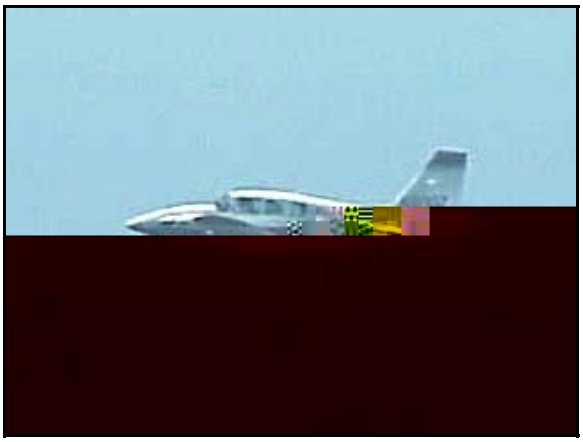
Illinois
Environmental
Protection Agency

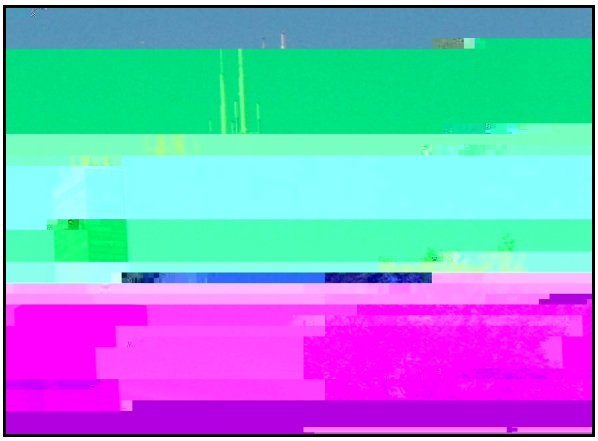
Bureau of Air
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

August 2002

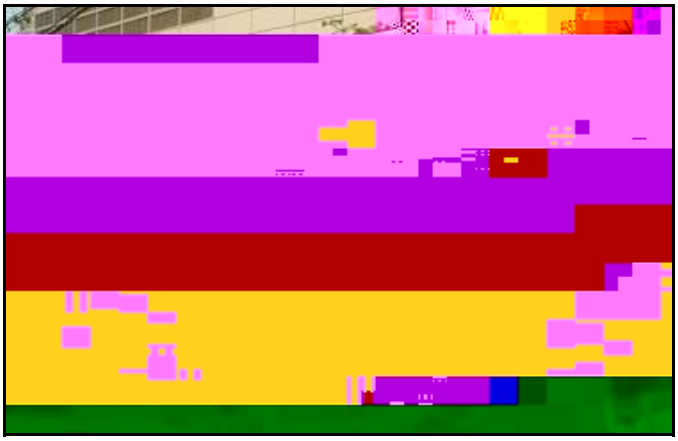
IEPA/BOA/02-015

2001





Illinois Annual Air Quality Report



Illinois Environmental Protection Agency

Bureau of Air

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

ILLINOIS ANNUAL AIR QUALITY REPORT 2001

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A MESSAGE FROM THE DIRECTOR

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

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

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

Data collected by the Illinois Environmental Protection Agency shows the State has been experiencing an on-going trend of decreased levels of $PM_{2.5}$ and ozone. Still, there is further work to be done by both individuals and businesses, to ensure that Illinois air quality continues to

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Illinois Annual Air Quality Report 2001

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2001
EXECUTIVE SUMMARY

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

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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 d642 Twizin r and may settle Tc0.eSave

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

contaminant emission limitations to ensure that population, industry and economic growth trends do not add to the region's air pollution problems.

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

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

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

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

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

CARBON MONOXIDE

There were no exceedances of either the 1-hour primary standard of 35 ppm or the 8-hour primary standard of 9 ppm in 2001. The highest 1-hour average was 6.1 ppm recorded in Springfield. The highest 8-hour average was 4.7 ppm recorded in Maywood and Peoria.

Figure 5 shows the trend for the period 1992-2001 for the statewide average of the 1-hour and 8-hour high CO values. The overall trend for both averages is downward. The statewide average of the 1-hour high was 4.6 ppm in 2001 compared with 5.1 ppm in 2000. The statewide average for the 8-hour high was 3.2 ppm in 2001 compared with 3.0 ppm in 2000.

NITROGEN DIOXIDE

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

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

problem. They are also important constituents of the $PM_{2.5}$ values. There are currently no State or Federal ambient air quality standards for these parameters.

The areas with the highest metals concentrations in Illinois are generally the heavy industrialized areas of the Metro-East (Granite City and East St. Louis) and South Chicago, especially for iron and manganese. The highest 24-hour average for arsenic was 0.046 ug/m

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SECTION 3: AIR QUALITY INDEX

The Air Quality Index (AQI) is the national standard method for reporting air pollution levels to the general public in 2000. This index replaced the previously used Pollutant Standards Index. Major changes include the addition of a new category "Unhealthy for Sensitive Groups" and using 8-hour ozone and $PM_{2.5}$ in the index. An index such as the AQI is necessary because there are several air pollutants, each with different typical ambient concentrations and each with different levels of harm, and to report actual concentrations for all of them would be confusing. The AQI uses a single number and a short descriptor to define the air quality in an easy-to-remember and easy-to-understand way, taking all the pollutants into account.

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 I0.s-u03 the high

Carbon monoxide (CO)

- Particulate matter (PM_{10})
- Particulate matter ($PM_{2.5}$)
- Nitrogen dioxide (NO_2)

In each case (except $PM_{2.5}$ which uses a lower value), the short-term primary NAAQS corresponds to a AQI of 100 and a descriptor of Unhealthy for Sensitive Groups, the Significant Harm level corresponds to a AQI of 500 and a descriptor of Hazardous, and the episode criteria correspond to intermediate hundreds. NO_2 does not have short-term NAAQSs; PSI begins at 201 for it. For the

- $PM_{2.5}$ the most recent 24-hour average
- NO_2 the highest 1-hour average (if above 600 ppb)

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

Table 3: AQI Descriptor Categories and Health Effects

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

O_3 = 45
SO_2 = 23
CO = 19
PM_{10} = 41
$PM_{2.5}$ = 61

Anytown's AQI for that day would be 61, which is in the Moderate category, and the Critical Pollutant would be particulates ($PM_{2.5}$).

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

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

If the AQI subindex for any pollutant in any sector should reach or exceed the Unhealthy (or any higher) category late in the afternoon or on weekends when the AQI is not published, the IEPA puts out a special bulletin on the Illinois Weatherwire. If data for one of the pollutants used in computing AQI is missing, the AQI is computed using the data available, ignoring the missing datum. It occasionally happens that two pollutants have the same subindex; in such cases there are two critical pollutants.

2001 Illinois AQI Summary

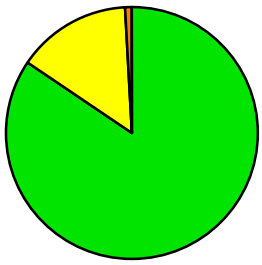
In order to present a more representative AQI, 24-hour $PM_{2.5}$ values from the total network were used to determine the percentages in **Figure 9** even though these values were not available for issuing the daily AQI. As a result the percentage of "Moderate" days has increased compared to previous years. Air quality was still in the "Good" category most often in 2001. All Sectors had a higher frequency of "Good" than "Moderate" and "Unhealthy for Sensitive Groups" except Chicago and Metro-East. All sectors except Chicago, North & West Suburbs, South & West Suburbs and Metro-East had 75% or more of the days in the "Good" category. Within AQI sectors there were 65 occurrences of Unhealthy for Sensitive Groups air quality in in 2001. The sector breakdown was 24 in Chicago (17 due to $PM_{2.5}$ and 7 due to 8-hour ozone), 11 in the North & West Suburbs (9 due to $PM_{2.5}$ and 2 due to 8-hour ozone), 9 in Metro-East (3 due to 8-hour ozone and 6 due to $PM_{2.5}$), 5 in South & West Suburbs (all $PM_{2.5}$), 3 in Lake County (all 8-hour ozone), 3 in Will County (2 due to 8-hour ozone and 1 due to $PM_{2.5}$), 2 in Aurora-Elgin (1 due to 8-hour ozone and 1 due to $PM_{2.5}$), 2 in Peoria (all $PM_{2.5}$), 2 in Rockford (all $PM_{2.5}$), 2 in Springfield (1 due to 8-hour ozone and 1 due to $PM_{2.5}$), 1 in Decatur ($PM_{2.5}$), and 1 in Normal (8-hour ozone). Outside of AQI sectors there were 7 additional occurrences of Unhealthy for Sensitive Groups (5 due to 8-hour ozoneand 2 due to $PM_{2.5}$). **Figure 9** presents the AQI statistics for each sector. The pie chart shows the percent of time each sector was in a particular category.

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

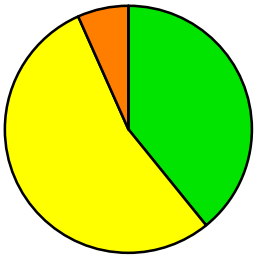
Table 4: AQI Sectors in Illinois

Figure 9: 2001 Air Quality Index Summaries by Sector

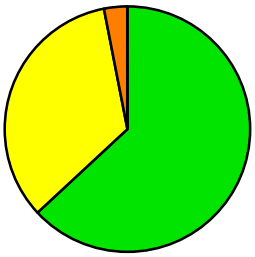
Chicago Sector - Lake County



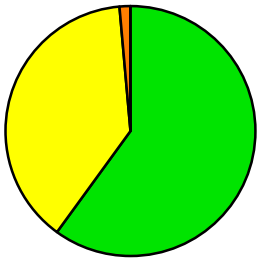
Chicago Sector - Chicago



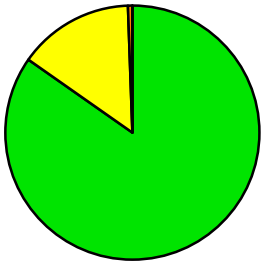
Chicago Sector - North & West Suburbs



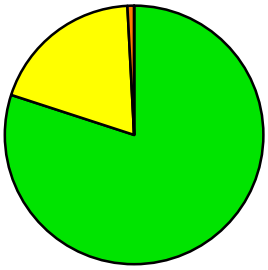
Chicago Sector - South & West Suburbs



Aurora - Elgin



Joliet/Will County



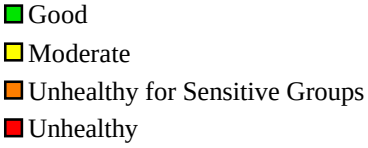


Figure 9: 2001 Air Quality Index Summaries by Sector

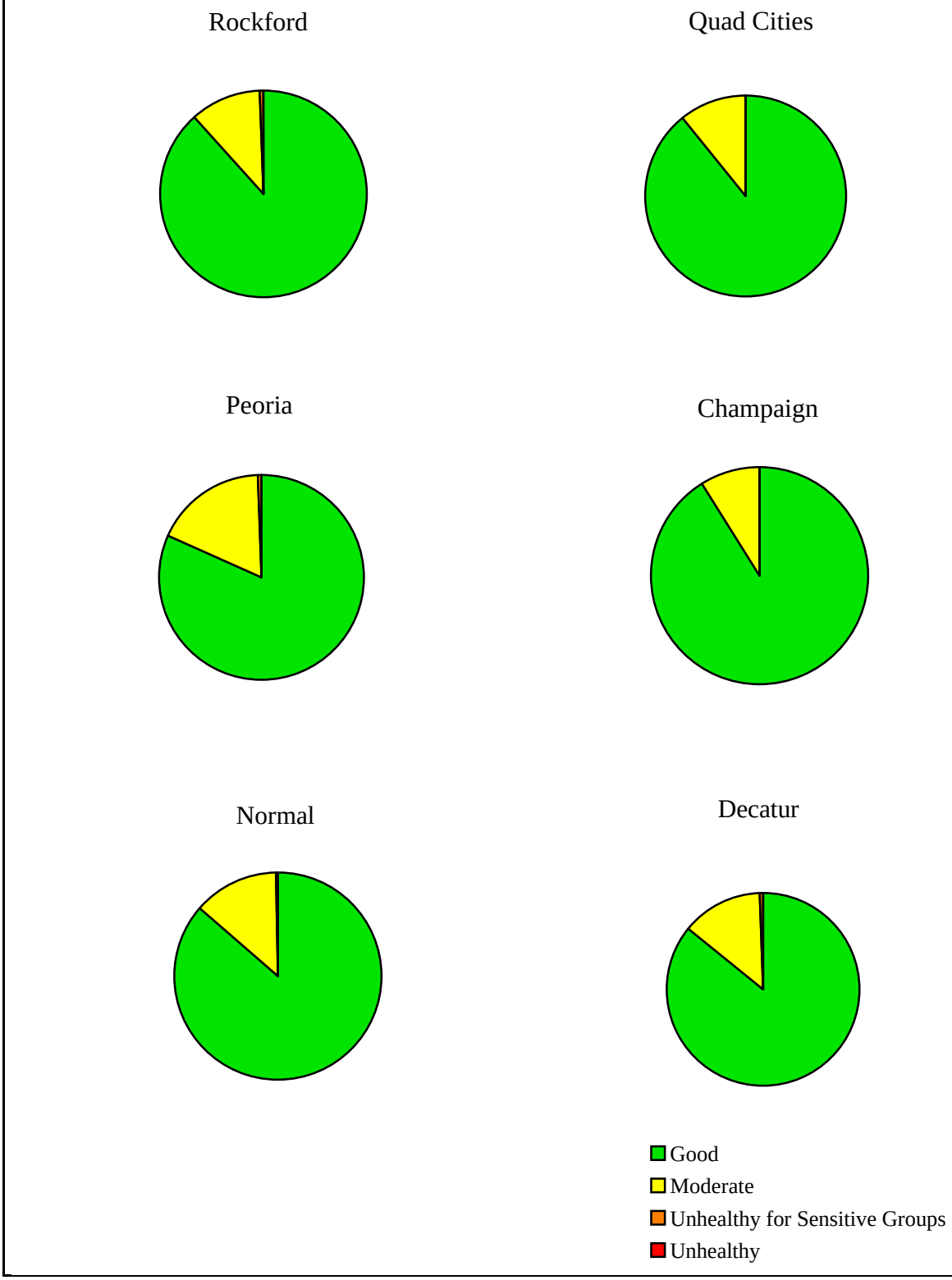


Figure 9: 2001 Air Quality Index Summaries by Sector

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SECTION 4: STATEWIDE SUMMARY OF POINT SOURCE EMISSIONS

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

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

ISSIS currently includes emission data on approximately 8,000 active sources throughout the State. The ISSIS data includes source addresses, source emission totals, permit data such as expiration date and status, emission unit data such as name, hours of operation, operating rate, fuel parameters and emissions, control equipment data such as control device name, type and removal efficiencies, and stack parameters. Reported emissions and Agency calculated emissions are stored separately.

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

The following tables and graphs are an analysis of the emissions data contained in ISSIS at the end of 2001. It is important to note emissions contained in the ISSIS are not necessarily the actual emissions that entered the atmosphere. This is due to the fact that when an air pollution permit is applied for, the applicant provides maximum and average emission rates. The maximum emission rate reflects what the applicant believes the emission rate would be at maximum production. The average emission rate reflects emissions at the applicant's most probable production rate. In the future, more and more reported data will be incorporated into the inventory.

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

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

VOLATILE ORGANIC MATERIAL

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

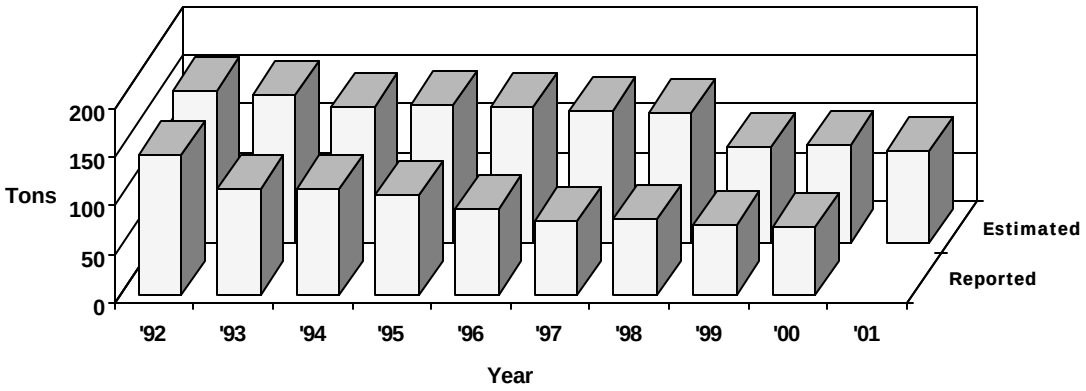
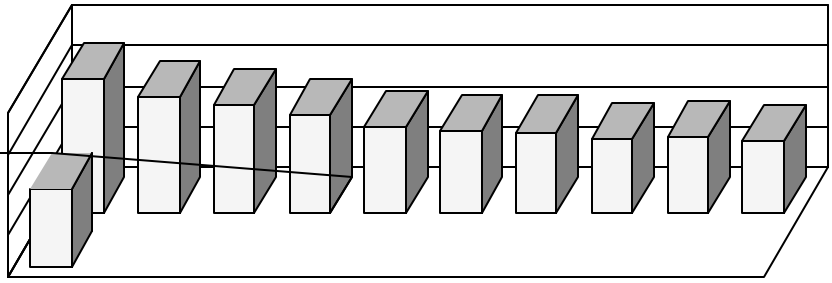


Table 5: Volatile Organic Material Emissions - 2001

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Surface Coating Operations	20,049.9	21.1%	21.1%
Chemical Manufacturing	12,504.9	13.1%	34.2%
Printing/Publishing	11,517.9	12.1%	46.3%
Food/Agriculture	9,942.7	10.4%	56.7%
Fuel Combustion	7,820.3	8.2%	64.9%
Petroleum Industry	6,027.9	6.3%	71.3%
Petroleum Product Storage	5,214.4	5.5%	76.7%
Rubber and Plastic Products	4,096.4	4.3%	81.0%
Organic Solvent Evaporation	4,027.4	4.2%	85.3%
Bulk Terminal/Plants	2,117.9	2.2%	87.5%
Primary Metal Production	1,756.9	1.8%	89.3%
Fabricated Metal Products	1,743.6	1.8%	91.2%
Organic Solvent Use	1,484.4	1.6%	92.7%
Mineral Products	1,476.9	1.6%	94.3%
Petroleum Marketing/Transport	1,319.1	1.4%	95.7%
Secondary Metal Production	1,310.1	1.4%	97.0%

PARTICULATE MATTER



SULFUR DIOXIDE

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

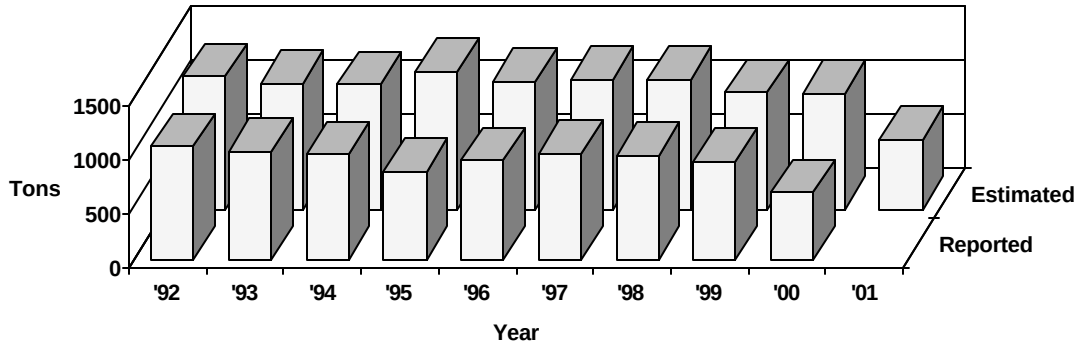
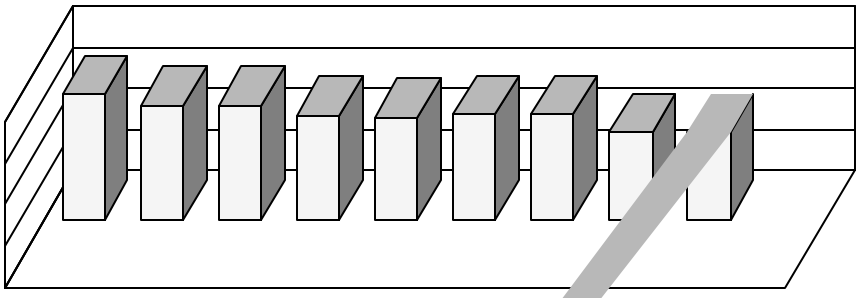


Table 8: Distribution of Sulfur Dioxide Emissions - 2001

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

NITROGEN OXIDES



APPENDIX A
AIR SAMPLING NETWORK

DESCRIPTION OF THE AIR SAMPLING NETWORK

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

Many local agencies and volunteers cooperate and support the operation of the Illinois air monitoring network. The network contains both continuous and intermittent instruments. The continuous instruments operate throughout the year, while noncontinuous instruments operate intermittently based on the schedule shown in **Table A2**. This is the official noncontinuous sampling schedule used by the Illinois EPA during 2001.

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

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

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

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

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

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

   d. To determine general background concentration levels.

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

   a. To measure expected maximum concentrations.

TABLE A1

DIRECTORY OF REGIONAL AIR POLLUTION AGENCIES

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

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

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

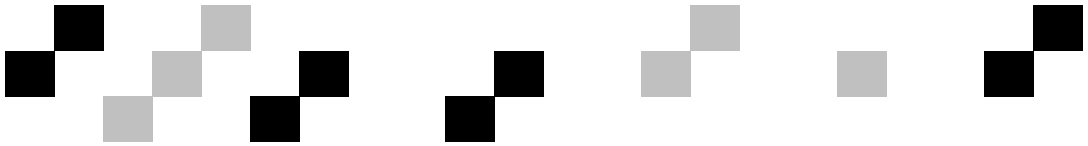
Iowa Dept. of Natural Resources
Wallace State Office Building
502 E. 9th.
Des Moines, Iowa 50319-0034
515/281-5145
Fax 515/281-8895

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

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

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

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



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.

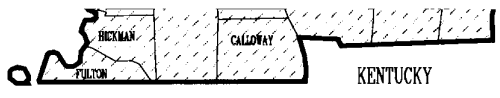
c. To provide data on noncriteria pollutants.

Table A3

DISTRIBUTION OF AIR MONITORING INSTRUMENTS

	PAMS	NAMS	SLAMS	SPMS	TOTAL

73 - Rockford-Janesville-Beloit Interstate (Illinois-Wisconsin)
74 - Southeast Illinois Intrastate
75 - West Central Illinois Intrastate



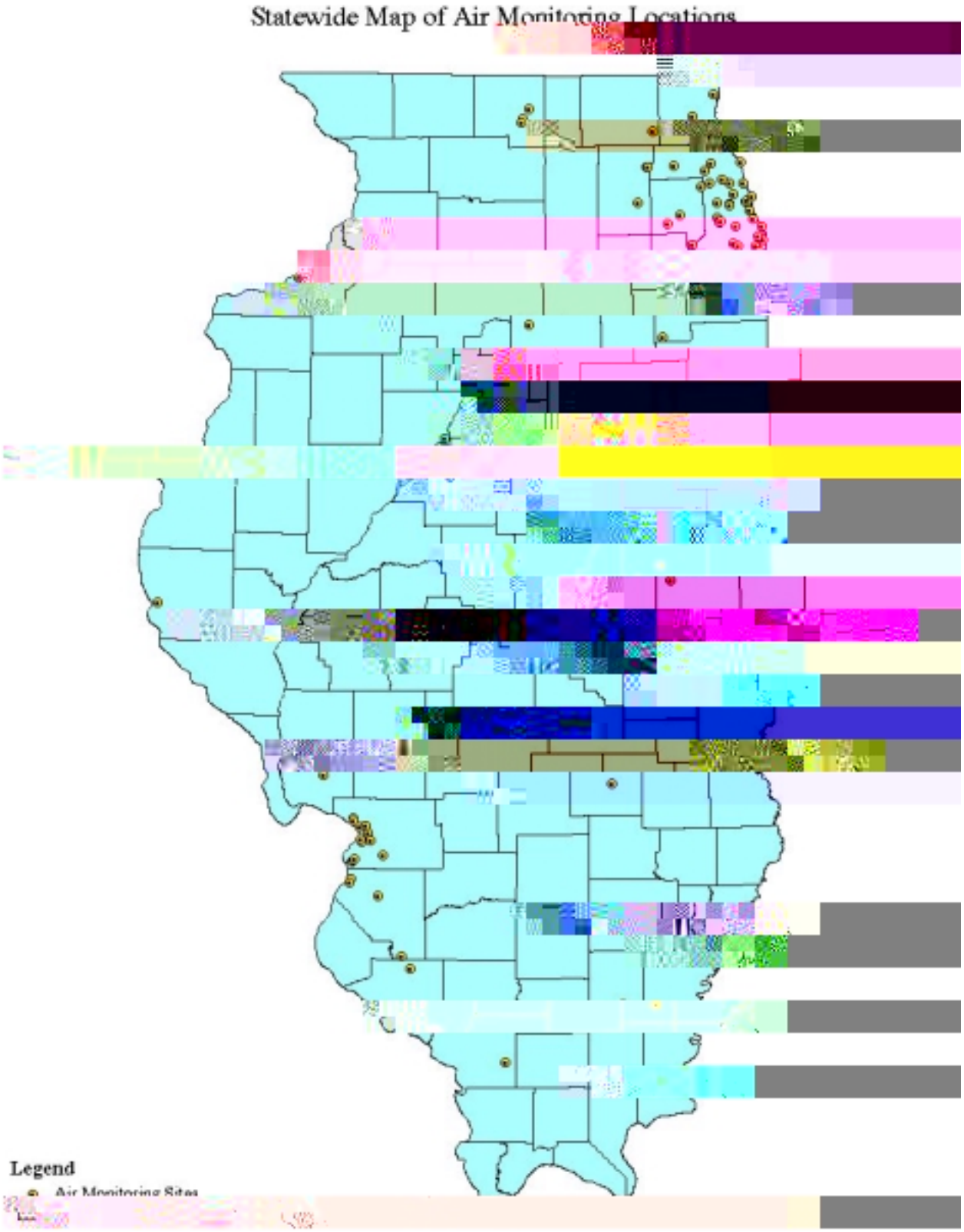

Statewide Map of Air Monitoring Locations
Legend
Air Monitoring Sites

Table A4

2001
SITE DIRECTORY

CITY NAME	OWNER/

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Calumet City (0318003)	Trailer 1703 State St.	Cook County DEC	N. 4608.775 E. 452.673	SLAMS - SO_2, NO/NO_2, O_3, CO
Chicago (0310060)	Carver H.S. 13100 S. Doty	Cook County DEC	N. 4611.597 E. 451.007	NAMS - PM_{10}
Chicago (0310026)	Cermak Pump Sta. 735 W. Harrison	Cook County DEC	N. 4635.707 E. 446.469	SLAMS - Pb SPMS - TSP
Chicago (0310063)	CTA Building 320 S. Franklin	Ill. EPA	N. 4636.096 E. 447.365	NAMS - CO, NO/NO_2, SO2
Chicago (0310076)	Com Ed Maintenance Bldg. 7801 Lawndale	Cook County DEC	N. 4622.575 E. 440.655	SLAMS - $PM_{2.5}$ SPMS – WS/WD^n
Chicago (0310014)	Farr Dormitory 3300 S. Michigan Ave.	Cook County DEC	N. 4631.393 E. 448.232	SLAMS - $PM_{2.5}$
Chicago (0310072)	Jardine Water Plant 1000 E. Ohio	Ill. EPA	N. 4638.169 E. 449.597	PAMS - NO/NO_2, O_3, VOC WS/WD, SOL, MET, UV, RAIN
Chicago (0310052)	Mayfair Pump Sta. 4850 Wilson Ave.	Cook County DEC	N. 4645.900 E. 437.878	NAMS - Pb SLAMS - $PM_{2.5}$ SPMS - TSP
Chicago (0310042)	Sears Tower Wacker @ Adams	Ill. EPA	N. 4636.320 E. 447.265	SPMS - O_3
Chicago (0310050)	Southeast Police Sta. 103rd & Luella	Cook County DEC	N. 4617.220 E. 452.700	NAMS - SO_2 SLAMS - O_3, $PM_{2.5}$
Chicago (0310032)	South Water Filtration Plant 3300 E. Cheltenham Pl.	Cook County DEC	N. 4622.596 E. 454.663	SLAMS - O_3
Chicago (0310057)	Springfield Pump Sta. 1745 N. Springfield. Ave.	Cook County DEC	N. 4640.231 E. 439.962	SLAMS - $PM_{2.5}$
Chicago (0311003)	Taft H.S. 6545 W. Hurlbut St.	Cook County DEC	N. 4648.125 E. 434.392	SLAMS - O_3
Chicago (DISC) (0310075)	Truman College 1145 W. Wilson	Cook County DEC	N. 4645.802 E. 445.417	SLAMS - O_3, NO/NO_2
Chicago (0310064)	University of Chicago 5720 S. Ellis Ave.	Cook County DEC	N. 4626.508 E. 450.010	SLAMS - O_3 SPMS - SOL

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Chicago	Washington H.S.	Cook County DEC	N. 4615.038	SLAMS - Pb, $PM_{2.5}$
(0310022)	3535 E. 114th St.		E. 455.155	SPMS - TSP

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
DUPAGE COUNTY				
Lisle (0436001)	Morton Arboretum Route 53	Ill. EPA	N. 4629.361 E. 410.891	SLAMS - O_3 SPMS - WS/WD
Naperville (0434002)	City Hall 400 S. Eagle St.	Ill. EPA	N. 4624.841 E. 404.230	SLAMS - $PM_{2.5}$
KANE COUNTY				
Elgin (0890005)	Larsen Junior H.S. 665 Dundee Rd.	Ill. EPA	N. 4655.844 E. 394.654	NAMS - O_3
Elgin (0890003)	McKinley School 258 Lovell St.	Ill. EPA	N. 4655.941 E. 394.048	SLAMS - $PM_{2.5}$
LAKE COUNTY				
Libertyville (0973001)	Butterfield Elem. Sch. 1441 Lak 432.0002 Tm-0.0041 Tc0ille	Ill. EPA 12w[(0973001N	N. 4682.279 2(002 Tm-0. Tm432.c43555.)-10(941)-1955.3(S)-p l)-6.1(l)-6.1(.)-	SLAMS - O_3

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)				

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
MADISON COUNTY				
Rural Madison County (DISC) (1191016)	Chemetco Site 5-N	Chemetco	N. 4298.370 E. 751.935	SPMS - Pb
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, $PM_{2.5}$
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^n SPMS - TSP, WS/WD
Marissa (DISC) (1631011)	Baldwin Site #1 Risdon School Rd.	Ill. EPA	N. 4235.505 E. 251.259	SLAMS - SO_2 SPMS - WS/WD

Table A4

2001
SITE DIRECTORY

CITY NAME / AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
74 SOUTHEAST ILLINOIS INTRASTATE				
EFFINGHAM COUNTY				
Effingham	Central Junior H.S.	Ill. EPA	N. 4325.131	SLAMS - O_3
(0491001)	Route 45 South		E. 366.053	SPMS - WS/WD, SOL
HAMILTON COUNTY				
Dale	Dale Elem. School	Ill. EPA	N. 4206.378	SLAMS - O_3
(0650001)	SR 142		E. 368.939	
JACKSON COUNTY				
Carbondale	Maintenance Bldg.	Ill. EPA	N. 4177.177	SLAMS - PM_{10}
(0770004)	607 E. College	SIU	E. 305.348	
WABASH COUNTY				
Mount Carmel	Division St.	Public Service	N. 4249.965	SPMS - SO_2
(1850001)		of Indiana	E. 432.444	
Rural Wabash County	South of SR-1	Public Service	N. 4246.929	SPMS - SO_2
(1851001)		of Indiana	E. 427.104	
75 WEST CENTRAL ILLINOIS INTRASTATE				

Table A4

2001
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
SANGAMON COUNTY				
Springfield (1670010)	Public Health Warehouse 2875 N. Dirksen Pkwy.	Ill. EPA	N. 4413.490 E. 277.134	SLAMS - O_3
Springfield (1670012)	Agriculture Building State Fair Grounds	Ill. EPA	N. 4412.240 E. 273.720	SLAMS - $PM_{2.5}$

Summary of Equipment Codes for the Site Directory

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APPENDIX B
AIR QUALITY DATA SUMMARY TABLES

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) has

Table B1

2001
OZONE IN EXCESS OF THE PRIMARY STANDARD OF ONE HOUR PER DAY GREATER THAN 0.12 PARTS PER MILLION

STATION	ADDRESS	DATE	MAXIMUM VALUE (PPM)
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)			
MADISON COUNTY			
Wood River	54 N. Walcott	July 23	0.125
75 WEST CENTRAL ILLINOIS INTRASTATE			
JERSEY COUNTY			
Jerseyville	Liberty St.	Jun 12	0.131

Table B1

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

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

Table B2

2001
OZONE

STATION	ADDRESS	VALID APR-OCT	NUMBER OF DAYS GREATER THAN 0.12 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	2ND	3RD	4TH	8-HOUR 1ST	2ND	3RD	4TH
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)											
PEORIA COUNTY											
Peoria	Hurlburt & MacArthur	211	0	0.077	0.077	0.076	0.075	0.072	0.072	0.069	0.068
Peoria Heights	508 E. Glen	214	0	0.093	0.084	0.083	0.083	0.084	0.080	0.080	0.080
66 EAST CENTRAL ILLINOIS INTRASTATE											
CHAMPAIGN COUNTY											
Champaign	606 E. Grove	211	0	0.081	0.080	0.079	0.078	0.074	0.073	0.073	0.073
McLEAN COUNTY											
Normal	Main & Gregory	212	0	0.093	0.085	0.083	0.082	0.085	0.079	0.074	0.072
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)											
COOK COUNTY											
Alsip	4500 W. 123rd St.	212	0	0.091	0.089	0.088	0.088	0.081	0.079	0.078	0.077

Table B2

2001
OZONE

	NUMBER OF DAYS	HIGHEST SAMPLES

Table B3

20001

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

STATION	ADDRESS	DATE	VALUE (ug/m^3)
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)			

Table B4

2001

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 - I(ING)6.0E									
Alsip	4500 W. 123rd St.	6-day	60	0	54	51	44	44	27
Blue Island	12700 Sacramento	6-day	60	0	62	56	50	47	28
Chicago - Carver	13100 S. Doty	6-day	60	0	86	76	72	67	35
Chicago - Washington HS	3535 E. 114th St.	1-day	353	0	84	79	70	67	28
Hoffman Estates	1100 W. Higgins Rd.	6-day	58	0	55	51	48	40	24
Lyons Township	50th St. & Glencoe Ave.	1-day	346	0	137	124	122	117	38
Midlothian	15205 Crawford Ave.	6-day	59	0	51	49	48	46	26
Summit	60th St. & 74th Ave.	6-day	56	0	64	56	52	50	+
WILL COUNTY									
Joliet	Midland & Campbell Sts.	6-day	59	0	63	56	53	49	24

65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)

PEORIA COUNTY							
Peoria	613 N.E. Jefferson	20	21	26	23	24	22
COOK COUNTY							
Alsip	4500 W. 123rd St.	25	25	30	25	26	27
Blue Island	12700 Sacramento	30	28	33	30	30	28
Chicago - Carver	13100 S. Doty	31	31	58	32	+	35
Chicago - Washington HS	3535 E. 114th St.	31	+	33	-	-	28
Hoffman Estates	1100 W. Higgins Rd.	22	21	26	25	21	24

Table B6

2001

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	>65 ug/m^3	HIGHEST SAMPLES 1st	2nd	3rd	4th	ANNUAL ARITHMETIC MEAN
65 BURLINGTON-KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	3-day	119	0	46.0	44.4	36.4	32.6	13.9
66 EAST CENTRAL ILLINOIS INTRASTATE									
CHAMPAIGN COUNTY									
Bondville	Twp. Rd. 500 E.	6-day	55	0	38.8	23.3	18.9	18.8	+
Champaign	606 E. Grove	6-day	56	0	36.8	29.3	22.4	21.1	12.6
Mc LEAN COUNTY									
Normal	Main & Gregory	6-day	57	0	37.4	32.4	29.1	26.1	14.8
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Blue Island	12700 Sacramento	3-day	109	0	43.9	40.0	38.2	36.7	17.1
Chicago-Com Ed	7801 Lawndale	3-day	109	0	51.5	38.9	37.4	36.8	+
Chicago-Farr	3300 S. Michigan Ave.	3-day	114	0	49.4	45.5	41.9	41.1	17.1
Chicago-Mayfair	4850 Wilson Ave.	1-day	325	0	56.4	55.4	52.9	47.5	19.4
Chicago-SE Police	103rd & Luella	1-day	282	0	44.0	43.7	42.0	41.4	+
Chicado-Springfield	1745 N. Springfield Ave.	3-day	116	0	40.6	40.4	38.8	34.6	16.2
Chicago-Washington HS	3535 E. 114th St.	3-day	113	0	50.6	42.6	39.9	35.1	17.1
Cicero	13th St. & 50th Ave.	3-day	107	0	48.2	39.1	38.9	38.8	17.4
Des Plaines	9511 W. Harrison	3-day	114	0	51.4	39.2	34.4	32.4	14.8
Lyons Township	50th St. & Glencoe Ave.	3-day	116	0	62.3	51.4	47.5	45.5	20.8
Northbrook	750 Dundee Road	1-day	308	0	46.9	42.5	40.6	39.7	14.7
Summit	60th St. & 74th Ave.	3-day	118	0	48.3	41.4	35.8	35.0	16.5
Du PAGE COUNTY									
Naperville	400 S. Eagle St.	3-day	110	0	49.3	36.9	36.8	36.1	15.5
KANE COUNTY									
Elgin	258 Lovell St.	3-day	118	0	46.9	39.0	33.6	31.8	15.1
LAKE COUNTY									
Zion	Camp Logan	3-day	101	0	35.0	34.8	33.8	33.8	+
Mc HENRY COUNTY									
Cary	1st St. & Three Oaks Rd.	3-day	118	0	38.0	35.1	33.3	32.5	13.7
WILL COUNTY									
Braidwood	36400 S. Essex Rd.	6-day	61	0	35.0	26.1	23.5	23.2	12.9
Joliet	Midland & Campbell	3-day	113	0	51.6	40.3	40.1	38.4	16.1

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

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

Table B6

2001

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	>65 ug/m^3	HIGHEST SAMPLES 1st	2nd	3rd	4th	ANNUAL ARITHMETIC MEAN
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
ROCK ISLAND COUNTY									
[redacted]									2.8
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	1700 Annex St.	3-day	114	0	43.1	40.9	39.6	38.1	15.8
Granite city	23rd & Madison	3-day	111	0	40.8	36.4	35.0	34.3	17.3
Granite City	2040 Washington	3-day	111	0	51.6	46.1	42.9	38.7	19.7
Wood River-1119.	River-1119c2.26372	512.64	0.72	12	re202	500.614(N)1432253.79597(23r(nnt)-9.8(t2			re20-483-21

Table B7

2001
CARBON MONOXIDE

Table B9

2001
SULFUR DIOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES TOTAL	3-HR > 0.5	24-HR > 0.14	HIGHEST SAMPLES 3-HR AVG. 1ST	3-HR AVG. 2ND	24-HR AVG. 1ST	24-HR AVG. 2ND	ANNUAL ARITHMETIC MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	Hurlburt & MacArthur	8552	0	0	0.107	0.099	0.039	0.031	0.005
TAZEWELL COUNTY									
Pekin	272 Derby	8654	0	0	0.358	0.331	0.102	0.079	0.006
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Bedford Park	7800 W. 65th St.	8658	0	0	0.050	0.048	0.023	0.020	0.005
Blue Island	12700 Sacramento	8621	0	0	0.049	0.047	0.023	0.020	0.004
Calumet City	1703 State St.	8649	0	0	0.038	0.037	0.017	0.014	0.004
Chicago - CTA	320 S. Franklin	8650	0	0	0.072	0.069	0.040	0.033	0.005
Chicago - SE Police	103rd & Luella	8694	0	0	0.046	0.041	0.015	0.014	0.003
Cicero	1830 S. 51st Ave.	8682	0	0	0.072	0.064	0.045	0.035	0.005
Lemont	729 Houston	8668	0	0	0.084	0.066	0.037	0.026	0.005
WILL COUNTY									

Table B9

2001
SULFUR DIOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES			HIGHEST SAMPLES				ANNUAL
			3-HR	24-HR	3-HR AVG.		24-HR AVG.		ARITHMETIC
		TOTAL	> 0.5	> 0.14	1ST	2ND	1ST	2ND	MEAN
75 WEST CENTRAL ILLINOIS INTRASTATE4.6(TAS)-									

Table B10

2001
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1996	1997	1998	1999	2000	2001
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	Hurlburt & MacArthur	0.007	0.007	0.007	0.007	0.006	0.005
TAZEWELL COUNTY							
Pekin	272 Derby	0.006	0.007	0.006	0.005	0.005	0.006
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
Joliet	Rte 6 & Young Rd.	0.004	0.005	0.004	0.005	0.005	0.005
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
MADISON COUNTY							
Alton	409 Main St.	0.009	0.007	0.008	0.007	0.005	0.006
South Roxanna	Michigan Ave.	0.010	0.010	0.008	0.008	0.004	0.007
Wood River	54 N. Walcott	0.007	0.006	0.006	0.007	0.006	0.006
Wood River	1710 Vaughn Rd.	0.011	0.009	+	0.009	0.008	0.004
RANDOLPH COUNTY							
Houston	Twp Rd 150 & Twp Rd 45	0.006	0.005	0.005	0.004	0.002	0.002
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	0.009	0.009	0.008	0.008	0.007	0.007
Marissa	Risdon School Rd.	0.004	0.005	0.005	0.004	0.002	0.002
Sauget	Little Ave.	0.009	0.009	0.008	0.008	0.006	0.006
74 SOUTHEAST ILLINOIS INTRASTATE							
WABASH COUNTY							
Mount Carmel	Division St.	0.009	0.007	0.004	0.007	0.005	0.005
Rural Wabash County	South of SR-1	0.009	0.007	0.005	0.005	0.006	0.005

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

Primary Annual Standard 0.03 ppm

Table B10

2001
SHORT-TERM TRENDS
SULFUR DIOXIDE

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

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

Primary Annual Standard 0.03 ppm

Table B11

2001
NITROGEN DIOXIDE
(parts per million)

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

Table B12

2001
SHORT-TERM TRENDS
NITROGEN DIOXIDE

67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)

COOK COUNTY

Calumet City	1703 State St.	0.022	0.024	0.025	0.024	0.022	0.024
Chicago - CTA	320 S. Franklin	0.031	0.034	0.032	0.032	0.032	0.032
Chicago - Truman	1145 W. Wilson	-	-	0.024	0.024	0.023	0.025
Cicero	1820 S. 51st St.	0.027	0.027	0.026	0.027	0.027	0.028
Northbrook	750 Dundee Rd.	-	+	0.017	0.017	0.018	0.018
Schiller Park	4743 N. Mannheim	-	-	0.031	0.031	0.029	0.028

WILL COUNTY

Table B13

2001
LEAD
(micrograms per cubic meter)

STATION	ADDRESS	NUMBER OF QUARTERS >1.5	QUARTERLY AVERAGES 1st	2nd	3rd	4th	ANNUAL MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	0	0.01	0.01	0.01	0.02	0.01
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	0	0.01	0.02	0.02	0.01	0.02
Chicago - Cermak	735 W. Harrison	0	0.05	0.04	0.06	0.06	0.05
Chicago - Mayfair	4850 Wilson Ave.	0	0.02	0.02	0.02	0.02	0.02
Chicago - Washington	3535 E. 114th St.	0	0.03	0.03	0.02	0.02	0.02

Table B14

2001
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
			ARSENIC				**BERYLLIUM**		
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	59	0.005	0.005	0.002	59	0.000	0.000	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	500 W. 123rd. St.	59	0.011	0.009	0.002	NA			
Chicago - Cermak	735 W. Harrison	59	0.009	0.005	0.002	NA			
Chicago - Mayfair	4850 Wilson Ave	60	0.005	0.005	0.002	NA			
Chicago - Washington	3535 E. 114th St.	61	0.010	0.006	0.002	NA			
Maywood	1500 Maybrook Dr.	61	0.007	0.005	0.002	NA			
Schiller Park	4743 N. Mannheim Rd.	58	0.005	0.003	0.001	58	0.000	0.000	0.000
Summit	60th St. & 74th Ave.	58	0.009	0.007	0.002	NA			
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	0.046	0.020	0.004	58	0.000	0.000	0.000
Wood River	54 N. Walcott	59	0.009	0.009	0.002	59	0.000	0.000	0.000
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	58	0.015	0.012	0.004	58	0.000	0.000	0.000
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	57	0.005	0.002	0.001	57	0.000	0.000	0.000

Table B14

2001
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
			CADMIUM				**CHROMIUM**		
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	58	0.000	0.000	0.000	58	0.011	AM000O 50.43-9.7(000O 50.)-9.1	

Table B14

2001
FILTER ANALYSIS DATA

Table B14

2001
FILTER ANALYSIS DATA
(micrograms per cubic meter)

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

2001
FILTER ANALYSIS DATA
(micrograms per cubic meter)

VANADIUM

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

Table B14

2001
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	NITRATES TOTAL SAMPLES	NITRATES HIGHEST 1st	NITRATES HIGHEST 2nd	NITRATES ARITH. MEAN	SULFATES TOTAL SAMPLES	SULFATES HIGHEST 1st	SULFATES HIGHEST 2nd	SULFATES ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	59	16.5	15.0	6.0	59	33.9	17.4	8.5
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	59	24.4	21.5	6.4	59	26.1	17.1	7.4
Chicago - Cermak	735 W. Harrison	59	19.7	18.3	6.0	59	27.2	27.0	8.6
Chicago - Mayfair	4850 Wilson Ave	60	21.5	19.3	6.0	60	20.3	19.4	7.8
Chicago - Washington	3535 E. 114th St.	61	15.2	14.7	5.7	61	18.4	18.1	8.3
Maywood	1500 Maybrook Dr.	61	18.0	15.3	5.4	61	39.2	20.3	9.0
Schiller Park	4743 N. Mannheim Rd.	58	19.5	16.8	7.1	58	23.2	22.0	10.0
Summit	60th St. & 74th Ave.	58	19.2	17.8	5.4	58	20.8	18.5	7.7
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	58	11.2	10.1	4.7	58	19.5	17.5	9.4
Wood River	54 N. Walcott	59	10.1	8.2	3.9	59	16.0	15.9	8.3
ST. CLAIR COUNTY									
East St. Louis	13th St. & Tudor Ave.	58	10.0	9.6	4.5	58	17.1	16.5	9.6
75 WEST CENTRAL ILLINOIS INTRASTATE									
MACOUPIN COUNTY									
Nilwood	Heaton & DuBois	57	15.5	11.2	4.8	57	14.8	13.5	7.3

Table B15

2001
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

	HIGHEST SAMPLES (ppbc)	
	24-HOUR	JUN - AUG

Table B15

2001
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

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

Table B15

2001
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

HIGHEST SAMPLES (ppbc)

Table B15

2001
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

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

APPENDIX C
PRECISION AND ACCURACY DATA SUMMARY AND TABLES

C.1 PRECISION AND ACCURACY DATA SUMMARY

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

Table C1

2001
PRECISION DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF SITES	TOTAL SAMPLES	PROBABILITY LIMITS (percent) UPPER 95%	LOWER 95%
SITES OPERATED BY ILLINOIS EPA					
Sulfur Dioxide	1st Quarter	16	184	6	-6
	2nd Quarter	16	193	6	-3
	3rd Quarter	16	184	6	-4
	4th Quarter	16	172	4	-7
	Year		733	6	-5
Ozone	1st Quarter	24	250	6	-7
	2nd Quarter	32	375	5	-7
	3rd Quarter	32	376	5	-6
	4th Quarter	30	274	7	-8
	Year		1275	6	-7
Carbon Monoxide	1st Quarter	6	69	8	-8
	2nd Quarter	6	70	5	-8
	3rd Quarter	6	68	7	-7
	4th Quarter	6	62	5	-5
	Year		269	6	-7
Nitrogen Dioxide	1st Quarter	5	51	7	-12
	2nd Quarter	7	69	5	-10
	3rd Quarter	6	68	7	-7
	4th Quarter	4	44	11	-7
	Year		232	8	-9
Inhalable Particulate PM_{10}	1st Quarter	1	13	10	-12
	2nd Quarter	1	14	7	-17
	3rd Quarter	1	14	13	-20
	4th Quarter	1	14	4	-14
	Year		55	8	-16
Inhat5(-11.-93Tf9.96 0 0 9.96 43.24-043.J)12( )122.J	**uQuarter**	**741**		**-9**	**2nd**
	3rd Quarter	**6**	**67**	**7**	**-11**
	4th Quarter	**6**	**48**	**15**	**-10**
	Year		**243**	**11**	**-10**
Lead	1st Quarter	1	14	(1)	(1)
	2nd Quarter	1	13	(1)	(1)

Table C1

2001
PRECISION DATA SUMMARY

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

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

Table C2

2001
ACCURACY DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF AUDITS	PROBABILITY LIMITS LEVEL 1 +95%	LEVEL 1 -95%	LEVEL 2 +95%	LEVEL 2 -95%	LEVEL 3 +95%	LEVEL 3 -95%
SITES OPERATED BY ILLINOIS EPA								
Sulfur Dioxide	1st Quarter	7	2	-11	-2	-10	0	-14
	2nd Quarter	4	11	-12	9	-13	6	-14
	3rd Quarter	4	-6	-9	-5	-10	-4	-9
	4th Quarter	5	8	-14	-1	-10	-2	-11
	Year	20	4	-12	0	-11	0	-12

Table C2

2001
ACCURACY DATA SUMMARY

PARAMETER	SUMMARY PERIOD	NUMBER OF AUDITS	PROBABILITY LIMITS LEVEL 1 +95%	LEVEL 1 -95%	LEVEL 2 +95%	LEVEL 2 -95%	LEVEL 3 +95%	LEVEL 3 -95%
SITES OPERATED BY COOK COUNTY DEPARTMENT OF ENVIRONMENTAL CONTROL								
Sulfur Dioxide	1st Quarter	6	10	-4	6	-2	2	-2
	2nd Quarter	2	14	-8	17	-16	16	-15
	3rd Quarter	4	3	-1	5	-1	7	-5
	4th Quarter	4	6	-5	8	-2	12	-5

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APPENDIX D
POINT SOURCE EMISSION INVENTORY SUMMARY TABLES

Table D1

2001

Primary Metal Production	**5,408.2**	**6,804.5**	**4,188.0**	**1,756.9**	**24,201.9**
Secondary Metal Production	**6,334.8**	**150.3**	**1,111.2**	**1,178.0**	**2,866.4**
Mineral Products	**23,458.7**	**14,183.8**	**11,845.3**	**1,476.9**	**4,087.2**
Petroleum Industry	**3,061.1**	**87,866.5**	**20,239.8**	**6,027.9**	**5,992.5**
Paper and Wood Products	**451.7**	**0.1**	**12.7**	**198.5**	**10.9**
Rubber and Plastic Products	**663.8**	**1.1**	**57.3**	**4,096.4**	**35.9**
Fabricated Metal Products	**992.5**	**212.1**	**420.3**	**1,743.6**	**1,266.7**
Oil and Gas Production	**3.3**	**103.9**	**80.4**	**564.0**	**98.4**
Building Construction	**1.5**	**0.0**	**0.0**	**0.0**	**0.0**
Miscelaneous Machinery	**94.3**	**2.3**	**6.3**	**31.3**	**3.9**
Electrical Equipment	**37.9**	**0.9**	**5.9**	**200.4**	**2.2**
Transportation Equipment	**54.7**	**0.0**	**1.9**	**26.3**	**1.2**
Health Services	**14.8**	**0.7**	**2.0**	**75.2**	**18.8**
Leather and Leather Products	**50.5**	**0.0**	**0.0**	**90.0**	**0.0**
Textile Products	**10.4**	**0.0**	**1.4**	**4.9**	**0.1**
Printing/Publishing (typesetting)	**0.3**	**0.0**	**0.0**	**0.0**	**0.0**
Process Cooling	**259.9**	**0.0**	**0.0**	**10.1**	**0.0**
In-Process Fuel Use	**228.9**	**3,608.5**	**3,037.3**	**329.7**	**964.4**
Miscellaneous Manufacturing	**236.0**	**33.3**	**246.4**	**332.8**	**197.0**
Organic Solvent Emissions					
Organic Solvent Use	9.3	0.0	1.5	1,484.4	0.1
Surface Coating Operations	564.5	56.5	1,106.0	20,049.9	197.5
Petroleum Product Storage	50.9	7.9	7.7	5,214.4	76.4
Bulk Terminals/Plants	3.0	0.0	9.3	2,117.9	17.7
Printing/Publishing	100.1	0.2	205.9	11,517.9	71.4
Petroleum Marketing/Transport	2.2	0.0	2.3	1,319.1	0.0
Organic Chemical Storage (large)	19.4	0.0	0.5	1,147.5	0.0
Organic Chemical Transportation	10.8	0.0	10.8	40.2	0.7
Dry Cleaning (petroleum based)	0.0	0.0	0.0	380.7	0.0
Organic Chemical Storage (small)	0.0	0.0	0.0	1.9	0.0
Organic Solvent Evaporation	67.0	59.5	307.9	4,027.4	301.7

Table D1

2001
Point Source Emission Distribution (Tons/Year)

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

* MACT stands for Maximum Achievable Control Technology.

Table D2

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

County	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Volatile Organic Material	Carbon Monoxide
Adams	558.6	5,636.1	1,016.8	2,290.1	313.4
Alexander	478.9	459.9	278.5	63.3	39.9
Bond	95.5	5.8	37.2	70.8	146.3
Boone	235.8	618.9	333.9	1,243.3	133.4
Brown	30.5	0.0	2.4	0.3	0.4
Bureau	326.0	36.1	82.9	163.1	84.6

Table D2

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

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

Table D2

2001

Table D3

Annual Estimated Emissions Trends (Tons)

APPENDIX E

THE BUREAU OF AIR/ DIVISION OF AIR POLLUTION CONTROL

Organization and Programs

The Bureau of Air consists of two divisions: the Division of Air Pollution Control and the Division of Vehicle Inspection and Maintenance. The focus of this section is on the programs of the Division of Air Pollution Control which is responsible for developing, implementing and enforcing regulations to assure that the air we breathe is clean and healthful. This

Table E1

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