157.3	16.0	116.8	62.6	55.2
Champaign	898.2	2,144.7	2,416.6	1,225.2	943.5
Christian	563.2	11,799.4	14,565.0	117.9	655.0
Clark	159.1	0.9	14.4	173.9	20.3
Clay	128.1	16.3	25.5	236.1	16.2
Clinton	131.4	362.9	2,635.6	240.6	657.8
Coles	250.4	117.1	261.9	1,253.0	214.1
Cook	14,422.0	40,307.4	27,988.2	24,832.8	27,189.2
Crawford	902.8	17,810.2	7,717.1	948.9	470.3
Cumberland	100.4	2.1	4.4	14.5	7.2
DeKalb	222.7	4.3	74.8	287.6	48.5
DeWitt	226.8	14.2	43.0	66.3	71.9
Douglas	802.1	14,625.7	5,678.0	655.2	374.2
DuPage	794.1	418.6	1,725.7	3,297.8	966.8
Edgar	577.9	525.0	1,829.9	425.2	165.4
Edwards	16.4	0.0	0.1	187.4	0.3
Effingham	180.9	3.6	113.4	930.4	32.7
Fayette	229.1	23.8	237.6	295.7	43.3
Ford	363.8	2.3	98.2	798.5	29.0
Franklin	82.8	3.7	15.3	207.5	8.0
Fulton	595.7	2,242.1	6,570.8	63.8	311.2
Gallatin	75.8	0.0	0.0	7.2	0.0
Greene	114.8	0.0	2.5	33.3	0.3
Grundy	1,109.8	1,696.8	4,535.4	1,191.4	3,442.8
Hamilton	43.9	0.2	15.6	5.4	4.1
Hancock	271.2	5.5	65.9	16.8	12.2

Table D2

2001
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Hardin	85.8	45.3	19.6	4.4	9.5
Henderson	140.3	0.1	9.4	9.5	4.9
Henry	314.9	26.7	4,702.8	425.8	1,437.1
Iroquois	745.0	4.5	85.5	261.9	30.7
Jackson	360.3	14,751.0	2,627.8	994.0	485.8
Jasper	698.6	15,897.0	8,534.0	154.5	920.7
Jefferson	566.1	199.2	174.9	364.4	88.8
Jersey	73.2	0.0	0.0	17.5	0.0
Jo Daviess	665.2	3.6	1,976.5	720.1	424.6
Johnson	121.2	377.1	44.3	25.0	53.3
Kane	960.4	273.9	1,185.1	1,980.8	643.2
Kankakee	857.1	13.9	3,809.9	1,548.3	1,026.6
Kendall	240.9	329.3	2,857.4	581.9	640.1
Knox	308.7	56.8	258.7	167.4	102.4
Lake	2,519.5	19,975.8	9,226.5	1,681.9	1,770.0
La Salle	2,829.8	1,248.6	4,551.4	1,863.0	417.2
Lawrence	73.1	3.5	8.9	44.8	3.2
Lee	681.9	3,015.0	857.8	593.3	439.6
Livingston	774.3	28.6	1,104.9	992.0	892.8
Logan	629.1	1,537.1	534.6	135.1	141.2
McDonough	309.1	1,561.6	563.8	140.3	170.3
McHenry	607.0	55.8	1,283.3	1,000.7	501.8
McLean	937.4	54.6	999.5	2,954.7	367.4
Macon	5,020.9	16,065.0	12,129.5	7,240.4	2,878.0
Macoupin	195.7	3.5	14.9	115.0	5.1
Madison	6,638.5	60,852.3	24,583.2	5,452.7	19,930.3
Marion	171.5	7.7	50.6	1,280.5	33.1
Marshall	351.4	2,737.9	319.3	377.2	42.8
Mason	551.2	11,019.9	4,857.3	53.1	305.2
Massac	4,877.5	28,231.2	10,113.3	462.8	1,468.9
Menard	72.8	0.0	0.4	16.4	18.9
Mercer	167.0	0.3	4.1	20.4	0.1
Monroe	134.2	0.1	7.0	37.9	1.2
Montgomery	2,096.4	44,034.2	27,155.0	119.8	628.6

Table D2

2001
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Morgan	1,084.8	22,314.9	5,057.9	850.5	402.7
Moultrie	132.5	66.1	127.6	291.0	31.3
Ogle	454.2	38.6	701.1	1,193.8	541.1
Peoria	2,169.2	61,953.4	14,032.6	2,596.8	1,180.4
Perry	48.0	0.1	15.8	31.1	11.7
Piatt	257.9	0.5	3,692.2	130.3	357.1
Pike	296.8	2,772.6	4,168.8	184.5	416.9
Pope	0.0	0.0	0.0	2.1	0.0
Pulaski	93.5	414.4	52.6	0.3	0.0
Putnam	1,117.0	6,884.1	3,797.3	171.8	579.9
Randolph	2,744.4	33,444.7	21,748.0	259.6	1,389.4
Richland	27.9	0.5	3.6	100.2	0.8
Rock Island	924.8	1,739.9	1,067.9	1,771.9	1,363.9
St. Clair	1,176.6	2,701.4	747.6	1,108.2	333.1
Saline	236.5	0.6	15.5	18.5	38.9
Sangamon	1,448.8	42,797.4	13,247.2	802.7	1,148.4
Schuyler	82.8	0.0	2.1	12.2	0.4
Scott	159.6	1.9	18.5	24.7	18.9
Shelby	167.4	3.9	12.0	77.0	8.8
Stark	63.4	0.0	0.0	6.3	0.0
Stephenson	155.2	4.2	122.7	206.9	156.6
Tazewell	2,185.0	38,167.1	35,118.0	688.0	1,741.2
Union	53.7	865.4	67.3	21.8	53.7
Vermilion	1,450.3	12,588.9	3,965.0	2,729.1	763.6
Wabash	290.9	195.2	104.0	26.8	28.6
Warren	302.5	251.2	57.7	57.0	43.2
Washington	232.0	0.1	36.3	166.5	16.9
Wayne	48.3	87.8	499.6	202.3	76.4
White	102.8	0.6	1,699.1	152.6	590.1
Whiteside	568.6	158.3	292.7	172.2	1,190.4
Will	6,800.3	92,902.0	36,169.0	5,261.2	10,845.4
Williamson	394.1	12,052.8	7,358.4	314.3	272.2
Winnebago	1,091.7	63.9	1,074.3	2,025.1	801.8
Woodford	238.2	9.8	15.6	171.5	16.5

Table D3

Annual Estimated Emissions Trends (Tons)

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

Table D4

Annual Source Reported Emissions Trends (Tons)

Year	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
1992	95,903	1,045,101	381,939	143,755	112,388
1993	90,322	1,001,123	418,211	108,809	113,772
1994	88,916	967,213	404,488	108,777	116,178
1995	67,048	812,284	367,803	102,942	160,361
1996	63,766	914,276	407,654	86,939	84,248
1997	57,166	974,197	404,291	75,812	72,300
1998	61,113	964,250	376,662	77,572	79,506
1999	56,224	900,311	360,724	71,509	80,066
2000	54,713	616,258	324,090	70,157	80,528

APPENDIX E

THE BUREAU OF AIR/ DIVISION OF AIR POLLUTION CONTROL

Organization and Programs

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

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

The Division of Air Pollution Control is divided into five sections: Air Monitoring, Air Quality Planning, Compliance and 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 E1

BUREAU OF AIR

Dave Kolaz, Bureau Chief
(217) 785-4140

DIVISION OF AIR POLLUTION CONTROL

Dennis Lawler, Division Manager
(217) 785-4140

AIR MONITORING SECTION

Terry Sweitzer, Manager
(217) 782-5811

AIR QUALITY PLANNING SECTION

Dick Forbes, Manager
(217) 524-4343

COMPLIANCE AND ENFORCEMENT SECTION

Julie Armitage, Acting Manager
(217) 782-5811

PERMITS SECTION

Don Sutton, Manger
(217) 782-2113

FIELD OPERATIONS SECTION

Ed Bakowski, Manager
(217) 785-2011

Harish Narayen
Region I
9511 W. Harrison Street
Des Plaines, Illinois 60016
(847) 294-4000

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

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