Illinois
Environmental
Protection Agency

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

September 2003

IEPA/BOA/03-015

Illinois Annual Air Quality Report

2002

Governor Rod R. Blagojevich
Director Renee Cipriano

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

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

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

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

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

ILLINOIS ANNUAL AIR QUALITY REPORT 2002

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

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To Obtain Additional Information

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

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

Acknowledgements

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Illinois EPA Bureau of Air personnel contributed their time and expertise to the development of this publication.

A MESSAGE FROM THE DIRECTOR

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

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

In 2002, air-monitoring equipment recorded six days when ozone levels exceeded the one-hour standard for ozone. Two of the days occurred in the Metro East region, and the remaining four occurred in the Chicago metropolitan area. According to the Air Quality Index (AQI), Illinois

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

Illinois Annual Air Quality Report 2002

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2002
EXECUTIVE SUMMARY

This report presents a summary of air quality data collected throughout the State of Illinois during the calendar year -

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

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

deposited in the bronchi are removed by the cilia

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.

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

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mber of excursion days in
ed with one in 2001 and

Figu 383990 054

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

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

June and July were the most conducive months in terms of meteorological conditions Statewide. In terms of conducive days, the Chicago area had 35% above the normal number and the Metro-East area had 10% above the normal number.

PARTICULATE MATTER

In 2001 there were 17 sites monitoring PM_{10}. **Figure 3** shows the trend of the statewide annual averages for PM_{10} from 1993-2002. The Statewide average in 2002 was 27 ug/m^3 compared with 28 ug/m^3 in 2001 and 29 ug/m^3 in 2000.

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

each in East St. Louis and Swansea on July 4. The Statewide peak of 88.8 ug/m^3 was recorded

NITROGEN DIOXIDE

There were no violations of the annual primary standard of 0.053 ppm recorded in Illinois during 2001. The highest annual average of 0.032 ppm was recorded at Chicago - CTA. The Statewide average for 2002 was 0.023 ppm compared with 0.025 ppm in 2001 and 0.022 ppm in 2000.

Three sites only operated during part of the ozone season as PAMS. **Figure 7**

arsenic was 0.054 ug/m^3

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SECTION 3: AIR QUALITY INDEX

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

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

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

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

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

The AQI is computed as follows: data from pollution monitors in an area are collected, and the AQI subindex for each pollutant is computed using formulas derived from the indexy:0 Tc 09nois.

. 201 Ss;calendared yen dio3 Ili(n)-Ej 8.25 -9 TD /F3 8.25 Tf -0.045 Tc

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. (ast 5.5.6& Cat6re f 6064a6& Cat63s0 Tw ( ) T.456 141o Tj 86.25 0 TD respiratory disease, such as asthma. Possible respiratory effects in general population.64a6& C8.25 0 TD 0 Tc 0 Tw ( ) Tj 8672 TD -0.4 such as asthma, should avoid prolonged outdoor exertion;everyone e children should limit prolonged outdoor exertion.64a6&78 0 TD 0 Tc 0 Tw ( ) Tj Increasingly severe symptoms 58.5 376.5 1.5 84 re f 550 and a TD (children and adults and) Tj T* -0.30376 1 such as asthma: increasing likelihood of respiratory effects in general population.64a6&85.5 0 TD 0 Tc 0 Tw (such as asthma, should avoid all outdoor exertion; everyone else. especially children, should limit outdoor exertion.64a6&78 0 TD 0 Tc 0 Tw ( ) Tj	

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

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

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

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

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

2002 Illinois AQI Summary

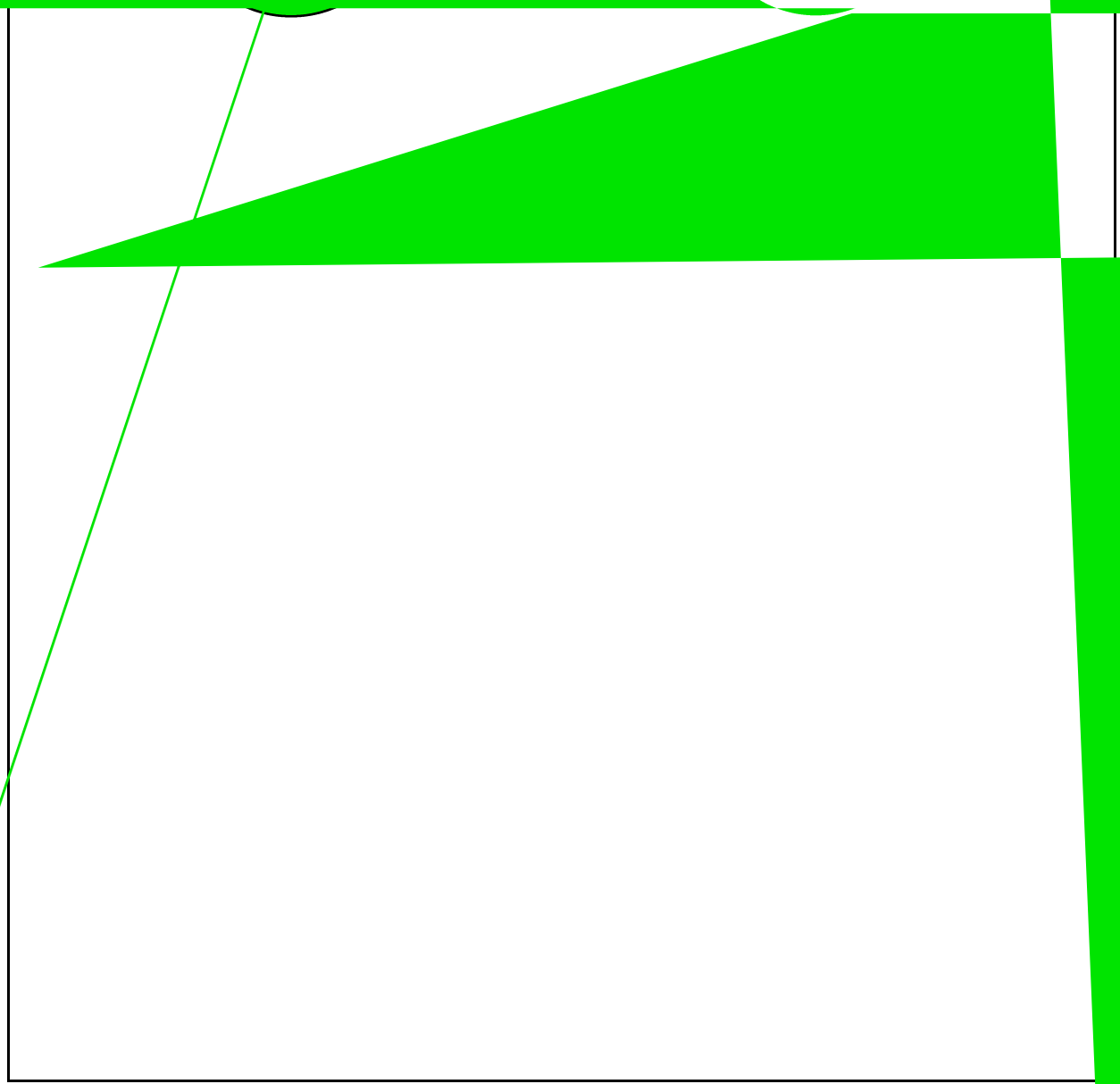
In order to present a more representative AQI, 24-hour calendar day $PM_{2.5}$ values from the total network were used to determine the percentages in **Figure 9** even though these values were not available for issuing the daily AQI. Air quality was still in the "Good" category most often in 2002. All Sectors had a higher frequency of "Good" than "Moderate" and "Unhealthy for Sensitive Groups" except Chicago and Metro-East. All sectors except Chicago, North & West Suburbs, South & West Suburbs and Metro-East had 75% or more of the days in the "Good" category. Within AQI sectors there were 7 occurrences of Unhealthy and 99 occurrences of Unhealthy for Sensitive Groups air quality in in 2002. The sector breakdown for Unhealthy was 3 in Lake County, 2 in Metro East and 1 each in Chicago and North & West Suburbs. The sector breakdown for Unhealthy for Sensitive Groups was 22 in Metro-East, 16 in Chicago, 15 in the North & West Suburbs, 10 in Will County, 9 in South & West Suburbs, 8 in Lake County, 5 in Bloomington-Normal, 4 in Aurora-Elgin, 4 in Decatur, 3 in Peoria, 2 in Rockford and 1 in Champaign-Urbana. Outside of AQI sectors there were 3 additional occurrences of Unhealthy and 14 additional occurrences of Unhealthy for Sensitive Groups. **Figure 9** presents the AQI statistics for each sector. The pie chart shows the percent of time each sector was in a particular category.

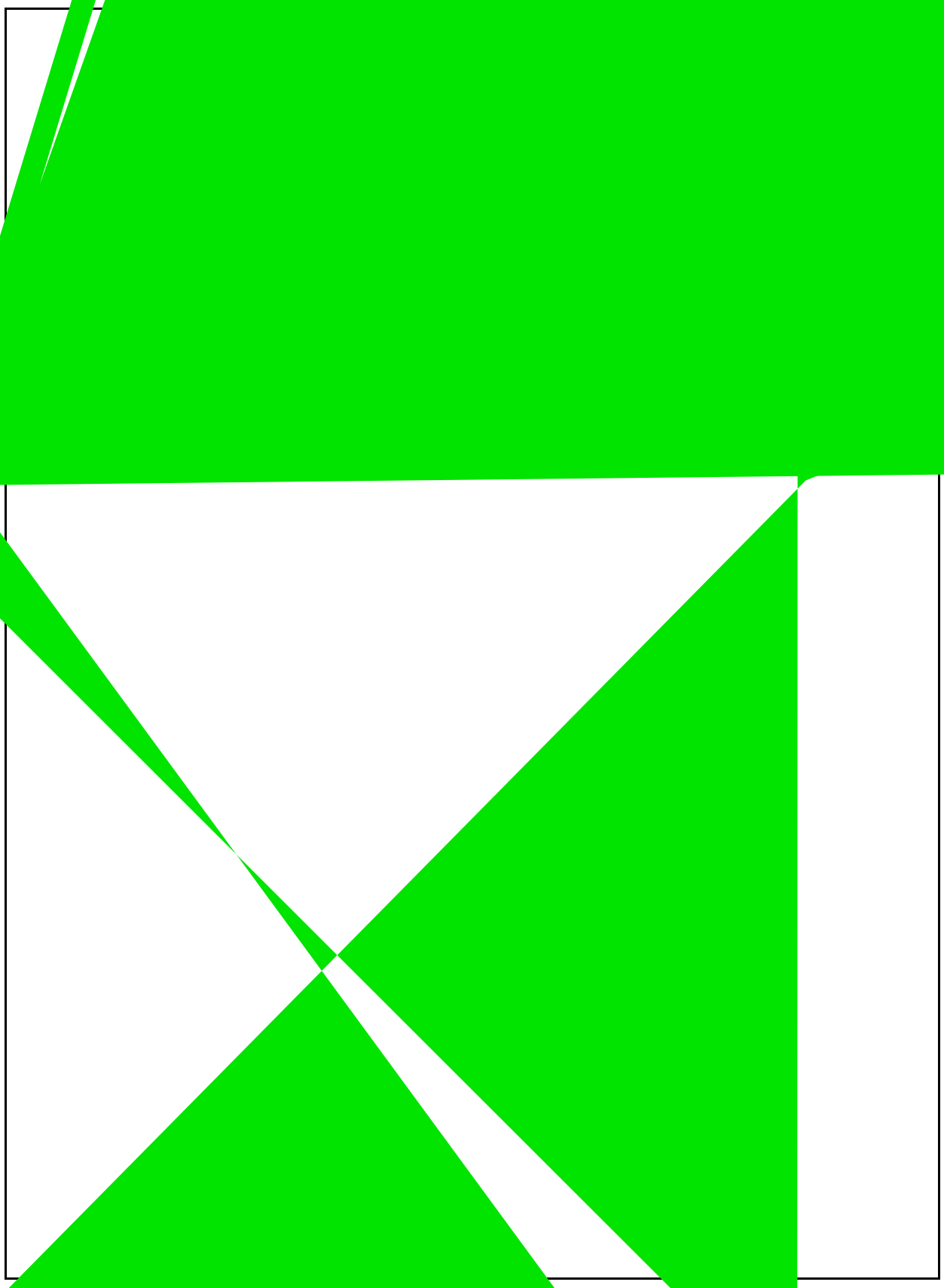
In 2002 three ozone advisories were issued in the wh Td11.t

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

y Sector





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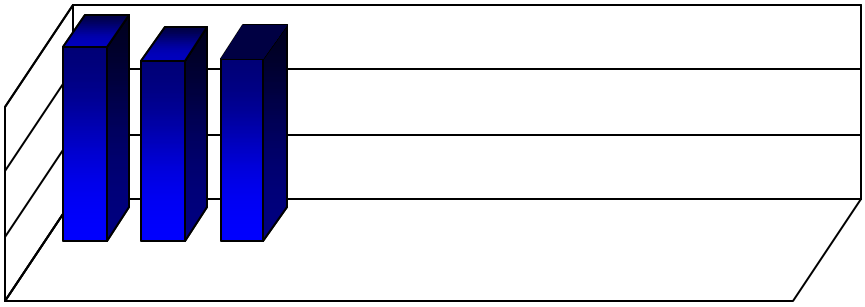
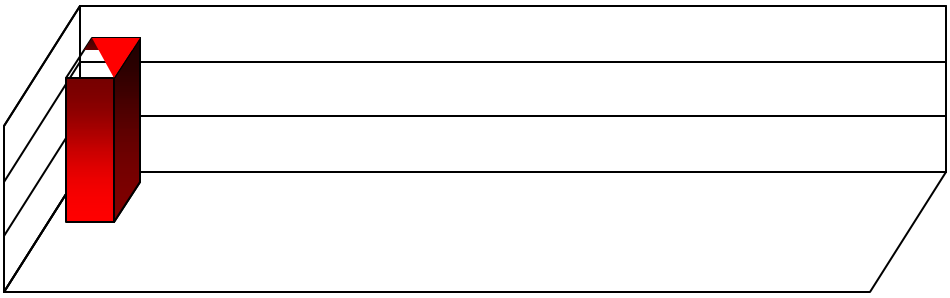
SECTION 4:

VOLATILE ORGANIC MATERIAL

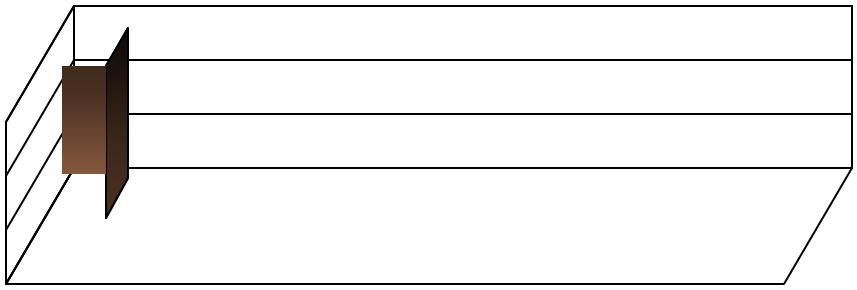


PARTICULATE MATTER

CARBON MONOXIDE



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 2002.

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

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

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

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

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

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

   d. To determine general background concentration levels.

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

   a. To measure expected maximum concentrations.

TABLE A1

DIRECTORY OF REGIONAL AIR POLLUTION AGENCIES

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

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

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

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

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

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

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

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

b. To measure concentrations in areas where poor air quality6s9lconmbined with high

Table A3

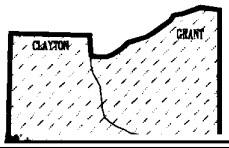
DISTRIBUTION OF AIR MONITORING INSTRUMENTS

	PAMS	NAMS	SLAMS	SPMS	TOTAL
Particulate Matter ($PM_{2.5}$)	0	0	35	0	35

Particulate

F1

AIR QUALITY CONTROL REGIONS



Statewide Map of Air Monitoring Locations

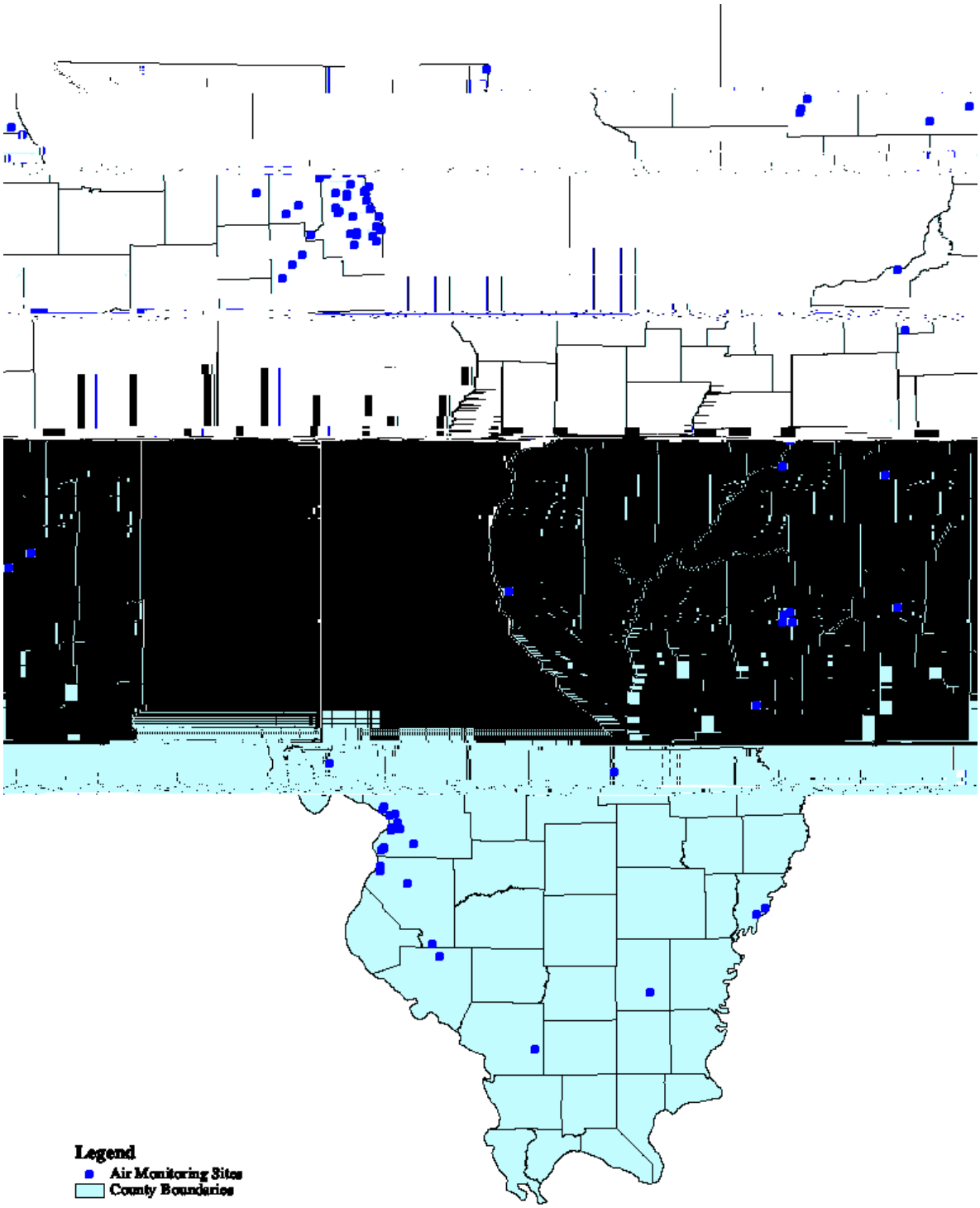


Table A4

2002
SITE DIRECTORY

Table A4

2002
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
COOK COUNTY				
Calumet City (DISC) (0318003)	Trailer 1703 State St.	Cook County DEC	N. 4608.775 E. 452.673	SLAMS - SO_2, NO/NO_2, O_3, CO
Chicago (0310060)	Carver H.S. 13100 S. Doty	Cook County DEC	N. 4611.594 E. 450.911	NAMS - PM_{10}
Chicago (0310026)	Cermak Pump Sta. 735 W. Harrison	Cook County DEC	N. 4635.707 E. 446.469	SLAMS - Pb SPMS - TSP
Chicago (0310063)	CTA Building 320 S. Franklin	Ill. EPA	N. 4636.096 E. 447.365	NAMS - CO, NO/NO_2, SO2
Chicago				

Table A4

2002
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR

Table A4

2002
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
KANE COUNTY				
Elgin (0890005)	Larsen Junior H.S. 665 Dundee Rd.	Ill. EPA	N. 4655.844 E. 394.654	NAMS - O_3
Elgin (0890003)	McKinley School 258 Lovell St.	Ill. EPA	N. 4655.941 E. 394.048	SLAMS - $PM_{2.5}$
LAKE COUNTY				
Libertyville (DISC) (0973001)	Butterfield Elem. Sch. 1441 Lake St.	Ill. EPA	N. 4682.279 E. 419.062	SLAMS - O_3 SPMS - WS/WD
Waukegan (0971002)	North Fire Station Golf & Jackson Sts.	Ill. EPA	N. 4693.854 E. 430.744	NAMS - O_3 SPMS - WS/WD[d]
Zion (0971007)	Camp Logan Illinois Beach State Park	Ill. EPA	N. 4701.795 E. 433.407	PAMS - O_3, NO/NO_2, VOC WS/WD, SOL, MET SLAMS - $PM_{2.5}$
Mc HENRY COUNTY				
Cary (1110001)	Cary Grove H.S. 1st St. & Three Oaks Rd.	Ill. EPA	N. 4674.900 E. 397.486	NAMS - O_3 SLAMS - $PM_{2.5}$
WILL COUNTY				
Braidwood (1971011)	Com Ed Training Center 36400 S. Essex Road	Ill. EPA	N. 4563.825 E. 400.172	PAMS - O_3, NO/NO_2, WS/WD, SOL, MET SLAMS - $PM_{2.5}$
Joliet (1971002)	Pershing Elem. Sch. Midland & Campbell Sts.	Ill. EPA	N. 4597.636 E. 406.854	NAMS - PM10 SLAMS - $PM_{2.5}$
Joliet (1970013)	Water Plant West Rte. 6 & Young Rd.	Ill. EPA	N. 4590.279 E. 401.284	NAMS - SO_2 SPMS - WS/WD[d]
South Lockport (1971008)	Fitness Forum 2021 Lawrence	Ill. EPA	N. 4602.982 E. 412.039	SLAMS - O_3
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)				
ROCK ISLAND COUNTY				
Rock Island (1613002)	Rock Island Arsenal 32 Rodman Ave.	Ill. EPA	N. 4598.661 E. 707.185	NAMS - O_3 SLAMS - $PM_{2.5}$ SPMS - WS/WD, SOL

Table A4

2002
SITE DIRECTORY

CITY NAME AIRS CODE	ADDRESS	OWNER/ OPERATOR	UTM COORD. (km)	EQUIPMENT
ST. CLAIR COUNTY				
East St. Louis (1630010)	RAPS Trailer 13th & Tudor	Ill. EPA	N. 4277.363 E. 747.251	NAMS - SO_2, PM_{10} SLAMS - NO/NO_2, Pb, O_3, $PM_{2.5}$, CO SPMS - TSP, WS/WD
Sauget (DISC) (1631010)	IEPA Trailer Little Ave.	Ill. EPA	N. 4275.123 E. 746.921	SLAMS - SO_2
Swansea (1634001)	Village Maintenance Bldg. 1500 Caseyville Ave.	Ill. EPA	N. 4268.615 E. 239.086	SLAMS - $PM_{2.5}$
71 NORTH CENTRAL ILLINOIS INTRASTATE				
LA SALLE COUNTY				
Oglesby (0990007)	308 Portland Ave.	Ill. EPA	N. 4573.105 E. 328.412	SLAMS - PM_{10}, $PM_{2.5}$ SPMS - WS/WD
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)				
WINNEBAGO COUNTY				
Loves Park (2012002)	Maple Elem. Sch. 1405 Maple Ave.	Ill. EPA	N. 4688.756 E. 332.098	NAMS - O_3 SPMS - WS/WD

Table A4

2002
SITE DIRECTORY

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

75 WEST CENTRAL ILLINOIS INTRASTATE

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

Table A4

2002
SITE DIRECTORY

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

Summary of Equipment Codes for the Site Directory

TSP - Total Suspended Particulates
PM_{10} - Particulate Matter (10 microns or smaller)
$PM_{2.5}$ Particulate Matter (2.5 microns or smaller)
SPEC - $PM_{2.5}$ Speciation
SO_2 - Sulfur Dioxide

Speciat8ref_ 570E 25 528 350 255 630 TD (et4ge0 TD (et4ge0 TD3P Ti 72 0 TD 0 336 Ti
NO d2t5B51F Tc2re F BT 50.25 515 TD fs42MCE/0 TD 0.551E Tc37(d2t55c G TD ( ) Tj Di

-004ile O09Wind Direct

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APPENDIX B
AIR QUALITY DATA SUMMARY TABLES

AIR QUALITY DATA INTERPRETATION

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

Table B1

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

STATION	ADDRESS	DATE	MAXIMUM VALUE (PPM)
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)			
COOK COUNTY			
Chicago - Jardine	1000 E. Ohio	June 24	0.127
LAKE COUNTY			
Waukegan	Golf & Jackson	August 11	0.125
Zion	Camp Logan	June 22	0.136
		June 23	0.1260.127

Table B1

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

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
June 8	Jerseyville	Liberty St.	0.092
	Normal	Main & Gregory	0.085
June 9	Alsip	4500 W. 123rd St.	0.088
	Cary	1st St. & Three Oaks	0.093
[illegible]	[illegible]	[illegible]	[illegible]
June 9	Jerseyville	4500 W.36 Hurlbut	0.090
	Chicago - Taft	6545 W. Hurlbut	0.094
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

0.090

[illegible] 0.090 0.090 0.0902

4500 W.45[illegible]seyville 0.086 0.090

Table B1

2002

Table B1

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

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
July 7	Lemont	729 Houston	0.091
	Libertyville	1441 Lake St.	0.085
	Lisle	Morton Arboretum	0.091
	Northbrook	750 Dundee Rd.	0.087
	South Lockport	2021 Lawrence	0.087
	Waukegan	Golf & Jackson	0.089
	Zion	Camp Logan	0.089
July 8	Alton	409 Main St.	0.092
	East St. Louis	Poag Road	0.102
	Edwardsville	Poag Road	0.104
	Maryville	200 W. Division	0.119
July 9	Maryville	200 W. Division	0.090
	Braidwood	36400 S. Essex Rd.	0.085

Table B1

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

DATE	STATION	ADDRESS	MAXIMUM VALUE (PPM)
July 25	Alton	Poag Road	0.085
July 26	Waukegan	Golf & Jackson	0.090
	Zion	Camp Logan	0.091
August 1	Alton	Poag Road	0.085
	Wood River	54 N. Walcott	0.092
August 3	Alton	409 Main St.	0.093
	Dale	Route 142	0.088
August 4	Alton	Poag Road	0.087
	East St. Louis	13th & Tudor	0.088
	Edwardsville	Poag Road	0.090
	Maryville	200 W. Division	0.090
August 9	Alton	409 Main St.	0.093
	Chicago - SWFP	3300 E. Cheltenham	0.085
	East St. Louis	13th & Tudor	0.089
	Edwardsville	Poag Road	0.085
	Houston	Twp Rds. 150 & 45	0.085

Table B1

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

Table B2

2002
OZONE

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

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

Table B2

2002
OZONE

STATION	ADDRESS	NUMBER OF DAYS GREATER THAN 0.12 PPM	NUMBER OF DAYS GREATER THAN 0.08 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	1-HOUR 2ND	1-HOUR 3RD	1-HOUR 4TH	8-HOUR 1ST	8-HOUR 2ND	8-HOUR 3RD	8-HOUR 4TH
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)											
ROCK ISLAND COUNTY											
Rock Island	32 Rodman Ave.	0	0	0.090	0.086	0.082	0.079	0.084	0.079	0.072	0.072
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)											
MADISON COUNTY											
Alton	409 Main St.	0	20	0.115	0.113	0.112	0.110	0.102	0.095	0.094	0.094
Edwardsville	Poag Road	0	8	0.115	0.109	0.102	0.098	0.104	0.096	0.091	0.090
Maryville	200 W. Division	1	11	0.135	0.111	0.102	0.101	0.119	0.096	0.090	0.090
Wood River	54 N. Walcott	0	3	0.116	0.102	0.101	0.098	0.092	0.090	0.086	0.084
RANDOLPH COUNTY											
Houston	Twp Rds. 150 & 45	0	5	0.104	0.099	0.098	0.096	0.093	0.091	0.086	0.085
ST. CLAIR COUNTY											
East St. Louis	13th & Tudor	0	9	0.117	0.115	0.112	0.105	0.103	0.102	0.094	0.093

0.086

Table B3

2002

PARTICULATE MATTER (PM_{10})

(micrograms per cubic meter)

Table B4

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

ANNUAL ARITHMETIC MEANS (ug/m^3)

STATION	ADDRESS	1997	1998	1999	2000	2001	2002
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	21	26	23	24	22	21
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Alsip	4500 W. 123rd St.	25	30	25	26	27	23
Blue Island	12700 Sacramento	28	33	30	30	28	27
Chicago - Carver	13100 S. Doty	31	58	32	+	35	31
Chicago - Washington HS	3535 E. 114th St.	+	33	-	-	28	24
Hoffman Estates	1100 W. Higgins Rd.	21	26	25	21	24	24
Lyons Township	50th St. & Glencoe Ave.	34	35	36	35	38	36
Midlothian	15205 Crawford Ave.	25	28	25	24	26	23
Summit	60th St. & 74th Ave.	37	35	34	32	+	31
WILL COUNTY							
Joliet	Midland & Campbell Sts.	23	23	23	+	24	21
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							

0 TD37-0. 1 (35) T37 9 0 TB58 Tc -0.0435 Tw ( )

Table B5

Table B6

2002

PARTICULATE MATTER FINE ($PM_{2.5}$

Table B6

2002

PARTICULATE MATTER FINE ($PM_{2.5}$)

(micrograms per cubic meter)

STATION	ADDRESS	SAMPLING FREQUENCY	NUMBER OF SAMPLES TOTAL	>65 ug/m^3	HIGHEST SAMPLES 1st	2nd	3rd	4th	ANNUAL ARITHMETIC MEAN
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)									
ROCK ISLAND COUNTY									
Rock Island	32 Rodman Ave.	6-day	59	0	27.5	24.7	24.0	23.0	11.8
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Alton	1700 Annex St.	3-day	118	0	37.5	37.4	34.5	33.1	14.7
Granite city	23rd & Madison	3-day	112	0	45.6	44.8	42.9	42.7	17.7
Granite City	2040 Washington	3-day	110	0	47.4	47.1	44.6	37.8	19.6
Wood River	54 N. Walcott	3-day	112	0	39.9	38.1	33.9	31.5	15.1
3- -									
RANDOLPH COUNTY									
Houston	Twp Rds. 150 & 45	6-day	58	0	25.8	25.7	25.2	24.6	11.6
ST. CLAIR COUNTY									
East St. Louis	13th & Tudor	3-day	113	1	88.8	41.6	40.9	36.5	16.7
Swansea	1500 Caseyville Ave.	3-day	112	1	73.8	45.9	37.2	35.1	15.1
72 NORTH CENTRAL ILLINOIS INTRASTATE									
LASALLE COUNTY									
Oglesby	308 Portland Ave.	3-day	118	0	39.0	34.8	31.1	30.2	14.8
Ogl 14.8Ogl									

esby 14.8 14.8Ogl

Table B7

2002
CARBON MONOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES TOTAL	1-HR >35 PPM	8-HR >9 PPM	HIGHEST SAMPLES (ppm) 1-HOUR AVERAGE 1ST	2ND	3RD	8-HOUR AVERAGE 1ST	2ND	3RD
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)										
PEORIA COUNTY										
Peoria	1005 N. University	8683	0	0	5.5	4.7	4.5	4.0	3.0	2.8
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)										
COOK COUNTY										
Calumet City	1703 State St.	8678	0	0	3.7	3.6	3.6	3.4	2.8	2.4
Chicago - CTA Building										

Table B9

2002
SULFUR DIOXIDE
(parts per million)

STATION	STATION ADDRESS	ADDRESS	Table B9	TOTAL	NUMBER OF SAMPLES 3-HR >0.5	NUMBER OF SAMPLES 24-HR >0.14	HIGHEST SAMPLES 3-HR AVG. 1ST	HIGHEST SAMPLES 3-HR AVG. 2ND	HIGHEST SAMPLES 24-HR AVG. 1ST	HIGHEST SAMPLES 24-HR AVG. 2ND	ANNUAL ARITHMETIC 2ND

Table B9

2002
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 INTRASTATE									
ADAMBr									

Table B10

2002
SHORT-TERM TRENDS
SULFUR DIOXIDE

		ANNUAL MEANS (ppm)				
STATION	ADDRESS	1998	1999	2000	2001	2002

65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)

PEORIA COUNTYPEORIA

PEORIA COUNTY-0.2 re f 5(7 Ti 869.1D30 re Tc -0.0435 Tw ( ) Tj 9.75 18. Ti 3.751 0.75 1227 Derbyn395 735 Tw ( ) Tj) Ti 330.75 Tw 15.72 395 0.75 10 Ti TD -0.2 re fC

Table B10

2002
SHORT-TERM TRENDS
SULFUR DIOXIDE

STATION	ADDRESS	ANNUAL MEANS (ppm) 1997	1998	1999	2000	2001	2002
75 WEST CENTRAL ILLINOIS INTRASTATE							
ADAMS COUNTY							
Quincy	732 Hampshire	0.004	0.004	0.005	0.003		

Table B11

2002
NITROGEN DIOXIDE
(parts per million)

STATION	ADDRESS	NUMBER OF SAMPLES	HIGHEST SAMPLES 1-HOUR 1ST	1-HOUR 2ND	24-HOUR 1ST	24-HOUR 2ND	ANNUAL ARITHMETIC MEAN
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)							
COOK COUNTY							
Calumet City	1703 State St.	8657	0.083	0.083	0.045	0.045	0.022
Chicago - CTA	320 S. Franklin	8651	0.108	0.106	0.066	0.064	0.032
Chicago - Com Ed	7801 Lawndale	8640	0.098	0.096	0.059	0.052	0.022
Chicago - Jardine [1]	1000 E. Ohio	3190	0.106	0.099	0.052	0.047	+
Cicero	1830 S. 51st Ave.	8234	0.082	0.077	0.049	0.044	0.023
Northbrook	750 Dundee Rd.	8520	0.069	0.060	0.037	0.034	0.017
Schiller Park	4743 N. Mannheim	8415	0.149	0.149	0.088	0.077	0.030
LAKE COUNTY							
Zion [1]	Camp Logan	2323	0.050	0.044	0.017	0.014	+
WILL COUNTY							
Braidwood [1]	36400 S. Essex Rd.	3798	0.072	0.067	0.017	0.016	+
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)							
ST. CLAIR COUNTY							
East St. Louis	13th & Tudor	8257	0.066	0.062	0.037	0.036	0.017

1 PAMS monitor operated only during “ozone season”

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

Primary Annual Standard 0.053 ppm

Table B12

2002
SHORT-TERM TRENDS
NITROGEN DIOXIDE

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

- Station not in operation during year shown

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

Table B13

2002
LEAD
(micrograms per cubic meter)

STATION	ADDRESS	NUMBER OF QUARTERS >1.5	QUARTERLY AVERAGES 1st	2nd	3rd	4th	ANNUAL MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)							
PEORIA COUNTY							
Peoria	613 N.E. Jefferson	0	0.01	0.01	0.01	0.01	0.01

Table B14

2002
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN	TOTAL SAMPLES	HIGHEST 1st	HIGHEST 2nd	ARITH. MEAN
			ARSENIC				**BERYLLIUM**		
65 BURLINGTON -									

Table B14

2002
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	CADMIUM TOTAL SAMPLES	CADMIUM HIGHEST 1st	CADMIUM HIGHEST 2nd	CADMIUM ARITH. MEAN	CHROMIUM TOTAL SAMPLES	CHROMIUM HIGHEST 1st	CHROMIUM HIGHEST 2nd	CHROMIUM ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	58	0.000	0.000	0.000	58	0.004	0.004	0.000
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	59	0.003	0.003	0.001	59	0.014	0.013	0.004
Chicago - Cermak	735 W. Harrison	58	0.016	0.005	0.002	58	0.022	0.020	0.007
Chicago - Mayfair	4850 Wilson Ave	59	0.005	0.002	0.001	59	0.017	0.013	0.005
Chicago - Washington	3535 E. 114th St.	58	0.003	0.002	0.002	58	0.023	0.019	0.006
Maywood	1500 Maybrook Dr.	45	0.004	0.003	0.002	45	0.037	0.027	0.013
Northbrook	750 Dundee Rd	56	0.000	0.000	0.000	56	0.000	0.000	0.000
Schiller Park	4743 N. Mannheim Rd.	60	0.003	0.000	0.000	60	0.008	0.008	0.003
Summit	60th St. & 74th Ave.	56	0.003	0.003	0.001	56	0.037	0.021	0.013
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)									
MADISON COUNTY									
Granite City	15th & Madison	57	0.003	0.003	0.000	57	0.011	0.011	0.004
Wood River	54 N. Walcott	60	0.003	0.000	0.000	60	0.004	0.004	0.004	0.00

Table B14

2002
FILTER ANALYSIS DATA
(micrograms per cubic meter)

	TOTAL	HIGHEST	ARITH.	TOTAL	HIGHEST	ARITH.

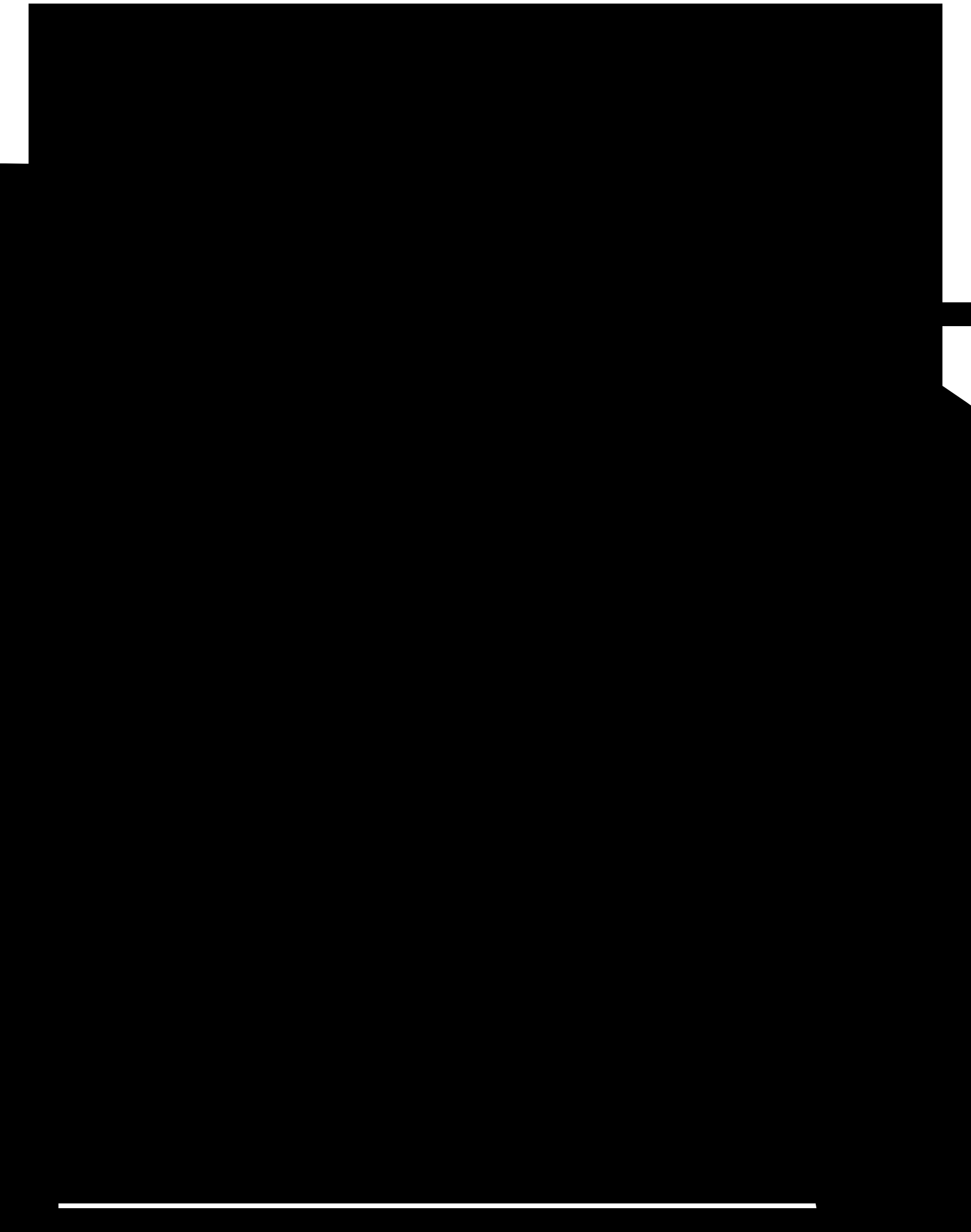

Table B14

2002
FILTER ANALYSIS DATA
(micrograms per cubic meter)

STATION	ADDRESS	NITRATES TOTAL SAMPLES	NITRATES HIGHEST 1st	NITRATES HIGHEST 2nd	NITRATES ARITH. MEAN	SULFATES TOTAL SAMPLES	SULFATES HIGHEST 1st	SULFATES HIGHEST 2nd	SULFATES ARITH. MEAN
65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)									
PEORIA COUNTY									
Peoria	613 N.E. Jefferson	58	13.5	13.1	5.2	58	18.3	17.7	7.8
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)									
COOK COUNTY									
Alsip	4500 W. 123rd. St.	59	18.8	14.3	6.2	59	17.8	14.5	8.0
Chicago - Cermak	735 W. Harrison	58	17.2	16.1	6.4	58	18.7	15.3	8.7
Chicago - Mayfair	4850 Wilson Ave	59	21.6	13.5	6.3	59	17.5	16.0	8.5
Chicago - Washington	3535 E. 114th St.	58	18.6	16.7	6.0	58	19.4	15.0	8.7
Maywood	1500 Maybrook Dr.	45	13.2	11.6	5.5	45	18.0	17.1	9.9
Northbrook									

Table B15

2002
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)						
COOK COUNTY						
Chicago	1000 E. Ohio					
COMPOUNDS						
Ethane		15.8	11.6	10.5	9.9	5.4
Ethylene		6.8	5.7	5.1	5.1	2.0
Propane		61.0	58.3	52.2	46.3	9.0
Propylene		4.5	4.1	3.5	3.3	1.4
Acetylene		2.3	2.0	1.9	1.7	0.6
N - Butane		7.1	6.8	6.5	5.3	2.3
Isobutane		4.5	3.5	3.4	3.1	1.1
Trans - 2 - Butene		0.2	0.2	0.2	0.2	0.0
Cis - 2 - Butene		0.2	0.1	0.1	0.1	0.0
N - Pentane		5.6	5.1	5.0	4.8	1.9
Isopentane		16.4	14.5	12.4	12.0	4.8
1 - Pentene		0.6	0.3	0.2	0.2	0.0
Trans - 2 - Pentene		1.4	0.4	0.3	0.3	0.0
Cis - 2 - Pentene		0.6	0.1	0.1	0.1	0.0
3 - Methylpentane		3.2	3.1	3.0	2.8	0.8
N - Hexane		6.2	3.6	3.5	3.1	1.1
N - Heptane		4.6	2.0	1.9	1.8	0.6
N - Octane		2.0	1.1	1.1	1.0	0.2
N - Nonane		17.1	13.1	5.8	5.8	1.5
Cyclopentane		1.0	0.8	0.4	0.4	0.0
Isoprene		1.6	0.7	0.7	0.6	0.1
2,2 -	0.6 Octane					

Table B15

2002
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

		HIGHEST SAMPLES (ppbc)				
		24-HOUR				JUN - AUG
STATION	ADDRESS	1ST	2ND	3RD	4TH	

Table B15

2002

Table B15

2002
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
LAKE COUNTY						
Zion	Camp Logan					
COMPOUNDS						
Ethane		9.5	5.8	5.7	5.6	3.6
Ethylene		3.2	1.9	1.7	1.5	0.7
Propane		7.2	7.1	6.8	5.6	3.1
Propylene		2.7	1.6	1.6	1.5	0.8
Acetylene		0.8	0.6	0.6	0.5	0.2
N - Butane		5.2	3.5	3.5	3.5	1.7
Isobutane		2.5	2.5	1.9	1.8	0.9
Trans - 2 - Butene		1.1	1.0	1.0	0.8	0.1
Cis - 2 - Butene		1.6	1.6	1.5	1.5	0.3
N - Pentane		6.1	5.4	4.5	3.6	1.6
Isopentane		11.6	8.5	8.4	8.2	4.7
1 - Pentene		0.9	0.8	0.7	0.3	0.0
Trans - 2 - Pentene		0.8	0.8	0.7	0.4	0.0
Cis - 2 - Pentene		1.2	1.0	0.9	0.7	0.0
3 - Methylpentane		2.1	2.0	1.8	1.6	0.6
N - Hexane		2.5	2.0	1.3	1.2	0.4
N - Heptane		1.2	1.2	1.2	1.1	0.3
N - Octane		0.8	0.8	0.8	0.6	0.1
N - Nonane		4.6	0.7	0.7	0.6	0.2
Cyclopentane		0.7	0.7	0.7	0.7	

Table B15

2002
(JUNE - AUGUST)

VOLATILE ORGANIC COMPOUNDS
(parts per billion carbon)

STATION	ADDRESS	HIGHEST SAMPLES (ppbc) 24-HOUR 1ST	2ND	3RD	4TH	JUN - AUG AVERAGE
COMPOUNDS						
O - Xylene		1.4	1.4	1.3	1.3	0.5
M/P Xylene		3.8	3.2	3.1	2.8	1.1
1,3,5 - Trimethylbenzene		1.9	1.7	1.6	1.2	0.3
1,2,4 - Trimethylbenzene		11.7	11.5	11.5	10.8	2.7
N - Propylbenzene		2.7	1.2	0.4	0.4	0.1
Isopropylbenzene		1.2	0.7	0.6	0.5	0.0
Styrene		3.9	3.6	3.5		

Table B17

2002

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

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

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APPENDIX C
POINT SOURCE EMISSION INVENTORY SUMMARY TABLES

Table C1

2002
Point Source Emission Distribution (Tons/Year)

Category	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile

Table C1

2002
Point Source Emission Distribution (Tons/Year)

Category	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Solid Waste Disposal					
Government	2036.7	1248.2	535.2	331.0	352.3
Commercial/Institutional	309.7	98.3	115.5	38.0	32.5
Industrial	2465.0	669.2	237.6	386.9	226.1
Site Remediation	10.4	7.0	88.3	26.6	990.7
***MACT Processes**					
Food and Agriculture Processes	0.0	0.0	0.0	472.6	42.8
Agricultural Chemical Production	0.0	0.0	0.0	0.0	1.7
Styrene or Methacrylate Based Resins	0.0	0.0	5.5	0.0	68.2
Cellulose Based Resins	0.0	0.0	0.2	0.0	0.0
Miscellaneous Resin Production	0.0	0.0	3.4	0.0	228.5
Vinyl Based Resins	0.0	0.0	240.0	0.0	124.0
Miscellaneous Polymers	0.0	0.0	3.2	0.0	16.7
Fibers Production	0.0	0.0	0.2	0.0	0.3
Consumer Product Mfg Facilities	0.0	0.0	0.3	0.0	57.0
Miscellaneous Processes	0.0	0.0	0.9	0.0	3.8
Paint Stripper Use	0.0	0.0	0.0	0.0	1.0
Phthalate Plasticizers Production	0.0	0.0	0.0	0.0	0.7
Totals	**99,173.4**	**301,215.7**	**79,140.9**	**531,35 0 TD -0. TD ( ) Tj 18 0 TD -0.1569**	

Table C2

2002

Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	Particulate Matter	Sulfur Dioxide	Volatile Organic Material
Adams	342.3	425.6	542.3	2,411.8	2,080.0
Alexander	41.6	277.1	478.7	459.9	63.3
Bond	178.6	39.0	75.0	17.6	37.0
Boone	123.4	265.2	246.6	314.4	859.4
Brown	15.9	9.0	31.5	1.3	3.9
Bureau	46.6	74.8	336.9	34.8	283.2
Calhoun	0.6	0.7	34.5	0.0	0.0
Carroll	28.7	20.2	112.3	5.2	149.4
Cass	55.2	116.7	157.3	15.9	50.3
Champaign	931.7	2,290.2	702.5	2,111.1	1,131.2
Christian	1,126.5	20,355.7	580.6	15,984.5	167.0
Clark	27.3	283.2	283.2	557.8	

20.3 2,115 0 50 167.0 55.2 50,355.2

Table C2

2002

Estimated County Stationary Point Source Emissions (Tons/Year)

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

i717 TD 0.2895 Tw ( ) Ti 34.5 0 TD 0.0379 Tc 0 Tw (42,465.0) Ti 37.5 0 TD 0 Tc 0.2895 Tw ( ) Ti 48 0 TD 0.0711 i ( ) Ti 48 0 TD0

Table C2

2002

Table C3

Annual Estimated Emissions Trends (Tons)

Year	Carbon Monoxide	Nitrogen Or3P9 Tj 39 0 TD 0 Tc -,

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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