Illinois
Environmental
Protection Agency

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

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Illinois Annual Air Quality Report

2002

Governor Rod R. Blagojevich
Director Renee Cipriano

Cover: The Illinois EPA has been dedicated to improving air quality since its formation in 1970. Beyond the Agency's primary role, regulating air pollution sources in the State, fundamental program have been developed and initiated to further reduce air pollution. Featured on the cover of this report are logos representing a few Illinois EPA voluntary-based programs, which continue to gain partnerships throughout Illinois.

Green Pays on Green Days first began in the Summer of 2002 as an educational initiative to target individuals in the Chicago area. The program's slogan, "a renewed commitment by businesses, government, and individual citizens to reduce air pollution", best describes the primary focus. Green Pays has rewarded citizens who "take the clean air pledge" with environmentally friendly prizes, further encouraging the use of such products in the future. The Agency has received overwhelming results as a result of this program.

The Illinois Green Fleets Program is a voluntary program where businesses, government entities and other organizations gain recognition and marketing opportunities for having clean, domestic, and renewable fuel vehicles in their fleet. The fuels included in the Green Fleets program are natural gas, propane, 85 percent ethanol (E-85), electricity, biodiesel and other clean, domestic fuels. Additionally, Illinois Green Fleets recognizes fleet managers for their progressive efforts in using environmentally friendly vehicles and fuels to improve air quality.

Partners for Clean Air was created in 1995 with fifteen charter members, including the Illinois EPA. It is now a coalition of more than 300 businesses, government units and health advocacy organizations committed to cleaner air. It is a goal of the program to improve overall air quality and public health by advocating voluntary actions in the Greater Chicagoland and Northwest Indiana regions. A key component to the Partners for Clean Air success is the Ozone Action Day program. Through Ozone Action Days, individual citizens as well as all of the members of the coalition are alerted when air quality may potentially reach unhealthy levels. They are then encourages to take actions to reduce air pollution on those days. Illinois EPA estimates that the Partners for Clean Air/Ozone Action Day program reduces volatile organic compounds, an element of ground-level ozone, by more than 20 tons each day.

Photo: Illinois EPA Director Renee Cipriano is featured in the cover photo along with a display from the 2002 Green Pays on Green Days program. The items displayed on the table were included in "Green Day" prize packages awarded to thirty-eight individuals who took the "clean air pledge" during the summer of 2002.

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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 32nd Annual Air Quality Report contains information gathered in 2002 from the Illinois EPA's statewide air-monitoring network comprised of more than 200 monitors measuring pollutants and air toxic compounds. The data contained in the report indicates that outdoor air quality in Illinois remained good or moderate 89 percent of the time.

The year 2002 was significant, as it followed a three-year period when air-monitoring equipment in the Illinois portion of the Chicago Metropolitan area did not register any exceedances or ozone levels above the federal one-hour health standard for ozone (smog). Monitoring data was closely observed in 2002 to determine if the area was able to continue to meet the standard. However, as a result of emissions and high temperatures experienced over a short period of time, exceedances were recorded at critical monitoring sites in the region and attainment was not reached.

In 2002, air-monitoring equipment recorded six days when ozone levels exceeded the one-hour standard for ozone. Two of the days occurred in the Metro East region, and the remaining four occurred in the Chicago metropolitan area. According to the Air Quality Index (AQI), Illinois had 4 days when air quality was considered "red" or "unhealthy" and 34 days when air quality was considered "orange" or "unhealthy for sensitive groups" in one or more portions of the State in 2002. Of the 34 "orange" days, 30 were for 8-hour ozone, 11 were for $PM_{2.5}$ (fine particles), and 7 were both $PM_{2.5}$ and ozone. The AQI includes both the 1-hour and 8-hour ozone standards and the fine particulate ($PM_{2.5}$) standards. (Note: the 8-hour ozone and fine particulate standards have yet to be implemented by the U.S. Environmental Protection Agency.)

Generally speaking, the highest levels of air pollution are found in largely populated areas. In Illinois, those primary areas include the Greater Chicagoland area and the St. Louis Metro East regions. Ozone, which is formed when nitrogen oxides (NOx) and volatile organic compounds (VOCs) react with sunlight, is of particular concern as it has been linked to respiratory problems for humans, especially children and elderly residents. However, it should be noted that the U.S. Environmental Protection Agency recently compared metropolitan areas across the nation based on unhealthy air quality days for the years 2000-2002. In the comparison, the Chicago metropolitan area ranked 40th out of 50 with 45 unhealthy days. Also included in the comparison was the St. Louis area, ranking 17th with 69 unhealthy days. The top ranking area in the nation was Riverside-San Bernardino, California, which recorded 445 unhealthy air quality days for the same time period, significantly higher than both the Chicago and St. Louis regions.

The Illinois Environmental Protection Agency has monitored air pollution levels for more than twenty years, and recognized the on-going trend of decreased ozone and fine particulate matter levels. However, work must continue to further improve air quality for all Illinois residents.

Since the formation of the Illinois EPA in 1970, the Agency has been commitment to improving air quality. In addition to the Agency main role as a regulator of air pollution sources, it continues to develop other initiatives to further reduce air pollution. Two of the well-recognized programs include Ozone Action Days and Green Pays on Green Days. Both programs were

created by the Illinois EPA and the Partners for Clean Air coalition to encourage individual citizens and businesses to pledge to reduce pollution when ozone levels are high. As a result of such programs, it is estimated that volatile organic compounds are reduced by more than 20 tons per day.

The 2002 Annual Air Quality report is intended to provide information to businesses, organizations and individual citizens. Let us all recognize the achievements made in recent years and further commit to continue our work together to improve air quality in Illinois. Please contact the Illinois EPA with comments and/or questions regarding this report or air pollution control programs.

Renee Cipriano
Director

Illinois Annual Air Quality Report 2002

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2002
EXECUTIVE SUMMARY

This report presents a summary of air quality data collected throughout the State of Illinois during the calendar year - 2002. 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 2002 was either good or moderate more than 89% of the time throughout Illinois. There were 4 days (all due to ozone) when air quality in some part of Illinois was considered Unhealthy (category Red). Additionally, there were 34 days (30 for 8-hour ozone and 11 for $PM_{2.5}$, 7 days were high for both ozone and $PM_{2.5}$) when air quality in some part of Illinois was considered Unhealthy for Sensitive Groups (category Orange). This compares with 40 Unhealthy for Sensitive Groups days in 2001. The increase in unhealthy ozone days (34 in 2002 versus 17 in 2001) is primarily due to 2002 being more conducive than normal in terms of weather patterns associated with elevated ozone 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 1993 – 2002 are as follows: Particulate Matter (PM_{10}) 11% decrease, Sulfur Dioxide 31% decrease, Nitrogen Dioxide 4% decrease, Carbon Monoxide 44% decrease, Lead 53% decrease, and Ozone 6% 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, 2002. Emission estimates are for the calendar year 2001 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 10 micrometers (PM_{10})	Annual Arithmetic Mean	50 ug/m^3	Same as Primary
	24-hour	150 ug/m^3	Same as Primary
Particulate Matter 2.5 micrometers ($PM_{2.5}$)	Annual Arithmetic Mean	15.0 ug/m^3	Same as Primary
	24-hour	65 ug/m^3	Same as Primary
Sulfur dioxide	Annual Arithmetic Mean	0.03 ppm	None
	24-hour	0.14 ppm	None
	3-hour	None	0.5 ppm
Carbon Monoxide	1-hour	35 ppm	Same as Primary
	8-hour	9 ppm	Same as Primary
Ozone	1-hour/day	0.12 ppm	Same as Primary
	8-hour/day	0.08 ppm	Same as Primary
Nitrogen Dioxide	Annual Arithmetic Mean	0.053 ppm	Same as Primary
Lead	Quarterly Arithmetic Mean	1.5 ug/m^3	Same as Primary

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

Table 2: Illinois Air Pollution Episode Levels

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

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SECTION 2: STATEWIDE SUMMARY OF AIR QUALITY FOR 2002

OZONE

Monitoring was conducted at 40 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-Truman site was discontinued.

Five sites (Zion(3), Jerseyville(1), Chicago - Jardine(1), Maryville(1) and Waukegan(1)) recorded hourly concentrations above the 0.12 parts per million (ppm) 1-hour standard. The highest 1-hour concentration was 0.136 ppm in Zion compared with a statewide high 1-hour value of 0.131 ppm in 2001. The highest value recorded in the Metro-east area was 0.135 ppm recorded in Maryville compared with a high in 2001 of 0.131 ppm in Jerseyville.

Data is also presented to compare with the 8-hour standard of 0.08 ppm. The appropriate statistic for comparison with the 8-hour Standard is the fourth highest value, which is averaged over a three year period. A total of 24 sites in Illinois had fourth high values above 0.08 ppm in 2002 compared with only 2 sites in 2001. The highest fourth high value was 0.100 ppm at Jerseyville and Zion. For the three year period 2000 – 2002, three sites (Chicago-SWFP, East St. Louis, 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 1993-2002. The graph shows a great deal of year-to-year fluctuation and a fairly flat 10-year trend and slightly downward since 1995 even with the increase in 2002. The Statewide average for 2002 was 0.109 ppm compared with 0.099 ppm in 2001 and 0.092 ppm in 2000.

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

Figure 1
Average 1-Hour Ozone
Maximum (ppm)

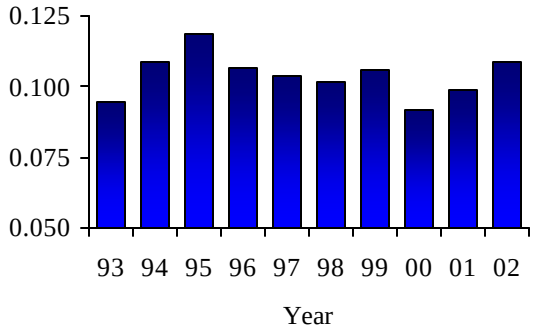


Figure 2
Statewide Ozone 1-Hour
Exceedance Day Trend

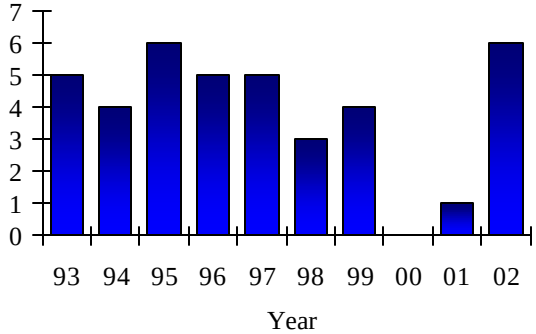


Figure 2 shows the trend of the total number of days on which one or more sites exceeded the ozone standard in Illinois for the same period 1993-2002. This trend is generally flat with a downward trend since 1995.

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

June and July were the most conducive months in terms of meteorological conditions Statewide. In terms of conducive days, the Chicago area had 35% above the normal number and the Metro-East area had 10% above 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 1993-2002. The Statewide average in 2002 was 27 ug/m^3 compared with 28 ug/m^3 in 2001 and 29 ug/m^3 in 2000.

For PM_{10} the Statewide average of the maximum 24-hour averages in 2002 was 78 ug/m^3 compared with 79 ug/m^3 in 2001 and 89 ug/m^3 in 2000. **Figure 4** depicts this trend for the period 1993-2002.

No sites exceeded the primary annual standard of 50 ug/m^3. The highest annual average was 46 ug/m^3 in Granite City - 2040 Washington. The lowest annual was 18 ug/m^3 in and Nilwood. There were no exceedances 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 138 ug/m^3 compared with a high 24-hour value of 157 ug/m^3 at the same site in 2001.

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

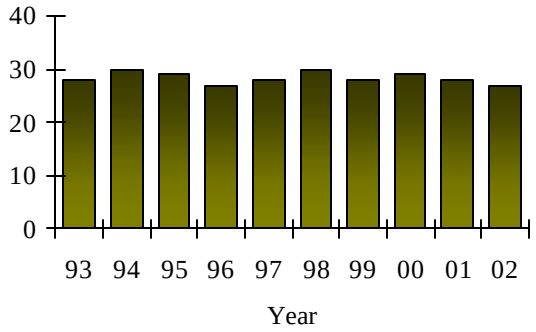
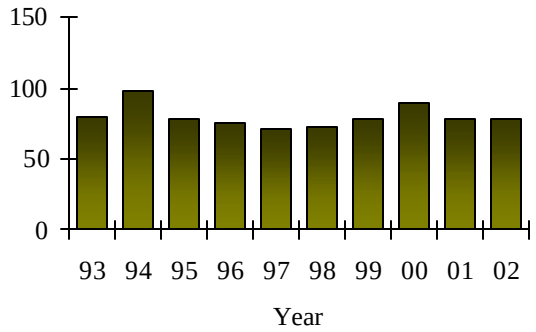


Figure 4
Particulate Matter (PM10) 24-Hour Trends (ug/m3)



In addition to PM_{10}, Federal Reference Method (FRM) monitoring was conducted at 35 sites for $PM_{2.5}$. Valid annual averages were obtained for 34 of the 35 sites. A total of 14 sites recorded averages above 15.0 ug/m^3, the level of the annual standard compared with 16 sites in 2001 and 17 sites in 2000. The Statewide average of annual averages was 14.9 ug/m^3 in 2002 compared with 15.5 ug/m^3 in 2001 and 15.3 ug/m^3 in 2000. There were two exceedances of the 24-hour standard of 65 ug/m^3 in 2002, one

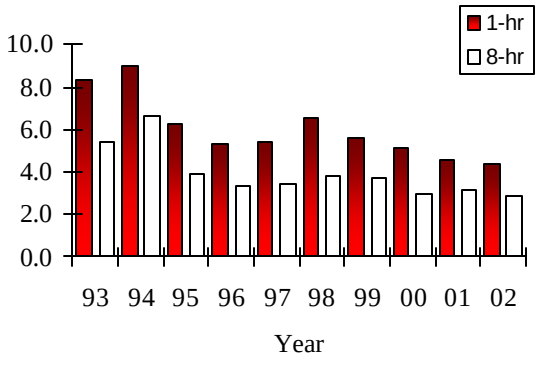
each in East St. Louis and Swansea on July 4. The Statewide peak of 88.8 ug/m^3 was recorded in East St. Louis. The Statewide average of the 98th percentile of 24-hour averages was 33.9 ug/m^3 in 2002 compared with 35.5 ug/m^3 in 2001 and 34.1 ug/m^3 in 2000.

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 2002. The highest 1-hour average was 7.1 ppm recorded in Springfield. The highest 8-hour average was 4.3 ppm recorded in Maywood.

Figure 5 shows the trend for the period 1993-2002 for the statewide average of the 1-hour and 8-hour high CO values. The overall trend for both averages is downward. The statewide average of the 1-hour high was 4.4 ppm in 2002 compared with 4.6 ppm in 2001. The statewide average for the 8-hour high was 2.9 ppm in 2002 compared with 3.2 ppm in 2001.

Figure 5
Carbon Monoxide Trends (ppm)

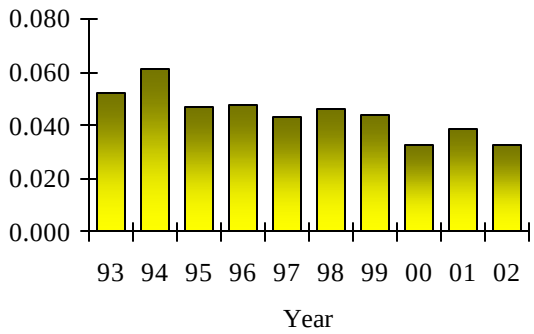


SULFUR DIOXIDE

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 2002.

The maximum 24-hour average was a value of 0.074 ppm recorded in Pekins. This compares with a high 24-hour average in 2001 of 0.103 ppm. The highest 3-hour average of 0.206 ppm was recorded in Pekin. The Statewide annual average for 2002 was 0.004 ppm. The Statewide average in 2001 was 0.005 ppm.

Figure 6
Sulfur Dioxide 24-Hour Trends
(ppm)



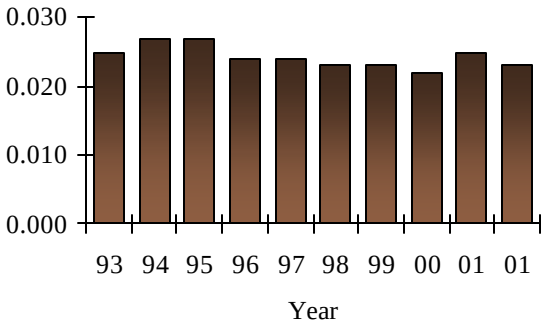
Since 1984 that Statewide trend of annual averages has been flat, ranging from 0.009 ppm to 0.005 ppm. **Figure 6** shows the statewide trend for the maximum 24-hour averages for the period 1992-2001. The 24-hour average trend has been overall downward; however a greater degree of year-to-year fluctuations 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 2002 was 0.023 ppm compared with 0.025 ppm in 2001 and 0.022 ppm in 2000.

Three sites only operated during part of the ozone season as PAMS. **Figure 7** depicts the trend of statewide averages from 1993-2002. 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.

There were no violations of the Quarterly lead Standard of 1.5 ug/m3. The highest quarterly lead average in 2002 was 0.05 ug/m3 recorded at Granite City - 15th & Madison.

Figure 8
Lead Maximum Quarterly Trend
(ug/m3)

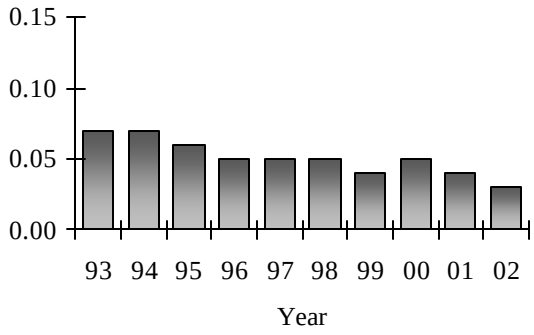


Figure 8 shows the trend of the statewide maximum quarterly average from 1993-2002. The trend shows that ambient lead levels have decreased by over 50% during the period.

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 0.054 ug/m^3 measured in Granite City. The highest annual average of 0.002 ug/m^3 was recorded at the same site and numerous others. 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 0.046 ug/m^3 and the highest annual average of 0.002 ug/m^3 . The highest 24-hour chromium average was 0.037 ug/m^3 recorded at Maywood and Summit. Maywood and Summit had the highest annual average at 0.013 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 Alsip with a value of 0.028 ug/m^3. The highest annual average was in Maywood with an average of 0.009 ug/m^3. For nitrates the highest 24-hour average was 21.6 ug/m^3 recorded at Chicago - Mayfair. The highest annual average was 6.5 ug/m^3 at Schiller Park. For sulfates the highest 24-hour average was 21.7 ug/m^3 recorded at East St. Louis. The highest annual average was 9.9 ug/m^3 at Maywood.

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.

Sampling was conducted for the period June - August. Automated Gas Chromatograph (GC) systems providing hourly data were located at all three 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 2002 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 M/P Xylene, Isopentane, Ethane, Propane, Toluene, 2,2,4 Trimethylpentane, and N-Butane. The lowest compounds were Isoprene, Methylheptanes, Ethyltoluenes, Diethylbenzenes, Butenes, and Pentenes. The highest compounds for 24-hour and seasonal averages at Northbrook were Isopentane, Ethane, Toluene, 2,2,4 Trimethylpentane, Formaldehyde, Isoprene, N-Butane, and Propane. The lowest compounds were Butenes, Pentenes, Methylheptanes, Diethylbenzenes, and Ethyltoluenes. The highest compounds for 24-hour and seasonal averages at Zion were Isoprene, Ethane, Propane, Toluene, Isopentane, and 1,2,4 - Trimethylbenzene. The lowest compounds were Butenes, Pentenes, Methylheptanes, Diethylbenzenes, and Ethyltoluenes.

TOXIC COMPOUNDS

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

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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 2002. An index such as the AQI is necessary because there are several air pollutants, each with different typical ambient concentrations and each with different levels of harm, and to report actual concentrations for all of them would be confusing. The AQI uses a single number and a short descriptor to define the air quality in an easy-to-remember and easy-to-understand way, taking all the pollutants into account.

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

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

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

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

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

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

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

Table 3: AQI Descriptor Categories and Health Effects

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

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

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.

2002 Illinois AQI Summary

In order to present a more representative AQI, 24-hour calendar day $PM_{2.5}$ values from the total network were used to determine the percentages in **Figure 9** even though these values were not available for issuing the daily AQI. Air quality was still in the "Good" category most often in 2002. 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 7 occurrences of Unhealthy and 99 occurrences of Unhealthy for Sensitive Groups air quality in in 2002. The sector breakdown for Unhealthy was 3 in Lake County, 2 in Metro East and 1 each in Chicago and North & West Suburbs. The sector breakdown for Unhealthy for Sensitive Groups was 22 in Metro-East, 16 in Chicago, 15 in the North & West Suburbs, 10 in Will County, 9 in South & West Suburbs, 8 in Lake County, 5 in Bloomington-Normal, 4 in Aurora-Elgin, 4 in Decatur, 3 in Peoria, 2 in Rockford and 1 in Champaign-Urbana. Outside of AQI sectors there were 3 additional occurrences of Unhealthy and 14 additional occurrences of Unhealthy for Sensitive Groups. **Figure 9** presents the AQI statistics for each sector. The pie chart shows the percent of time each sector was in a particular category.

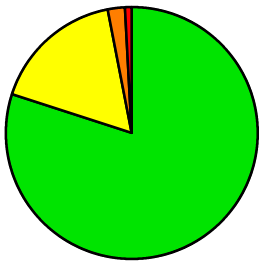
In 2002 three ozone advisories were issued in the State, all in the Chicago Metropolitan area.. An Advisory is declared when ozone levels have reached the level of the 1-hour standard (0.12 ppm) on a particular day and meteorological conditions are such that these levels are expected again the next day.

Table 4: AQI Sectors in Illinois

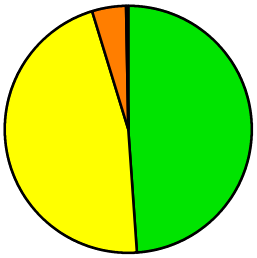
Chicago Metropolitan Area:	
Lake County Sector	Lake County only
North and West Suburbs Sector	Parts of Cook, Du Page, and Mc Henry Counties north of I-290 (the Eisenhower Expressway) and outside of Chicago city limits.
Chicago Sector	All areas within the city limits of Chicago
South and West Suburbs 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: 2002 Air Quality Index Summaries by Sector

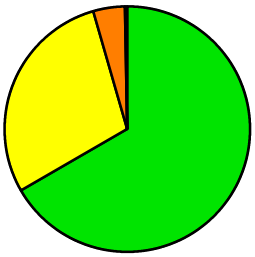
Chicago Sector - Lake County



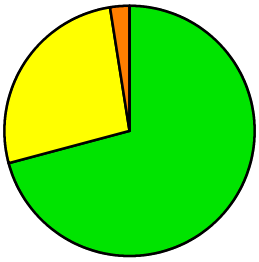
Chicago Sector - Chicago



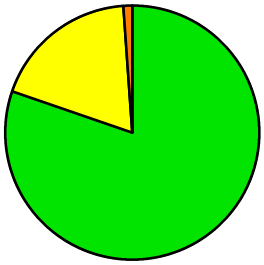
Chicago Sector - North & West Suburbs



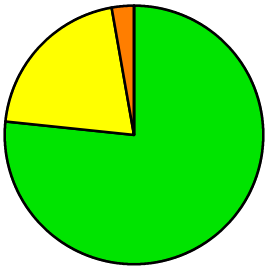
Chicago Sector - South & West Suburbs



Aurora - Elgin



Joliet/Will County



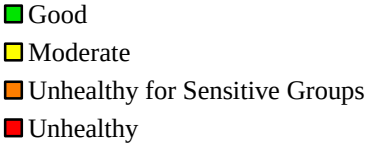


Figure 9: 2002 Air Quality Index Summaries by Sector

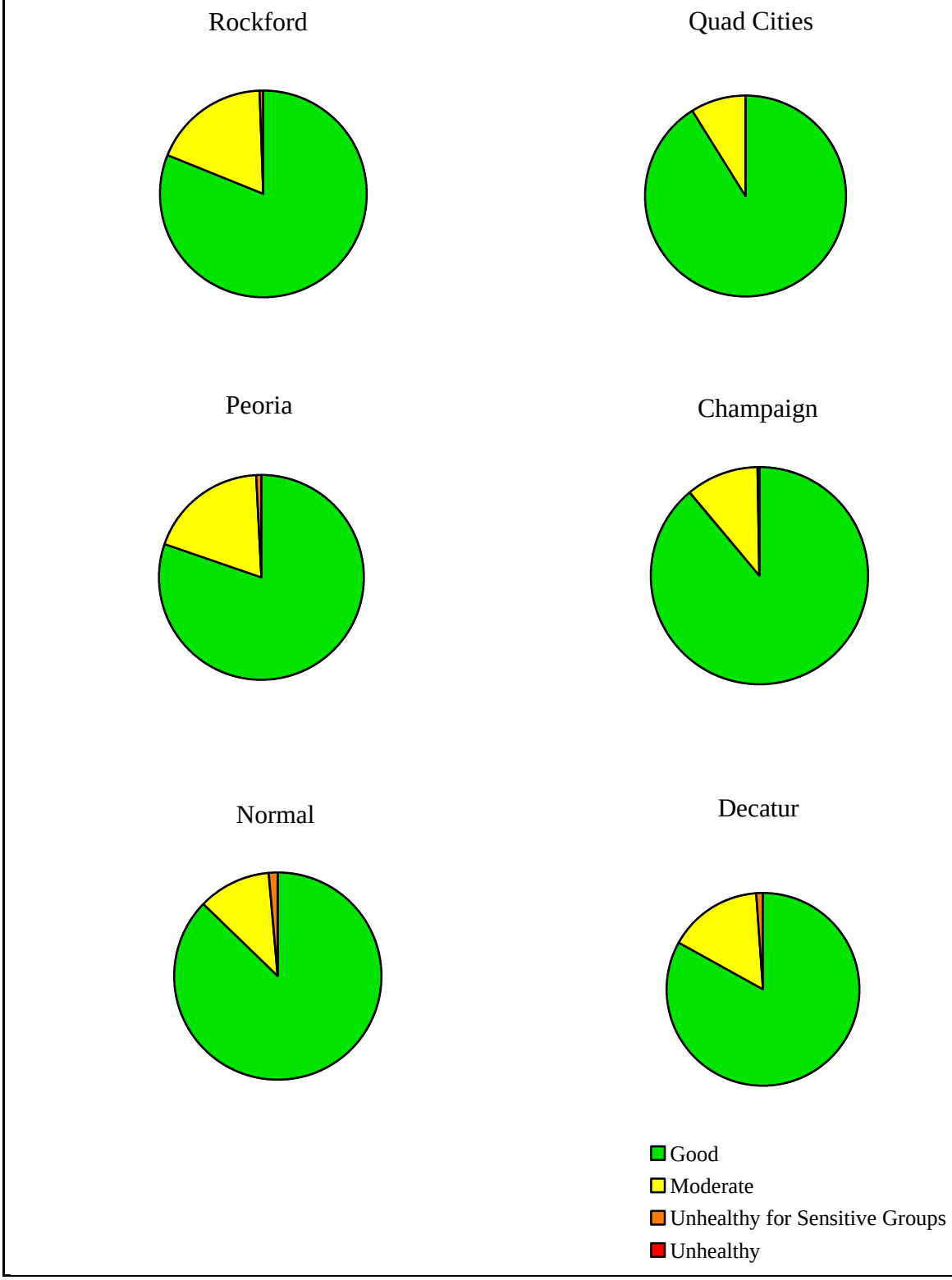


Figure 9: 2002 Air Quality Index Summaries by Sector

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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 2002. 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)

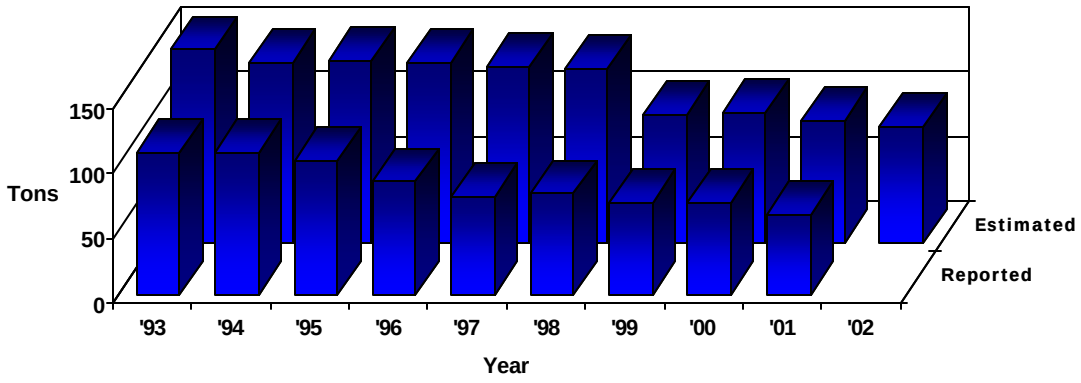


Table 5: Volatile Organic Material Emissions - 2002

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Surface Coating Operations	17,979.3	20.0%	20.0%
Chemical Manufacturing	12,698.4	14.1%	34.1
Food/Agriculture	10,503.8	11.7%	45.8
Printing/Publishing	9,012.0	10.0%	55.8
Petroleum Industry	5,197.5	5.8%	61.5
Rubber and Plastic Products	5,061.1	5.6%	67.2
Petroleum Product Storage	5,058.6	5.6%	72.8
Fuel Combustion	4,284.2	4.8%	77.5
Organic Solvent Evaporation	3,537.6	3.9%	81.5
Bulk Terminal/Plants	2,402.2	2.7%	84.1
Secondary Metal Production	1,914.9	2.1%	86.3
Mineral Products	1,694.3	1.9%	88.1
Fabricated Metal Products	1,545.4	1.7%	89.9
Petroleum Marketing/Transport	1,519.7	1.7%	91.6
Organic Solvent Use	1,403.8	1.6%	93.1
Organic Chemical Storage	1,222.3	1.4%	94.5
Site Remediation	990.7	1.1%	95.6
All Other Categories	3,982.3	4.4%	100.0%

PARTICULATE MATTER

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

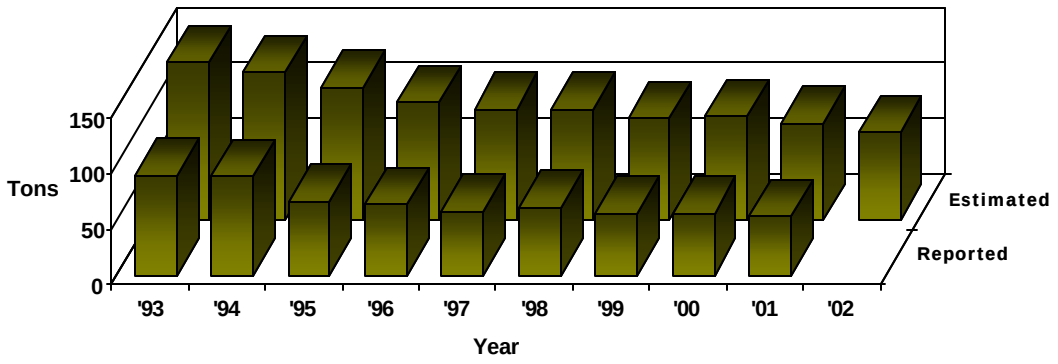


Table 6: Distribution of Particulate Matter Emissions - 2002

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	20,621.9	26.1%	26.1%
Mineral Products	19,984.3	25.3%	51.3%
Food/Agriculture	18,919.3	23.9%	75.2%
Secondary Metal Production	4,728.6	6.0%	81.2%
Primary Metal Production	3,897.2	4.9%	86.1%
Chemical Manufacturing	3,253.8	4.1%	90.2%
Petroleum Industry	2,442.1	3.1%	93.3%
Fabricated Metal Products	943.0	1.2%	94.5%
Solid Waste Disposal	888.3	1.1%	95.6%
Surface Coating Operations	642.0	0.8%	96.4%
Rubber and Plastic Products	580.4	0.7%	97.2%
All Other Categories	2,240.0	2.8%	100.0%

CARBON MONOXIDE

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

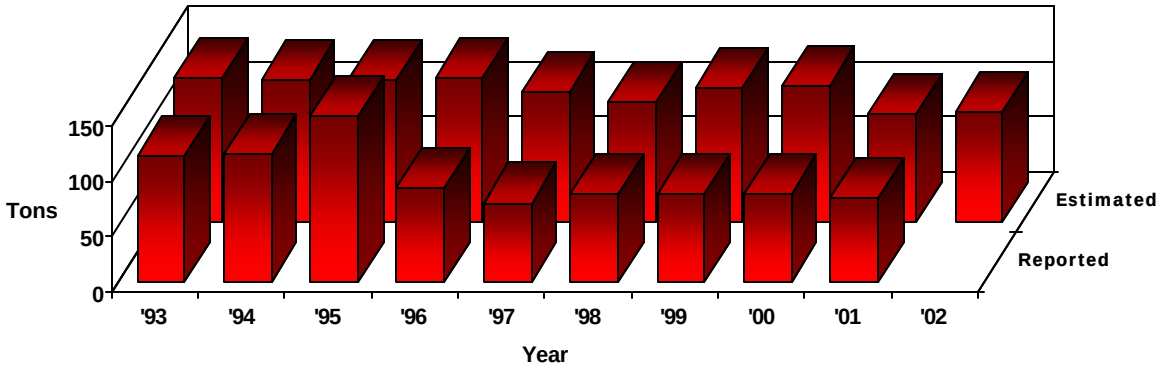


Table 7: Distribution of Carbon Monoxide Emissions - 2002

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	35,023.3	35.3%	35.3%
Primary Metal Production	23,021.0	23.2%	58.5%
Chemical Manufacturing	12,618.8	12.7%	71.3%
Mineral Products	9,158.7	9.2%	80.5%
Petroleum Industry	5,363.6	5.4%	85.9%
Solid Waste Disposal	4,811.4	4.9%	90.7%
Secondary Metal Production	3,198.0	3.2%	94.0%
Fabricated Metal Products	1,307.3	1.3%	95.3%
In-Process Fuel Use	1,258.4	1.3%	96.6%
Food/Agriculture	1,063.5	1.1%	97.6%
All Other Categories	2,349.4	2.4%	100.0%

SULFUR DIOXIDE

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

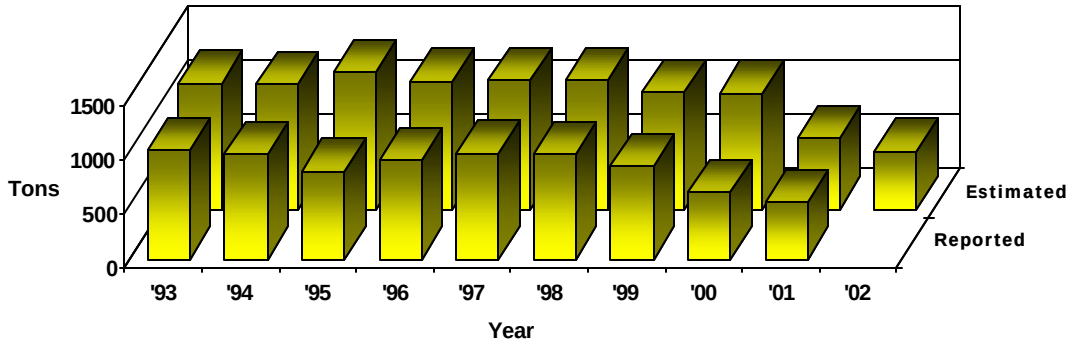


Table 8: Distribution of Sulfur Dioxide Emissions - 2002

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	430,569.1	81.0%	81.0%
Petroleum Industry	62,241.0	11.7%	92.7%
Chemical Manufacturing	13,946.0	2.6%	95.4%
Mineral Products	13,918.1	2.6%	98.0%
Primary Metal Production	6,342.7	1.2%	99.2%
All Other Categories	4,325.8	0.8%	100.0%

NITROGEN OXIDES

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

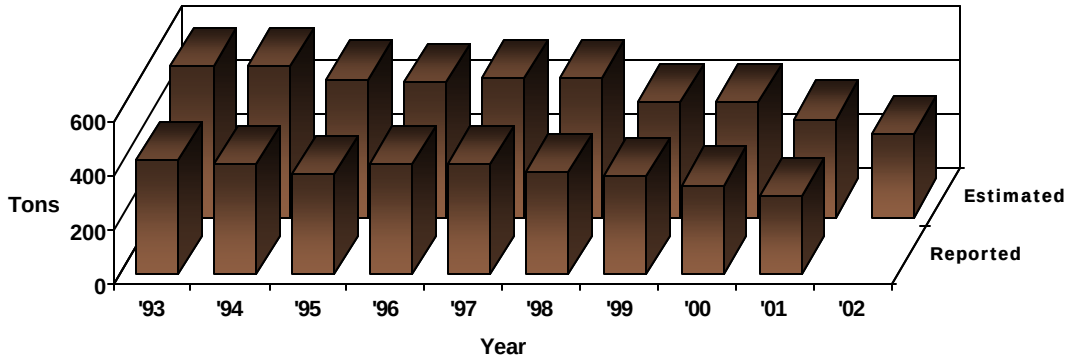


Table 9: Distribution of Nitrogen Oxide Emissions - 2002

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	254,617.7	84.5%	84.5%
Petroleum Industry	15,737.0	5.2%	89.8%
Mineral Products	15,278.5	5.1%	94.8%
Primary Metal Production	3,620.2	1.2%	96.0%
In-Process Fuel Use	2,665.2	0.9%	96.9%
Solid Waste Disposal	2,015.7	0.7%	97.6%
Secondary Metal Production	1,853.9	0.6%	98.2%
Chemical Manufacturing	1,362.1	0.5%	98.7%
Food/Agriculture	924.8	0.3%	99.0%
All Other Categories	3,140.6	1.0%	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 2002.

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

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

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

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

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

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

   d. To determine general background concentration levels.

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

   a. To measure expected maximum concentrations.

TABLE A1

DIRECTORY OF REGIONAL AIR POLLUTION AGENCIES

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

Cook County Department of
Environmental Control
69 W. Washington, Suite 1900
Chicago, Illinois 60602
312/603-8200
Fax 312/603-9828

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

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

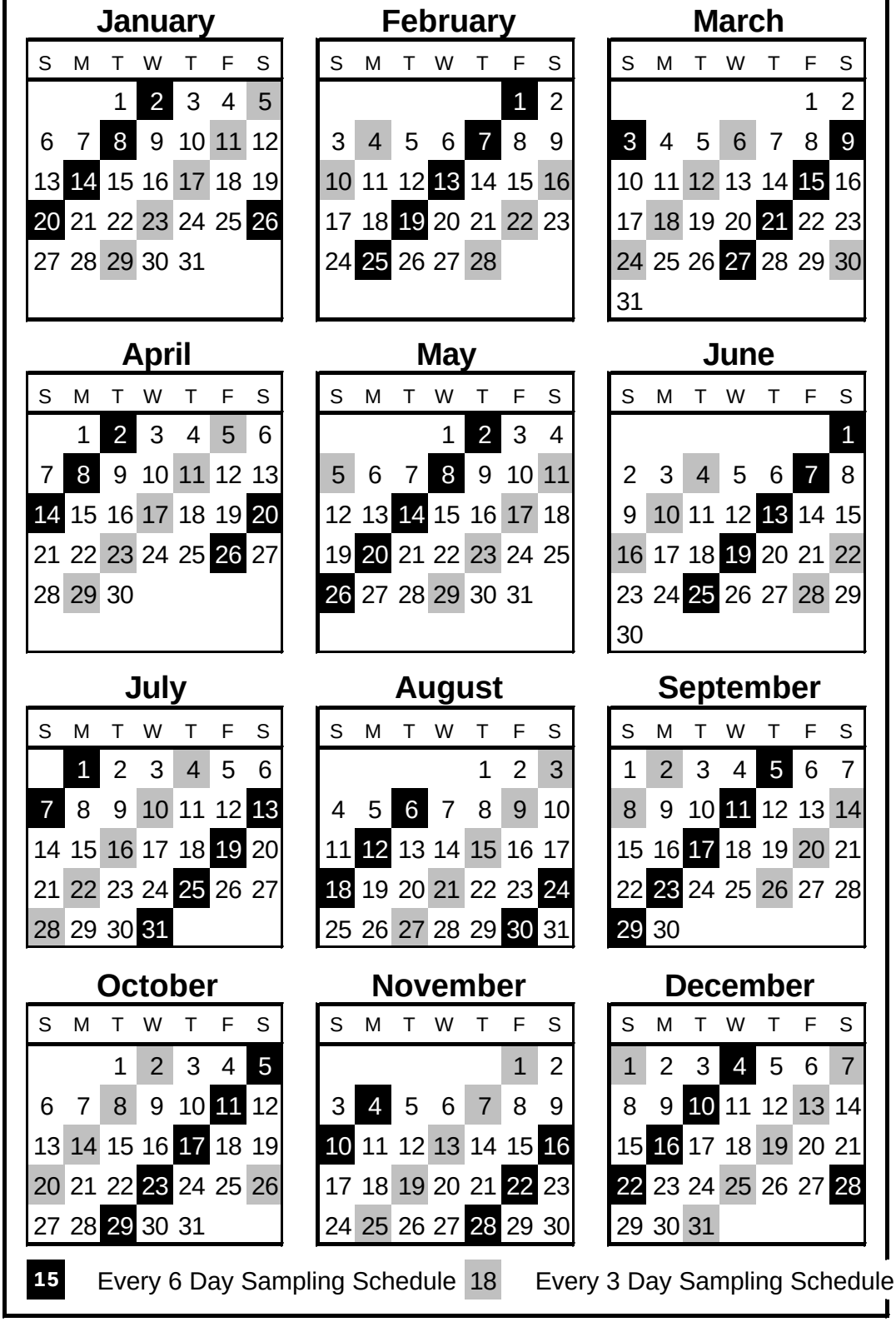
Kentucky Dept. for Environmental
Protection
Air Quality Division
803 Schenkel Lane
Frankfort, Kentucky 40601
502/573-3382
Fax 502/573-3787

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

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

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

2002 - Noncontinous Sampling Schedule



15 Every 6 Day Sampling Schedule 18 Every 3 Day Sampling Schedule

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

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

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

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

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

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

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

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

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

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

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

c. To provide data on noncriteria pollutants.

Table A3

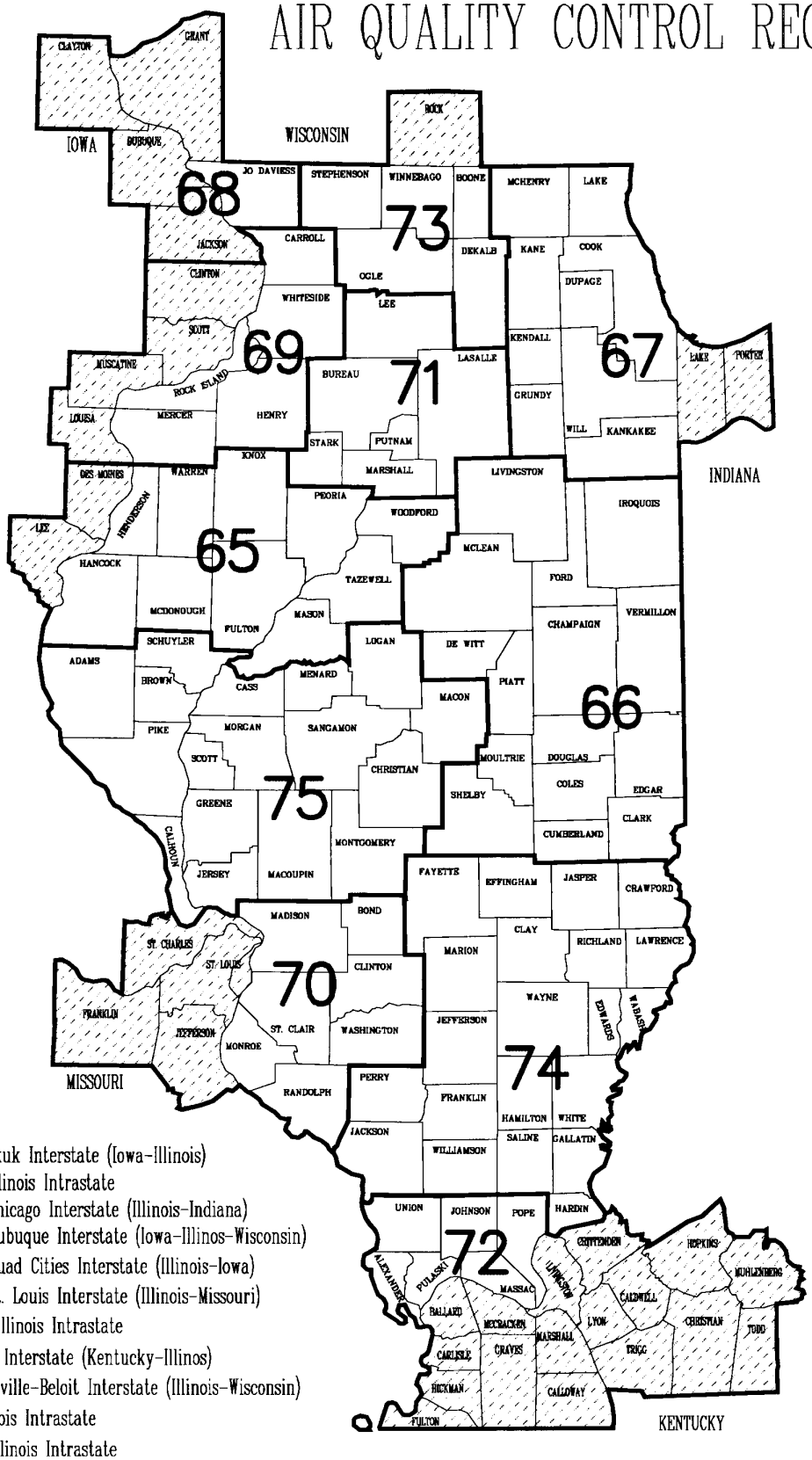
DISTRIBUTION OF AIR MONITORING INSTRUMENTS

	PAMS	NAMS	SLAMS	SPMS	TOTAL
Particulate Matter ($PM_{2.5}$)	0	0	35	0	35
Particulate Matter (PM_{10})	0	8	8	0	16
Total Suspended Particulates (TSP)	0	0	0	11	11
Lead	0	2	10	0	12
Sulfur Dioxide	0	10	11	2	23
Nitrogen Dioxide	4	2	4	0	10
Ozone	4	9	27	1	41
Carbon Monoxide	0	2	7	0	9
Volatile Organic Compounds/Toxics	3	0	0	2	5
Wind Systems	4	0	0	22	26
Solar Radiation	4	0	0	5	9
Meteorological	4	0	0	0	4
Total	23	33	102	43	201

There were a few changes to the monitoring network from 2001 to 2002. Nitrogen dioxide monitoring was discontinued at Chicago - Truman and a new nitrogen dioxide monitor was installed at Chicago - Com Ed. Ozone monitoring was discontinued at Chicago - Truman and Des Plaines - 1375 5th St. and a new ozone monitor was installed at Des Plaines - 9511 W. Harrison. The Chemetco lead network was discontinued. $PM_{2.5}$ speciation was implemented in Alton, Chicago - Com Ed and Chicago - Springfield. Analysis for toxic compounds was also started at Northbrook and Schiller Park.

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

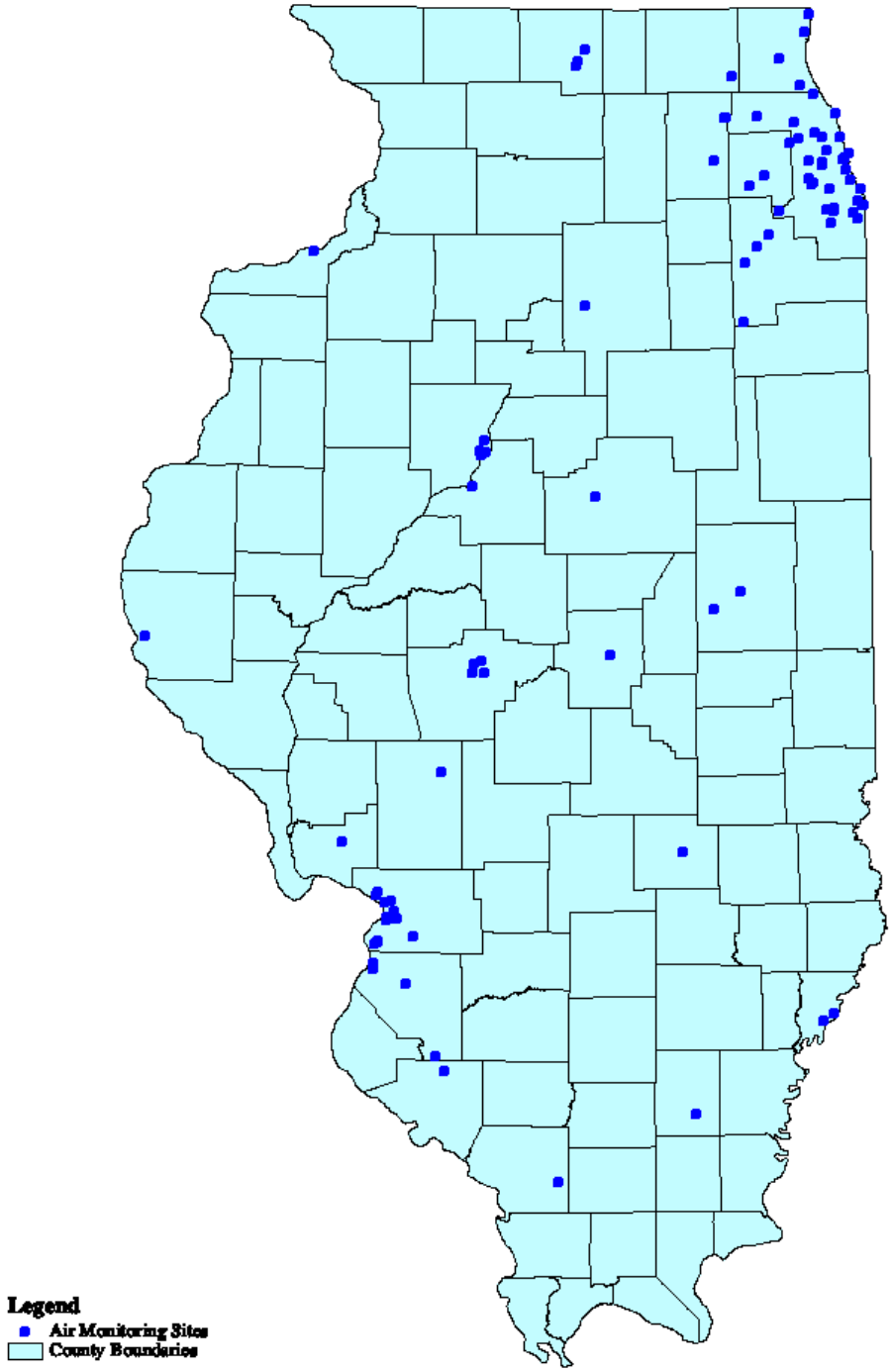


Table A4

2002
SITE DIRECTORY

CITY NAME / AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)				
PEORIA COUNTY				
Peoria	Fire Station #8	Ill. EPA	N. 4507.113	NAMS - SO_2, O_3
(1430024)	MacArthur & Hurlburt		E. 279.709	SPMS - WS/WD
Peoria	Commercial Building	Ill. EPA	N. 4508.534	SLAMS - CO
(1430036)	1005 N. University		E. 279.194	
Peoria	City Office Building	Ill. EPA	N. 4508.197	NAMS - PM_{10}
(1430037)	613 N.E. Jefferson		E. 281.675	SLAMS - Pb, $PM_{2.5}$
				SPMS - TSP
Peoria Heights	Peoria Heights H.S.	Ill. EPA	N. 4513.476	NAMS - O_3
(1431001)	508 E. Glen Ave.		E. 281.660	
TAZEWELL COUNTY				
Pekin	Fire Station #3	Ill. EPA	N. 4492.693	NAMS - SO_2
(1790004)	272 Derby		E. 275.291	
66 EAST CENTRAL ILLINOIS INTRASTATE				
CHAMPAIGN COUNTY				
Bondville	SWS Climate Station	Ill. EPA/SWS	N. 4434.201	SLAMS - $PM_{2.5}$
(0191001)	Twp. Rd. 500 E.		E. 382.959	
Champaign	Booker T. Washington Elem. Sch.	Ill. EPA	N. 4442.017	SLAMS - O_3, $PM_{2.5}$
(0190004)	606 E. Grove		E. 395.248	
McLEAN COUNTY				
Normal	University H.S.	Ill. EPA	N. 4486.625	SLAMS - $PM_{2.5}$
(1132002)	Main & Gregory		E. 330.925	
Normal	ISU Physical Plant	Ill. EPA	N. 4486.886	SLAMS – O_3
(1132003)	Main & Gregory		E. 330.771	
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)				
COOK COUNTY				
Alsip	Village Garage	Cook County DEC	N. 4613.287	SLAMS - O_3, Pb, PM_{10}
(0310001)	4500 W. 123rd St.		E. 439.015	SPMS - TSP, WS/WD,
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}
(0312002)	12700 Sacramento		E. 442.003	SLAMS - SO_2, $PM_{2.5}$

Table A4

2002
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Calumet City (DISC) (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. 4611.594 E. 450.911	NAMS - PM_{10}
Chicago (0310026)	Cermak Pump Sta. 735 W. Harrison	Cook County DEC	N. 4635.707 E. 446.469	SLAMS - Pb SPMS - TSP
Chicago (0310063)	CTA Building 320 S. Franklin	Ill. EPA	N. 4636.096 E. 447.365	NAMS - CO, NO/NO_2, SO2
Chicago (0310076)	Com Ed Maintenance Bldg. 7801 Lawndale	Cook County DEC	N. 4622.217 E. 440.658	SLAMS - $PM_{2.5}$/SPEC NO/NO_2^n SPMS – WS/WD
Chicago (0310014)	Farr Dormitory 3300 S. Michigan Ave.	Cook County DEC	N. 4631.367 E. 448.202	SLAMS - $PM_{2.5}$
Chicago (0310072)	Jardine Water Plant 1000 E. Ohio	Ill. EPA	N. 4638.169 E. 449.597	PAMS - NO/NO_2, O_3, VOC WS/WD, SOL, MET, UV, RAIN
Chicago (0310052)	Mayfair Pump Sta. 4850 Wilson Ave.	Cook County DEC	N. 4645.961 E. 437.866	NAMS - Pb SLAMS - $PM_{2.5}$ SPMS - TSP
Chicago (0310042)	Sears Tower Wacker @ Adams	Ill. EPA	N. 4636.320 E. 447.265	SPMS - O_3
Chicago (0310050)	Southeast Police Sta. 103rd & Luella	Cook County DEC	N. 4617.220 E. 452.700	NAMS - SO_2 SLAMS - O_3, $PM_{2.5}$
Chicago (0310032)	South Water Filtration Plant 3300 E. Cheltenham Pl.	Cook County DEC	N. 4622.596 E. 454.663	SLAMS - O_3
Chicago (0310057)	Springfield Pump Sta. 1745 N. Springfield. Ave.	Cook County DEC	N. 4640.189 E. 440.009	SLAMS - $PM_{2.5}$/SPEC
Chicago (0311003)	Taft H.S. 6545 W. Hurlbut St.	Cook County DEC	N. 4648.125 E. 434.392	SLAMS - O_3
Chicago (0310064)	University of Chicago 5720 S. Ellis Ave.	Cook County DEC	N. 4626.508 E. 450.010	SLAMS - O_3 SPMS - SOL
Chicago (0310022)	Washington H.S. 3535 E. 114th St.	Cook County DEC	N. 4615.038 E. 455.155	SLAMS - Pb, $PM_{2.5}$, PM_{10} SPMS - TSP

Table A4

2002
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Cicero (0316005)	Liberty School 13th St. & 50th Ave.	Cook County DEC	N. 4634.780 E. 437.846	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 (0314007)	Regional Office Building 9511 W. Harrison St.	Ill EPA	N. 4656.615 E. 428.577	SLAMS - O_3^n,$PM_{2.5}$
Evanston (0317002)	Water Pumping Sta. 531 E. Lincoln	Ill. EPA	N. 4656.649 E. 444.221	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}^d
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 - $PM_{2.5}$ SPMS - Hg, TOX
Schiller Park (0313103)	IEPA Trailer 4743 Mannheim Rd.	Ill. EPA	N. 4646.084 E. 427.387	SLAMS - CO, NO/NO_2, Pb SPMS - TSP, TOX, 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
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. 4624.786 E. 404.208	SLAMS - $PM_{2.5}$

Table A4

2002
SITE DIRECTORY

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

Table A4

2002
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)				
MADISON COUNTY				
Alton (1190008)	Clara Barton Elem. Sch. 409 Main St.	Ill. EPA	N. 4308.245 E. 747.375	SLAMS - SO_2[d], O_3 SPMS - WS/WD[d]
Alton (1192009)	SIU Dental Clinic 1700 Annex. St.	Ill. EPA	N. 4309.690 E. 747.752	SLAMS - $PM_{2.5}$/SPEC
Edwardsville (1192007)	RAPS Trailer Poag Road	Ill. EPA	N. 4297.793 E. 757.118	SLAMS - O_3 SPMS - WS/WD, SOL
Granite City (1191007)	Fire Station #1 23rd & Madison	Ill. EPA	N. 4287.661 E. 748.745	SLAMS - $PM_{2.5}$
Granite City (1190010)	Air Products 15th & Madison	Ill. EPA	N. 4286.516 E. 747.561	NAMS - PM_{10} SLAMS - Pb SPMS - TSP
Granite City (1190023)	VFW Building 2040 Washington	Ill.EPA	N. 4287.099 E. 748.427	NAMS - PM_{10} SLAMS - $PM_{2.5}$
Maryville (1191009)	Southwest Cable TV 200 W. Division	Ill. EPA	N. 4290.382 E. 242.680	SLAMS - O_3 SPMS - WS/WD[d]
South Roxana (1191010)	S. Roxana Grade Sch. Michigan St.	Ill. EPA	N. 4301.623 E. 755.369	SLAMS - SO_2
Wood River (1193007)	Water Treatment Plant 54 N. Walcott	Ill. EPA	N. 4305.084 E. 751.138	NAMS - SO_2, O_3, PM_{10} SLAMS - Pb, $PM_{2.5}$ SPMS – TSP
Wood River (1193009)	VIM Test Station 1710 Vaughn Road	Ill. EPA	N. 4305.786 E. 754.204	SLAMS - SO_2
RANDOLPH COUNTY				
Houston (1570001)	Baldwin Site #2 County Rds. 25.0 N. & 23.5 E.	Ill. EPA	N. 4228.843 E. 255.741	SLAMS - SO_2, O_3, $PM_{2.5}$

Table A4

2002
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
ST. CLAIR COUNTY				
East St. Louis (1630010)	RAPS Trailer 13th & Tudor	Ill. EPA	N. 4277.363 E. 747.251	NAMS - SO_2, PM_{10} SLAMS - NO/NO_2, Pb, O_3, $PM_{2.5}$, CO SPMS - TSP, WS/WD
Sauget (DISC) (1631010)	IEPA Trailer Little Ave.	Ill. EPA	N. 4275.123 E. 746.921	SLAMS - SO_2
Swansea (1634001)	Village Maintenance Bldg. 1500 Caseyville Ave.	Ill. EPA	N. 4268.615 E. 239.086	SLAMS - $PM_{2.5}$
71 NORTH CENTRAL ILLINOIS INTRASTATE				
LA SALLE COUNTY				
Oglesby (0990007)	308 Portland Ave.	Ill. EPA	N. 4573.105 E. 328.412	SLAMS - PM_{10}, $PM_{2.5}$ SPMS - WS/WD
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)				
WINNEBAGO COUNTY				
Loves Park (2012002)	Maple Elem. Sch. 1405 Maple Ave.	Ill. EPA	N. 4688.756 E. 332.098	NAMS - O_3 SPMS - WS/WD
Rockford (2010009)	Walker Elem. Sch. 1500 Post St.	Ill. EPA	N. 4683.537 E. 328.760	NAMS - O_3
Rockford (2010010)	Fire Dept. Administration Bldg. 204 S. 1st St.	Ill. EPA	N. 4681.324 E. 327.670	SLAMS - $PM_{2.5}$
Rockford (2010011)	City Hall 425 E. State	Ill. EPA	N. 4681.390 E. 327.817	SLAMS - CO
74 SOUTHEAST ILLINOIS INTRASTATE				
EFFINGHAM COUNTY				
Effingham (0491001)	Central Junior H.S. Route 45 South	Ill. EPA	N. 4325.158 E. 365.999	SLAMS - O_3 SPMS - WS/WD, SOL
HAMILTON COUNTY				
Dale (0650001)	Dale Elem. School SR 142	Ill. EPA	N. 4206.452 E. 368.899	SLAMS - O_3

Table A4

2002
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
JACKSON COUNTY				
Carbondale (0770004)	Maintenance Bldg. 607 E. College	Ill. EPA SIU	N. 4177.180 E. 305.291	SLAMS - PM_{10}
WABASH COUNTY				
Mount Carmel (1850001)	Division St.	Public Service of Indiana	N. 4249.965 E. 432.444	SPMS - SO_2
Rural Wabash County (1851001)	South of SR-1	Public Service of Indiana	N. 4246.929 E. 427.104	SPMS - SO_2

75 WEST CENTRAL ILLINOIS INTRASTATE

ADAMS COUNTY				
Quincy (0010006)	St. Boniface Elem. Sch. 732 Hampshire	Ill. EPA	N. 4421.320 E. 636.351	SLAMS - $PM_{2.5}$, SO_2, O_3 SPMS - WS/WD
JERSEY COUNTY				
Jerseyville (0831001)	Illini Jr. H.S. Liberty St. & County Rd.	Ill. EPA	N. 4332.242 E. 731.369	SLAMS - O_3
MACON COUNTY				
Decatur (1150013)	IEPA Trailer 2200 N. 22nd	Ill. EPA	N. 4414.538 E. 335.308	NAMS - SO_2 SLAMS - O_3, $PM_{2.5}$ SPMS - WS/WD
MACOUPIN COUNTY				
Nilwood (1170002)	IEPA Trailer Heaton & Dubois	Ill. EPA	N. 4364.287 E. 258.053	SLAMS - O_3, SO_2, Pb,PM_{10} SPMS - TSP, WS/WD, SOL CO_2, UV
SANGAMON COUNTY				
Springfield (1670006)	Sewage Treatment Plant 3300 Mechanicsburg Rd.	Ill. EPA	N. 4408.650 E. 278.194	NAMS - SO_2 SPMS - WS/WD
Springfield (1670008)	Federal Building 6th St. & Monroe	Ill. EPA	N. 4408.623 E. 273.327	SLAMS - CO
Springfield (1670010)	Public Health Warehouse 2875 N. Dirksen Pkwy.	Ill. EPA	N. 4413.490 E. 277.134	SLAMS - O_3
Springfield (1670012)	Agriculture Building State Fair Grounds	Ill. EPA	N. 4412.240 E. 273.720	SLAMS - $PM_{2.5}$

Table A4

2002
SITE DIRECTORY

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

Summary of Equipment Codes for the Site Directory

TSP	- Total Suspended Particulates
PM_{10}	- Particulate Matter (10 microns or smaller)
$PM_{2.5}$	Particulate Matter (2.5 microns or smaller)
SPEC	- $PM_{2.5}$ Speciation
SO_2	- Sulfur Dioxide
NO	- Nitric Oxide
NO_2	- Nitrogen Dioxide
CO	- Carbon Monoxide
CO_2	- Carbon Dioxide
O_3	- Ozone
Pb	- Lead
VOC	- Volatile Organic Compounds
TOX	- Toxic Compounds
Hg	- Mercury
WS/WD	- Wind Speed and Wind Direction
SOL	- Total Solar Radiation
MET	- Temperature, Relative Humidity, Barometric Pressure
UV	- Ultra-violet Radiation
RAIN	- Rainfall
(n)	- Instrument installed during 2002
(d)	- Instrument removed during 2002
NEW	- Site started during 2002
DISC	- Site discontinued during or at the end of 2002

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 2002. In order to provide a balance between the respective quarters, each quarter should have at least 1300 hours which is 20% of the 75% minimum annual requirement. To calculate quarterly averages at sites which do not meet the annual criteria, 75% of the total possible observations in a quarter are needed, i.e., a minimum of 1647 hours of 2200 hours available. Monthly averages also require 75% of the total possible observations in a month, i.e., 540 hours as a minimum. Additionally, for short-term running averages (24 hour, 8 hour, 3 hour) 75% of the data during the particular time period is needed, i.e, 18 hours for a 24-hour average, 6 hours for an 8-hour average and 3 hours for a 3-hour average.

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

Data listed as not meeting the minimum statistical selection criteria in this report were so noted after evaluation using the criteria above. Although short term averages (3, 8, 24 hours) have been computed for certain sites not meeting the annual

criteria, these averages may not be representative of an entire year's air quality. In certain circumstances where even the 75% criteria is met, the number and/or magnitude of short term averages may not be directly comparable from one year to the next because of seasonal distributional differences.

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

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

National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO_2) and carbon monoxide (CO) have short-term standards for ambient air concentrations (24 hours or less) not to be exceeded more than once per year. Particulate Matter (PM_{10}) has a 24-hour standard which cannot average more than 1 over a three year period (total of 3 in three years). Particulate Matter ($PM_{2.5}$) has a 24-hour standard which is a 3-year average of each year's 98^{th} percentile values. In the case of ozone, the expected number of exceedances (one hour per day greater than 0.12 ppm) may not average more than one per year in any period of three consecutive years. The 8-hour ozone standard is concentration based and as such is the average of the fourth highest value each year over a three year period. The standards are promulgated in this manner in order to protect the public from excessive levels of pollution both in terms of acute and chronic health effects.

The following data tables detail and summarize air quality in Illinois in 2002. 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

2002
OZONE IN EXCESS OF THE PRIMARY STANDARD OF ONE HOUR PER DAY GREATER THAN 0.12 PARTS PER MILLION

STATION	ADDRESS	DATE	MAXIMUM VALUE (PPM)
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)			
COOK COUNTY			
Chicago - Jardine	1000 E. Ohio	June 24	0.127
LAKE COUNTY			
Waukegan	Golf & Jackson	August 11	0.125
Zion	Camp Logan	June 22	0.136
		June 23	0.126
		June 24	0.125
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)			
MADISON COUNTY			
Maryville	200 W. Division	July 7	0.135
75 WEST CENTRAL ILLINOIS INTRASTATE			
JERSEY COUNTY			
Jerseyville	Liberty St.	September 7	0.132

Table B1

2002
OZONE IN EXCESS OF THE 8-HOUR PRIMARY STANDARD OF 0.08 PARTS PER MILLION

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
June 8	Jerseyville	Liberty St.	0.092
	Normal	Main & Gregory	0.085
June 9	Alsip	4500 W. 123rd St.	0.088
	Cary	1st St. & Three Oaks	0.093
	Chicago - SWFP	3300 E. Cheltenham	0.086
	Chicago - Taft	6545 W. Hurlbut	0.094
	Des Plaines	9511 W. Harrison	0.090
	Elgin	665 Dundee	0.090
	Evanston	531 Lincoln	0.090
	Libertyville	1441 Lake St.	0.091
	Northbrook	750 Dundee Rd.	0.088
	Waukegan	Golf & Jackson	0.087
	Zion	Camp Logan	0.094
June 19	Alton	409 Main St.	0.087
	Houston	Twp Rds. 150 & 45	0.086
	Jerseyville	Liberty St.	0.091
	Zion	Camp Logan	0.087
June 20	Alton	409 Main St.	0.086
	Jerseyville	Liberty St.	0.100
	Nilwood	Heaton & DuBois	0.087
June 21	Alton	409 Main St.	0.094
	Dale	Route 142	0.089
	Jerseyville	Liberty St.	0.110
	Maryville	200 W. Division	0.088
	Nilwood	Heaton & DuBois	0.089
June 22	Alsip	4500 W. 123rd St.	0.096
	Alton	409 Main St.	0.102
	Braidwood	36400 S. Essex Rd.	0.088
	Champaign	606 E. Grove	0.090
	Chicago - SE	103rd & Luella	0.090
	Chicago - SWFP	3300 E. Cheltenham	0.091
	Chicago - University	5720 S. Ellis	0.085
	Dale	Route 142	0.091
	Decatur	2200 N. 22nd St.	0.094
	East St. Louis	13th & Tudor	0.093
	Edwardsville	Poag Road	0.091
	Effingham	Route 45 South	0.095
	Evanston	531 Lincoln	0.090
	Houston	Twp Rds. 150 & 45	0.093
	Jerseyville	Liberty St.	0.109
	Maryville	200 W. Division	0.096
	Nilwood	Heaton & DuBois	0.088
	Normal	Main & Gregory	0.085
	Wood River	54 N. Walcott	0.090
	Zion	Camp Logan	0.112
June 23	Alsip	4500 W. 123rd St.	0.093
	Alton	409 Main St.	0.093

Table B1

2002
OZONE IN EXCESS OF THE 8-HOUR PRIMARY STANDARD OF 0.08 PARTS PER MILLION

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
June 23	Braidwood	36400 S. Essex Rd.	0.086
	Cary	1st St. & Three Oaks	0.091
	Chicago - Jardine	100 E. Ohio	0.098
	Chicago - SWFP	3300 E. Cheltenham	0.100
	Chicago - Taft	6545 W. Hurlbut	0.093
	Chicago - University	5720 S. Ellis	0.090
	Cicero	1830 S. 51st Ave.	0.086
	Decatur	2200 N. 22nd St.	0.085
	Des Plaines	9511 W. Harrison	0.094
	Edwatdsville	Poag Road	0.087
	Evanston	531 Lincoln	0.105
	Elgin	665 Dundee	0.087
	Jerseyville	Liberty St.	0.099
	Lisle	Morton Arboretum	0.086
	Loves Park	1405 Maple	0.088
	Maryville	200 W. Division	0.089
	Normal	Main & Gregory	0.088
	Northbrook	750 Dundee Rd.	0.090
	Peoria Heights	508 E. Glen	0.093
	Quincy	13th & Tudor	0.087
	Rockford	1500 Post	0.092
	South Lockport	2021 Lawrence	0.086
	Waukegon	Golf & Jackson	0.106
	Wood River	54 N. Walcott	0.086
	Zion	Camp Logan	0.116
June 24	Alsip	4500 W. 123rd St.	0.094
	Cary	1st St. & Three Oaks	0.085
	Chicago - Jardine	100 E. Ohio	0.112
	Chicago - SE	103rd & Luella	0.088
	Chicago - SWFP	3300 E. Cheltenham	0.106
	Chicago - Taft	6545 W. Hurlbut	0.092
	Chicago - University	5720 S. Ellis	0.093
	Cicero	1830 S. 51st Ave.	0.087
	Des Plaines	9511 W. Harrison	0.093
	Evanston	531 Lincoln	0.095
	Libertyville	1441 Lake St.	0.087
	Northbrook	750 Dundee Rd.	0.096
	Peoria Heights	508 E. Glen	0.092
	Waukegan	Golf & Jackson	0.105
	Zion	Camp Logan	0.113
June 30	Zion	Camp Logan	0.092
July 4	Alton	409 Main St.	0.087
	East St. Louis	13th & Tudor	0.094
July 7	Alsip	4500 W. 123rd St.	0.093
	Braidwood	36400 S. Essex Rd.	0.087
	Chicago - Taft	6545 W. Hurlbut	0.089
	Des Plaines	9511 W. Harrison	0.093

Table B1

2002
OZONE IN EXCESS OF THE 8-HOUR PRIMARY STANDARD OF 0.08 PARTS PER MILLION

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
July 7	Lemont	729 Houston	0.091
	Libertyville	1441 Lake St.	0.085
	Lisle	Morton Arboretum	0.091
	Northbrook	750 Dundee Rd.	0.087
	South Lockport	2021 Lawrence	0.087
	Waukegan	Golf & Jackson	0.089
	Zion	Camp Logan	0.089
July 8	Alton	409 Main St.	0.092
	East St. Louis	Poag Road	0.102
	Edwardsville	Poag Road	0.104
	Maryville	200 W. Division	0.119
July 9	Maryville	200 W. Division	0.090
July 14	Alton	409 Main St.	0.085
	Braidwood	36400 S. Essex Rd.	0.095
	Chicago - Taft	6545 W. Hurlbut	0.088
	Des Plaines	9511 W. Harrison	0.086
	East St. Louis	13th & Tudor	0.085
	Quincy	13th & Tudor	0.087
July 15	Alton	409 Main St.	0.094
	Chicago - SWFP	3300 E. Cheltenham	0.092
	Chicago - Taft	6545 W. Hurlbut	0.097
	Dale	Route 142	0.085
	Decatur	2200 N. 22nd St.	0.088
	Des Plaines	9511 W. Harrison	0.093
	East St. Louis	13th & Tudor	0.103
	Edwardsville	Poag Road	0.096
	Evanston	531 Lincoln	0.090
	Lemont	729 Houston	0.096
	Maryville	200 W. Division	0.088
	Normal	Main & Gregory	0.086
	Northbrook	750 Dundee Rd.	0.086
	South Lockport	2021 Lawrence	0.088
July 16	Alton	409 Main St.	0.090
	Cary	1st St. & Three Oaks	0.090
	Chicago - SWFP	3300 E. Cheltenham	0.086
	Des Plaines	9511 W. Harrison	0.090
	Jerseyville	Liberty St.	0.088
	South Lockport	2021 Lawrence	0.085
July 17	Chicago - SWFP	3300 E. Cheltenham	0.088
July 18	Cary	1st St. & Three Oaks	0.088
	Chicago - SWFP	3300 E. Cheltenham	0.090
	Chicago - Taft	6545 W. Hurlbut	0.089
	Des Plaines	9511 W. Harrison	0.094
July 20	Alton	409 Main St.	0.091
	Des Plaines	9511 W. Harrison	0.087
	East St. Louis	13th & Tudor	0.086

Table B1

2002
OZONE IN EXCESS OF THE 8-HOUR
PRIMARY STANDARD OF 0.08 PARTS PER MILLION

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
July 25	Alton	Poag Road	0.085
July 26	Waukegan	Golf & Jackson	0.090
	Zion	Camp Logan	0.091
August 1	Alton	Poag Road	0.085
	Wood River	54 N. Walcott	0.092
August 3	Alton	409 Main St.	0.093
	Dale	Route 142	0.088
August 4	Alton	Poag Road	0.087
	East St. Louis	13th & Tudor	0.088
	Edwardsville	Poag Road	0.090
	Maryville	200 W. Division	0.090
August 9	Alton	409 Main St.	0.093
	Chicago - SWFP	3300 E. Cheltenham	0.085
	East St. Louis	13th & Tudor	0.089
	Edwardsville	Poag Road	0.085
	Houston	Twp Rds. 150 & 45	0.085
	Jerseyville	Liberty St.	0.090
	Maryville	200 W. Division	0.087
August 10	Alsip	4500 W. 123rd St.	0.094
	Alton	409 Main St.	0.090
	Braidwood	36400 S. Essex Rd.	0.086
	Chicago - Jardine	100 E. Ohio	0.085
	Chicago - SE	103rd & Luella	0.091
	Chicago - SWFP	3300 E. Cheltenham	0.096
	Chicago - Taft	6545 W. Hurlbut	0.085
	Chicago - University	5720 S. Ellis	0.087
	Edwardsville	Poag Road	0.085
	Evanston	531 Lincoln	0.087
	Nilwood	Heaton & DuBois	0.085
	South Lockport	2021 Lawrence	0.086
August 11	Chicago - SWFP	3300 E. Cheltenham	0.086
	Evanston	531 Lincoln	0.091
	Waukegan	Golf & Jackson	0.100
	Zion	Camp Logan	0.100
September 1	Alton	409 Main St.	0.086
September 6	Alton	409 Main St.	0.088
	Dale	Route 142	0.094
	Effingham	Route 45 South	0.090
	Houston	Twp Rds. 150 & 45	0.085
	Maryville	200 W. Division	0.087
September 7	Alsip	4500 W. 123rd St.	0.097
	Alton	409 Main St.	0.095
	Braidwood	36400 S. Essex Rd.	0.085
	Cary	1st St. & Three Oaks	0.091
	Chicago - SWFP	3300 E. Cheltenham	0.085
	Decatur	2200 N. 22nd St.	0.085

Table B1

2002
OZONE IN EXCESS OF THE 8-HOUR PRIMARY STANDARD OF 0.08 PARTS PER MILLION

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
September 7	Elgin	665 Dundee	0.086
	Jerseyville	Liberty St.	0.105
	Lemont	729 Houston	0.087
	Libertyville	1441 Lake St.	0.090
	Lisle	Morton Arboretum	0.087
	Loves Park	1405 Maple	0.086
	Maryville	200 W. Division	0.090
	Normal	Main & Gregory	0.085
	Peoria Heights	508 E. Glen	0.091
	South Lockport	2021 Lawrence	0.094
September 8	Alsip	4500 W. 123rd St.	0.092
	Chicago - Jardine	100 E. Ohio	0.097
	Chicago - SWFP	3300 E. Cheltenham	0.103
	Chicago - Taft	6545 W. Hurlbut	0.087
	Cicero	1830 S. 51st Ave.	0.086
	Dale	Route 142	0.086
	Evanston	531 Lincoln	0.092
	Libertyville	1441 Lake St.	0.091
	Waukegan	Golf & Jackson	0.090
September 9	Braidwood	36400 S. Essex Rd.	0.087
	Dale	Route 142	0.090
September 10	Dale	Route 142	0.086
	Houston	Twp Rds. 150 & 45	0.091
September 14	East St. Louis	13th & Tudor	0.089
	Edwardsville	Poag Road	0.086
	Maryville	200 W. Division	0.090

Table B2

2002
OZONE

STATION	ADDRESS	NUMBER OF DAYS GREATER THAN 0.12 PPM	NUMBER OF DAYS GREATER THAN 0.08 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	1-HOUR 2ND	1-HOUR 3RD	1-HOUR 4TH	8-HOUR 1ST	8-HOUR 2ND	8-HOUR 3RD	8-HOUR 4TH
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)											
PEORIA COUNTY											
Peoria	Hurlburt & MacArthur	0	0	0.094	0.093	0.092	0.089	0.083	0.082	0.082	0.081
Peoria Heights	508 E. Glen	0	5	0.104	0.102	0.100	0.095	0.093	0.092	0.091	0.084
66 EAST CENTRAL ILLINOIS INTRASTATE											
CHAMPAIGN COUNTY											
Champaign	606 E. Grove	0	1	0.092	0.091	0.088	0.087	0.090	0.083	0.083	0.082
McLEAN COUNTY											
Normal	Main & Gregory	0	8	0.095	0.092	0.091	0.090	0.088	0.086	0.085	0.085
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)											
COOK COUNTY											
Alsip	4500 W. 123rd St.	0	8	0.115	0.108	0.106	0.104	0.097	0.096	0.094	0.094
Calumet City	1703 State St.	0	0	0.094	0.091	0.090	0.088	0.079	0.078	0.076	0.074
Chicago - Jardine	1000 E. Ohio	1	4	0.127	0.113	0.103	0.103	0.112	0.098	0.097	0.085
Chicago - SE Police	103rd & Luella	0	3	0.102	0.100	0.100	0.097	0.091	0.090	0.088	0.084
Chicago - SWFP	3300 E Cheltenham	0	13	0.121	0.118	0.109	0.108	0.106	0.103	0.100	0.096
Chicago - Taft	6545 W. Hurlbut	0	9	0.109	0.104	0.104	0.103	0.097	0.094	0.093	0.092
Chicago - University	5720 S. Ellis	0	4	0.101	0.096	0.095	0.094	0.093	0.090	0.087	0.085
Cicero	1830 S. 51st Ave.	0	3	0.104	0.100	0.097	0.096	0.087	0.086	0.086	0.084
Des Plaines	9511 W. Harrison	0	9	0.115	0.111	0.108	0.107	0.094	0.094	0.093	0.093
Evanston	531 Lincoln	0	8	0.122	0.114	0.111	0.100	0.105	0.095	0.092	0.091
Lemont	729 Houston	0	3	0.110	0.101	0.097	0.094	0.096	0.091	0.087	0.081
Northbrook	750 Dundee Rd.	0	5	0.111	0.103	0.099	0.098	0.096	0.090	0.088	0.087
DuPAGE COUNTY											
Lisle	Morton Arboretum	0	3	0.114	0.104	0.103	0.102	0.091	0.087	0.086	0.084
KANE COUNTY											
Elgin	665 Dundee	0	3	0.103	0.099	0.095	0.093	0.090	0.087	0.086	0.082
LAKE COUNTY											
Libertyville	1441 Lake St.	0	5	0.112	0.104	0.101	0.101	0.091	0.091	0.090	0.087
Waukegan	Golf & Jackson	1	7	0.125	0.121	0.115	0.110	0.106	0.105	0.100	0.090
Zion	Camp Logan	3	9	0.136	0.126	0.125	0.117	0.116	0.113	0.112	0.100
McHENRY COUNTY											
Cary	1st St. & Three Oaks	0	6	0.110	0.102	0.099	0.098	0.093	0.091	0.091	0.090
WILL COUNTY											
Braidwood	36400 S. Essex Rd.	0	6	0.105	0.099	0.094	0.094	0.095	0.088	0.087	0.087
South Lockport	2021 Lawrence	0	7	0.107	0.104	0.097	0.096	0.094	0.088	0.087	0.086

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

Table B2

2002
OZONE

STATION	ADDRESS	NUMBER OF DAYS GREATER THAN 0.12 PPM	NUMBER OF DAYS GREATER THAN 0.08 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	1-HOUR 2ND	1-HOUR 3RD	1-HOUR 4TH	8-HOUR 1ST	8-HOUR 2ND	8-HOUR 3RD	8-HOUR 4TH
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)											
ROCK ISLAND COUNTY											
Rock Island	32 Rodman Ave.	0	0	0.090	0.086	0.082	0.079	0.084	0.079	0.072	0.072
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)											
MADISON COUNTY											
Alton	409 Main St.	0	20	0.115	0.113	0.112	0.110	0.102	0.095	0.094	0.094
Edwardsville	Poag Road	0	8	0.115	0.109	0.102	0.098	0.104	0.096	0.091	0.090
Maryville	200 W. Division	1	11	0.135	0.111	0.102	0.101	0.119	0.096	0.090	0.090
Wood River	54 N. Walcott	0	3	0.116	0.102	0.101	0.098	0.092	0.090	0.086	0.084
RANDOLPH COUNTY											
Houston	Twp Rds. 150 & 45	0	5	0.104	0.099	0.098	0.096	0.093	0.091	0.086	0.085
ST. CLAIR COUNTY											
East St. Louis	13th & Tudor	0	9	0.117	0.115	0.112	0.105	0.103	0.102	0.094	0.093
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)											
WINNEBAGO COUNTY											
Loves Park	1405 Maple	0	2	0.095	0.092	0.092	0.089	0.088	0.086	0.084	0.078
Rockford	1500 Post	0	1	0.097	0.091	0.090	0.089	0.092	0.084	0.084	0.079
74 SOUTHEAST ILLINOIS INTRASTATE											
EFFINGHAM COUNTY											
Effingham	Route 45 South	0	2	0.101	0.094	0.087	0.086	0.095	0.090	0.080	0.080
HAMILTON COUNTY											
Dale	Route 142	0	8	0.101	0.101	0.099	0.098	0.094	0.091	0.090	0.089
75 WEST CENTRAL ILLINOIS INTRASTATE											
ADAMS COUNTY											
Quincy	732 Hampshire	0	2	0.097	0.094	0.091	0.087	0.087	0.087	0.083	0.082
JERSEY COUNTY											
Jerseyville	Liberty St.	1	9	0.132	0.119	0.115	0.114	0.110	0.109	0.105	0.100
MACON COUNTY											
Decatur	2200 N. 22nd St.	0	4	0.102	0.094	0.093	0.093	0.094	0.088	0.085	0.085
MACOUPIN COUNTY											
Nilwood	Heaton & DuBois	0	4	0.099	0.097	0.095	0.093	0.089	0.088	0.087	0.085
SANGAMON COUNTY											
Springfield	2875 N. Dirksen	0	0	0.097	0.095	0.089	0.089	0.084	0.084	0.082	0.080

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

Table B3

2002

PARTICULATE MATTER (PM_{10})

(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	NUMBER OF SAMPLES >150 ug/m^3	HIGHEST SAMPLES 1st	HIGHEST SAMPLES 2nd	HIGHEST SAMPLES 3rd	HIGHEST SAMPLES 4th	ANNUAL ARITHMETIC MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	6-day	58	0	58	41	39	39	21
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd St.	6-day	60	0	50	46	40	39	23
Blue Island	12700 Sacramento	6-day	58	0	64	52	50	49	27
Chicago - Carver	13100 S. Doty	6-day	59	0	79	63	53	50	31
Chicago - Washington HS	3535 E. 114th St.	1-day	345	0	94	86	84	71	24
Hoffman Estates	1100 W. Higgins Rd.	6-day	58	0	71	67	57	54	24
Lyons Township	50th St. & Glencoe Ave.	1-day	342	0	107	106	106	102	36
Midlothian	15205 Crawford Ave.	6-day	57	0	50	44	41	40	23
Summit	60th St. & 74th Ave.	6-day	58	0	65	63	62	55	31
WILL COUNTY									
Joliet	Midland & Campbell Sts.	6-day	56	0	58	45	40	40	21
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	6-day	59	0	85	70	66	64	35
Granite City	2040 Washington	1-day	349	0	138	123	120	120	46
Wood River	54 N. Walcott	6-day	60	0	59	41	39	38	23
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	6-day	58	0	107	93	53	48	30
71 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	1-day	357	0	110	82	81	81	26
74 SOUTHEAST ILLINOIS INTRASTATE									
JACKSON COUNTY									
Carbondale	607 E. College	1-day	59	0	57	43	42	35	19
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & Dubois	6-day	58	0	63	40	35	33	18

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

Table B4

2002
SHORT-TERM TRENDS
PARTICULATE MATTER (PM_{10})

ANNUAL ARITHMETIC MEANS (ug/m^3)

STATION	ADDRESS	1997	1998	1999	2000	2001	2002
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	21	26	23	24	22	21
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	25	30	25	26	27	23
Blue Island	12700 Sacramento	28	33	30	30	28	27
Chicago - Carver	13100 S. Doty	31	58	32	+	35	31
Chicago - Washington HS	3535 E. 114th St.	+	33	-	-	28	24
Hoffman Estates	1100 W. Higgins Rd.	21	26	25	21	24	24
Lyons Township	50th St. & Glencoe Ave.	34	35	36	35	38	36
Midlothian	15205 Crawford Ave.	25	28	25	24	26	23
Summit	60th St. & 74th Ave.	37	35	34	32	+	31
WILL COUNTY							
Joliet	Midland & Campbell Sts.	23	23	23	+	24	21
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison	47	46	31	36	39	35
Granite City	2040 Washington	37	40	44	46	47	46
Wood River	54 N. Walcott	25	30	26	29	27	23
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	34	37	32	32	30	30
71 NORTH CENTRAL ILLINOIS INTRASTATE							
LASALLE COUNTY							
Oglesby	308 Portland Ave.	28	29	28	26	22	26
74 SOUTHEAST ILLINOIS INTRASTATE							
JACKSON COUNTY							
Carbondale	607 E. College	22	23	22	23	19	19
75 WEST CENTRAL ILLINOIS INTRASTATE							
MACOUPPIN COUNTY							
Nilwood	Heaton & Dubois	19	22	-	23	19	18

\- Station not in operation during the year.

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

Primary Annual Standard 50 ug/m^3

Table B5

2002
PARTICULATE MATTER ($PM_{2.5}$) VALUES IN EXCESS OF THE 24-HOUR PRIMARY STANDARD OF 65 MICROGRAMS PER CUBIC METER

STATION	ADDRESS	DATE	VALUE (ug/m^3)
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)			
ST. CLAIR COUNTY			
East St. Louis	13th & Tudor	July 4	88.8
Swansea	1500 Caseyville Ave.	July 4	73.8

Table B6

2002

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	111	0	36.8	35.3	33.6	29.6	13.9
66 EAST CENTRAL ILLINOIS INTRASTATE									
CHAMPAIGN COUNTY									
Bondville	Twp. Rd. 500 E.	6-day	53	0	23.5	23.2	21.4	19.9	12.2
Champaign	606 E. Grove	6-day	59	0	24.1	23.4	22.3	22.3	12.2
Mc LEAN COUNTY									
Normal	Main & Gregory	6-day	61	0	26.5	25.7	24.3	23.5	12.9
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Blue Island	12700 Sacramento	3-day	113	0	44.3	38.4	36.2	33.3	+
Chicago-Com Ed	7801 Lawndale	3-day	119	0	42.7	40.3	36.0	33.3	15.7
Chicago-Farr	3300 S. Michigan Ave.	3-day	115	0	43.9	38.5	37.2	34.4	15.5
Chicago-Mayfair	4850 Wilson Ave.	1-day	331	0	48.7	45.0	41.3	40.9	16.5
Chicago-SE Police	103rd & Luella	1-day	354	0	46.4	43.6	40.5	40.5	15.5
Chicado-Springfield	1745 N. Springfield Ave.	3-day	114	0	41.0	40.3	34.1	33.4	15.2
Chicago-Washington HS	3535 E. 114th St.	3-day	115	0	43.9	35.9	35.7	35.2	15.3
Cicero	13th St. & 50th Ave.	3-day	118	0	42.4	39.5	37.2	35.3	16.0
Des Plaines	9511 W. Harrison	3-day	122	0	43.1	36.5	34.9	27.9	14.4
Lyons Township	50th St. & Glencoe Ave.	3-day	116	0	46.0	43.8	41.4	40.1	17.7
Northbrook	750 Dundee Road	1-day	328	0	45.2	42.5	42.3	39.3	13.2
Summit	60th St. & 74th Ave.	3-day	114	0	45.2	40.3	37.3	35.4	16.1
Du PAGE COUNTY									
Naperville	400 S. Eagle St.	3-day	115	0	38.4	34.6	34.4	33.0	14.7
KANE COUNTY									
Elgin	258 Lovell St.	3-day	120	0	41.2	37.5	35.3	31.2	14.3
LAKE COUNTY									
Zion	Camp Logan	3-day	121	0	44.0	35.3	32.7	32.1	13.5
Mc HENRY COUNTY									
Cary	1st St. & Three Oaks Rd.	3-day	120	0	36.0	33.1	33.1	32.1	12.3
WILL COUNTY									
Braidwood	36400 S. Essex Rd.	6-day	61	0	34.6	32.0	25.7	24.4	13.5
Joliet	Midland & Campbell	3-day	122	0	40.8	35.1	33.7	32.4	14.4

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

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

Table B6

2002

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	NUMBER OF SAMPLES >65 ug/m^3	HIGHEST SAMPLES 1st	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	27.5	24.7	24.0	23.0	11.8
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	1700 Annex St.	3-day	118	0	37.5	37.4	34.5	33.1	14.7
Granite city	23rd & Madison	3-day	112	0	45.6	44.8	42.9	42.7	17.7
Granite City	2040 Washington	3-day	110	0	47.4	47.1	44.6	37.8	19.6
Wood River	54 N. Walcott	3-day	112	0	39.9	38.1	33.9	31.5	15.1
RANDOLPH COUNTY									
Houston	Twp Rds. 150 & 45	6-day	58	0	25.8	25.7	25.2	24.6	11.6
ST. CLAIR COUNTY									
East St. Louis	13th & Tudor	3-day	113	1	88.8	41.6	40.9	36.5	16.7
Swansea	1500 Caseyville Ave.	3-day	112	1	73.8	45.9	37.2	35.1	15.1
72 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	3-day	118	0	39.0	34.8	31.1	30.2	14.8
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)									
WINNEBAGO COUNTY									
Rockford	204 S. 1st St.	3-day	117	0	39.4	38.7	32.6	32.2	14.8
75 WEST CENTRAL ILLINOIS INTRASTATE									
ADAMS COUNTY									
Quincy	732 Hampshire	6-day	60	0	27.5	27.0	26.4	25.5	13.7
MACON COUNTY									
Decatur	2200 N. 22nd	3-day	112	0	38.2	36.2	33.9	30.8	14.1
SANGAMON COUNTY									
Springfield	State Fair Grounds	3-day	117	0	34.1	33.3	31.5	30.3	13.6

+ - 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

2002
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	8683	0	0	5.5	4.7	4.5	4.0	3.0	2.8
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)										
COOK COUNTY										
Calumet City	1703 State St.	8678	0	0	3.7	3.6	3.6	3.4	2.8	2.4
Chicago - CTA Building	320 S. Franklin	8702	0	0	3.0	3.0	2.8	2.1	2.0	1.5
Cicero	1830 S. 51st Ave.	8697	0	0	3.9	3.5	3.4	2.5	2.4	2.4
Maywood	1505 S. First Ave	8681	0	0	5.1	4.9	4.8	4.3	3.7	3.6
Schiller Park	4743 N. Mannheim	8665	0	0	4.6	3.5	3.0	2.0	1.9	1.7
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)										
St. CLAIR COUNTY										
East St. Louis	13th & Tudor	8568	0	0	3.5	3.4	3.4	2.8	2.6	2.3
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)										
WINNEBAGO COUNTY										
Rockford	425 E. State	8680	0	0	3.4	3.3	3.2	2.5	2.4	2.2
75 WEST CENTRAL ILLINOIS INTRASTATE										
SANGAMON COUNTY										
Springfield	6th & Monroe	8620	0	0	7.1	3.2	3.1	2.1	1.5	1.5

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

Table B9

2002
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	8376	0	0	0.145	0.108	0.059	0.042	0.005
TAZEWELL COUNTY									
Pekin	272 Derby	8583	0	0	0.206	0.204	0.074	0.047	0.005
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Bedford Park	7800 W. 65th St.	8604	0	0	0.095	0.058	0.032	0.030	0.006
Blue Island	12700 Sacramento	8554	0	0	0.030	0.027	0.027	0.021	0.004
Calumet City	1703 State St.	8664	0	0	0.048	0.028	0.016	0.009	0.003
Chicago - CTA	320 S. Franklin	8632	0	0	0.061	0.059	0.029	0.023	0.004
Chicago - SE Police	103rd & Luella	8700	0	0	0.036	0.035	0.017	0.016	0.002
Cicero	1830 S. 51st Ave.	8688	0	0	0.067	0.051	0.024	0.020	0.004
Lemont	729 Houston	8691	0	0	0.073	0.071	0.025	0.024	0.005
WILL COUNTY									
Joliet	Rte 6 & Young Rd.	8559	0	0	0.075	0.061	0.025	0.021	0.004
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	409 Main St.	8656	0	0	0.066	0.052	0.020	0.016	0.004
South Roxana	Michigan Ave.	8676	0	0	0.107	0.095	0.046	0.035	0.005
Wood River	54 N. Walcott	8673	0	0	0.067	0.056	0.018	0.018	0.004
Wood River	1710 Vaughn Rd.	8700	0	0	0.167	0.139	0.065	0.061	0.005
RANDOLPH COUNTY									
Houston	Twp Rd 150 & Twp Rd 45	8678	0	0	0.029	0.024	0.011	0.009	0.002
ST. CLAIR COUNTY									
East St. Louis	13th & Tudor	8653	0	0	0.191	0.168	0.066	0.044	0.005
Sauget	Little Ave.	8646	0	0	0.116	0.098	0.037	0.034	0.006
74 SOUTHEAST ILLINOIS INTRASTATE									
WABASH COUNTY									
Mount Carmel	Division St	8247	0	0	0.177	0.145	0.084	0.043	0.004
Rural Wabash County	South of SR-1	7703	0	0	0.199	0.137	0.035	0.032	0.003

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

Table B9

2002
SULFUR DIOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES TOTAL	3-HR > 0.5	24-HR > 0.14	HIGHEST SAMPLES 3-HR AVG. 1ST	3-HR AVG. 2ND	24-HR AVG. 1ST	24-HR AVG. 2ND	ANNUAL ARITHMETIC MEAN
75 WEST CENTRAL ILLINOIS INTRASTATE									
ADAMS COUNTY									
Quincy	732 Hampshire	8676	0	0	0.095	0.078	0.043	0.030	0.003
MACON COUNTY									
Decatur	2200 N. 22nd St.	8674	0	0	0.040	0.036	0.023	0.022	0.004
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	8592	0	0	0.034	0.024	0.014	0.010	0.002
SANGAMON COUNTY									
Springfield	Sewage Plant	8672	0	0	0.088	0.081	0.022	0.022	0.003

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

Table B10

2002
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1997	1998	1999	2000	2001	2002
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	Hurlburt & MacArthur	0.007	0.007	0.007	0.006	0.005	0.005
TAZEWELL COUNTY							
Pekin	272 Derby	0007	0.006	0.005	0.005	0.006	0.005
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Bedford Park	7800 W. 65th St.	0.008	0.007	0.008	0.006	0.005	0.006
Blue Island	12700 Sacramento	0.007	0.008	0.009	0.011	0.004	0.004
Calumet City	1703 State St.	0.004	0.004	0.009	0.010	0.004	0.003
Chicago -CTA	320 S. Franklin	0.005	0.005	0.004	0.005	0.005	0.004
Chicago - SE Police	103rd & Luella	0.002	0.002	0.003	0.004	0.003	0.002
Cicero	1830 S. 51st Ave.	0.006	0.005	0.006	0.005	0.005	0.004
Lemont	729 Houston	0.005	0.006	0.006	0.006	0.005	0.005
WILL COUNTY							
Joliet	Rte 6 & Young Rd.	0.005	0.004	0.005	0.005	0.005	0.004
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Alton	409 Main St.	0.007	0.008	0.007	0.005	0.006	0.004
South Roxanna	Michigan Ave.	0.010	0.008	0.008	0.004	0.007	0.005
Wood River	54 N. Walcott	0.006	0.006	0.007	0.006	0.006	0.004
Wood River	1710 Vaughn Rd.	0.009	+	0.009	0.008	0.004	0.005
RANDOLPH COUNTY							
Houston	Twp Rd 150 & Twp Rd 45	0.005	0.005	0.004	0.002	0.002	0.002
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.009	0.008	0.008	0.007	0.007	0.005
Sauget	Little Ave.	0.009	0.008	0.008	0.006	0.006	0.006
74 SOUTHEAST ILLINOIS INTRASTATE							
WABASH COUNTY							
Mount Carmel	Division St.	0.007	0.004	0.007	0.005	0.005	0.004
Rural Wabash County	South of SR-1	0.007	0.005	0.005	0.006	0.005	0.003

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

Primary Annual Standard 0.03 ppm

Table B10

2002
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1997	1998	1999	2000	2001	2002
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	0.004	0.004	0.005	0.003	0.003	0.003
MACON COUNTY							
Decatur	2200 N. 22nd St.	0.006	0.005	0.005	0.005	0.005	0.004
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	0.003	0.003	0.003	0.002	0.002	0.002
SANGAMON COUNTY							
Springfield	Sewage Plant	0.006	0.006	0.006	0.005	0.003	0.003

\- Station not in operation during year shown

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

Primary Annual Standard 0.03 ppm

Table B11

2002
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	0.083	0.083	0.045	0.045	0.022
Chicago - CTA	320 S. Franklin	8651	0.108	0.106	0.066	0.064	0.032
Chicago - Com Ed	7801 Lawndale	8640	0.098	0.096	0.059	0.052	0.022
Chicago - Jardine [1]	1000 E. Ohio	3190	0.106	0.099	0.052	0.047	+
Cicero	1830 S. 51st Ave.	8234	0.082	0.077	0.049	0.044	0.023
Northbrook	750 Dundee Rd.	8520	0.069	0.060	0.037	0.034	0.017
Schiller Park	4743 N. Mannheim	8415	0.149	0.149	0.088	0.077	0.030
LAKE COUNTY							
Zion [1]	Camp Logan	2323	0.050	0.044	0.017	0.014	+
WILL COUNTY							
Braidwood [1]	36400 S. Essex Rd.	3798	0.072	0.067	0.017	0.016	+
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	8257	0.066	0.062	0.037	0.036	0.017

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

2002
SHORT-TERM TRENDS
NITROGEN DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1997	1998	1999	2000	2001	2002
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Calumet City	1703 State St.	0.024	0.025	0.024	0.022	0.024	0.022
Chicago - CTA	320 S. Franklin	0.034	0.032	0.032	0.032	0.032	0.032
Chicago - Com Ed	7801 Lawndale	-	-	-	-	-	0.022
Cicero	1820 S. 51st St.	0.027	0.026	0.027	0.027	0.028	0.023
Northbrook	750 Dundee Rd.	+	0.017	0.017	0.018	0.018	0.017
Schiller Park	4743 N. Mannheim	-	0.031	0.031	0.029	0.028	0.030
WILL COUNTY							
Braidwood	36400 S. Essex Rd.	0.009	0.009	0.010	0.009	+	+
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.019	0.018	0.019	0.018	0.019	0.017

- 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

2002
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	0.01	0.01
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	0	0.01	0.01	0.02	0.02	0.02
Chicago - Cermak	735 W. Harrison	0	0.03	0.04	0.04	0.04	0.04
Chicago - Mayfair	4850 Wilson Ave.	0	0.01	0.02	0.03	0.02	0.02
Chicago - Washington	3535 E. 114th St.	0	0.02	0.02	0.03	0.03	0.03
Maywood	1500 Maybrook Dr.	0	0.03	+	0.04	0.04	+
Northbrook	750 Dundee Rd.	0	0.01	+	0.01	0.01	+
Schiller Park	4243 N. Mannheim Rd.	0	0.02	0.01	0.02	0.01	0.01
Summit	60th St. & 74th Ave.	0	0.02	0.02	0.02	0.03	0.02
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison	0	0.05	0.02	0.02	0.02	0.03
Wood River	54 N. Walcott	0	0.02	0.02	0.01	0.02	0.02
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	0	0.03	0.03	0.04	0.04	0.03
75 WEST CENTRAL ILLINOIS INTRASTATE							
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	0	0.01	0.01	0.03	0.01	0.02

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

Primary Quarterly Standard 1.5 ug/m3

Table B14

2002
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	58	0.003	0.003	0.001	58	0.003	0.003	0.001
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	500 W. 123rd. St.	59	0.007	0.005	0.002	NA			
Chicago - Cermak	735 W. Harrison	58	0.005	0.005	0.002	NA			
Chicago - Mayfair	4850 Wilson Ave	59	0.008	0.006	0.002	NA			
Chicago - Washington	3535 E. 114th St.	58	0.008	0.006	0.002	NA			
Maywood	1500 Maybrook Dr.	45	0.007	0.005	0.002	NA			
Northbrook	750 Dundee Rd.	56	0.002	0.002	0.001	56	0.000	0.000	0.000
Schiller Park	4743 N. Mannheim Rd.	60	0.010	0.004	0.001	60	0.000	0.000	0.000
Summit	60th St. & 74th Ave.	56	0.010	0.005	0.002	NA			
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	57	0.054	0.005	0.002	57	0.000	0.000	0.000
Wood River	54 N. Walcott	60	0.008	0.005	0.001	60	0.000	0.000	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	0.010	0.009	0.002	60	0.000	0.000	0.000
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	61	0.013	0.002	0.001	61	0.000	0.000	0.000

Table B14

2002
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
			CADMIUM				**CHROMIUM**		
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	58	0.000	0.000	0.000	58	0.004	0.004	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	59	0.003	0.003	0.001	59	0.014	0.013	0.004
Chicago - Cermak	735 W. Harrison	58	0.016	0.005	0.002	58	0.022	0.020	0.007
Chicago - Mayfair	4850 Wilson Ave	59	0.005	0.002	0.001	59	0.017	0.013	0.005
Chicago - Washington	3535 E. 114th St.	58	0.003	0.002	0.002	58	0.023	0.019	0.006
Maywood	1500 Maybrook Dr.	45	0.004	0.003	0.002	45	0.037	0.027	0.013
Northbrook	750 Dundee Rd	56	0.000	0.000	0.000	56	0.000	0.000	0.000
Schiller Park	4743 N. Mannheim Rd.	60	0.003	0.000	0.000	60	0.008	0.008	0.003
Summit	60th St. & 74th Ave.	56	0.003	0.003	0.001	56	0.037	0.021	0.013
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	57	0.003	0.003	0.000	57	0.011	0.011	0.004
Wood River	54 N. Walcott	60	0.003	0.000	0.000	60	0.004	0.004	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	0.046	0.023	0.002	61	0.007	0.004	0.001
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	61	0.003	0.000	0.000	61	0.000	0.000	0.000

Table B14

2002
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	IRON TOTAL SAMPLES	IRON HIGHEST 1st	IRON HIGHEST 2nd	IRON ARITH. MEAN	MANGANESE TOTAL SAMPLES	MANGANESE HIGHEST 1st	MANGANESE HIGHEST 2nd	MANGANESE ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	58	1.68	1.17	0.46	58	0.065	0.058	0.019
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	59	3.44	1.9	0.63	59	0.160	0.091	0.027
Chicago - Cermak	735 W. Harrison	58	3.92	3.49	1.49	58	0.116	0.111	0.047
Chicago - Mayfair	4850 Wilson Ave	59	3.00	2.74	1.10	59	0.096	0.093	0.034
Chicago - Washington	3535 E. 114th St.	58	6.03	5.25	1.48	58	1.064	0.507	0.183
Maywood	1500 Maybrook Dr.	45	39.24	18.87	5.45	45	0.179	0.171	0.080
Northbrook	750 Dundee Rd.	56	1.20	1.19	0.44	56	0.052	0.046	0.014
Schiller Park	4743 N. Mannheim Rd.	60	3.14	3.10	1.37	60	0.095	0.078	0.030
Summit	60th St. & 74th Ave.	56	3.30	1.79	0.69	56	0.152	0.104	0.027
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	57	3.67	3.36	1.36	57	0.305	0.278	0.091
Wood River	54 N. Walcott	60	1.48	0.99	0.39	60	0.061	0.045	0.016
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	2.83	2.71	0.92	60	0.126	0.083	0.034
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	61	1.31	0.52	0.22	61	0.034	0.026	0.007

Table B14

2002
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
				NICKEL					
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	58	0.000	0.000	0.000				
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	58	0.028	0.027	0.007				
Chicago - Cermak	735 W. Harrison	58	0.017	0.016	0.007				
Chicago - Mayfair	4850 Wilson Ave	59	0.014	0.013	0.006				
Chicago - Washington	3535 E. 114th St.	58	0.013	0.012	0.006				
Maywood	1500 Maybrook Dr.	45	0.019	0.019	0.009				
Northbrook	750 Dundee Rd.	56	0.007	0.000	0.000				
Schiller Park	4743 N. Mannheim Rd.	60	0.007	0.007	0.000				
Summit	60th St. & 74th Ave.	56	0.024	0.014	0.007				
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	57	0.007	0.007	0.000				
Wood River	54 N. Walcott	60	0.010	0.007	0.000				
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	0.007	0.007	0.000				
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	61	0.000	0.000	0.000				

Table B14

2002
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	58	13.5	13.1	5.2	58	18.3	17.7	7.8
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	59	18.8	14.3	6.2	59	17.8	14.5	8.0
Chicago - Cermak	735 W. Harrison	58	17.2	16.1	6.4	58	18.7	15.3	8.7
Chicago - Mayfair	4850 Wilson Ave	59	21.6	13.5	6.3	59	17.5	16.0	8.5
Chicago - Washington	3535 E. 114th St.	58	18.6	16.7	6.0	58	19.4	15.0	8.7
Maywood	1500 Maybrook Dr.	45	13.2	11.6	5.5	45	18.0	17.1	9.9
Northbrook	750 Dundee Rd.	56	16.9	15.3	5.6	56	16.5	14.0	6.9
Schiller Park	4743 N. Mannheim Rd.	60	16.0	15.9	6.5	60	17.4	15.1	8.9
Summit	60th St. & 74th Ave.	55	18.8	18.5	6.2	55	20.1	14.3	9.0
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	57	10.8	10.3	4.7	57	19.6	17.6	8.9
Wood River	54 N. Walcott	60	8.1	7.9	4.0	60	16.0	14.9	8.0
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	60	13.3	9.8	4.9	60	21.7	17.3	9.6
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	61	11.6	8.7	4.3	61	15.7	13.0	6.3

Table B15

2002
(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		15.8	11.6	10.5	9.9	5.4
Ethylene		6.8	5.7	5.1	5.1	2.0
Propane		61.0	58.3	52.2	46.3	9.0
Propylene		4.5	4.1	3.5	3.3	1.4
Acetylene		2.3	2.0	1.9	1.7	0.6
N - Butane		7.1	6.8	6.5	5.3	2.3
Isobutane		4.5	3.5	3.4	3.1	1.1
Trans - 2 - Butene		0.2	0.2	0.2	0.2	0.0
Cis - 2 - Butene		0.2	0.1	0.1	0.1	0.0
N - Pentane		5.6	5.1	5.0	4.8	1.9
Isopentane		16.4	14.5	12.4	12.0	4.8
1 - Pentene		0.6	0.3	0.2	0.2	0.0
Trans - 2 - Pentene		1.4	0.4	0.3	0.3	0.0
Cis - 2 - Pentene		0.6	0.1	0.1	0.1	0.0
3 - Methylpentane		3.2	3.1	3.0	2.8	0.8
N - Hexane		6.2	3.6	3.5	3.1	1.1
N - Heptane		4.6	2.0	1.9	1.8	0.6
N - Octane		2.0	1.1	1.1	1.0	0.2
N - Nonane		17.1	13.1	5.8	5.8	1.5
Cyclopentane		1.0	0.8	0.4	0.4	0.0
Isoprene		1.6	0.7	0.7	0.6	0.1
2,2 - Dimethylbutane		0.6	0.6	0.5	0.4	0.0
2,4 - Dimethylpentane		3.6	1.8	1.6	1.4	0.3
Cyclohexane		2.3	0.6	0.3	0.3	0.0
3 - Methylhexane		5.2	2.4	2.0	2.0	0.7
2,2,4 - Trimethylpentane		14.3	8.1	7.6	7.5	2.6
2,3,4 - Trimethylpentane		5.9	2.7	2.6	2.6	0.8
3 - Methylheptane		1.7	0.6	0.3	0.3	0.0
Methylcyclohexane		24.7	15.0	7.1	6.8	1.5
Methylcyclopentane		4.5	2.7	2.0	1.6	0.5
2 - Methylhexane		4.5	2.0	1.6	1.6	0.5
1 - Butene		0.5	0.5	0.4	0.3	0.0
2,3 - Dimethylbutane		3.3	1.8	1.8	1.5	0.5
2 - Methylpentane		6.9	4.5	3.9	3.3	1.4
2,3 - Dimethylpentane		5.9	2.9	2.8	2.4	0.8
2 - Methylheptane		1.5	0.5	0.5	0.4	0.1
Benzene		4.9	4.4	3.4	3.2	1.1

Table B15

2002
(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		22.9	15.0	11.2	10.9	4.2
Ethylbenzene		17.5	15.5	12.3	6.9	1.7
O - Xylene		18.9	11.8	9.1	8.1	2.0
M/P Xylene		63.3	56.4	38.3	27.1	6.4
1,3,5 - Trimethylbenzene		10.5	6.1	5.2	2.7	0.7
1,2,4 - Trimethylbenzene		19.5	12.4	9.9	5.4	1.8
N - Propylbenzene		2.9	2.4	1.5	0.7	0.2
Isopropylbenzene		0.4	0.3	0.3	0.3	0.0
Styrene		0.7	0.4	0.3	0.2	0.0
N-Decane		38.9	20.0	9.1	8.5	2.5
N-Undecane		27.7	9.6	4.9	4.1	1.5
O-Ethyltolune		0.6	0.5	0.4	0.4	0.3
M-Ethyltolune		9.2	8.2	4.9	2.6	0.9
P-Ethyltolune		6.6	5.0	3.0	1.5	0.3
M-Diethylbenzene		0.7	0.7	0.6	0.5	0.3
P-Diethylbenzene		4.6	2.4	1.2	1.0	0.3
1,2,3 Trimethylbenzene		7.0	4.2	3.1	2.0	0.5
Northbrook	750 Dundee Rd.					
COMPOUNDS						
Ethane		10.5	9.2	8.7	8.2	4.5
Ethylene		3.4	2.8	2.6	2.6	0.8
Propane		7.1	6.9	6.5	6.1	2.9
Propylene		2.6	2.1	2.0	2.0	0.7
Acetylene		0.8	0.5	0.4	0.4	0.1
N - Butane		7.6	6.3	6.2	5.6	2.3
Isobutane		2.9	2. 7	2.5	2.5	0.9
Trans - 2 - Butene		1.6	1.5	1.5	1.5	1.0
Cis - 2 - Butene		0.5	0.4	0.4	0.4	0.1
N - Pentane		6.6	5.6	5.3	5.0	1.9
Isopentane		16.9	12.2	12.2	11.2	4.2
1 - Pentene		0.3	0.3	0.2	0.1	0.0
Trans - 2 - Pentene		0.9	0.9	0.4	0.4	0.1
Cis - 2 - Pentene		0.5	0.4	0.2	0.2	0.0
3 - Methylpentane		4.0	3.2	2.0	1.8	0.6
N - Hexane		6.7	5.5	3.5	3.1	1.3
N - Heptane		4.2	3.5	2.0	1.8	0.6
N - Octane		5.5	1.7	1.3	1.0	0.3
N - Nonane		1.4	1.1	1.1	0.9	0.3
Cyclopentane		0.7	0.6	0.4	0.4	0.0
Isoprene		7.7	7.2	6.4	6.2	2.4

Table B15

2002
(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		0.8	0.7	0.4	0.4	0.1
2,4 - Dimethylpentane		5.0	4.6	2.1	1.9	0.7
Cyclohexane		1.1	0.9	0.6	0.5	0.2
3 - Methylhexane		4.7	4.1	2.1	1.9	0.7
2,2,4 - Trimethylpentane		18.3	17.5	7.6	7.6	3.0
2,3,4 - Trimethylpentane		5.7	5.3	2.3	2.2	0.9
3 - Methylheptane		2.0	1.8	1.7	0.7	0.2
Methylcyclohexane		1.9	1.9	1.6	1.0	0.3
Methylcyclopentane		3.9	3.4	1.8	1.7	0.6
2 - Methylhexane		4.0	3.7	1.8	1.5	0.6
1 - Butene		0.4	0.3	0.3	0.3	0.0
2,3 - Dimethylbutane		2.7	2.3	1.5	1.4	0.5
2 - Methylpentane		6.8	6.0	3.7	3.4	1.3
2,3 - Dimethylpentane		7.0	6.4	3.0	2.9	1.0
2 - Methylheptane		1.6	1.1	0.9	0.4	0.1
Benzene		3.9	2.7	2.5	2.3	0.9
Toluene		19.0	17.9	11.0	10.4	3.9
Ethylbenzene		2.5	1.7	1.3	1.3	0.4
O - Xylene		3.7	2.7	1.7	1.5	0.5
M/P Xylene		7.0	3.5	3.3	3.3	1.2
1,3,5 - Trimethylbenzene		1.7	1.4	0.8	0.8	0.2
1,2,4 - Trimethylbenzene		5.4	4.2	2.7	2.7	1.0
N - Propylbenzene		0.8	0.5	0.4	0.3	0.1
Isopropylbenzene		0.5	0.3	0.3	0.2	0.0
Styrene		0.9	0.7	0.6	0.4	0.1
N-Decane		1.8	1.8	1.6	1.3	0.4
N-Undecane		1.6	1.3	1.3	1.3	0.4
O-Ethyltolune		1.0	0.8	0.5	0.5	0.1
M-Ethyltolune		3.2	2.5	1.5	1.5	0.4
P-Ethyltolune		1.0	1.0	0.5	0.2	0.1
M-Diethylbenzene		0.6	0.6	0.4	0.3	0.1
P-Diethylbenzene		1.0	0.8	0.5	0.4	0.1
1,2,3 Trimethylbenzene		1.8	1.4	1.2	1.2	0.4
Formaldehyde [1]		7.6	7.0	6.8	6.6	4.0

[1] Values in ppb (volume)

Table B15

2002
(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		9.5	5.8	5.7	5.6	3.6
Ethylene		3.2	1.9	1.7	1.5	0.7
Propane		7.2	7.1	6.8	5.6	3.1
Propylene		2.7	1.6	1.6	1.5	0.8
Acetylene		0.8	0.6	0.6	0.5	0.2
N - Butane		5.2	3.5	3.5	3.5	1.7
Isobutane		2.5	2.5	1.9	1.8	0.9
Trans - 2 - Butene		1.1	1.0	1.0	0.8	0.1
Cis - 2 - Butene		1.6	1.6	1.5	1.5	0.3
N - Pentane		6.1	5.4	4.5	3.6	1.6
Isopentane		11.6	8.5	8.4	8.2	4.7
1 - Pentene		0.9	0.8	0.7	0.3	0.0
Trans - 2 - Pentene		0.8	0.8	0.7	0.4	0.0
Cis - 2 - Pentene		1.2	1.0	0.9	0.7	0.0
3 - Methylpentane		2.1	2.0	1.8	1.6	0.6
N - Hexane		2.5	2.0	1.3	1.2	0.4
N - Heptane		1.2	1.2	1.2	1.1	0.3
N - Octane		0.8	0.8	0.8	0.6	0.1
N - Nonane		4.6	0.7	0.7	0.6	0.2
Cyclopentane		0.7	0.7	0.7	0.7	0.1
Isoprene		21.0	16.7	14.8	14.1	7.5
2,2 - Dimethylbutane		2.4	2.1	1.9	1.0	0.1
2,4 - Dimethylpentane		1.3	0.7	0.7	0.6	0.1
Cyclohexane		2.1	2.1	1.7	1.5	0.3
3 - Methylhexane		2.1	2.0	1.8	1.7	0.7
2,2,4 - Trimethylpentane		4.8	3.7	3.6	3.0	1.2
2,3,4 - Trimethylpentane		1.6	1.2	1.1	1.0	0.3
3 - Methylheptane		5.9	5.3	5.1	5.0	1.1
Methylcyclohexane		0.8	0.7	0.6	0.6	0.3
Methylcyclopentane		1.4	1.1	1.0	0.9	0.3
2 - Methylhexane		1.5	1.5	1.3	1.3	0.3
1 - Butene		1.1	1.0	0.9	0.6	0.1
2,3 - Dimethylbutane		2.0	1.4	1.2	1.1	0.3
2 - Methylpentane		3.3	2.3	2.0	1.9	0.7
2,3 - Dimethylpentane		2.1	1.6	1.4	1.1	0.3
2 - Methylheptane		0.6	0.6	0.5	0.5	0.0
Benzene		3.0	2.3	2.2	2.1	1.0
Toluene		9.6	8.4	6.7	5.9	2.6
Ethylbenzene		1.6	1.2	1.0	1.0	0.4

Table B15

2002
(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		1.4	1.4	1.3	1.3	0.5
M/P Xylene		3.8	3.2	3.1	2.8	1.1
1,3,5 - Trimethylbenzene		1.9	1.7	1.6	1.2	0.3
1,2,4 - Trimethylbenzene		11.7	11.5	11.5	10.8	2.7
N - Propylbenzene		2.7	1.2	0.4	0.4	0.1
Isopropylbenzene		1.2	0.7	0.6	0.5	0.0
Styrene		3.9	3.6	3.5	3.2	1.5
N-Decane		7.6	4.6	3.2	2.7	0.8
N-Undecane		9.6	4.7	2.8	2.7	0.8
O-Ethyltolune		1.8	0.8	0.5	0.4	0.1
M-Ethyltolune		5.9	5.7	5.5	5.3	1.1
P-Ethyltolune		2.8	2.3	2.3	2.3	1.1
M-Diethylbenzene		14.7	2.3	1.9	1.7	0.5
P-Diethylbenzene		43.1	3.3	2.0	2.0	1.2
1,2,3 Trimethylbenzene		6.3	5.5	4.9	4.9	2.9

Table B16

2002

TOXIC COMPOUNDS[1]
(parts per billion volume)

STATION	ADDRESS	HIGHEST SAMPLES (ppbv) 24-HOUR 1ST	2ND	3RD	4TH	AVERAGE
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)						
COOK COUNTY						
Northbrook	750 Dundee Rd.					
COMPOUNDS						
1,3 Butadiene		1.2	0.2	0.2	0.2	0.2
Methylene Chloride		8.6	1.4	0.9	0.8	0.4
Chlorform		0.2	0.2	0.2	0.2	0.2
Carbon Tetrachloride		0.2	0.2	0.2	0.2	0.2
Tetrachloroethylene		0.2	0.2	0.2	0.2	0.2
Trichlorethylene		14.0	2.5	0.5	0.2	0.5
Benzene		1.2	0.9	0.9	0.6	0.3
Toluene		2.4	2.4	1.5	1.4	0.5
Formaldehyde		3.6	3.5	3.3	2.7	1.4
Acetaldehyde		2.0	1.7	1.5	1.3	0.6
Mercury[2]		4.1	4.0	4.0	4.0	2.1
Schiller Park	4743 Mannheim Rd.					
COMPOUNDS						
1,3 Butadiene		0.2	0.2	0.2	0.2	0.2
Methylene Chloride		1.5	1.4	0.8	0.7	0.3
Chlorform		0.2	0.2	0.2	0.2	0.2
Carbon Tetrachloride		0.5	0.2	0.2	0.2	0.2
Tetrachloroethylene		0.2	0.2	0.2	0.2	0.2
Trichlorethylene		5.5	2.2	1.2	1.2	0.5
Benzene		1.8	1.5	1.3	0.9	0.4
Toluene		4.5	3.8	3.6	3.4	0.9
Formaldehyde		4.9	4.0	3.9	3.8	2.1
Acetaldehyde		2.1	1.8	1.3	1.2	0.8

[1] - Toxic metals data summarized in Section B14 Filter analysis Data

[2] - Units of nanograms per cubic meter

Table B17

2002

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

STATION	ADDRESS	HIGHEST SAMPLES (ug/m3) 24-HOUR 1ST	2ND	3RD	4TH	ANNUAL AVERAGE
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)						
COOK COUNTY						
Chicago - Com Ed	7801 Lawndale					
MAJOR CONSTITUENTS						
Inorganic Elements		7.6	5.0	1.7	1.7	0.6
Ammonium		8.8	8.0	6.4	4.8	2.0
Nitrate		13.6	11.0	7.6	7.5	2.6
Sulfate		21.2	15.1	11.8	11.7	3.9
Elemental Carbon		1.6	1.5	1.4	1.3	0.6
Organic Carbon		8.3	7.7	7.5	7.4	3.2
Chicago - Springfield	1745 N. Springfield Ave.					
MAJOR CONSTITUENTS						
Inorganic Elements		6.3	2.8	2.0	1.6	0.8
Ammonium		5.3	4.8	4.7	4.2	2.0
Nitrate		15.2	13.6	9.7	8.4	3.4
Sulfate		12.4	9.4	9.0	8.5	3.5
Elemental Carbon		2.3	2.3	1.6	1.6	0.8
Organic Carbon		8.2	8.1	8.0	7.6	4.6
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)						
MADISON COUNTY						
Alton	1700 Annex St.					
MAJOR CONSTITUENTS						
Inorganic Elements		6.9	1.5	0.9	0.8	0.4
Ammonium		4.6	4.2	4.0	4.0	1.8
Nitrate		8.8	8.2	7.3	7.2	3.1
Sulfate		13.9	10.3	9.1	8.4	3.1
Elemental Carbon		1.3	1.2	0.9	0.8	0.4
Organic Carbon		8.8	6.4	5.8	5.7	2.9

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APPENDIX C
POINT SOURCE EMISSION INVENTORY SUMMARY TABLES

Table C1

2002
Point Source Emission Distribution (Tons/Year)

Category	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
External Fuel Combustion					
Electric Generation	12,939.3	183,590.6	16,273.9	359,266.7	1,342.2
Industrial	10,833.3	35,474.1	2,980.2	59,419.5	854.1
Commercial/Institutional	2,713.8	6,074.8	773.7	11,303.3	380.8
Space Heating	64.7	319.2	20.0	42.4	13.4
Internal Fuel Combustion					
Electric Generation	2,302.7	3,932.9	254.0	188.2	292.9
Industrial	4,653.2	21,551.8	235.9	245.3	1,022.2
Commercial/Institutional	629.4	2,519.0	38.8	41.7	122.1
Engine Testing	886.4	1,152.9	45.3	62.0	236.9
Fugitive Emissions	0.5	2.4	0.1	0.0	19.6
Industrial Processes					
Chemical Manufacturing	12,618.8	1,362.1	3,253.8	13,946.0	12,698.4
Food/Agriculture	1,063.5	924.8	18,919.3	1,648.1	10,503.8
Primary Metal Production	23,021.0	3,620.2	3,897.2	6,342.7	674.2
Secondary Metal Production	3,198.0	1,853.9	4,728.6	113.4	1,914.9
Mineral Products	9,158.7	15,278.5	19,984.3	13,918.1	1,694.3
Petroleum Industry	5,363.6	15,737.0	2,442.1	62,241.0	5,197.5
Paper and Wood Products	26.6	31.0	327.5	0.2	177.0
Rubber and Plastic Products	127.2	134.0	580.4	0.7	5,061.1
Fabricated Metal Products	1,307.3	414.7	943.0	20.4	1,545.4
Oil and Gas Production	92.2	270.1	11.9	292.3	252.5
Building Construction	0.0	0.0	1.5	0.0	0.0
Miscelaneous Machinery	3.7	5.1	91.2	2.3	28.7
Electrical Equipment	2.7	5.0	24.3	2.0	185.7
Transportation Equipment	1.2	1.9	54.7	0.0	40.4
Health Services	28.4	1.6	31.4	0.7	81.2
Leather and Leather Products	0.0	0.0	4.3	7.6	108.6
Textile Products	0.1	1.4	12.4	0.0	4.9
Printing/Publishing (typesetting)	0.0	0.0	0.3	0.0	0.0
Process Cooling	0.0	0.0	342.3	0.0	11.6
In-Process Fuel Use	1,258.4	2,665.2	341.8	707.8	180.4
Miscellaneous Manufacturing	361.0	278.1	142.1	97.1	287.5
Organic Solvent Emissions					
Organic Solvent Use	0.0	1.5	20.0	0.0	1,403.8
Surface Coating Operations	179.2	866.1	642.0	49.2	17,979.3
Petroleum Product Storage	3.1	6.7	36.3	31.4	5,058.6
Bulk Terminals/Plants	11.8	12.3	3.2	0.0	2,402.2
Printing/Publishing	63.5	180.6	68.3	0.2	9,012.0
Petroleum Marketing/Transport	0.0	2.3	10.4	0.0	1,519.7
Organic Chemical Storage (large)	0.0	0.4	17.6	0.0	1,222.3
Organic Chemical Transportation	0.1	0.0	0.1	1.1	38.6
Dry Cleaning (petroleum based)	0.0	0.0	0.0	0.0	457.7
Organic Chemical Storage (small)	0.0	0.0	0.0	0.0	2.9
Organic Solvent Evaporation	215.1	343.6	109.9	61.7	3,537.6

Table C1

2002
Point Source Emission Distribution (Tons/Year)

Category	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Solid Waste Disposal					
Government	2036.7	1248.2	535.2	331.0	352.3
Commercial/Institutional	309.7	98.3	115.5	38.0	32.5
Industrial	2465.0	669.2	237.6	386.9	226.1
Site Remediation	10.4	7.0	88.3	26.6	990.7
***MACT Processes**					
Food and Agriculture Processes	0.0	0.0	0.0	472.6	42.8
Agricultural Chemical Production	0.0	0.0	0.0	0.0	1.7
Styrene or Methacrylate Based Resins	0.0	0.0	5.5	0.0	68.2
Cellulose Based Resins	0.0	0.0	0.2	0.0	0.0
Miscellaneous Resin Production	0.0	0.0	3.4	0.0	228.5
Vinyl Based Resins	0.0	0.0	240.0	0.0	124.0
Miscellaneous Polymers	0.0	0.0	3.2	0.0	16.7
Fibers Production	0.0	0.0	0.2	0.0	0.3
Consumer Product Mfg Facilities	0.0	0.0	0.3	0.0	57.0
Miscellaneous Processes	0.0	0.0	0.9	0.0	3.8
Paint Stripper Use	0.0	0.0	0.0	0.0	1.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	0.7
Totals	**99,173.4**	**301,215.7**	**79,140.9**	**531,342.7**	**90,013.5**

* MACT stands for Maximum Achievable Control Technology.

Table C2

2002
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Adams	342.3	425.6	542.3	2,411.8	2,080.0
Alexander	41.6	277.1	478.7	459.9	63.3
Bond	178.6	39.0	75.0	17.6	37.0
Boone	123.4	265.2	246.6	314.4	859.4
Brown	15.9	9.0	31.5	1.3	3.9
Bureau	46.6	74.8	336.9	34.8	283.2
Calhoun	0.6	0.7	34.5	0.0	0.0
Carroll	28.7	20.2	112.3	5.2	149.4
Cass	55.2	116.7	157.3	15.9	50.3
Champaign	931.7	2,290.2	702.5	2,111.1	1,131.2
Christian	1,126.5	20,355.7	580.6	15,984.5	167.0
Clark	27.3	109.5	118.7	2.8	176.0
Clay	16.2	26.1	85.4	16.2	237.5
Clinton	263.1	974.6	115.4	460.9	163.2
Coles	267.6	291.3	367.9	120.5	1,306.4
Cook	27,611.4	24,860.2	12,469.8	28,239.1	21,578.1
Crawford	974.6	4,460.7	680.3	20,394.5	1,234.7
Cumberland	16.7	3.2	102.2	0.4	16.4
DeKalb	61.1	88.3	239.8	4.2	357.2
DeWitt	74.7	54.8	216.8	14.9	117.6
Douglas	1,609.5	5,609.4	617.7	9,359.8	400.5
DuPage	1,320.8	1,949.9	771.3	462.8	1,921.4
Edgar	105.7	1,766.8	565.0	0.1	386.3
Edwards	1.7	1.7	37.1	0.0	112.6
Effingham	51.5	109.3	189.2	8.1	917.8
Fayette	93.5	453.8	237.6	212.6	244.7
Ford	30.8	97.4	348.4	2.2	790.2
Franklin	7.8	14.8	82.6	2.8	181.3
Fulton	364.3	6,284.8	644.7	11,274.3	66.2
Gallatin	0.0	0.0	75.8	0.0	7.1
Greene	0.3	2.4	112.0	0.0	33.2
Grundy	2,312.6	3,664.1	1,350.2	6,546.0	1,361.7
Hamilton	0.5	2.3	43.4	0.0	5.0
Hancock	12.3	19.3	240.0	5.4	11.8

Table C2

2002

Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Hardin	5.1	8.7	98.0	30.0	2.2
Henderson	0.4	0.0	137.5	0.0	3.4
Henry	1,062.7	3,750.7	360.1	39.9	382.3
Iroquois	31.0	84.4	730.6	4.4	294.3
Jackson	269.4	224.1	76.1	763.6	444.3
Jasper	1,015.3	5,565.9	1,075.5	8,527.3	167.5
Jefferson	40.9	165.4	558.3	185.9	361.7
Jersey	0.7	0.0	73.9	0.0	17.5
Jo Daviess	266.7	331.4	505.9	0.7	714.7
Johnson	45.1	38.3	89.5	370.3	61.3
Kane	808.6	1,195.6	994.6	383.1	1,930.0
Kankakee	1,129.2	3,773.9	919.9	31.3	1,628.4
Kendall	424.1	1,365.8	233.0	328.2	553.1
Knox	101.5	258.6	215.7	96.6	161.8
Lake	2,524.4	10,387.6	2,484.8	12,717.6	1,752.6
La Salle	4,513.9	5,018.7	2,635.9	1,809.9	1,787.6
Lawrence	10.8	45.1	77.8	63.1	52.1
Lee	221.1	144.8	370.1	41.7	507.7
Livingston	712.3	911.8	813.2	35.7	1,051.8
Logan	74.8	406.2	533.5	645.9	150.8
McDonough	133.9	493.3	252.3	794.5	127.7
McHenry	519.0	1,309.3	635.5	34.3	902.0
McLean	303.7	707.6	951.4	39.8	3,356.1
Macon	2,980.8	12,680.0	4,924.7	17,474.1	7,533.7
Macoupin	6.4	16.5	248.7	3.4	142.2
Madison	18,811.4	19,918.4	5,915.5	50,350.7	4,969.5
Marion	42.6	61.8	179.3	7.7	1,283.4
Marshall	57.8	322.7	361.2	3,894.6	177.2
Mason	222.1	3,638.4	435.7	8,128.6	40.9
Massac	1,823.8	12,588.6	2,405.4	26,091.7	305.1
Menard	18.9	0.3	72.7	0.0	16.4
Mercer	0.1	4.0	167.0	0.2	19.9
Monroe	1.1	7.0	144.4	0.0	36.4
Montgomery	566.7	16,585.6	751.4	42,465.0	119.9

Table C2

2002

Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Morgan	344.0	3,996.1	1,109.8	23,488.0	792.7
Moultrie	2.4	7.8	127.0	5.2	269.3
Ogle	462.6	728.7	484.8	29.7	1,364.0
Peoria	1,539.0	11,036.7	1,961.7	49,079.0	2,642.7
Perry	10.7	15.2	52.2	0.1	33.6
Piatt	105.4	999.3	242.1	0.2	75.8
Pike	64.9	1,710.4	336.2	4,674.8	59.1
Pope	0.0	0.0	0.0	0.0	2.0
Pulaski	0.0	52.5	91.0	414.4	0.2
Putnam	562.7	3,428.5	1,071.3	5,188.1	169.7
Randolph	1,681.8	27,969.9	3,575.3	23,088.7	327.3
Richland	0.7	3.5	27.8	0.4	100.2
Rock Island	1,509.4	976.3	884.7	2,460.2	1781.8
St. Clair	338.2	796.1	1,418.9	2,675.0	1601.3
Saline	38.9	15.5	236.5	0.5	40.4
Sangamon	957.1	10,381.2	995.9	15,692.4	353.0
Schuyler	0.6	2.0	82.7	0.0	12.2
Scott	18.9	18.5	151.0	1.9	17.9
Shelby	8.6	12.0	167.2	4.0	76.9
Stark	0.0	0.0	63.4	0.0	6.2
Stephenson	144.5	108.1	162.5	4.0	195.8
Tazewell	1,576.5	20,367.3	2,391.8	24,154.0	596.3
Union	53.7	69.2	53.6	865.3	21.7
Vermilion	728.5	3,235.7	1,437.6	15,605.7	2,704.3
Wabash	6.1	6.6	131.6	2.4	29.3
Warren	39.8	52.9	298.8	251.1	56.5
Washington	17.1	36.5	240.1	0.0	168.1
Wayne	285.3	940.7	54.1	85.4	103.0
White	48.8	115.0	114.0	0.3	145.7
Whiteside	1,304.2	429.9	597.8	170.5	190.2
Will	8,249.6	27,647.4	5,416.5	73,982.3	5,805.2
Williamson	288.0	7,894.0	186.0	15,469.4	356.2
Winnebago	669.4	835.8	1,046.1	61.4	1,946.5
Woodford	25.4	13.5	239.9	5.5	155.5

Table C3

Annual Estimated Emissions Trends (Tons)

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

Table C4

Annual Source Reported Emissions Trends (Tons)

Year	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
1992	112,393	381,939	95,952	1,045,102	143,800
1993	113,776	418,210	90,152	1,001,124	108,801
1994	116,182	404,487	88,827	967,214	108,813
1995	160,237	366,968	67,036	814,230	103,080
1996	84,260	407,673	63,688	914,276	87,176
1997	71,340	404,237	57,434	974,200	76,097
1998	79,288	377,179	61,382	964,253	77,709
1999	80,108	360,623	56,093	863,632	71,173
2000	80,039	328,898	55,656	620,403	70,657
2001	75,972	291,153	53,418	522,443	61,912

APPENDIX D

THE BUREAU OF AIR/ DIVISION OF AIR POLLUTION CONTROL

Organization and Programs

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

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

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

Air Monitoring

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

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

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

The Air Monitoring Section is also responsible for validating and summarizing the data in this report. It provides notification of air quality exceedances and issues any episodes as required. Special air quality studies are performed which identify pollution trends and evaluate special air quality problems.

Air Quality Planning

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

- Assessment of strategies and technologies for the elimination or reduction of air pollutant emissions.
- Conducting and reviewing detailed air quality studies using computerized air quality models.
- Proposing and supporting regulatory revisions where they are necessary to attain or maintain healthful air quality.

- Coordination with local planning agencies to ensure compatibility of air quality programs between state and local jurisdictions.

- Coordination of the Bureau's Stationary Source Inventory.

Compliance and Enforcement

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

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

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

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

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

- Evaluate the Annual Emission Reports provided by Illinois industry.

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

Permits

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

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

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

Field Operations

The Field Operations Section investigates sources of air pollution and works with industry to control air pollution. The major functions of the Field Operations Section include locating and identifying sources of air pollution, determining the amount of pollution emitted and verifying the information which industry submits when applying for a permit. Field Operations also initiates much of the IEPA's enforcement activities when violations are discovered. Approximately 3,000 investigations and inspections are conducted each year.

Table D1

BUREAU OF AIR

Dave Kolaz, Bureau Chief
(217) 785-4140

DIVISION OF AIR POLLUTION CONTROL

Laurel Kroack, Division Manager
(217) 785-4140

AIR MONITORING SECTION

Terry Sweitzer, Manager
(217) 782-5811

AIR QUALITY PLANNING SECTION

Don Sutton, Acting Manager
(217) 524-4343

COMPLIANCE AND ENFORCEMENT SECTION

Julie Armitage, Acting Manager
(217) 782-5811

PERMITS SECTION

Jim Ross, Acting 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

Dean Hayden, Acting
Region II
5415 North University
Peoria, Illinois 61614
(309) 693-5461

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