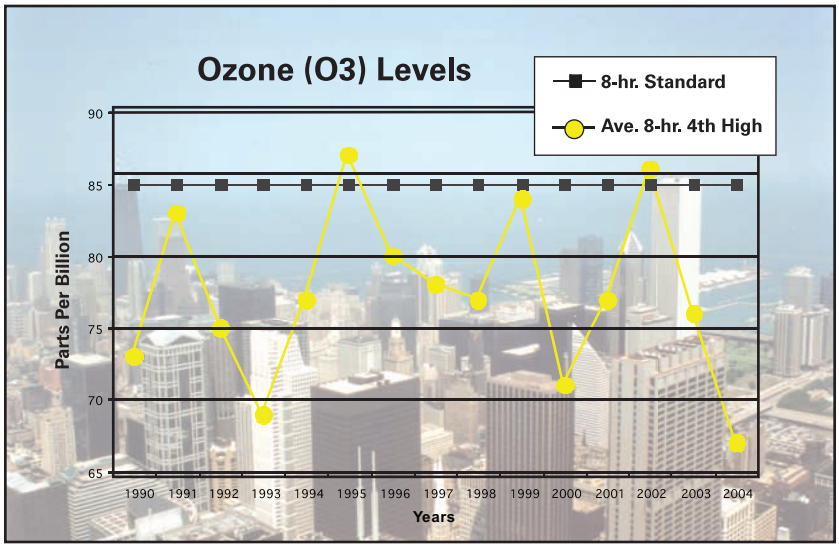
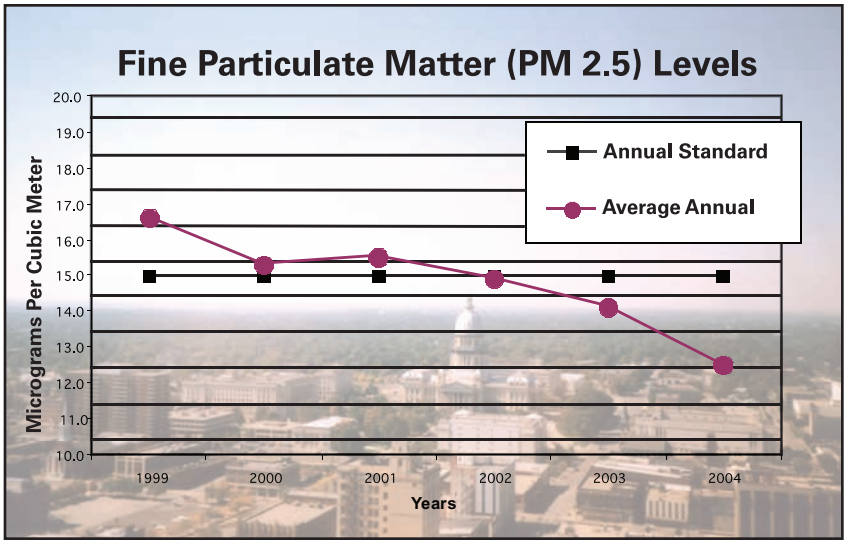
State of Illinois
Rod R. Blagojevich, Governor

Illinois Environmental Protection Agency
Douglas P. Scott, Director

Illinois Annual Air Quality Report 2004





November 2005

ILLINOIS ANNUAL AIR QUALITY REPORT 2004

Illinois Environmental Protection Agency
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To Obtain Additional Information

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A MESSAGE FROM THE DIRECTOR

In terms of air quality in Illinois, the year 2004 was exceptional. Air quality in Illinois was either good or moderate more than 98 percent of the time throughout Illinois. The year marked the best air quality the State has experienced since the Agency began monitoring for air pollutants. Additionally, 2004 was the first year in which none of the air quality monitors in Illinois recorded levels above the federal eight-hour standard for ozone.

This document, the 34th Annual Air Quality Report, consists of data collected from a large network of air monitoring equipment throughout the State of Illinois. The Illinois EPA operates and maintains more than 80 air monitoring sites featuring over 200 instruments, which measure air pollutants and toxic compounds.

The cover of this report shows trends of both ground-level ozone and fine particulate matter. The eight-hour standard for ozone (85 parts per billion) and fine particulate matter standard (15 micrograms per cubic meter, annually) are currently the most stringent federal standards for those pollutants. While annual trends show the statewide levels well below the federal standards, there are still some areas in Illinois that do not meet these standards. The Illinois EPA reaffirms its commitment to improve air quality, in those areas that do not meet current standards, throughout the State and in the region.

The 2004 Annual Air Quality Report has been developed to provide information to businesses, organizations and individual citizens. The Illinois EPA takes pride in the achievements the State has made in regards to air quality. We continue our commitment to work further with individuals, businesses and industry to continue environmental gains in Illinois. Please contact the Illinois EPA with comments and/or questions regarding this report or air pollution control programs.

Douglas P. Scott
Director

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Contents

Appendices

Tables

Figures

2004
EXECUTIVE SUMMARY

This report presents a summary of air quality data collected throughout the State of Illinois during the calendar year - 2004. 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, volatile organic and toxic compounds. Monitoring was conducted at over 80 different site locations collecting data from more than 200 instruments.

In terms of the Air Quality Index (AQI) air quality during 2004 was either good or moderate more than 98 percent of the time throughout Illinois. There were no days when air quality in some part of Illinois was considered Unhealthy (category Red). There were 7 days (all for $PM_{2.5}$) when air quality in some part of Illinois was considered Unhealthy for Sensitive Groups (category Orange). This compares with 19 Unhealthy for Sensitive Groups days in 2003. In fact 2004 marks the first year since monitoring has begun that there were no 8-hour ozone days recorded above the standard. 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 1995 – 2004 are as follows: Particulate Matter (PM_{10}) 10 percent decrease, Sulfur Dioxide 31 percent decrease, Nitrogen Dioxide 15 percent decrease, Carbon Monoxide 45 percent decrease, Lead 31 percent decrease, and Ozone 9 percent decrease.

Stationary point source emission data has again been included. The data in the report reflects information contained in the Emission Inventory System (EIS) as of December 31, 2004. Emission estimates are for the calendar year 2004 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 1995 to the present. Emissions reported with the Annual Emissions Report have been provided starting with 1995 and are currently available through 2003. In general there has been a trend toward decreasing emissions over this time period.

SECTION 1: AIR POLLUTANTS: SOURCES, HEALTH AND WELFARE EFFECTS

Ozone (O_3)

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

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

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

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

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

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

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

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

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

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

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

- Ozone itself is a primary cause of most of the health effects reported in toxicological and experimental human studies and the evidence for attributing many health effects to this substance alone is very compelling.

- The complex of atmospheric photochemical substances is known to produce health effects, some of which are not attributable to pure ozone but may be caused by other photochemical substances in combination with ozone.

Particulate Matter (PM)

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

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

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

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

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

Particulate pollutants enter the human body by way of the respiratory system and their most immediate effects are upon this system. The size of the particle determines its depth of penetration into the respiratory system. Particles over 5 micrometers are generally deposited in the nose and throat. Those that do penetrate deeper in the respiratory system to the air ducts (bronchi) are often removed by ciliary action. Particles ranging in size from 0.5 - 5.0 micrometers in diameter can be deposited in the bronchi, with few reaching the air sacs (alveoli). Most particles

deposited in the bronchi are removed by the cilia within hours. Particles less than 0.5 micrometer in diameter reach and may settle in the alveoli. The removal of particles from the alveoli is much less rapid and complete than from the larger passages. Some of the particles retained in the alveoli are absorbed into the blood.

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

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

Sulfur Dioxide (SO_2)

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

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

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

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

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

Carbon Monoxide (CO)

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

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

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

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

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

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

Nitrogen Dioxide (NO_2)

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

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

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

NO_2 can cause an impairment of dark adaptation at concentrations as low as 0.07 ppm. NO_2 can cause an increase in airway resistance, an increase in respiratory rate, an increase in sensitivity to bronchoconstrictors, a decrease in lung compliance and an enhanced susceptibility to respiratory infections. NO_2 is a deep lung irritant capable of producing pulmonary edema if inhaled in sufficient concentrations. When NO_2 is inhaled in concentrations with other pollutants, the effects are additive.
NO_x may also react with water to form corrosive nitric acids, a major component of acid precipitation. Additionally, NO_x and various other pollutants (e.g., hydrocarbons) may react in the presence of sunlight to product photochemical oxidants. These are extremely unstable compounds which damage plants and irritate both the eyes and respiratory system of people. Ozone (O_3) and a group of chemicals called peroxyacetylnitrates (PAN) are the major constituents of photochemical oxidants.

Lead (Pb)

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

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

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

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

Illinois Ambient Air Quality Standards and Episode Levels

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

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

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

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

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

Table 2: Illinois Air Pollution Episode Levels

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

SECTION 2: STATEWIDE SUMMARY OF AIR QUALITY FOR 2004

OZONE

Monitoring was conducted at 38 locations during at least part of the April-October "ozone season" and at least 75 percent data capture was obtained at all 38 sites. The Chicago - SE Police site was discontinued and replaced by Chicago - Com Ed.

No sites recorded hourly concentrations above the 0.12 parts per million (ppm) 1-hour standard. The highest 1-hour concentration was 0.105 ppm in Maryville compared with a statewide high 1-hour value of 0.134 ppm in 2003. The highest value recorded in the Chicago area was 0.101 ppm recorded in Waukegan compared with a high in 2003 of 0.117 ppm in Evanston.

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. No site in Illinois had a fourth high value above 0.08 ppm in 2004 compared with 2 sites in 2003. The highest fourth high value was 0.078 ppm at Maryville. The highest level in the Chicago area was 0.075 ppm in Evanston. For the three year period 2002 – 2004, Three sites (Alton, Maryville, and Jerseyville) had fourth high averages above 0.08 ppm. In addition, for the first time since ozone monitoring began in Illinois, there were no 8-hour values recorded above 0.08 ppm in 2004.

Figure 1 shows for each year the statewide average of each site's highest hourly ozone value for the ten year period 1995-2004. The graph shows a great deal of year-to-year fluctuation and a generally decreasing 10-year trend since 1995 even with the increase in 2002. The Statewide average for 2004 was 0.086 ppm compared with 0.097 ppm in 2003 and 0.109 ppm in 2002.

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)

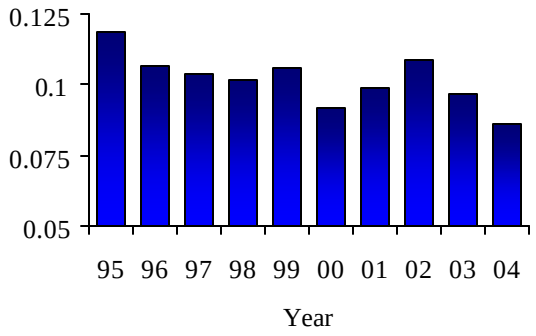


Figure 2
Average 8-Hour Ozone 4th High (ppm)

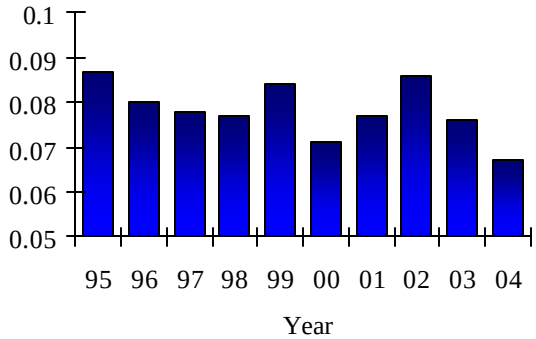


Figure 2 shows for each year the statewide average of the 4th highest 8-hour ozone value for the same period 1995-2004. This trend is generally downward since 1995 as well.

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

September was the most conducive month in terms of meteorological conditions Statewide followed by May. In terms of conducive days, the Chicago area had 50 percent below the average number and the Metro-East area had 56 percent below average.

PARTICULATE MATTER

Monitoring was conducted at 37 sites for $PM_{2.5}$. Valid annual averages were obtained for 36 of the 37 sites. A total of 6 sites recorded averages above 15.0 ug/m^3, the level of the annual standard compared with 9 sites in 2003 and 14 sites in 2002. The Statewide average of annual averages was 12.5 ug/m^3 in 2004 compared with 14.1 ug/m^3 in 2003 and 14.9 ug/m^3 in 2002. **Figure 3** shows the trend of the Statewide annual averages for $PM_{2.5}$ for the period 2000-2004. There were no exceedances of the 24-hour standard of 65 ug/m^3 in 2004. The Statewide peak of 54.3 ug/m^3 was recorded in Schiller Park. The Statewide average of the 98th percentile of 24-hour averages was 30.9 ug/m^3 in 2004 compared with 34.1 ug/m^3 in 2003 and 33.9 ug/m^3 in 2002.

In 2001 there were 16 sites monitoring PM_{10}. The Statewide average in 2004 was 26 ug/m^3 compared with 27 ug/m^3 in 2003 and 27 ug/m^3 in 2002.

For PM_{10} the Statewide average of the maximum 24-hour averages in 2004 was 70 ug/m^3 compared with 75 ug/m^3 in 2003 and 78 ug/m^3 in 2002. **Figure 4** depicts this trend for the period 1995-2004.

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

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

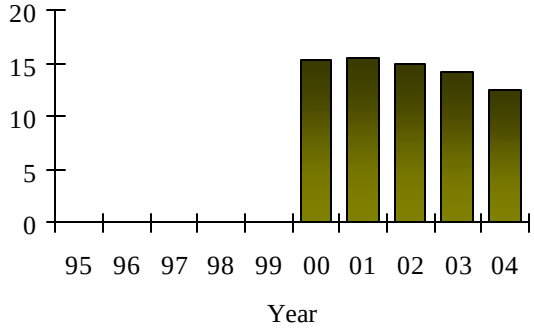
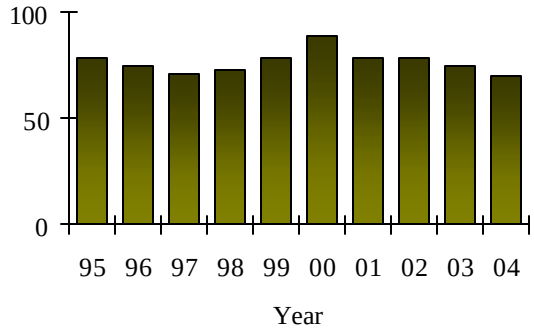


Figure 4
Particulate Matter (PM10) 24-Hour Trends (ug/m3)

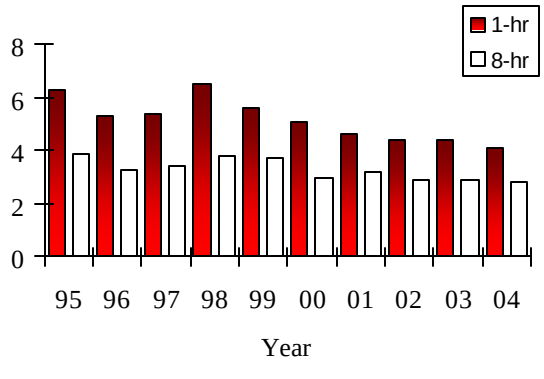


CARBON MONOXIDE

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

Figure 5 shows the trend for the period 1995-2004 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 3.9 ppm in 2004 compared with 4.4 ppm in 2003. The statewide average for the 8-hour high was 2.8 ppm in 2004 compared with 2.9 ppm in 2003.

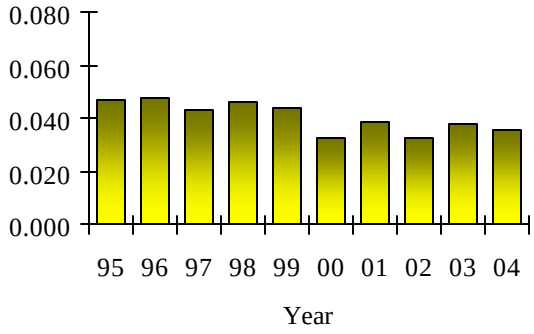
Figure 5
Carbon Monoxide Trends (ppm)



SULFUR DIOXIDE

There were no exceedances of the the annual primary standard of 0.03 ppm, the 24-hour primary standard of 0.14 ppm or the 3-hour secondary standard of 0.5 ppm in 2003. The maximum 24-hour average was 0.087 ppm recorded in Pekin. This compares with a high 24-hour average in 2003 of 0.152 ppm. The highest 3-hour average of 0.296 ppm was recorded in Oglesby. The Statewide annual average for 2004 was 0.004 ppm. The Statewide average in 2003 was also 0.004 ppm.

Figure 6
Sulfur Dioxide 24-Hour Trends
(ppm)



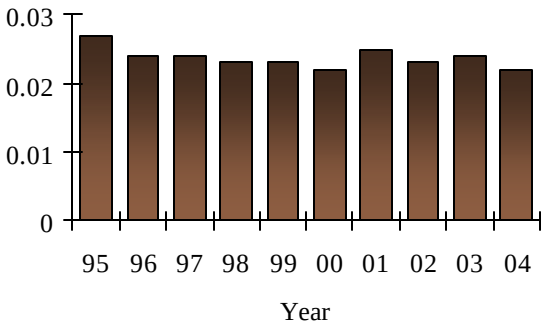
Since 1984 that Statewide trend of annual averages has been flat, ranging from 0.009 ppm to 0.004 ppm. **Figure 6** shows the statewide trend for the maximum 24-hour averages for the period 1994-2003. The 24-hour average trend has been overall downward; however a greater degree of year-to-year fluctuations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

NITROGEN DIOXIDE

There were no violations of the annual primary standard of 0.053 ppm recorded in Illinois during 2004. The highest annual average of 0.029 ppm was recorded at Chicago - CTA and Schiller Park. The Statewide average for 2004 was 0.022 ppm compared with 0.024 ppm in 2003 and 0.023 ppm in 2002.

Three sites operated only during part of the ozone season as PAMS. **Figure 7** depicts the trend of statewide averages from 1995-2004. The trend has been generally stable for the period ranging from 0.022 ppm to 0.027 ppm. There have been no violations of the annual standard since 1980.

Figure 7
Nitrogen Dioxide Annual Trend
(ppm)



LEAD

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

There were no violations of the Quarterly lead Standard of 1.5 ug/m3. The highest quarterly lead average in 2004 was 0.15 ug/m3 recorded at Granite City - 15th & Madison during the 1st quarter. This high value was due to some unusually high daily values in January and February.

Figure 8
Lead Maximum Quarterly Trend
(ug/m3)

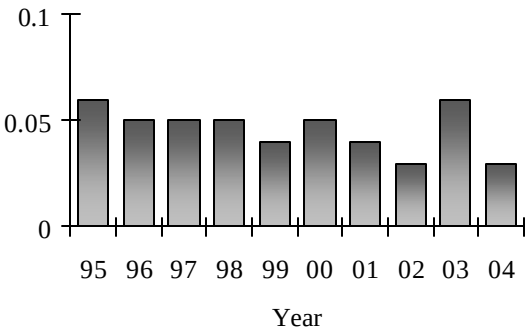


Figure 8 shows the trend of the statewide maximum quarterly average from 1994-2003 The trend shows that ambient lead levels have generally decreased during the period. Without the high quarter in Granite City, the statewide average would have been the same in 2003 as in 2002.

FILTER ANALYSIS RESULTS

The TSP samples analyzed, in addition to lead, for specific metals, sulfates and nitrates. Several of the metals analyzed (arsenic, beryllium, cadmium, chromium, manganese, and nickel) have known toxic properties. Other metals such as iron can be used as tracers to help identify sources of high particulate values. Sulfates and nitrates are precursors of acid precipitation/deposition and add to the understanding of this inter-regional problem. They are also important constituents of the $PM_{2.5}$ values. There are currently no State or Federal ambient air quality standards for these parameters.

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

and manganese. The highest 24-hour average for arsenic was 0.135 ug/m^3 measured in Granite City. The highest annual average of 0.007 ug/m^3 was recorded at the same site . There were no measurable beryllium 24-hour averages recorded statewide. East St. Louis recorded the highest cadmium concentrations with a maximum 24-hour average of 0.022 ug/m^3 and the highest annual average of 0.003 ug/m^3 . The highest 24-hour chromium average was 0.031 ug/m^3 recorded at Maywood. Maywood also had the highest annual average at 0.011 ug/m^3. The highest iron and manganese values were recorded in the industrial areas of Granite City and South Chicago and the high traffic areas of Chicago - Cermak and Maywood. The highest 24-hour average for nickel was recorded at Wood River with a value of 0.037 ug/m^3. The highest annual average was in Maywood with an average of 0.010 ug/m^3. For nitrates the highest 24-hour average was 26.1 ug/m^3 recorded at Chicago - Mayfair. The highest annual average was 6.3 ug/m^3 also at Chicago - Mayfair. For sulfates the highest 24-hour average was 27.5 ug/m^3 recorded at Granite City. The highest annual average was 8.7 ug/m^3 also at Granite City. In general metals, nitrate, and sulfate values were lower in 2004 than in 2003.

VOLATILE ORGANIC COMPOUNDS

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

Sampling was conducted for the period June - August. Automated Gas Chromatograph (GC) systems providing hourly data were located at both sites. In addition, continuous formaldehyde data was collected in Northbrook and manual carbonyl samples were taken every six days at Northbrook. Every six day samples were also taken at Chicago-Jardine during PAMS season. The data is presented as parts per billion carbon (ppbc). This process reduces all of the results to a common basis in terms of single carbon atoms. The carbonyls are expressed in regular parts per billion volume.

In general VOC levels were lower in 2004 than in 2003 at Chicago-Jardine and slightly higher in 2004 than 2003 at Northbrook. The highest compounds in terms of 24-hour and seasonal averages at Chicago - Jardine were Isopentane, Ethane, Propane, Toluene, 2,2,4 Trimethylpentane, and N-Butane. The lowest compounds were Isoprene, Methylheptanes, Ethyltoluenes, Diethylbenzenes, Butenes, and Pentenes. The highest compounds for 24-hour and seasonal averages at Northbrook were Ethane, Isopentane, Toluene, Propane, 2,2,4 Trimethylpentane, Isoprene, and N-Butane. The lowest compounds were Butenes, Pentenes, Styrene, Diethylbenzenes, and Propylbenzenes.

TOXIC COMPOUNDS

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

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 2004. 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 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 ($PM_{2.5}$). If data for one of the pollutants used in computing AQI is missing, the AQI is computed using the data available, ignoring the missing datum. It occasionally happens that two pollutants have the same subindex; in such cases there are two critical pollutants.

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

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

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

2004 Illinois AQI Summary

In order to present a more representative AQI, 24-hour calendar day $PM_{2.5}$ and PM_{10} values from the total network were used to determine the percentages in **Figure 9** even though some of these values were not available for issuing the daily AQI. Air quality was still in the "Good" category most often in 2004. Most Sectors had a higher frequency of "Good" than "Moderate" and "Unhealthy for Sensitive Groups". The exceptions were the Chicago sector, the South and West Suburbs sector and the Metro-East sector. The Quad Cities, Champaign, Normal, Decatur and Springfield sectors had 75 percent or more of the days in the "Good" category. Within AQI sectors there were 19 occurrences of Unhealthy for Sensitive Groups air quality in in 2004. The sector breakdown for Unhealthy for Sensitive Groups was, 6 in Chicago, 5 in the North & West Suburbs, 4 in South & West Suburbs, 1 in Will County, 1 in Rockford, 1 in Metro-East, and 1 in Peoria. Outside of AQI sectors there were no additional occurrences of Unhealthy for Sensitive Groups. All of the Unhealthy for Sensitive Groups occurrences were due to PM2.5. **Figure 9** presents the AQI statistics for each sector. The pie chart shows the percent of time each sector was in a particular category.

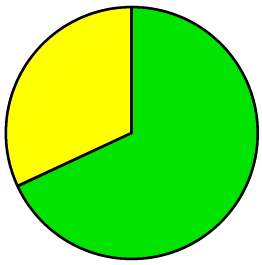
In 2004 there were no ozone advisories issued in the State. An Advisory is declared when ozone levels have reached the level of the 1-hour standard (0.12 ppm) on a particular day and meteorological conditions are such that these levels are expected again the next day.

Table 4: AQI Sectors in Illinois

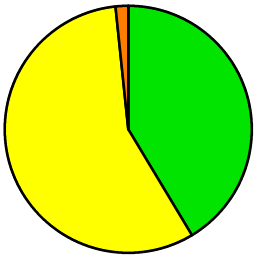
Chicago Metropolitan Area:	
Lake County Sector	Lake County only
North and West Suburbs Sector	Parts of Cook, Du Page, and Mc Henry Counties north of I-290 (the Eisenhower Expressway) and outside of Chicago city limits.
Chicago Sector	All areas within the city limits of Chicago
South and West Suburbs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

Figure 9: 2004 Air Quality Index Summaries by Sector

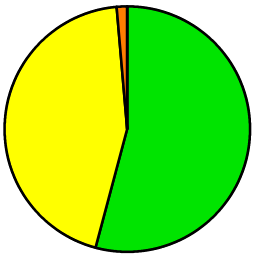
Chicago Sector - Lake County



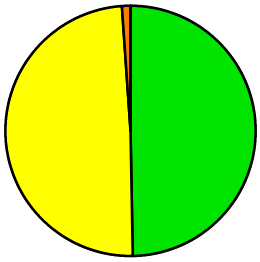
Chicago Sector - Chicago



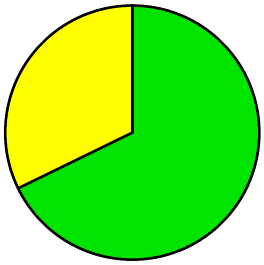
Chicago Sector - North & West Suburbs



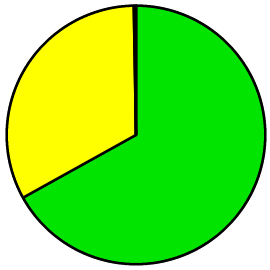
Chicago Sector - South & West Suburbs



Aurora - Elgin



Joliet/Will County



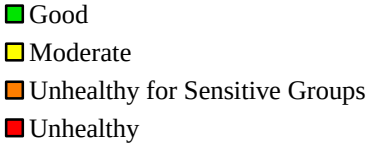


Figure 9: 2004 Air Quality Index Summaries by Sector

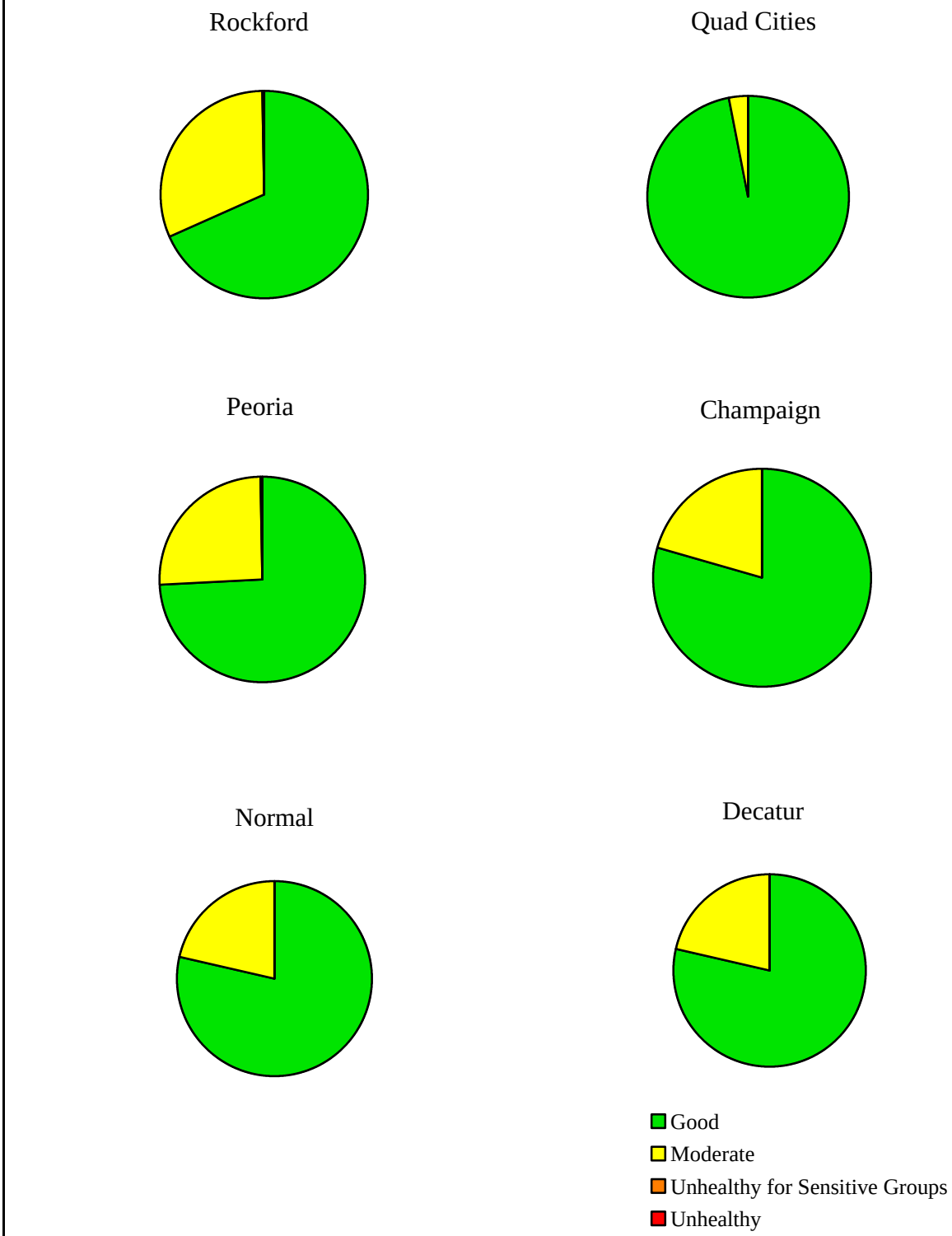
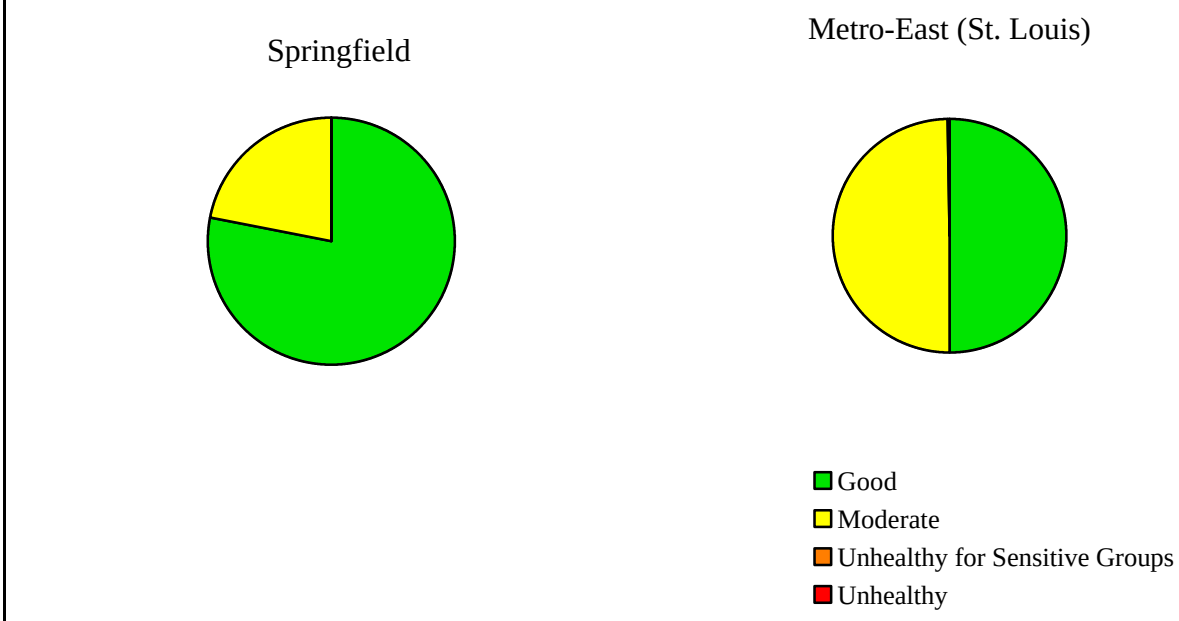


Figure 9: 2004 Air Quality Index Summaries by Sector



SECTION 4: STATEWIDE SUMMARY OF POINT SOURCE EMISSIONS

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

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

ISSIS currently includes emission data on approximately 7,000 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, now in the Air Quality Planning Section, uses permit applications, the issued permit and data reported on annual emission reports to compile the inventory.

The following tables and graphs are an analysis of the emissions data contained in ISSIS at the end of 2004. 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)

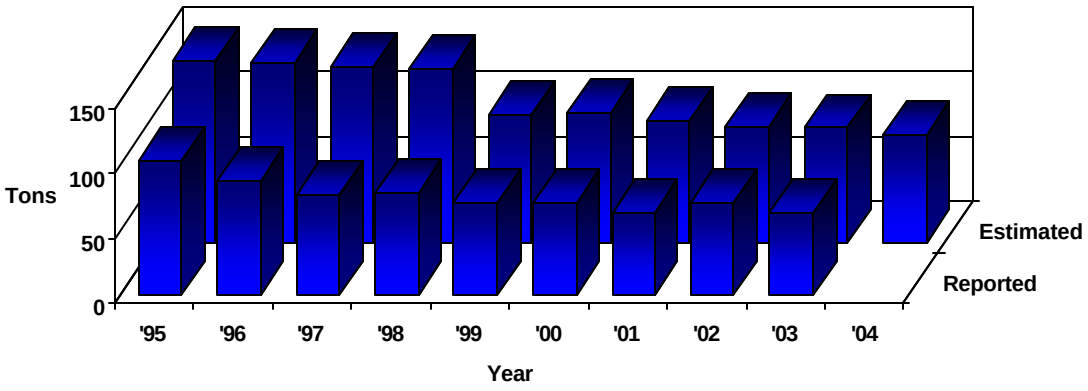


Table 5: Volatile Organic Material Emissions - 2004

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Chemical Manufacturing	15,798.3	18.79%	18.79%
Surface Coating Operations	13,480.0	16.03%	34.82%
Food/Agriculture	11,020.4	13.11%	47.93%
Printing/Publishing	8,296.9	9.87%	57.80%
Petroleum Product Storage	4,973.4	5.92%	63.71%
Rubber and Plastic Products	4,322.0	5.14%	68.85%
Fuel Combustion	4,063.8	4.83%	73.69%
Petroleum Industry	3,029.1	3.60%	77.29%
Bulk Terminal/Plants	2,799.1	3.33%	80.62%
Mineral Products	2,225.1	2.65%	83.26%
Petroleum Marketing/Transport	1,565.6	1.86%	85.13%
Site Remediation	1,438.5	1.71%	86.84%
Fabricated Metal Products	1,388.5	1.65%	88.49%
Organic Solvent Use	1,141.8	1.36%	89.85%
Organic Chemical Storage	1,188.5	1.41%	91.26%
Secondary Metal Production	1,076.0	1.28%	92.54%
All Other Categories	6,273.3	7.46%	100.00%

PARTICULATE MATTER

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

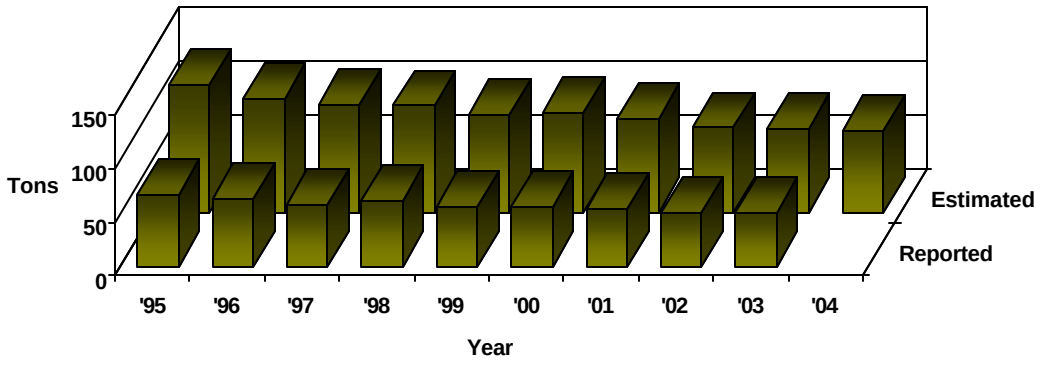


Table 6: Distribution of Particulate Matter Emissions - 2004

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Mineral Products	21,164.3	27.56%	27.56%
Fuel Combustion	20,379.8	26.54%	54.10%
Food/Agriculture	17,280.1	22.50%	76.61%
Chemical Manufacturing	3,419.6	4.45%	81.06%
Secondary Metal Production	2,989.1	3.89%	84.95%
Petroleum Industry	2,924.8	3.81%	88.76%
Primary Metal Production	2,690.3	3.50%	92.27%
Solid Waste Disposal	1,944.6	2.53%	94.80%
Fabricated Metal Products	756.6	0.99%	95.78%
Surface Coating Operations	635.6	0.83%	96.61%
Rubber and Plastic Products	522.5	0.68%	97.29%
All Other Categories	2,079.8	2.71%	100.00%

CARBON MONOXIDE

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

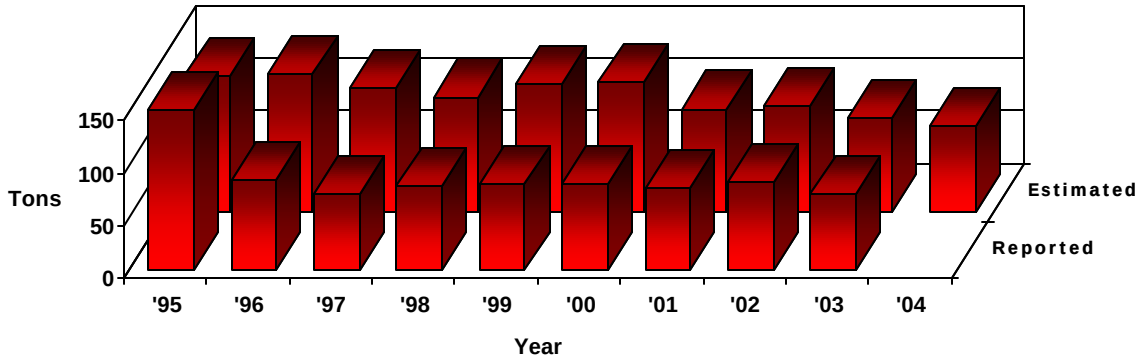


Table 7: Distribution of Carbon Monoxide Emissions - 2004

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	37,810.9	46.98%	46.98%
Primary Metal Production	10,028.6	12.46%	59.44%
Mineral Products	9,178.8	11.41%	70.85%
Petroleum Industry	7,812.1	9.71%	80.56%
Solid Waste Disposal	5,283.9	6.57%	87.12%
Chemical Manufacturing	3,514.1	4.37%	91.49%
Secondary Metal Production	1,729.8	2.15%	93.64%
Fabricated Metal Products	1,527.4	1.90%	85.54%
Food/Agriculture	1,329.0	1.65%	97.19%
In-Process Fuel Use	1,102.1	1.37%	98.56%
All Other Categories	1,161.9	1.44%	100.00%

SULFUR DIOXIDE

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

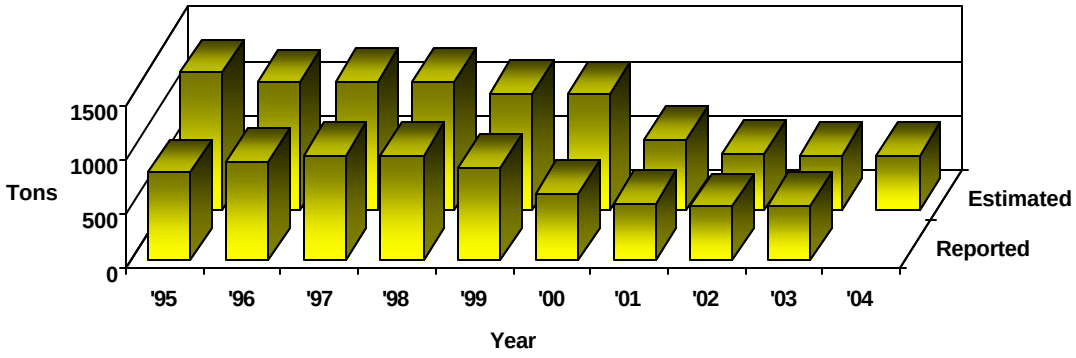


Table 8: Distribution of Sulfur Dioxide Emissions - 2004

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	418,782.8	82.58%	82.58%
Petroleum Industry	53,085.8	10.47%	93.04%
Mineral Products	14,022.8	2.77%	95.81%
Chemical Manufacturing	12,698.2	2.50%	98.31%
Primary Metal Production	2,442.7	0.48%	98.80%
Food/Agriculture	2,249.3	0.44%	99.24%
All Other Categories	3,860.5	0.76%	100.00%

NITROGEN OXIDES

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

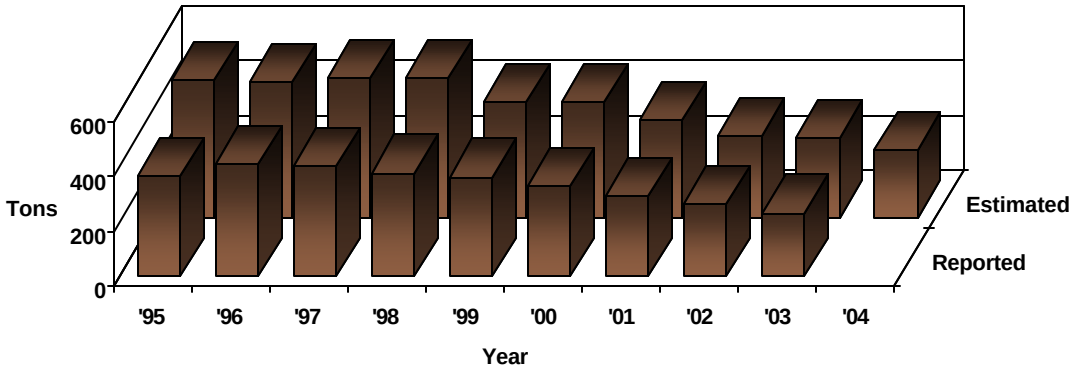


Table 9: Distribution of Nitrogen Oxide Emissions - 2004

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	203,862.8	82.12%	82.12%
Mineral Products	17,615.3	7.10%	89.22%
Petroleum Industry	14,059.6	5.66%	94.88%
Chemical Manufacturing	2,204.2	0.89%	95.77%
Solid Waste Disposal	2,036.8	0.82%	96.59%
Primary Metal Production	1,897.9	0.76%	97.35%
In-Process Fuel Use	1,597.6	0.64%	98.00%
Food/Agriculture	1,245.4	0.50%	95.50%
Secondary Metal Production	1,156.8	0.47%	98.97%
All Other Categories	2,568.9	1.03%	100.00%

APPENDIX A
AIR SAMPLING NETWORK

DESCRIPTION OF THE AIR SAMPLING NETWORK

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

Many local agencies and volunteers cooperate and support the operation of the Illinois air monitoring network. The network contains both continuous and intermittent instruments. The continuous instruments operate throughout the year, while noncontinuous instruments operate intermittently based on the schedule shown in **Table A2**. This is the official noncontinuous sampling schedule used by the Illinois EPA during 2004.

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

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

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

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

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

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

   d. To determine general background concentration levels.

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

   a. To measure expected maximum concentrations.

TABLE A1

DIRECTORY OF REGIONAL AIR POLLUTION AGENCIES

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

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

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

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

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

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

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

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

Table A2
2004 - Noncontinous Sampling Schedule

January

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

February

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

March

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

April

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

May

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

June

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

July

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

August

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

September

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

October

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

November

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

December

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

15 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	37	11	48
$PM_{2.5}$ Speciation	0	0	6	2	8
Particulate Matter (PM_{10})	0	8	8	1	17
Total Suspended Particulates (TSP)	0	0	0	12	12
Lead	0	2	11	0	13
Sulfur Dioxide	0	10	9	3	22
Nitrogen Dioxide	3	2	3	0	8
Ozone	4	10	24	1	39
Carbon Monoxide	0	2	6	0	8
Volatile Organic Compounds/Toxics	2	0	0	2	4
Wind Systems	4	0	0	17	21
Solar Radiation	4	0	0	5	9
Meteorological	4	0	0	0	4
Total	21	34	104	54	213

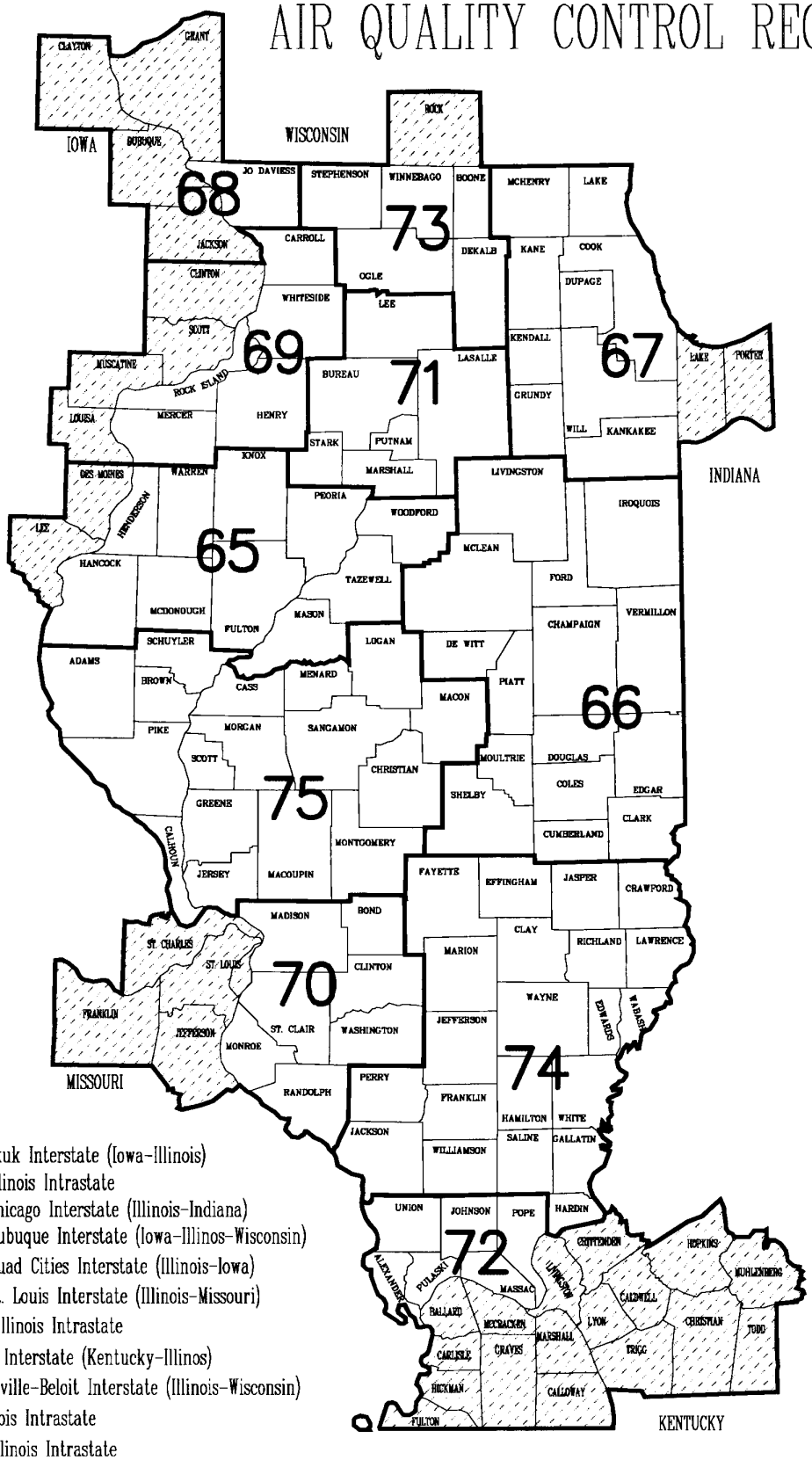
There were a several changes to the monitoring network from 2003 to 2004.

O_3 was discontinued at Chicago – SE Police. Also PAMS NO_2 and VOC was temporarily discontinued at Zion.

New $PM_{2.5}$ monitors were installed at Jerseyville and Schiller Park. SO_2 monitors were installed at Chicago - Com Ed and Northbrook. An O_3 monitor was installed at Chicago - Com Ed.

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

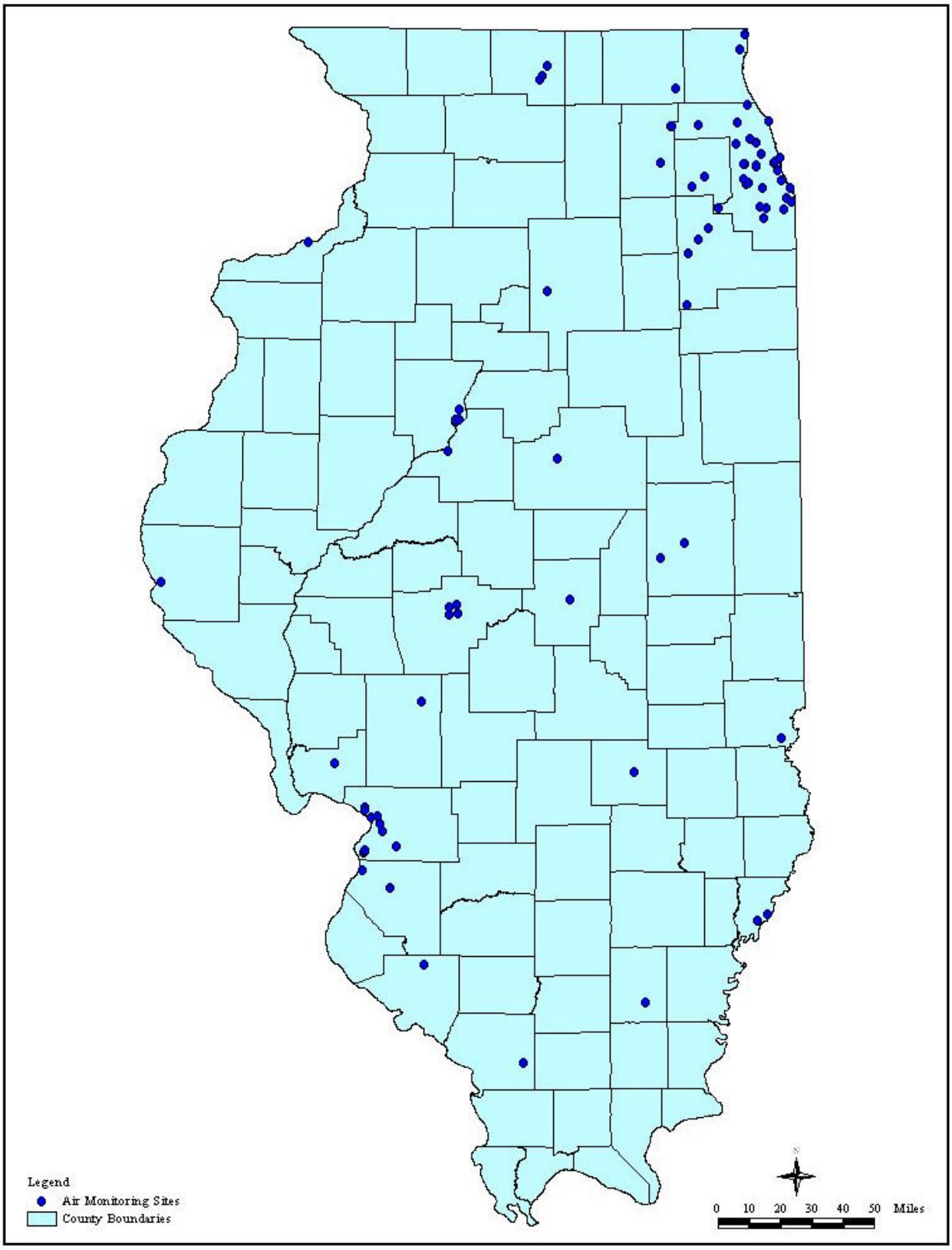


Table A4

2004
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 (DISC)	University H.S.	Ill. EPA	N. 4486.625	SLAMS - $PM_{2.5}$
(1132003)	Main & Gregory		E. 330.925	
Normal	ISU Physical Plant	Ill. EPA	N. 4486.886	SLAMS – O_3
(1132003)	Main & Gregory		E. 330.771	
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)				
COOK COUNTY				
Alsip	Village Garage	Cook County DEC	N. 4613.287	SLAMS - O_3, Pb, PM_{10}
(0310001)	4500 W. 123rd St.		E. 439.015	SPMS - TSP,WS/WD,$PM_{2.5}$
Bedford Park (DISC)	APC Laboratory	Cook County DEC	N. 4624.760	SLAMS - SO_2
(0311018)	7800 W. 65th St.		E. 432.241	SPMS - WS/WD
Blue Island	Eisenhower H.S.	Cook County DEC	N. 4612.286	NAMS - PM_{10}
(0312001)	12700 Sacramento		E. 442.003	SLAMS - $PM_{2.5}$

Table A4

2004
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Chicago (0310060)	Carver H.S. 13100 S. Doty	Cook County DEC	N. 4611.594 E. 450.911	NAMS - PM_{10}
Chicago (0310026)	Cermak Pump Sta. 735 W. Harrison	Cook County DEC	N. 4635.707 E. 446.469	SLAMS - Pb SPMS - TSP
Chicago (0310063)	CTA Building 320 S. Franklin	Ill. EPA	N. 4636.096 E. 447.365	NAMS - CO, NO/NO_2, SO2
Chicago (0310076)	Com Ed Maintenance Bldg. 7801 Lawndale	Cook County DEC	N. 4622.217 E. 440.658	SLAMS - $PM_{2.5}$/SPEC, O_3^n, NO/NO_2, SO_2^n SPMS – WS/WD,$PM_{2.5}$/SPEC
Chicago (DISC) (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 - $PM_{2.5}$
Chicago (0310032)	South Water Filtration Plant 3300 E. Cheltenham Pl.	Cook County DEC	N. 4622.596 E. 454.663	SLAMS - O_3
Chicago (0310057)	Springfield Pump Sta. 1745 N. Springfield. Ave.	Cook County DEC	N. 4640.189 E. 440.009	SLAMS - $PM_{2.5}$/SPEC SPMS - $PM_{2.5}$/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, $PM_{2.5}$
Cicero (0316005)	Liberty School 13^{th} St. & 50^{th} Ave.	Cook County DEC	N. 4634.780 E. 437.846	SLAMS - $PM_{2.5}$

Table A4

2004
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
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, $PM_{2.5}$ SPMS - $PM_{2.5}$
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	SPMS - $PM_{2.5}$
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)	4th District Court Bldg 1500 Maybrook Dr.	Cook County DEC	N. 4635.705 E. 431.435	NAMS - Pb
Maywood (0316004)	Com Ed Maintenance 1505 S. First Ave.	Cook County DEC	N. 4635.695 E. 431.200	NAMS - CO
Maywood (0316006)	4th District Court Bldg 1500 Maybrook Dr.	Cook County DEC	N. 4635.994 E. 431.466	SPMS - PM_{10}, $PM_{2.5}$
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 - $PM_{2.5}$/SPEC, SO_2 [n], Pb SPMS - Hg, TOX, TSP
Schiller Park (0313103)	IEPA Trailer 4743 Mannheim Rd.	Ill. EPA	N. 4646.084 E. 427.387	SLAMS - CO, NO/NO_2, Pb, $PM_{2.5}$ [n] 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

Table A4

2004
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
DUPAGE COUNTY				
Lisle	Morton Arboretum	Ill. EPA	N. 4629.361	SLAMS - O_3
(0436001)	Route 53		E. 410.891	SPMS - WS/WD
Naperville	City Hall	Ill. EPA	N. 4624.786	SLAMS - $PM_{2.5}$/SPEC
(0434002)	400 S. Eagle St.		E. 404.208	SPMS - $PM_{2.5}$
KANE COUNTY				
Elgin	Larsen Junior H.S.	Ill. EPA	N. 4655.844	NAMS - O_3
(0890005)	665 Dundee Rd.		E. 394.654	
Elgin	McKinley School	Ill. EPA	N. 4655.941	SLAMS - $PM_{2.5}$
(0890003)	258 Lovell St.		E. 394.048	
LAKE COUNTY				
Waukegan	North Fire Station	Ill. EPA	N. 4693.854	NAMS - O_3
(0971002)	Golf & Jackson Sts.		E. 430.744	
Zion	Camp Logan	Ill. EPA	N. 4701.795	PAMS - O_3, NO/NO_2[d], VOC[d]
(0971007)	Illinois Beach State Park		E. 433.407	WS/WD, SOL, MET
				SLAMS - $PM_{2.5}$
Mc HENRY COUNTY				
Cary	Cary Grove H.S.	Ill. EPA	N. 4674.900	NAMS - O_3
(1110001)	1st St. & Three Oaks Rd.		E. 397.486	SLAMS - $PM_{2.5}$
WILL COUNTY				
Braidwood	Com Ed Training Center	Ill. EPA	N. 4563.825	PAMS - O_3, NO/NO_2,
(1971011)	36400 S. Essex Road		E. 400.172	WS/WD, SOL, MET
				SLAMS - $PM_{2.5}$
Joliet	Pershing Elem. Sch.	Ill. EPA	N. 4597.636	NAMS - PM10
(1971002)	Midland & Campbell Sts.		E. 406.854	SLAMS - $PM_{2.5}$
Joliet	Water Plant West	Ill. EPA	N. 4590.279	NAMS - SO_2
(1970013)	Rte. 6 & Young Rd.		E. 401.284	
South Lockport (DISC)	Fitness Forum	Ill. EPA	N. 4602.982	SLAMS - O_3
(1971008)	2021 Lawrence		E. 412.039	
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)				
ROCK ISLAND COUNTY				
Rock Island	Rock Island Arsenal	Ill. EPA	N. 4598.661	NAMS - O_3
(1613002)	32 Rodman Ave.		E. 707.185	SLAMS - $PM_{2.5}$
				SPMS - WS/WD, SOL

Table A4

2004
SITE DIRECTORY

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

Table A4

2004
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
ST. CLAIR COUNTY				
East St. Louis (1630010)	RAPS Trailer 13th & Tudor	Ill. EPA	N. 4277.363 E. 747.251	NAMS - SO_2, PM_{10} SLAMS - NO/NO_2, Pb, O_3, $PM_{2.5}$, CO SPMS - TSP,WS/WD,$PM_{2.5}$, SOL^n
Swansea (1634001)	Village Maintenance Bldg. 1500 Caseyville Ave.	Ill. EPA	N. 4268.615 E. 239.086	SLAMS - $PM_{2.5}$
71 NORTH CENTRAL ILLINOIS INTRASTATE				
LA SALLE COUNTY				
Oglesby (0990007)	308 Portland Ave.	Ill. EPA	N. 4573.105 E. 328.412	SLAMS - PM_{10}, $PM_{2.5}$ SPMS - SO_2, WS/WD, $PM_{2.5}^n$
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)				
WINNEBAGO COUNTY				
Loves Park (2012003)	Maple Elem. Sch. 1405 Maple Ave.	Ill. EPA	N. 4688.756 E. 332.098	NAMS - O_3 SPMS - WS/WD
Rockford (2010009)	Walker Elem. Sch. 1500 Post St.	Ill. EPA	N. 4683.537 E. 328.760	NAMS - O_3
Rockford (DISC) (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
HAMILTON COUNTY				
Dale (DISC) (0650001)	Dale Elem. School SR 142	Ill. EPA	N. 4206.452 E. 368.899	SLAMS - O_3 SPMS - WS/WD, SOL^n
JACKSON COUNTY				
Carbondale (0770004)	Maintenance Bldg. 607 E. College	Ill. EPA SIU	N. 4177.180 E. 305.291	SLAMS - PM_{10}

Table A4

2004
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
WABASH COUNTY				
Mount Carmel (1850001)	Division St.	Public Service of Indiana	N. 4249.965 E. 432.444	SPMS - SO_2
Rural Wabash County (1851001)	South of SR-1	Public Service of Indiana	N. 4246.929 E. 427.104	SPMS - SO_2
75 WEST CENTRAL ILLINOIS INTRASTATE				
ADAMS COUNTY				
Quincy (0010006)	St. Boniface Elem. Sch. 732 Hampshire	Ill. EPA	N. 4421.320 E. 636.351	SLAMS - $PM_{2.5}$, SO_2, O_3 SPMS - WS/WD
JERSEY COUNTY				
Jerseyville (0831001)	Illini Jr. H.S. Liberty St. & County Rd.	Ill. EPA	N. 4332.242 E. 731.369	SLAMS - O_3 ,$PM_{2.5}{}^n$
MACON COUNTY				
Decatur (1150013)	IEPA Trailer 2200 N. 22nd	Ill. EPA	N. 4414.538 E. 335.308	NAMS - SO_2 SLAMS - O_3, $PM_{2.5}$/SPEC SPMS - WS/WD, $PM_{2.5}$
MACOUPIN COUNTY				
Nilwood (1170002)	IEPA Trailer Heaton & Dubois	Ill. EPA	N. 4364.287 E. 258.053	SLAMS - O_3, SO_2, Pb, PM_{10} SPMS - TSP, WS/WD, SOL CO_2, UV
SANGAMON COUNTY				
Springfield (1670006)	Sewage Treatment Plant 3300 Mechanicsburg Rd.	Ill. EPA	N. 4408.650 E. 278.194	NAMS - SO_2 SPMS - WS/WD[d]
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

2004
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 2004
(d)	- Instrument removed during 2004
NEW	- Site started during 2004
DISC	- Site discontinued during or at the end of 2004

SLAMS Designations

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

UTM Coordinates

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

APPENDIX B
AIR QUALITY DATA SUMMARY TABLES

B.1 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 2004. 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 2004. 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

2004
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)

NONE

Table B1

2004
OZONE IN EXCESS OF THE 8-HOUR
PRIMARY STANDARD OF 0.08 PARTS PER MILLION

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)

NONE

Table B2

2004
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	0.077	0.070	0.069	0.068	0.069	0.063	0.063	0.062
Peoria Heights	508 E. Glen	0	0	0.085	0.075	0.072	0.071	0.075	0.066	0.065	0.065
66 EAST CENTRAL ILLINOIS INTRASTATE											
CHAMPAIGN COUNTY											
Champaign	606 E. Grove	0	0	0.074	0.072	0.071	0.071	0.066	0.064	0.063	0.062
McLEAN COUNTY											
Normal	Main & Gregory	0	0	0.075	0.074	0.073	0.073	0.069	0.069	0.068	0.068
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)											
COOK COUNTY											
Alsip	4500 W. 123rd St.	0	0	0.087	0.084	0.076	0.075	0.075	0.073	0.069	0.065
Chicago - Com Ed	7801 Lawndale	0	0	0.080	0.078	0.078	0.078	0.073	0.070	0.069	0.068
Chicago - Jardine	1000 E. Ohio	0	0	0.083	0.083	0.075	0.071	0.071	0.068	0.067	0.060
Chicago - SWFP	3300 E Cheltenham	0	0	0.084	0.081	0.079	0.079	0.077	0.072	0.071	0.067
Chicago - Taft	6545 W. Hurlbut	0	0	0.087	0.084	0.080	0.078	0.076	0.070	0.069	0.067
Chicago - University	5720 S. Ellis	0	0	0.076	0.067	0.067	0.064	0.070	0.059	0.057	0.054
Cicero	1830 S. 51st Ave.	0	0	0.075	0.074	0.072	0.068	0.064	0.062	0.060	0.059
Des Plaines	9511 W. Harrison	0	0	0.084	0.079	0.077	0.074	0.072	0.071	0.068	0.064
Evanston	531 Lincoln	0	0	0.097	0.090	0.083	0.080	0.082	0.080	0.076	0.075
Lemont	729 Houston	0	0	0.083	0.083	0.078	0.077	0.074	0.070	0.068	0.067
Northbrook	750 Dundee Rd.	0	0	0.082	0.077	0.075	0.074	0.076	0.070	0.069	0.068
DuPAGE COUNTY											
Lisle	Morton Arboretum	0	0	0.080	0.078	0.077	0.077	0.070	0.069	0.067	0.065
KANE COUNTY											
Elgin	665 Dundee	0	0	0.083	0.081	0.078	0.077	0.074	0.071	0.069	0.069
LAKE COUNTY											
Waukegan	Golf & Jackson	0	0	0.101	0.091	0.083	0.077	0.084	0.080	0.069	0.068
Zion	Camp Logan	0	0	0.096	0.094	0.085	0.081	0.084	0.080	0.073	0.071
McHENRY COUNTY											
Cary	1st St. & Three Oaks	0	0	0.084	0.083	0.077	0.076	0.072	0.072	0.070	0.068
WILL COUNTY											
Braidwood	36400 S. Essex Rd.	0	0	0.081	0.077	0.077	0.075	0.073	0.072	0.072	0.068
South Lockport	2021 Lawrence	0	0	0.083	0.075	0.073	0.073	0.076	0.066	0.064	0.064

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

Table B2

2004
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	0.082	0.070	0.066	0.064	0.076	0.060	0.059	0.059
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)											
MADISON COUNTY											
Alton	409 Main St.	0	0	0.096	0.092	0.091	0.090	0.080	0.074	0.074	0.074
Edwardsville	Poag Road	0	0	0.101	0.092	0.085	0.082	0.076	0.075	0.068	0.068
Maryville	200 W. Division	0	0	0.105	0.103	0.102	0.100	0.082	0.081	0.080	0.078
Wood River	54 N. Walcott	0	0	0.097	0.097	0.096	0.095	0.081	0.080	0.073	0.073
RANDOLPH COUNTY											
Houston	Twp Rds. 150 & 45	0	0	0.0082	0.074	0.074	0.073	0.069	0.066	0.065	0.064
ST. CLAIR COUNTY											
East St. Louis	13th & Tudor	0	0	0.102	0.094	0.092	0.084	0.078	0.076	0.075	0.073
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)											
WINNEBAGO COUNTY											
Loves Park	1405 Maple	0	0	0.081	0.076	0.072	0.069	0.072	0.070	0.067	0.061
Rockford	1500 Post	0	0	0.081	0.079	0.075	0.071	0.074	0.073	0.071	0.064
74 SOUTHEAST ILLINOIS INTRASTATE											
EFFINGHAM COUNTY											
Effingham	Route 45 South	0	0	0.097	0.088	0.078	0.076	0.074	0.073	0.067	0.067
HAMILTON COUNTY											
Dale	Route 142	0	0	0.085	0.081	0.080	0.076	0.072	0.072	0.072	0.071
75 WEST CENTRAL ILLINOIS INTRASTATE											
ADAMS COUNTY											
Quincy	732 Hampshire	0	0	0.078	0.072	0.071	0.070	0.067	0.066	0.064	0.063
JERSEY COUNTY											
Jerseyville	Liberty St.	0	0	0.095	0.093	0.089	0.088	0.077	0.076	0.075	0.073
MACON COUNTY											
Decatur	2200 N. 22nd St.	0	0	0.078	0.071	0.069	0.069	0.066	0.066	0.064	0.064
MACOUPIN COUNTY											
Nilwood	Heaton & DuBois	0	0	0.087	0.084	0.081	0.079	0.080	0.069	0.069	0.068
SANGAMON COUNTY											
Springfield	2875 N. Dirksen	0	0	0.082	0.079	0.078	0.077	0.071	0.066	0.065	0.064

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

Table B3

2004

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

STATION	ADDRESS	NUMBER OF SAMPLES TOTAL	>65 ug/m^3	>40 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	109	0	1	42.5	32.3	31.4	28.9	12.8
66 EAST CENTRAL ILLINOIS INTRASTATE									
CHAMPAIGN COUNTY									
Bondville	Twp. Rd. 500 E.	56	0	0	27.1	23.6	21.8	21.5	10.6
Champaign	606 E. Grove	58	0	0	29.7	24.3	18.9	18.3	10.4
Mc LEAN COUNTY									
Normal	Main & Gregory	57	0	0	33.7	26.0	24.8	23.0	11.5
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Blue Island	12700 Sacramento	118	0	1	40.5	39.0	38.5	32.8	14.1
Chicago-Com Ed	7801 Lawndale	118	0	2	49.0	41.9	39.7	33.3	14.1
Chicago-Farr	3300 S. Michigan Ave.	116	0	2	52.2	40.3	33.4	31.9	13.2
Chicago-Mayfair	4850 Wilson Ave.	348	0	5	49.6	46.5	45.0	43.4	15.3
Chicago-SE Police	103rd & Luella	122	0	2	46.3	40.5	34.2	30.3	13.8
Chicado-Springfield	1745 N. Springfield Ave.	109	0	1	43.6	36.2	33.1	32.0	13.7
Chicago-Washington HS	3535 E. 114th St.	56	0	1	42.6	32.5	32.3	29.3	14.2
Cicero	13th St. & 50th Ave.	118	0	3	51.9	42.8	42.5	39.3	15.2
Des Plaines	9511 W. Harrison	122	0	1	42.5	37.6	35.0	31.2	12.4
Lyons Township	50th St. & Glencoe Ave.	116	0	3	49.1	48.5	42.6	36.6	16.7
Northbrook	750 Dundee Road	119	0	1	41.0	36.9	26.1	25.0	11.2
Schiller Park	4743 Mannheim Rd.	114	0	3	54.3	40.9	40.7	37.6	16.0
Summit	60th St. & 74th Ave.	118	0	3	48.7	42.8	42.4	35.8	14.3
Du PAGE COUNTY									
Naperville	400 S. Eagle St.	56	0	0	39.9	31.9	29.4	26.6	12.7
KANE COUNTY									
Elgin	258 Lovell St.	61	0	0	38.9	25.8	25.3	24.5	11.5
LAKE COUNTY									
Zion	Camp Logan	61	0	0	32.9	26.3	23.5	22.4	10.3

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

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

Table B3

2004

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

STATION	ADDRESS	NUMBER OF SAMPLES TOTAL	>65 ug/m^3	>40 ug/m^3	HIGHEST SAMPLES 1st	2nd	3rd	4th	ANNUAL ARITHMETIC MEAN
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
Mc HENRY COUNTY									
Cary	1st St. & Three Oaks Rd.	118	0	0	36.2	29.1	27.5	25.0	11.3
WILL COUNTY									
Braidwood	36400 S. Essex Rd.	60	0	0	26.1	23.6	21.4	21.2	10.3
Joliet	Midland & Campbell	49	0	0	35.4	29.1	25.0	24.8	+
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
ROCK ISLAND COUNTY									
Rock Island	32 Rodman Ave.	59	0	0	35.5	24.9	23.6	23.3	10.4
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	1700 Annex St.	112	0	0	32.2	30.1	28.9	28.0	11.5
Granite City	23rd & Madison	116	0	1	45.0	35.8	35.4	32.3	15.4
Granite City	2040 Washington	113	0	1	47.9	38.6	35.3	33.8	16.2
Wood River	54 N. Walcott	113	0	0	38.2	36.2	30.0	29.5	13.2
RANDOLPH COUNTY									
Houston	Twp Rds. 150 & 45	61	0	0	29.0	23.0	20.5	19.9	10.9
ST. CLAIR COUNTY									
East St. Louis	13th & Tudor	59	0	0	34.8	30.2	26.2	24.9	14.7
Swansea	1500 Caseyville Ave.	116	0	1	42.2	34.8	26.6	26.3	13.2
71 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	118	0	0	36.9	26.9	24.5	24.3	11.4
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)									
WINNEBAGO COUNTY									
Rockford	204 S. 1st St.	58	0	1	47.9	27.2	23.1	22.8	11.7

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

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

Table B3

2004

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

STATION	ADDRESS	NUMBER OF SAMPLES TOTAL	>65 ug/m^3	>40 ug/m^3	HIGHEST SAMPLES 1st	2nd	3rd	4th	ANNUAL ARITHMETIC MEAN
75 WEST CENTRAL ILLINOIS INTRASTATE									
ADAMS COUNTY									
Quincy	732 Hampshire	57	0	0	35.4	25.0	20.7	19.3	10.7
JERSEY COUNTY									
Jerseyville	Liberty St.	57	0	0	30.6	25.0	24.3	21.7	11.5
MACON COUNTY									
Decatur	2200 N. 22nd	58	0	0	28.7	26.3	21.5	18.9	11.9
SANGAMON COUNTY									
Springfield	State Fair Grounds	118	0	0	35.8	32.9	30.2	25.6	11.8

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

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

Table B4

2004
SHORT-TERM TRENDS
PARTICULATE MATTER ($PM_{2.5}$)

STATION	ADDRESS	ANNUAL ARITHMETIC MEANS (ug/m^3) 1999	2000	2001	2002	2003	2004
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	+	14.9	13.9	13.9	13.7	12.8
66 EAST CENTRAL ILLINOIS INTRASTATE							
CHAMPAIGN COUNTY							
Bondville	Twp. Rd. 500 E.	+	14.5	+	12.2	+	10.6
Champaign	606 E. Grove	-	14.8	12.6	12.2	13.1	10.4
McLEAN COUNTY							
Normal	Main & Gregory	-	14.9	14.8	12.9	13.2	11.5
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Blue Island	12700 Sacramento	17.4	16.8	17.1	+	14.9	14.1
Chicago-Com Ed	7801 Lawndale	-	16.6	+	15.7	14.9	14.1
Chicago-Farr	3300 S. Michigan Ave.	18.0	+	17.1	15.5	15.1	13.2
Chicago-Mayfair	48500 Wilson Ave.	+	18.3	19.4	16.5	15.8	15.3
Chicago-SE Police	103rd & Luella	17.2	+	+	15.5	15.3	13.8
Chicago-Springfield	1745 N. Springfield Ave.	-	17.3	16.2	15.2	15.6	13.7
Chicago - Washington HS	3535 E. 114th St.	17.4	17.9	17.1	15.3	15.6	14.2
Cicero	13th St. & 50th Ave.	-	+	17.4	16.0	+	15.2
Des Plaines	9511 W. Harrison	-	15.3	14.8	14.4	13.2	12.4
Lyons Township	50th St. & Glencoe Ave.	21.8	20.2	20.8	17.7	16.7	16.7
Northbrook	750 Dundee Road	15.5	14.3	14.7	13.2	12.2	11.2
Schiller Park	4743 Mannheim Rd.	-	-	-	-	-	16.0
Summit	60th St. & 74th Ave.	17.5	16.9	16.5	16.1	15.6	14.3
Du PAGE COUNTY							
Naperville	400 S. Eagle St.	15.6	15.3	15.5	14.7	13.1	12.7
KANE COUNTY							
Elgin	258 Lovell St.	-	+	15.1	14.3	13.3	11.5
LAKE COUNTY							
Zion	Camp Logan	-	12.2	+	13.5	11.3	10.3

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

Primary Annual Standard 15.0 ug/m^3

Table B4

2004
SHORT-TERM TRENDS
PARTICULATE MATTER ($PM_{2.5}$)

STATION	ADDRESS	ANNUAL ARITHMETIC MEANS (ug/m^3) 1999	2000	2001	2002	2003	2004	
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)								
Mc HENRY COUNTY								
Cary	1st St. & Three Oaks Rd.	-		14.8	13.7	12.3	12.2	11.3
WILL COUNTY								
Braidwood	36400 S. Essex Rd.	+	14.2	12.9	13.5	11.9	10.3	
Joliet	Midland & Campbell Sts.	15.5	16.0	16.1	14.4	13.8	+	
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)								
ROCK ISLAND COUNTY								
Rock Island	32 Rodman Ave.	-	13.6	12.8	11.8	12.8	10.4	
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)								
MADISON COUNTY								
Alton	1700 Annex St.	-	16.0	15.8	14.7	14.1	11.5	
Granite City	23rd & Madison	+	17.4	17.3	17.7	17.5	15.4	
Granite City	2040 Washington	20.6	20.6	19.7	19.6	18.1	16.2	
Wood River	54 N. Walcott	15.7	15.9	15.0	15.1	14.0	13.2	
RANDOLPH COUNTY								
Houston	Twp Rds. 150 & 45	14.5	15.2	12.1	11.6	13.4	10.9	
ST. CLAIR COUNTY								
East St. Louis	13th St. & Tudor Ave.	17.9	17.4	17.0	16.7	14.8	14.7	
Swansea	1500 Caseyville Ave.	-	15.0	15.5	15.1	+	13.2	
71 NORTH CENTRAL ILLINOIS INTRASTATE								
LASALLE COUNTY								
Oglesby	308 Portland Ave.	-	15.2	14.5	14.8	13.0	11.4	
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)								
WINNEBAGO COUNTY								
Rockford	204 S. 1st St.	+	15.0	+	14.8	12.2	11.7	

\- Station not in operation during the year.

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

Primary Annual Standard 15.0 ug/m^3

Table B4

2004
SHORT-TERM TRENDS
PARTICULATE MATTER ($PM_{2.5}$)

STATION	ADDRESS	ANNUAL ARITHMETIC MEANS (ug/m^3) 1999	2000	2001	2002	2003	2004
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	-	13.1	12.3	13.7	13.4	10.7
JERSEY COUNTY							
Jerseyville	Libery St.	-	-	-	-	-	11.5
MACON COUNTY							
Decatur	2200 N. 22nd	+	15.0	14.3	14.1	13.6	11.9
SANGAMON COUNTY							
Springfield	State Fair Grounds	15.9	13.4	13.3	13.6	13.0	11.8

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

Primary Annual Standard 15.0 ug/m^3

Table B5

2004

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	54	42	38	37	22
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd St.	6-day	60	0	74	56	47	47	24
Blue Island	12700 Sacramento	6-day	57	0	60	58	51	50	26
Chicago - Carver	13100 S. Doty	6-day	60	0	87	61	60	60	30
Chicago - Washington HS	3535 E. 114th St.	1-day	347	0	93	75	72	67	23
Lyons Township	50th St. & Glencoe Ave.	1-day	352	0	88	84	84	83	33
Midlothian	15205 Crawford Ave.	6-day	58	0	56	52	36	36	21
Summit	60th St. & 74th Ave.	6-day	59	0	62	51	50	48	30
WILL COUNTY									
Joliet	Midland & Campbell Sts.	6-day	59	0	43	40	40	39	19
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	6-day	60	0	85	66	65	63	34
Granite City	2040 Washington	1-day	366	0	93	92	91	87	38
Wood River	54 N. Walcott	6-day	60	0	64	53	45	44	25
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	6-day	59	0	54	54	48	46	29
71 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	1-day	363	0	126	92	91	83	25
74 SOUTHEAST ILLINOIS INTRASTATE									
JACKSON COUNTY									
Carbondale	607 E. College	6-day	61	0	44	40	38	36	20
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & Dubois	6-day	59	0	32	32	30	28	17

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

Table B6

2004
SHORT-TERM TRENDS
PARTICULATE MATTER (PM_{10})

ANNUAL ARITHMETIC MEANS (ug/m^3)

STATION	ADDRESS	1999	2000	2001	2002	2003	2004
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	23	24	22	21	25	22
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	25	26	27	23	23	24
Blue Island	12700 Sacramento	30	30	28	27	30	26
Chicago - Carver	13100 S. Doty	32	+	35	31	33	30
Chicago - Washington HS	3535 E. 114th St.	-	-	28	24	23	23
Lyons Township	50th St. & Glencoe Ave.	36	35	38	36	32	33
Midlothian	15205 Crawford Ave.	25	24	26	23	24	21
Summit	60th St. & 74th Ave.	34	32	+	31	31	30
WILL COUNTY							
Joliet	Midland & Campbell Sts.	23	+	24	21	27	19
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison	31	36	39	35	32	34
Granite City	2040 Washington	44	46	47	46	38	38
Wood River	54 N. Walcott	26	29	27	23	24	25
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	32	32	30	30	34	29
71 NORTH CENTRAL ILLINOIS INTRASTATE							
LASALLE COUNTY							
Oglesby	308 Portland Ave.	28	26	22	26	22	25
74 SOUTHEAST ILLINOIS INTRASTATE							
JACKSON COUNTY							
Carbondale	607 E. College	22	23	19	19	19	20
75 WEST CENTRAL ILLINOIS INTRASTATE							
MACOUPPIN COUNTY							
Nilwood	Heaton & Dubois	-	23	19	18	21	17

\- Station not in operation during the year.

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

Primary Annual Standard 50 ug/m^3

Table B7

2004
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	8652	0	0	4.3	3.9	3.8	3.6	3.0	2.4
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)										
COOK COUNTY										
Chicago - CTA Building	320 S. Franklin	8675	0	0	4.5	3.9	3.7	3.2	2.4	1.8
Cicero	1830 S. 51st Ave.	8717	0	0	4.9	4.8	4.7	3.7	2.7	2.6
Maywood	1505 S. First Ave	8570	0	0	3.9	3.9	3.8	3.2	3.2	3.2
Schiller Park	4743 N. Mannheim	8673	0	0	2.5	2.3	2.3	2.0	1.8	1.7
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)										
St. CLAIR COUNTY										
East St. Louis	13th & Tudor	8717	0	0	5.0	4.4	4.1	2.8	2.5	2.2
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)										
WINNEBAGO COUNTY										
Rockford	425 E. State	8697	0	0	3.4	3.2	3.2	2.9	2.7	2.1
75 WEST CENTRAL ILLINOIS INTRASTATE										
SANGAMON COUNTY										
Springfield	6th & Monroe	8724	0	0	2.6	2.3	2.1	1.3	1.2	1.2

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

Table B9

2004
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	8681	0	0	0.084	0.081	0.029	0.026	0.004
TAZEWELL COUNTY									
Pekin	272 Derby	8705	0	0	0.234	0.223	0.087	0.073	0.005
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Bedford Park	7800 W. 65th St.	8712	0	0	0.181	0.179	0.073	0.051	0.007
Chicago - CTA	320 S. Franklin	8630	0	0	0.092	0.071	0.028	0.027	0.003
Chicago – Com Ed	780 Lawndale	8679	0	0	0.051	0.043	0.025	0.017	0.006
Chicago - SE Police	103rd & Luella	8712	0	0	0.050	0.036	0.018	0.014	0.003
Cicero	1830 S. 51st Ave.	8706	0	0	0.085	0.076	0.039	0.028	0.005
Lemont	729 Houston	8709	0	0	0.055	0.045	0.020	0.019	0.006
Northbrook	750 Dundee Rd.	8396	0	0	0.063	0.056	0.040	0.022	0.002
WILL COUNTY									
Joliet	Rte 6 & Young Rd.	8554	0	0	0.049	0.040	0.017	0.014	0.003
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
South Roxana	Michigan Ave.	8729	0	0	0.087	0.085	0.045	0.033	0.005
Wood River	54 N. Walcott	8692	0	0	0.045	0.043	0.018	0.013	0.004
Wood River	1710 Vaughn Rd.	8594	0	0	0.176	0.123	0.054	0.042	0.005
RANDOLPH COUNTY									
Houston	Twp Rd 150 & Twp Rd 45	8709	0	0	0.051	0.023	0.015	0.015	0.002
ST. CLAIR COUNTY									
East St. Louis	13th & Tudor	8589	0	0	0.135	0.101	0.042	0.031	0.003
71 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	508 Portland	8716	0	0	0.296	0.230	0.072	0.066	0.004
74 SOUTHEAST ILLINOIS INTRASTATE									
WABASH COUNTY									
Mount Carmel	Division St	7480	0	0	0.191	0.164	0.073	0.033	0.004
Rural Wabash County	South of SR-1	7974	0	0	0.266	0.177	0.052	0.036	0.003

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

Table B9

2004
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	8723	0	0	0.037	0.032	0.020	0.019	0.002
MACON COUNTY									
Decatur	2200 N. 22nd St.	8584	0	0	0.042	0.037	0.023	0.023	0.004
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	8592	0	0	0.030	0.019	0.018	0.010	0.002
SANGAMON COUNTY									
Springfield	Sewage Plant	8512	0	0	0.126	0.092	0.040	0.035	0.003

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

Table B10

2004
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1999	2000	2001	2002	2003	2004
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	Hurlburt & MacArthur	0.007	0.006	0.005	0.005	0.004	0.004
TAZEWELL COUNTY							
Pekin	272 Derby	0.005	0.005	0.006	0.005	0.005	0.005
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Bedford Park	7800 W. 65th St.	0.008	0.006	0.005	0.006	0.006	0.007
Chicago -CTA	320 S. Franklin	0.004	0.005	0.005	0.004	0.003	0.003
Chicago – Com Ed	780 Lawndale	-	-	-	-	-	0.006
Chicago - SE Police	103rd & Luella	0.003	0.004	0.003	0.002	0.003	0.003
Cicero	1830 S. 51st Ave.	0.006	0.005	0.005	0.004	0.005	0.005
Lemont	729 Houston	0.006	0.006	0.005	0.005	0.004	0.006
Northbrook	750 Dundee Rd.	-	-	-	-	-	0.002
WILL COUNTY							
Joliet	Rte 6 & Young Rd.	0.005	0.005	0.005	0.004	0.004	0.003
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
South Roxanna	Michigan Ave.	0.008	0.004	0.007	0.005	0.004	0.005
Wood River	54 N. Walcott	0.007	0.006	0.006	0.004	0.004	0.004
Wood River	1710 Vaughn Rd.	0.009	0.008	0.004	0.005	0.006	0.005
RANDOLPH COUNTY							
Houston	Twp Rd 150 & Twp Rd 45	0.004	0.002	0.002	0.002	0.002	0.002
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.008	0.007	0.007	0.005	0.005	0.003
71 NORTH CENTRAL ILLINOIS INTRASTATE							
LASALLA COUNTY							
Oglesby	508 Portland	-	-	-	-	+	0.004
74 SOUTHEAST ILLINOIS INTRASTATE							
WABASH COUNTY							
Mount Carmel	Division St.	0.007	0.005	0.005	0.004	0.004	0.004
Rural Wabash County	South of SR-1	0.005	0.006	0.005	0.003	0.003	0.003

Primary Annual Standard 0.03 ppm

Table B10

2004
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1999	2000	2001	2002	2003	2004
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	0.005	0.003	0.003	0.003	0.002	0.002
MACON COUNTY							
Decatur	2200 N. 22nd St.	0.005	0.005	0.005	0.004	0.003	0.004
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	0.003	0.002	0.002	0.002	0.002	0.002
SANGAMON COUNTY							
Springfield	Sewage Plant	0.006	0.005	0.003	0.003	0.003	0.003

\- Station not in operation during year shown

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

Primary Annual Standard 0.03 ppm

Table B11

2004
NITROGEN DIOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES	HIGHEST SAMPLES 1-HOUR 1ST	1-HOUR 2ND	24-HOUR 1ST	24-HOUR 2ND	ANNUAL ARITHMETIC MEAN
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Chicago - CTA	320 S. Franklin	8486	0.101	0.092	0.054	0.054	0.029
Chicago - Com Ed	7801 Lawndale	8434	0.084	0.082	0.053	0.046	0.020
Chicago - Jardine [1]	1000 E. Ohio	3351	0.074	0.071	0.037	0.036	+
Cicero	1830 S. 51st Ave.	8655	0.081	0.080	0.049	0.047	0.024
Northbrook	750 Dundee Rd.	8056	0.069	0.069	0.037	0.034	0.016
Schiller Park	4743 N. Mannheim	8251	0.084	0.083	0.061	0.061	0.029
WILL COUNTY							
Braidwood [1]	36400 S. Essex Rd.	3320	0.055	0.028	0.015	0.014	+
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	8667	0.061	0.058	0.032	0.031	0.016

1 PAMS monitor operated only during “ozone season”

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

Primary Annual Standard 0.053 ppm

Table B12

2004
SHORT-TERM TRENDS
NITROGEN DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1999	2000	2001	2002	2003	2004
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Chicago - CTA	320 S. Franklin	0.032	0.032	0.032	0.032	0.031	0.029
Chicago - Com Ed	7801 Lawndale	-	-	-	0.022	0.022	0.020
Cicero	1820 S. 51st St.	0.027	0.027	0.028	0.023	0.027	0.024
Northbrook	750 Dundee Rd.	0.017	0.018	0.018	0.017	0.018	0.016
Schiller Park	4743 N. Mannheim	0.031	0.029	0.028	0.030	0.030	0.029
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.019	0.018	0.019	0.017	0.016	0.016

- Station not in operation during year shown

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

Primary Annual Standard 0.053 ppm

Table B13

2004
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	0.02	0.01	0.01	0.01	0.02
Chicago - Cermak	735 W. Harrison	0	0.03	0.06	0.06	0.04	0.05
Chicago - Mayfair	4850 Wilson Ave.	0	0.03	0.03	0.02	0.02	0.02
Chicago - Washington	3535 E. 114th St.	0	0.03	0.03	0.03	0.03	0.03
Maywood	1500 Maybrook Dr.	0	0.03	0.03	0.03	0.03	0.03
Northbrook	750 Dundee Rd.	0	0.01	0.01	0.01	0.01	0.01
Schiller Park	4243 N. Mannheim Rd.	0	0.01	0.01	0.01	0.01	0.01
Summit	60th St. & 74th Ave.	0	0.05	0.02	0.05	0.02	0.04
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Granite City	15th & Madison	0	0.15	0.04	0.04	0.03	0.06
Wood River	54 N. Walcott	0	0.01	0.01	0.02	0.02	0.01
ST. CLAIR COUNTY							
East St. Louis	13th St. & Tudor Ave.	0	0.02	0.05	0.03	0.04	0.03
75 WEST CENTRAL ILLINOIS INTRASTATE							
MACOUPIN COUNTY							
Nilwood	Heaton & DuBois	0	0.01	0.01	0.01	0.01	0.01

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

Primary Quarterly Standard 1.5 ug/m3

Table B14

2004
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	56	0.003	0.003	0.001	56	0.000	0.000	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	500 W. 123rd. St.	56	0.023	0.013	0.003	NA			
Chicago - Cermak	735 W. Harrison	57	0.012	0.011	0.003	NA			
Chicago - Mayfair	4850 Wilson Ave	60	0.015	0.011	0.003	NA			
Chicago - Washington	3535 E. 114th St.	59	0.005	0.005	0.002	NA			
Maywood	1500 Maybrook Dr.	57	0.017	0.012	0.003	NA			
Northbrook	750 Dundee Rd.	61	0.004	0.003	0.001	61	0.000	0.000	0.000
Schiller Park	4743 N. Mannheim Rd.	61	0.004	0.004	0.001	61	0.000	0.000	0.000
Summit	60th St. & 74th Ave.	57	0.008	0.008	0.002	NA			
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.135	0.114	0.007	58	0.000	0.000	0.000
Wood River	54 N. Walcott	60	0.009	0.006	0.001	60	0.000	0.000	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	63	0.019	0.014	0.004	63	0.000	0.000	0.000
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	59	0.014	0.005	0.001	59	0.000	0.000	0.000

Table B14

2004
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	CADMIUM TOTAL SAMPLES	CADMIUM HIGHEST 1st	CADMIUM HIGHEST 2nd	CADMIUM ARITH. MEAN	CHROMIUM TOTAL SAMPLES	CHROMIUM HIGHEST 1st	CHROMIUM HIGHEST 2nd	CHROMIUM ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	56	0.000	0.000	0.000	56	0.007	0.000	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	0.002	0.002	0.001	56	0.012	0.009	0.003
Chicago - Cermak	735 W. Harrison	57	0.007	0.007	0.002	57	0.016	0.015	0.006
Chicago - Mayfair	4850 Wilson Ave	60	0.003	0.003	0.002	60	0.018	0.014	0.005
Chicago - Washington	3535 E. 114th St.	59	0.004	0.004	0.002	59	0.015	0.014	0.005
Maywood	1500 Maybrook Dr.	57	0.006	0.004	0.002	57	0.031	0.022	0.011
Northbrook	750 Dundee Rd	61	0.000	0.000	0.000	61	0.002	0.000	0.000
Schiller Park	4743 N. Mannheim Rd.	61	0.000	0.000	0.000	61	0.007	0.007	0.002
Summit	60th St. & 74th Ave.	57	0.003	0.003	0.001	57	0.014	0.013	0.004
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.005	0.005	0.000	58	0.017	0.014	0.003
Wood River	54 N. Walcott	60	0.005	0.000	0.000	60	0.002	0.000	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	63	0.022	0.018	0.003	63	0.003	0.003	0.000
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	59	0.000	0.000	0.000	59	0.000	0.000	0.000

Table B14

2004
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	56	1.93	1.44	0.50	56	0.090	0.057	0.022
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	1.75	1.63	0.58	56	0.174	0.158	0.034
Chicago - Cermak	735 W. Harrison	57	2.46	2.43	1.28	57	0.148	0.120	0.045
Chicago - Mayfair	4850 Wilson Ave	60	2.71	2.31	1.29	60	0.161	0.128	0.057
Chicago - Washington	3535 E. 114th St.	59	2.09	1.91	1.07	59	0.634	0.590	0.174
Maywood	1500 Maybrook Dr.	57	15.68	14.64	3.06	57	0.227	0.201	0.078
Northbrook	750 Dundee Rd.	61	1.62	1.35	0.41	61	0.052	0.046	0.012
Schiller Park	4743 N. Mannheim Rd.	61	3.45	2.81	1.47	61	0.145	0.071	0.032
Summit	60th St. & 74th Ave.	57	3.05	1.65	0.68	57	0.076	0.075	0.026
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	4.66	4.65	1.56	58	0.537	0.339	0.100
Wood River	54 N. Walcott	60	1.38	1.26	0.49	60	0.113	0.065	0.023
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	63	2.78	2.09	0.91	63	0.110	0.093	0.034
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	59	0.61	0.60	0.20	59	0.029	0.027	0.008

Table B14

2004
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	56	0.000	0.000	0.000				
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	0.016	0.011	0.005				
Chicago - Cermak	735 W. Harrison	57	0.017	0.014	0.007				
Chicago - Mayfair	4850 Wilson Ave	60	0.015	0.013	0.007				
Chicago - Washington	3535 E. 114th St.	59	0.013	0.011	0.006				
Maywood	1500 Maybrook Dr.	57	0.016	0.015	0.010				
Northbrook	750 Dundee Rd.	61	0.000	0.000	0.000				
Schiller Park	4743 N. Mannheim Rd.	61	0.000	0.000	0.000				
Summit	60th St. & 74th Ave.	57	0.021	0.017	0.006				
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.014	0.013	0.000				
Wood River	54 N. Walcott	60	0.037	0.000	0.001				
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	63	0.000	0.000	0.000				
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	59	0.000	0.000	0.000				

Table B14

2004
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	56	12.7	11.8	4.4	56	18.2	18.0	7.4
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	56	18.6	15.8	5.2	56	15.0	12.5	6.6
Chicago - Cermak	735 W. Harrison	57	22.0	13.2	5.1	57	20.6	15.7	7.8
Chicago - Mayfair	4850 Wilson Ave	60	26.1	22.7	6.3	60	17.5	14.0	8.0
Chicago - Washington	3535 E. 114th St.	59	15.6	11.5	4.9	59	17.7	14.6	7.5
Maywood	1500 Maybrook Dr.	57	21.6	10.5	4.6	57	18.3	17.5	8.2
Northbrook	750 Dundee Rd.	61	19.4	16.6	4.4	61	14.1	12.3	6.1
Schiller Park	4743 N. Mannheim Rd.	61	22.1	15.1	5.0	61	18.4	17.0	7.5
Summit	60th St. & 74th Ave.	57	14.7	12.8	4.4	57	16.7	13.3	6.6
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	12.2	9.0	4.4	58	27.5	14.4	8.7
Wood River	54 N. Walcott	60	12.1	9.2	4.1	60	18.4	13.7	7.5
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	63	12.7	11.6	4.1	63	20.2	15.7	8.4
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	59	8.5	7.7	3.5	59	18.3	12.2	6.1

Table B15

2003
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

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

Table B15

2003
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

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

Table B15

2003
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

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

[1] Values in ppb (volume)

Table B16

2004

TOXIC COMPOUNDS[1]
(parts per billion volume)

STATION	ADDRESS	HIGHEST SAMPLES (ppbv) 24-HOUR 1ST	2ND	3RD	4TH	AVERAGE
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)						
COOK COUNTY						
Northbrook	750 Dundee Rd.					
COMPOUNDS						
1,3 Butadiene		0.1	0.1	0.1	0.1	0.0
Methylene Chloride		0.8	0.4	0.4	0.3	0.1
Chlorform		0.7	0.5	0.4	0.4	0.1
Carbon Tetrachloride		0.2	0.2	0.2	0.2	0.1
Tetrachloroethylene		0.2	0.2	0.1	0.0	0.0
Trichlorethylene		0.2	0.2	0.2	0.2	0.1
1,2 Dichloropropane		0.0	0.0	0.0	0.0	0.0
Vinyl Chloride		0.0	0.0	0.0	0.0	0.0
Benzene		1.1	0.8	0.8	0.7	0.3
Toluene		2.0	1.7	1.6	1.5	0.6
Formaldehyde		2.4	2.3	2.2	1.3	0.6
Acetaldehyde		0.6	0.5	0.5	0.5	0.3
Mercury[2]		9.3	8.8	6.7	5.6	1.7
Schiller Park	4743 Mannheim Rd.					
COMPOUNDS						
1,3 Butadiene		1.1	0.4	0.2	0.2	0.1
Methylene Chloride		1.9	0.8	0.5	0.5	0.2
Chlorform		0.1	0.1	0.1	0.1	0.0
Carbon Tetrachloride		0.2	0.2	0.2	0.2	0.1
Tetrachloroethylene		0.2	0.2	0.2	0.2	0.1
Trichlorethylene		0.9	0.5	0.4	0.3	0.1
1,2 Dichloropropane		0.0	0.0	0.0	0.0	0.0
Vinyl Chloride		0.0	0.0	0.0	0.0	0.0
Benzene		1.5	1.4	1.2	0.9	0.4
Toluene		3.8	2.8	2.5	2.3	0.8
Formaldehyde		3.2	3.0	2.9	2.8	1.4
Acetaldehyde		1.5	1.4	1.3	1.0	0.6

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

[2] - Units of nanograms per cubic meter

Table B17

2004

$PM_{2.5}$ 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		1.6	1.5	1.0	1.0	0.4
Ammonium		6.5	6.0	4.9	4.3	1.5
Nitrate		14.2	10.7	9.4	8.0	2.2
Sulfate		16.6	9.4	7.2	6.1	2.7
Elemental Carbon		2.6	1.5	1.5	1.5	0.7
Organic Carbon		6.1	6.0	5.6	5.6	2.8
Chicago - Springfield	1745 N. Springfield Ave.					
MAJOR CONSTITUENTS						
Inorganic Elements		1.7	1.7	1.5	1.3	0.6
Ammonium		6.6	5.3	5.1	4.6	1.6
Nitrate		15.5	12.8	12.8	8.5	3.0
Sulfate		12.2	10.0	6.9	5.4	2.8
Elemental Carbon		2.6	1.8	1.8	1.5	0.7
Organic Carbon		7.5	7.4	6.8	6.7	4.1
Northbrook	750 Dundee Rd.					
MAJOR CONSTITUENTS						
Inorganic Elements		2.1	1.1	1.0	1.0	0.4
Ammonium		6.8	5.3	4.7	4.2	1.5
Nitrate		16.7	11.9	9.4	8.3	2.6
Sulfate		13.5	10.4	9.9	9.2	2.5
Elemental Carbon		1.5	1.3	1.2	1.1	0.5
Organic Carbon		6.1	5.9	5.3	4.7	3.0
DuPAGE COUNTY						
Naperville	400 S. Eagle St.					
MAJOR CONSTITUENTS						
Inorganic Elements		1.3	1.0	1.0	1.0	0.4
Ammonium		6.2	5.2	5.0	3.9	1.6
Nitrate		14.0	12.1	11.1	8.8	2.8
Sulfate		10.8	6.2	5.8	5.0	2.5
Elemental Carbon		1.6	1.4	1.3	1.3	0.6
Organic Carbon		8.6	6.5	6.5	5.9	3.9

Table B17

2004

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

STATION	ADDRESS	HIGHEST SAMPLES (ug/m3) 24-HOUR 1ST	2ND	3RD	4TH	ANNUAL AVERAGE
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)						
MADISON COUNTY						
Alton	1700 Annex St.					
MAJOR CONSTITUENTS						
Inorganic Elements		1.3	1.2	1.1	1.0	0.5
Ammonium		5.0	3.9	3.7	3.1	1.5
Nitrate		9.3	7.9	7.2	6.0	2.0
Sulfate		14.7	6.3	6.2	5.9	3.1
Elemental Carbon		0.8	0.7	0.7	0.6	0.3
Organic Carbon		8.6	6.2	5.7	5.3	3.2
75 WEST CENTRAL ILLINOIS INTRASTATE						
MACON COUNTY						
Decatur	2200 N. 22nd St.					
MAJOR CONSTITUENTS						
Inorganic Elements		1.5	1.3	1.2	1.2	0.5
Ammonium		4.6	4.3	3.4	3.4	1.6
Nitrate		9.7	7.1	6.8	6.4	2.2
Sulfate		12.6	8.9	6.9	6.1	3.0
Elemental Carbon		1.0	1.0	0.8	0.7	0.4
Organic Carbon		7.9	5.7	5.4	4.7	3.1

APPENDIX C
POINT SOURCE EMISSION INVENTORY SUMMARY TABLES

Table C1

2004
Carbon Monoxide Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
External Fuel Combustion					
Electric Generation	12,119.2	13,208.0	12,939.3	14,120.6	13,247.4
Industrial	11,175.2	9,714.8	10,833.3	11,330.7	10,276.5
Commercial/Institutional	2,655.1	2,504.1	2,713.8	2,667.7	2,822.1
Space Heating	118.3	88.9	64.7	54.5	48.4
Internal Fuel Combustion					
Electric Generation	3,728.5	3,811.0	2,302.7	5,622.9	5,356.3
Industrial	4,165.9	6,564.4	4,653.2	5,642.9	4,818.2
Commercial/Institutional	601.1	735.3	629.4	451.5	652.2
Engine Testing	411.8	366.8	886.4	811.7	589.5
Off Highway 2-stroke Gasoline Engines	20.0	0.0	0.0	0.0	0.0
Fugitive Emissions	1.5	0.0	0.5	0.5	0.0
Industrial Processes					
Chemical Manufacturing	15,642.5	13,780.8	12,618.8	4,172.7	3,514.1
Food/Agriculture	1,114.8	1,000.3	1,063.5	1,093.9	1,329.0
Primary Metal Production	51,029.4	24,201.9	23,021.0	13,969.3	10,028.6
Secondary Metal Production	2,912.6	2,866.4	3,198.0	3,154.6	1,729.8
Mineral Products	3,487.5	4,087.2	9,158.7	9,835.7	9,178.8
Petroleum Industry	6,052.8	5,992.5	5,363.6	5,319.6	7,812.1
Paper and Wood Products	1.1	10.9	26.6	26.6	33.4
Rubber and Plastic Products	34.1	35.9	127.2	18.7	21.0
Fabricated Metal Products	1,236.4	1,266.7	1,307.3	1,380.6	1,527.4
Oil and Gas Production	195.9	98.4	92.2	332.3	413.1
Building Construction	0.0	0.0	0.0	0.0	0.0
Miscelaneous Machinery	5.0	3.9	3.7	3.7	0.1
Electrical Equipment	1.9	2.2	2.7	2.3	2.3
Transportation Equipment	1.2	1.2	1.2	5.8	5.8
Health Services	6.4	18.8	28.4	102.9	169.8
Leather and Leather Products	0.0	0.0	0.0	0.0	0.0
Textile Products	0.4	0.1	0.1	0.0	0.0
Printing/Publishing (typesetting)	0.0	0.0	0.0	0.0	0.0
Process Cooling	0.0	0.0	0.0	0.0	0.0
In-Process Fuel Use	675.1	964.4	1,258.4	1,267.9	1,102.1
Miscellaneous Manufacturing	207.7	197.0	361.0	134.3	88.1
Organic Solvent Emissions					
Organic Solvent Use	0.0	0.1	0.0	0.0	0.0
Surface Coating Operations	174.1	197.5	179.2	200.8	230.6
Petroleum Product Storage	74.8	76.4	3.1	3.3	3.3
Bulk Terminals/Plants	7.0	17.7	11.8	10.7	27.8
Printing/Publishing	14.8	71.4	63.5	48.2	26.2
Petroleum Marketing/Transport	0.4	0.0	0.0	0.0	0.0
Organic Chemical Storage (large)	0.4	0.0	0.0	0.0	0.0
Organic Chemical Transportation	0.7	0.7	0.1	0.1	0.0
Dry Cleaning (petroleum based)	0.0	0.0	0.0	0.0	0.0
Organic Chemical Storage (small)	0.0	0.0	0.0	0.0	0.0
Organic Solvent Evaporation	218.5	301.7	215.1	101.8	119.3

Table C1

2004
Carbon Monoxide Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
Solid Waste Disposal					
Government	1,345.0	1,585.4	2,036.7	3,623.3	3,383.0
Commercial/Institutional	608.8	421.3	309.7	284.7	259.4
Industrial	2,655.6	2,595.6	2,465.0	2,549.3	1,641.5
Site Remediation	0.5	1.0	10.4	20.2	19.3
MACT Processes					
Food and Agriculture Processes	0.0	0.0	0.0	0.0	0.0
Agricultural Chemical Production	0.0	0.0	0.0	0.0	0.0
Styrene or Methacrylate Based Resins	0.0	0.0	0.0	0.0	0.0
Cellulose Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Resin Production	0.0	0.0	0.0	0.0	0.0
Alkyd Resin Production	0.0	0.0	0.0	0.0	0.0
Vinyl Based Resins	0.0	0.0	0.0	0.0	0.6
Miscellaneous Polymers	0.0	0.0	0.0	0.0	0.0
Fibers Production	0.0	0.0	0.0	0.0	0.0
Consumer Product Mfg Facilities	0.0	0.0	0.0	0.0	0.0
Miscellaneous Processes	0.0	0.0	0.0	0.0	0.0
Paint Stripper Use	0.0	0.0	0.0	0.0	0.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	0.0
Totals	**122,702.0**	**96,970.4**	**99,173.4**	**88,366.6**	**80,478.6**

Table C2

2004
Nitrogen Oxides Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
External Fuel Combustion					
Electric Generation	294,672.3	221,518.3	183,590.6	170,471.8	144,454.8
Industrial	49,443.5	41,230.8	35,474.1	34,001.0	27,510.7
Commercial/Institutional	6,056.1	5,197.8	6,074.8	5,645.5	3,873.6
Space Heating	568.2	426.0	319.2	276.5	248.5
Internal Fuel Combustion					
Electric Generation	6,237.0	5,996.0	3,932.9	7,294.4	6,997.0
Industrial	18,605.0	32,154.3	21,551.8	21,536.9	18,329.5
Commercial/Institutional	686.0	2,453.7	2,519.0	692.1	1,047.8
Engine Testing	518.6	519.8	1,152.9	1,098.3	1,400.9
Off Highway 2-stroke Gasoline Engines	4.3	0.0	0.0	0.0	0.0
Fugitive Emissions	1.1	0.0	2.4	2.4	0.0
Industrial Processes					
Chemical Manufacturing	1,538.7	2,953.0	1,362.1	1,575.5	2,204.2
Food/Agriculture	1,121.7	990.5	924.8	984.4	1,245.4
Primary Metal Production	4,601.5	4,188.0	3,620.2	2,250.5	1,897.9
Secondary Metal Production	1,821.7	1,111.2	1,853.9	2,359.6	1,156.8
Mineral Products	11,725.0	11,845.3	15,278.5	18,755.3	17,615.3
Petroleum Industry	20,703.7	20,239.8	15,737.0	14,794.2	14,059.6
Paper and Wood Products	1.6	12.7	31.0	30.3	30.8
Rubber and Plastic Products	49.5	57.3	134.0	26.3	29.8
Fabricated Metal Products	476.0	420.3	414.7	471.0	499.4
Oil and Gas Production	164.0	80.4	270.1	834.1	644.8
Building Construction	0.0	0.0	0.0	0.0	0.0
Miscelaneous Machinery	8.6	6.3	5.1	5.1	3.8
Electrical Equipment	3.1	5.9	5.0	4.7	4.7
Transportation Equipment	1.9	1.9	1.9	0.2	0.2
Health Services	1.7	2.0	1.6	5.5	7.5
Leather and Leather Products	0.0	0.0	0.0	0.0	0.0
Textile Products	3.9	1.4	1.4	0.9	0.9
Printing/Publishing (typesetting)	0.0	0.0	0.0	0.0	0.0
Process Cooling	0.0	0.0	0.0	0.0	0.0
In-Process Fuel Use	2,305.2	3,037.3	2,665.2	2,439.7	1,597.6
Miscellaneous Manufacturing	288.0	246.4	278.1	62.5	45.4
Organic Solvent Emissions					
Organic Solvent Use	0.1	1.5	1.5	1.4	
Surface Coating Operations	1,112.7	1,106.0	866.1	945.5	1.3
Petroleum Product Storage	3.1	7.7	6.7	6.1	957.0
Bulk Terminals/Plants	1.3	9.3	12.3	22.0	6.1
Printing/Publishing	145.2	205.9	180.6	123.8	28.9
Petroleum Marketing/Transport	3.1	2.3	2.3	2.3	66.2
Organic Chemical Storage (large)	0.6	0.5	0.4	0.4	2.3
Organic Chemical Transportation	10.8	10.8	0.0	0.0	0.4
Dry Cleaning (petroleum based)	0.0	0.0	0.0	0.0	0.0
Organic Chemical Storage (small)	0.0	0.0	0.0	0.0	0.0
Organic Solvent Evaporation	105.3	307.9	343.6	230.2	233.6

Table C2

2004
Nitrogen Oxides Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
Solid Waste Disposal					
Government	820.3	1,108.1	1,248.2	2,015.1	1,417.4
Commercial/Institutional	125.2	99.9	98.3	105.9	110.4
Industrial	666.4	706.1	669.2	826.0	486.2
Site Remediation	4.5	1.1	7.0	23.9	22.8
MACT Processes					
Food and Agriculture Processes	0.0	0.0	0.0	0.0	0.0
Agricultural Chemical Production	0.0	0.0	0.0	0.0	0.0
Styrene or Methacrylate Based Resins	0.0	0.0	0.0	0.0	0.0
Cellulose Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Resin Production	0.0	0.0	0.0	0.0	0.0
Alkyd Resin Production	0.0	0.0	0.0	0.0	0.0
Vinyl Based Resins	0.0	0.0	0.0	0.0	4.1
Miscellaneous Polymers	0.0	0.0	0.0	0.0	0.0
Fibers Production	0.0	0.0	0.0	0.0	0.0
Consumer Product Mfg Facilities	0.0	0.0	0.0	0.0	0.0
Miscellaneous Processes	0.0	0.0	0.0	0.0	0.0
Paint Stripper Use	0.0	0.0	0.0	0.0	0.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	0.0
Totals	**424,609.4**	**358,263.3**	**301,215.7**	**289,921.3**	**248,245.3**

Table C3

2004
Particulate Matter Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
External Fuel Combustion					
Electric Generation	17,042.7	17,275.6	16,273.9	15,336.4	15,167.5
Industrial	3,788.7	3,116.0	2,980.2	2,938.6	2,961.6
Commercial/Institutional	861.6	714.9	773.7	746.6	684.4
Space Heating	22.4	22.8	20.0	10.8	9.7
Internal Fuel Combustion					
Electric Generation	392.0	624.2	188.2	634.4	784.5
Industrial	114.2	176.3	245.3	509.0	314.5
Commercial/Institutional	43.0	43.7	41.7	28.8	133.5
Engine Testing	39.6	39.6	62.0	46.6	324.1
Off Highway 2-stroke Gasoline Engines	0.1	0.0	0.0	0.0	0.0
Fugitive Emissions	0.0	0.0	0.0	0.1	0.0
Industrial Processes					
Chemical Manufacturing	3,934.0	3,299.0	3,253.8	2,876.1	3,419.6
Food/Agriculture	20,140.4	18,950.1	18,919.3	16,373.6	17,280.1
Primary Metal Production	6,539.9	5,408.2	3,897.2	2,942.3	2,690.3
Secondary Metal Production	7,599.3	6,334.8	4,728.6	4,788.1	2,989.1
Mineral Products	23,872.1	23,458.7	19,984.3	22,432.0	21,164.3
Petroleum Industry	2,930.1	3,061.1	2,442.1	2,540.6	2,924.8
Paper and Wood Products	800.3	451.7	327.5	306.9	282.3
Rubber and Plastic Products	688.1	663.8	580.4	521.2	522.5
Fabricated Metal Products	1,254.5	992.5	943.0	861.7	756.6
Oil and Gas Production	7.2	3.3	11.9	18.4	11.2
Building Construction	0.0	1.5	1.5	1.9	1.8
Miscelaneous Machinery	126.0	94.3	91.2	69.6	61.7
Electrical Equipment	13.0	37.9	24.3	21.4	14.8
Transportation Equipment	72.7	54.7	54.7	73.2	73.6
Health Services	4.2	14.8	31.4	858.0	88.0
Leather and Leather Products	48.7	50.5	4.3	4.3	4.2
Textile Products	10.2	10.4	12.4	2.9	12.8
Printing/Publishing (typesetting)	0.3	0.3	0.3	1.9	1.8
Process Cooling	24.3	259.9	342.3	352.1	416.9
In-Process Fuel Use	201.6	228.9	341.8	356.0	260.0
Miscellaneous Manufacturing	266.4	236.0	142.1	118.0	104.7
Organic Solvent Emissions					
Organic Solvent Use	14.7	9.3	20.0	16.1	16.3
Surface Coating Operations	996.5	564.5	642.0	744.7	635.6
Petroleum Product Storage	51.1	50.9	36.3	31.7	34.9
Bulk Terminals/Plants	3.4	3.0	3.2	3.0	0.0
Printing/Publishing	86.4	100.1	68.3	62.9	75.0
Petroleum Marketing/Transport	0.6	2.2	10.4	13.7	13.6
Organic Chemical Storage (large)	21.3	19.4	17.6	16.7	14.8
Organic Chemical Transportation	12.4	10.8	0.1	0.1	0.0
Dry Cleaning (petroleum based)	0.0	0.0	0.0	0.0	1.9
Organic Chemical Storage (small)	0.0	0.0	0.0	0.0	0.0
Organic Solvent Evaporation	46.6	67.0	109.9	74.1	64.8

Table C3

2004
Particulate Matter Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
Solid Waste Disposal					
Government	280.4	432.9	331.0	1,364.0	1,623.4
Commercial/Institutional	378.9	208.6	38.0	106.7	79.0
Industrial	675.3	217.2	386.9	331.6	242.2
Site Remediation	19.3	45.9	26.6	84.6	83.6
MACT Processes					
Food and Agriculture Processes	0.0	0.0	0.0	0.0	0.0
Agricultural Chemical Production	0.0	0.0	0.0	0.0	0.0
Styrene or Methacrylate Based Resins	5.0	5.4	5.5	5.5	5.6
Cellulose Based Resins	0.2	0.2	0.2	0.2	0.1
Miscellaneous Resin Production	0.0	0.0	3.4	3.9	4.2
Alkyd Resin Production	1.8	2.1	0.0	0.0	0.0
Vinyl Based Resins	276.3	285.3	240.0	243.1	397.5
Miscellaneous Polymers	1.2	1.2	3.2	3.4	25.5
Fibers Production	0.0	0.0	0.2	0.0	0.0
Consumer Product Mfg Facilities	0.0	0.0	0.3	0.3	0.2
Miscellaneous Processes	0.0	0.0	0.9	0.0	0.8
Paint Stripper Use	0.9	0.9	0.0	0.9	0.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	4.6
Totals	**93,709.9**	**87,652.5**	**79,140.9**	**78,078.4**	**76,787.1**

Table C4

2004
Sulfur Dioxide Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
External Fuel Combustion					
Electric Generation	856,754.9	444,940.4	359,266.7	348,602.0	367,821.2
Industrial	69,164.5	64,292.1	59,419.5	54,386.4	41,186.7
Commercial/Institutional	12,922.1	11,556.4	11,303.3	9,917.7	8,739.7
Space Heating	157.1	43.4	42.4	2.4	2.1
Internal Fuel Combustion					
Electric Generation	460.2	660.1	188.2	633.7	571.2
Industrial	226.5	216.4	245.3	415.2	233.8
Commercial/Institutional	34.3	39.9	41.7	29.9	47.2
Engine Testing	28.6	28.2	62.0	62.7	180.9
Off Highway 2-stroke Gasoline Engines	0.3	0.0	0.0	0.0	0.0
Fugitive Emissions	0.0	0.0	0.0	0.0	0.0
Industrial Processes					
Chemical Manufacturing	16,414.6	17,134.5	13,946.0	12,892.9	12,698.2
Food/Agriculture	1,073.2	1,037.8	1,648.1	1,695.7	2,249.3
Primary Metal Production	4,301.3	6,804.5	6,342.7	3,243.0	2,442.7
Secondary Metal Production	1,130.4	150.3	113.4	2,235.8	585.0
Mineral Products	14,560.9	14,183.8	13,918.1	14,046.1	14,022.8
Petroleum Industry	87,880.9	87,866.5	62,241.0	60,558.6	53,085.8
Paper and Wood Products	0.0	0.1	0.2	0.2	0.6
Rubber and Plastic Products	1.1	1.1	0.7	0.8	0.8
Fabricated Metal Products	214.4	212.1	20.4	21.2	26.6
Oil and Gas Production	147.6	103.9	292.3	651.8	651.6
Building Construction	0.0	0.0	0.0	0.0	0.0
Miscelaneous Machinery	2.7	2.3	2.3	2.3	0.0
Electrical Equipment	0.7	0.9	2.0	0.9	0.5
Transportation Equipment	0.0	0.0	0.0	0.1	0.1
Health Services	0.6	0.7	0.7	7.3	8.7
Leather and Leather Products	0.0	0.0	7.6	0.0	0.0
Textile Products	0.0	0.0	0.0	0.0	0.0
Printing/Publishing (typesetting)	0.0	0.0	0.0	0.0	0.0
Process Cooling	0.0	0.0	0.0	0.0	2.0
In-Process Fuel Use	3,517.5	3,608.5	707.8	1,006.0	949.2
Miscellaneous Manufacturing	92.2	33.3	97.1	84.3	63.1
Organic Solvent Emissions					
Organic Solvent Use	0.0	0.0	0.0	0.0	0.0
Surface Coating Operations	58.6	56.5	49.2	23.8	23.3
Petroleum Product Storage	8.9	7.9	31.4	43.9	43.9
Bulk Terminals/Plants	0.0	0.0	0.0	0.0	0.0
Printing/Publishing	0.1	0.2	0.2	0.5	0.2
Petroleum Marketing/Transport	0.0	0.0	0.0	0.0	0.0
Organic Chemical Storage (large)	0.0	0.0	0.0	0.0	0.0
Organic Chemical Transportation	0.0	0.0	1.1	1.1	1.0
Dry Cleaning (petroleum based)	0.0	0.0	0.0	0.0	0.0
Organic Chemical Storage (small)	0.0	0.0	0.0	0.0	0.0
Organic Solvent Evaporation	77.3	59.5	61.7	39.6	30.4

Table C4

2004
Sulfur Dioxide Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
Solid Waste Disposal					
Government	218.5	301.0	331.0	640.8	372.8
Commercial/Institutional	36.1	37.6	38.0	45.4	37.0
Industrial	569.0	395.3	386.9	528.6	503.8
Site Remediation	3.2	22.4	26.6	27.1	5.6
MACT Processes					
Food and Agriculture Processes	0.0	0.0	472.6	472.6	541.6
Agricultural Chemical Production	0.0	0.0	0.0	0.0	0.0
Styrene or Methacrylate Based Resins	0.0	0.0	0.0	0.0	0.0
Cellulose Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Resin Production	0.0	0.0	0.0	0.0	0.0
Alkyd Resin Production	0.0	0.0	0.0	0.0	0.0
Vinyl Based Resins	0.0	0.0	0.0	0.0	0.0
Miscellaneous Polymers	0.0	0.0	0.0	0.0	0.0
Fibers Production	0.0	0.0	0.0	0.0	0.0
Consumer Product Mfg Facilities	0.0	0.0	0.0	0.0	0.0
Miscellaneous Processes	0.0	0.0	0.0	0.0	11.0
Paint Stripper Use	0.0	0.0	0.0	0.0	0.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	0.0
Totals	**1,070,058.3**	**653,797.5**	**531,342.7**	**512,320.6**	**507,142.1**

Table C5

2004
Volatile Organic Material Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
External Fuel Combustion					
Electric Generation	1,235.9	1,337.5	1,342.2	1,461.3	1,413.5
Industrial	1,232.2	1,130.6	854.1	814.4	745.4
Commercial/Institutional	250.0	258.2	380.8	344.9	159.8
Space Heating	26.0	18.2	13.4	14.8	13.1
Internal Fuel Combustion					
Electric Generation	443.3	709.2	292.9	639.8	468.5
Industrial	1,979.2	1,932.4	1,022.2	1,066.1	954.9
Commercial/Institutional	79.8	139.1	122.1	78.1	104.9
Engine Testing	93.8	72.5	236.9	232.5	216.7
Off Highway 2-stroke Gasoline Engines	4.5	0.0	0.0	0.0	0.0
Fugitive Emissions	0.0	37.9	19.6	0.3	0.1
Industrial Processes					
Chemical Manufacturing	14,441.9	12,504.9	12,698.4	12,405.2	15,798.3
Food/Agriculture	10,503.5	9,942.7	10,503.8	10,885.9	11,020.4
Primary Metal Production	3,098.3	1,756.9	674.2	645.3	559.1
Secondary Metal Production	1,439.0	1,178.0	1,914.9	1,829.4	1,076.0
Mineral Products	1,661.9	1,476.9	1,694.3	2,543.6	2,225.1
Petroleum Industry	6,049.7	6,027.9	5,197.5	4,292.0	3,029.1
Paper and Wood Products	146.4	198.5	177.0	240.1	269.9
Rubber and Plastic Products	4,487.4	4,096.4	5,061.1	4,607.2	4,322.0
Fabricated Metal Products	1,470.1	1,743.6	1,545.4	1,290.8	1,388.5
Oil and Gas Production	720.9	564.0	252.5	465.7	273.6
Building Construction	0.0	0.0	0.0	0.0	0.0
Miscelaneous Machinery	114.7	31.3	28.7	25.8	23.8
Electrical Equipment	224.5	200.4	185.7	142.2	102.6
Transportation Equipment	26.3	26.3	40.4	267.8	267.5
Health Services	86.6	75.2	81.2	70.6	52.0
Leather and Leather Products	69.2	90.0	108.6	107.0	105.8
Textile Products	4.9	4.9	4.9	7.3	6.2
Printing/Publishing (typesetting)	0.0	0.0	0.0	0.0	0.0
Process Cooling	0.0	10.1	11.6	12.6	117.6
In-Process Fuel Use	235.1	329.7	180.4	141.5	221.3
Miscellaneous Manufacturing	354.5	332.8	287.5	261.7	213.8
Organic Solvent Emissions					
Organic Solvent Use	1,914.4	1,484.4	1,403.8	1,371.0	1,141.8
Surface Coating Operations	22,338.8	20,049.9	17,979.3	16,512.2	13,480.0
Petroleum Product Storage	5,773.7	5,214.4	5,058.6	4,684.1	4,973.4
Bulk Terminals/Plants	1,755.8	2,117.9	2,402.2	2,967.0	2,799.1
Printing/Publishing	11,028.1	11,517.9	9,012.0	10,062.2	8,296.9
Petroleum Marketing/Transport	1,250.8	1,319.1	1,519.7	1,413.0	1,565.6
Organic Chemical Storage (large)	1,184.3	1,147.5	1,222.3	1,042.7	1,188.5
Organic Chemical Transportation	69.8	40.2	38.6	29.0	84.7
Dry Cleaning (petroleum based)	389.0	380.7	457.7	550.9	585.6
Organic Chemical Storage (small)	1.9	1.9	2.9	1.0	0.9
Organic Solvent Evaporation	3,590.0	4,027.4	3,537.6	3,147.4	1,011.8

Table C5

2004
Volatile Organic Material Point Source Emission Distribution (Tons/Year)

Category	2000	2001	2002	2003	2004
Solid Waste Disposal					
Government	232.0	253.8	352.3	685.8	1,009.6
Commercial/Institutional	64.9	57.2	32.5	46.5	108.2
Industrial	305.2	292.1	226.1	325.9	214.0
Site Remediation	595.9	659.0	990.7	1,131.0	1,438.5
MACT Processes					
Food and Agriculture Processes	3.2	3.0	42.8	42.8	79.5
Agricultural Chemical Production	1.7	1.8	1.7	0.0	1.1
Styrene or Methacrylate Based Resins	18.3	63.6	68.2	55.7	41.6
Cellulose Based Resins	0.0	0.0	0.0	0.0	0.0
Alkyd Resin Production	32.5	221.8	228.5	239.8	233.0
Vinyl Based Resins	95.1	112.7	124.0	123.3	319.4
Miscellaneous Polymers	13.3	18.0	16.7	13.8	13.7
Fibers Production	0.3	0.3	0.3	0.0	0.0
Inorganic Chemicals Manufacturing	0.	0.0	0.0	0.0	3.1
Consumer Product Mfg Facilities	3.9	6.5	57.0	235.3	231.4
Paint Stripper Use	3.8	3.8	1.0	3.8	2.8
Miscellaneous Processes	0.0	6.5	3.8	1.4	1.4
Phthalate Plasticizers Production	0.6	0.6	0.7	0.0	3.4
Totals	**101,146.9**	**95,221.1**	**90,013.5**	**89,579.3**	**84,080.3**

Table C6

2004
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Adams	269.5	341.8	616.2	971.8	924.3
Alexander	192.9	332.6	139.5	934.8	128.4
Bond	183.1	43.7	72.2	13.6	35.7
Boone	230.0	321.3	208.0	14.2	334.1
Brown	16.2	7.3	32.3	1.3	3.9
Bureau	35.3	71.7	262.8	6.9	230.6
Calhoun	0.6	0.7	44.7	0.0	0.0
Carroll	73.6	92.5	175.7	5.4	53.0
Cass	82.4	128.4	128.2	18.1	68.4
Champaign	2,611.4	2,301.5	827.2	1,196.9	1,019.8
Christian	1,162.4	20,130.2	504.2	18,023.6	285.0
Clark	12.1	10.1	123.7	1.1	130.0
Clay	80.0	146.1	89.8	19.2	235.2
Clinton	237.7	899.5	115.4	162.6	160.8
Coles	270.9	186.3	397.8	89.8	641.6
Cook	9,617.1	20,198.8	10,125.4	22,635.4	17,154.8
Crawford	1,320.4	4,530.0	839.5	23,995.8	1,299.6
Cumberland	16.7	3.2	51.5	0.4	16.4
DeKalb	123.8	113.2	236.3	30.2	373.8
DeWitt	135.2	58.1	234.9	16.6	121.3
Douglas	2,060.7	9,890.3	1,279.8	19,180.3	728.4
DuPage	1,719.9	1,841.2	934.5	315.9	2,144.5
Edgar	44.8	70.1	244.8	38.5	415.0
Edwards	5.4	16.8	52.9	0.1	261.8
Effingham	75.1	56.5	211.7	4.8	417.4
Fayette	110.2	294.0	205.4	210.1	250.9
Ford	47.9	71.1	384.3	2.5	655.0
Franklin	23.4	58.0	154.5	0.4	277.7
Fulton	283.4	3,601.7	277.9	10,403.8	32.9
Gallatin	4.5	18.1	175.9	6.4	7.4
Greene	0.0	0.0	98.8	0.1	30.1
Grundy	2,009.7	3,330.7	1,246.2	4,844.2	1,326.8
Hamilton	1.2	5.6	43.5	0.0	8.4
Hancock	2.2	13.8	194.6	4.6	5.6

Table C6

2004
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Hardin	245.3	25.3	215.2	58.0	37.7
Henderson	19.9	8.3	165.1	1.7	7.0
Henry	608.1	2,088.7	306.9	25.3	313.1
Iroquois	53.4	63.2	471.6	4.7	478.6
Jackson	169.2	177.6	168.2	562.9	77.5
Jasper	1,049.0	5,135.9	1,027.0	17,164.9	165.7
Jefferson	32.2	21.5	195.0	4.9	366.6
Jersey	0.7	0.0	56.0	0.0	29.6
Jo Daviess	269.0	887.9	599.5	1.2	717.6
Johnson	45.1	38.3	102.2	370.3	24.4
Kane	787.9	769.4	1,044.2	104.3	1,981.7
Kankakee	814.7	1,671.2	859.2	18.8	1,293.7
Kendall	620.7	1,150.1	454.0	57.4	665.8
Knox	135.3	259.1	338.3	44.5	354.0
Lake	2,514.7	7,118.3	1,599.5	11,539.3	1,654.9
La Salle	4,829.3	5,604.3	3,658.0	4,117.3	2,456.1
Lawrence	8.9	33.7	80.1	3.6	155.7
Lee	94.6	1,422.6	592.1	442.6	534.4
Livingston	531.7	940.7	634.3	29.5	632.8
Logan	67.2	510.0	392.7	327.1	148.9
McDonough	130.5	181.4	224.7	506.5	118.0
McHenry	462.3	479.4	675.9	70.6	827.8
McLean	388.2	740.9	580.3	41.3	2,999.1
Macon	2,691.1	8,104.2	4,842.6	12,798.7	7,499.7
Macoupin	9.8	16.9	182.3	3.3	113.0
Madison	14,415.6	14,986.8	4,240.2	26,576.8	4,665.6
Marion	72.5	90.2	256.7	99.5	856.0
Marshall	20.7	108.3	605.6	2,939.5	986.5
Mason	140.5	44.3	415.4	66.7	57.0
Massac	1,922.0	11,915.6	2,421.4	24,127.5	359.5
Menard	0.6	0.8	74.3	0.0	16.4
Mercer	1.0	1.0	121.5	0.0	6.4
Monroe	4.0	10.7	111.7	0.0	26.1
Montgomery	737.0	12,638.6	771.1	49,508.0	128.7

Table C6

2004
Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Morgan	465.5	2,970.3	931.3	12,095.4	335.2
Moultrie	3.2	5.5	126.1	0.1	203.4
Ogle	636.1	490.7	747.4	59.1	1,709.6
Peoria	1,967.4	10,960.3	2,752.1	61,046.3	2,889.2
Perry	274.4	63.2	137.1	5.6	49.8
Piatt	217.0	1,112.8	178.3	5.3	77.2
Pike	278.8	1,791.7	443.1	1,867.2	63.2
Pope	0.0	0.0	0.0	0.0	0.0
Pulaski	22.4	61.7	198.4	100.9	21.1
Putnam	604.0	4,232.4	629.6	6,119.6	163.8
Randolph	1,792.4	16,697.4	3,573.1	24,094.8	333.1
Richland	0.6	2.5	19.8	0.0	104.3
Rock Island	860.0	719.6	905.5	1,076.2	2,152.8
St. Clair	1,249.1	930.9	1,358.3	2,008.5	2,740.3
Saline	39.8	14.9	341.6	1.0	32.2
Sangamon	802.8	7,816.0	870.7	8,574.3	355.5
Schuyler	5.4	6.1	26.0	0.0	12.6
Scott	47.7	126.7	128.3	22.6	7.7
Shelby	84.6	92.1	117.3	1.5	90.1
Stark	0.0	0.0	76.0	0.0	6.6
Stephenson	269.7	208.9	215.5	11.5	625.3
Tazewell	1,914.2	26,634.7	3,067.8	32,963.5	906.8
Union	54.9	52.6	148.2	689.5	22.6
Vermilion	656.7	3,112.9	1,200.7	17,959.3	3,357.8
Wabash	6.2	6.6	111.5	2.4	20.1
Warren	44.6	57.0	265.8	65.6	58.1
Washington	10.0	41.6	173.8	0.2	237.6
Wayne	364.5	902.1	83.0	445.0	160.6
White	50.0	114.2	73.6	2.8	165.8
Whiteside	1,033.1	254.0	514.4	126.3	209.3
Will	8,798.5	17,034.1	6,420.1	79,514.4	4,777.1
Williamson	253.1	4,367.4	381.3	3,450.2	397.3
Winnebago	706.9	917.0	1,021.9	62.1	1,164.4
Woodford	7.5	11.9	231.9	0.0	90.2

Table C7

Annual Estimated Emissions Trends (Tons)

Year	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
1981	240,421	826,427	276,529	1,577,992	270,814
1982	163,704	693,054	184,716	1,404,040	233,951
1983	144,622	759,453	185,931	1,363,292	207,405
1984	110,922	746,367	204,490	1,435,066	197,418
1985	107,876	715,556	174,102	1,406,300	191,070
1986	109,777	676,181	164,246	1,400,761	180,148
1987	98,213	644,511	166,292	1,379,407	176,406
1988	127,758	653,521	162,124	1,393,628	165,792
1989	132,214	610,214	212,778	1,254,474	193,499
1990	134,744	623,466	266,888	1,272,445	170,378
1991	148,667	619,161	220,903	1,239,690	154,008
1992	129,054	610,214	163,529	1,228,949	156,867
1993	130,097	556,460	142,123	1,170,549	152,288
1994	127,848	555,893	133,275	1,158,555	140,492
1995	127,661	505,966	119,726	1,273,786	141,381
1996	130,040	495,267	105,842	1,183,278	139,445
1997	117,046	510,729	100,038	1,197,404	136,541
1998	108,117	509,676	99,619	1,196,461	134,924
1999	120,906	421,993	90,316	1,085,828	99,121
2000	122,702	424,609	93,710	1,070,058	101,147
2001	96,970	358,263	87,652	653,797	95,221
2002	99,173	301,216	79,141	531,343	90,014
2003	88,367	289,921	78,078	512,321	89,579
2004	80,479	248,245	76,787	507,142	84,080

Table C8

Annual Source Reported Emissions Trends (Tons)

Year	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
1992	112,394	381,940	95,653	1,045,102	143,852
1993	113,777	418,211	90,153	1,001,125	108,847
1994	116,183	404,488	88,829	967,215	108,897
1995	160,247	366,980	67,039	814,230	103,143
1996	84,282	407,680	63,693	914,297	87,263
1997	71,360	404,251	57,451	974,234	76,232
1998	79,313	377,201	61,395	964,264	77,836
1999	80,126	360,651	56,117	863,660	71,317
2000	80,044	328,925	55,681	620,456	70,862
2001	76,023	291,165	53,178	528,219	62,398
2002	82,230	262,057	49,504	499,284	70,441
2003	70,496	229,509	49,841	508,951	63,143

APPENDIX D

THE BUREAU OF AIR/ DIVISION OF AIR POLLUTION CONTROL

Organization and Programs

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

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

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

Air Monitoring

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

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

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

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

Air Quality Planning

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

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

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

- Coordination of the Bureau's Stationary Source Inventory.

Compliance and Enforcement

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

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

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

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

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

- Evaluate the Annual Emission Reports provided by Illinois industry.

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

Permits

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

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

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

Field Operations

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

Table D1

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