COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

2000

AMBIENT AIR QUALITY MONITORING REPORT

DIVISION OF AIR QUALITY MONITORING
400 MARKET STREET
HARRISBURG, PA 17105

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www.GreenWorks.tv - A web space dedicated to helping you learn how to protect and improve the environment. The site features the largest collection of environmental videos available on the Internet and is produced by the nonprofit Environmental Fund for Pennsylvania, with financial support from the Pennsylvania Department of Environmental Protection, 877-PA-GREEN.

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EXECUTIVE SUMMARY

The Pennsylvania Department of Environmental Protection (DEP) has a constitutional obligation to protect the right to clean air for all Pennsylvanians. DEP's Bureau of Air Quality fulfills this obligation by regulating emissions from thousands of sources, like factories and power plants. Monitoring air quality statewide, assisting companies with compliance, investigating complaints and taking enforcement action against violators are all part of DEP's work.

As DEP implements the federal Clean Air Act Amendments of 1990, the study of past and present air quality data will be a crucial component of program planning and air pollution reduction strategies.

Ambient Air Monitoring

The goals of Pennsylvania's ambient air monitoring program are to evaluate compliance with federal and state air quality standards, provide real-time monitoring of air pollution episodes, develop data for trend analysis, develop and implement air quality regulations, and provide information to the public on daily air quality conditions in their area.

DEP monitors air quality in areas having high population density, high levels of expected contaminants or a combination of the two. The majority of the monitoring takes place in the 13 air basins of the Commonwealth. Air basins are geographic areas, usually valleys, where air tends to stagnate. The air basins were designated by the state legislature and written into the state code.

DEP does not generally monitor air quality in Allegheny and Philadelphia counties. Monitoring in these areas is performed by independent health agencies. An exception exists in Allegheny County, where DEP has an ambient monitoring site as part of an exhibit at the Carnegie Science Center.

Air Quality Index

An Air Quality Index (AQI) is published daily for all sites in Pennsylvania as a means of reporting air quality to the general public. The AQI records levels of five common air contaminants -- carbon monoxide, sulfur dioxide, particulate matter (PM_{10}), ozone and nitrogen dioxide. It was developed by the U.S. Environmental Protection Agency (EPA) to standardize air pollution ratings. Real time monitoring and current AQI information is also available on DEP's website at www.dep.state.pa.us (directLINK "Air Quality Index").

Quality Assurance Program

DEP's Bureau of Air Quality conducts regularly scheduled performance audits and precision checks on the air monitoring equipment. Quarterly performance audits are conducted to assess data accuracy on carbon monoxide, sulfur dioxide, ozone, total suspended particulate matter (TSP), PM_{10} suspended particulate matter, $PM_{2.5}$ suspended particulate matter and lead monitoring systems.

Overview of Air Quality Data

Data collected by DEP can generally be divided into two groups: particulate matter and gaseous pollutants. DEP uses health-based National Ambient Air Quality Standards (NAAQS) as well as several standards of its own, such as the standard for hydrogen sulfide.

Total Suspended Particulate, PM_{10} and $PM_{2.5}$ Suspended Particulate Matter

Particulate matter is the solid or liquid matter formed by smoke, dust, fly ash or condensing vapors that can be suspended in the air for long periods of time. Particulate emissions result primarily from industrial processes and fuel combustion. The smaller of these particles are breathed into the lungs where they can aggravate or cause respiratory ailments or carry other pollutants into the lungs.

The federal ambient air quality standard for particulate matter was revised to reflect the adverse

health effects of particulate matter less than 10 microns in size (PM_{10}). PM_{10} measurements have replaced the total suspended particulate (TSP) standard because many of the larger particles measured in TSP do not penetrate the lungs and have little health effect. PM_{10} measurements appear to represent all of the particulate emissions from transportation sources and most of the emissions in the other traditional categories. Thus there is no federal or state air quality standard for TSP. In July 1997, EPA attempted to revise the standard for particulate matter by adding a standard for fine particulates that are less than 2.5 micrometers in diameter ($PM_{2.5}$). Although legal challenges to the $PM_{2.5}$ standard have left it unenforceable, the complete monitoring network was deployed in 2000.

The annual mean composite of all areas of the Commonwealth has demonstrated a 12 percent improvement in TSP levels over the last 10 years. There were no sites in the Commonwealth that exceeded the former annual or 24-hour air quality standard in 2000.

Average PM_{10} levels have improved 23 percent over the last 10 years. The reduction may be due to the cuts in the monitoring network. There were no sites in the Commonwealth that exceeded the ambient air quality standards in 2000.

With only two complete years of $PM_{2.5}$ data collected, no trend information is available. Several monitoring sites had annual means greater than the proposed standard, and two sites exceeded the 24-hour air quality standard in 2000.

Sulfates

The atmosphere contains two types of sulfates: primary and secondary. Primary sulfates are emitted directly into the atmosphere from industrial processes. Secondary sulfates are formed in sunlight.

Studies have shown significant correlation between high sulfate levels and illness. Sulfates also reduce visibility and contribute to acid rain. The high level of sulfates during the summer is due to sulfate formation in sunlight. Sulfates continue to be a problem in Pennsylvania.

All monitoring sites exceeded the 30-day standard in 2000, which the Commonwealth has removed from its regulations because there are currently no federal air quality standards. There are currently no long- or short-term air quality standards for sulfates.

Lead

Lead is a metal that is highly toxic when ingested or inhaled. It is a suspected carcinogen of the lungs and kidneys and has adverse effects on cardio, nervous and renal systems. Lead is emitted into the atmosphere by industrial processes.

Lead levels in the Commonwealth have met the federal standards for the past 10 years. Since lead was removed from gasoline, relatively few improvements now are seen in air basins that have no lead industrial sources.

Nitrates

Nitrates are particulate compounds that form in the atmosphere from the oxidation of nitrogen gases. They represent a significant portion of the finer particulate that can be inhaled into the lungs and which affect visibility.

Levels of nitrates are relatively constant across the Commonwealth. There are no long- or short-term air quality standards for nitrates.

Sulfur Dioxide

Sulfur dioxide is a gaseous pollutant that is emitted primarily by industrial furnaces or power plants burning coal or oil containing sulfur. Health problems caused by high exposures to sulfur dioxide include impairment of breathing and respiratory illnesses. Sulfur dioxide damages trees, plants and agricultural crops and is a precursor to acid rain.

All sites met the air quality standards for sulfur dioxide. Sulfur dioxide levels have improved slightly or remained the same over the last 10-year period. The 2000 averages continue to be below 50 percent of the annual ambient air quality standard.

Ground-Level Ozone

Ozone, or photochemical smog, is not emitted into the atmosphere, but is formed by reactions of other pollutants. The primary pollutants entering into this reaction -- volatile organic compounds (VOC) and oxides of nitrogen (NO_x) -- create ozone in the presence of sunlight. Ozone is a strong irritant to the eyes and upper respiratory system and also damages crops.

Ozone is erratic by nature, and levels fluctuate depending on weather conditions. Ozone levels are consistently higher during the summer months, with the ozone monitoring season being April 1 to Oct. 31. Since 1991, daily maximum 1-hour ozone levels have improved so that the majority of counties in Pennsylvania are meeting the air quality standard. The improvements that are seen in ozone concentrations can be attributed in part to controls on VOCs and gasoline volatility. Ozone concentrations (using all monitors in Pennsylvania) exceeded the 1-hour daily air quality standard on two days and exceeded the proposed 8-hour daily maximum level of 84 parts per billion (ppb) on 22 days during 2000.

Oxides of Nitrogen

Oxides of nitrogen (NO_x) are a class of pollutants formed when fuel is burned at a very high temperature. They are predominately emitted from vehicles. Although there is no air quality standard for NO_x, the level of this pollutant is of concern due to its role in the formation of ozone and acid rain.

Nitrogen Dioxide

Nitrogen dioxide is a highly toxic, reddish brown gas that is created primarily from fuel combustion in industrial sources and vehicles. It creates an odorous haze that causes eye and sinus irritation, blocks natural sunlight and reduces visibility. It can severely irritate respiratory illnesses. Nitrogen dioxide contributes to the creation of acid rain and adversely impacts forests and other ecosystems.

No sites in Pennsylvania exceeded the annual air quality standard for nitrogen dioxide in 2000. Nitrogen dioxide levels have improved 11 percent on average over the last 10 years.

Carbon Monoxide

Carbon monoxide is a poisonous gas that, when introduced into the bloodstream, inhibits the delivery of oxygen to body tissue. Exposure creates a severe health risk to individuals with cardiovascular disease. The largest man-made source of carbon monoxide is vehicle emissions. This pollutant is a health concern in areas of high traffic density or near industrial sources.

All DEP sites in the Commonwealth have met the federal air quality standards for carbon monoxide the last 10 years. Carbon monoxide levels have seen a long-term improvement of 42 percent from levels in 1991.

For additional information about Pennsylvania's air quality programs, visit the DEP website www.dep.state.pa.us (directLINK "Air Quality").

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INTRODUCTION

The goals of the ambient air monitoring program in Pennsylvania are to judge compliance with federal and state air quality standards, provide real-time monitoring of air pollution episodes, provide data for trend analysis, evaluate regulations and planning, and provide public information daily on air quality.

Three agencies conduct air quality monitoring to judge compliance with air quality standards in Pennsylvania: DEP, the Allegheny County Health Department and Philadelphia Air Management Services.

This report contains summaries of the air quality data collected by DEP's Bureau of Air Quality in calendar year 2000. Data from Philadelphia or Allegheny counties can be obtained by contacting those agencies directly. Mailing addresses and telephone numbers for all three agencies are given in Appendix B.

The monitoring strategy of DEP is to place monitors in areas having high population density, high levels of contaminants or a combination of the two. The majority of all monitoring efforts take place in the "air basins" of the Commonwealth. These "air basins" have been defined in the Bureau's regulations and consist of the following 13 areas:

- Allegheny County Air Basin
- Allentown - Bethlehem - Easton Air Basin
- Erie Air Basin
- Harrisburg Air Basin
- Johnstown Air Basin
- Lancaster Air Basin
- Lower Beaver Valley Air Basin
- Monongahela Valley Air Basin
- Reading Air Basin
- Scranton - Wilkes-Barre Air Basin
- Southeast Pennsylvania Air Basin
- Upper Beaver Valley Air Basin
- York Air Basin

Air monitoring surveillance is conducted in all 13 air basins. Allegheny County conducts the majority of monitoring with its own monitoring program in the Allegheny County Air Basin. Philadelphia County, which also conducts its own monitoring program, is part of the Southeast Pennsylvania Air Basin. In addition to the 13 air basins in which DEP conducts surveillance, there are three non-air basin areas, which have historically significant monitoring programs: Altoona, Williamsport and the Shenango Valley. DEP performs monitoring in Allegheny County at the Carnegie Science Center in Pittsburgh as part of an air quality exhibit.

DEP operates two air monitoring networks in the Commonwealth: the Pennsylvania Air Quality Surveillance System (PAQSS) for high volume particulate sampling and the Commonwealth of Pennsylvania Air Monitoring System (COPAMS) for continuous pollutant sampling.

In July 1997, EPA attempted to revise the primary standard for particulate matter by adding standards for fine particulates (particulates less than 2.5 micrometers in diameter – $PM_{2.5}$). The increased resources needed to implement and operate the $PM_{2.5}$ monitors resulted in significant cuts to the PAQSS network. The sites left were chosen to support needed lead monitoring sites. The discrete total suspended particulate network consists of eight monitoring sites. Each site sampled total suspended particulate matter (TSP) on a schedule of once every six days. Selected filters are also analyzed for sulfates, nitrates and lead. In addition, discrete sampling is also conducted at four sites for suspended particulate matter of 10 microns or less in size (PM_{10}) in 2000. No additional analysis is performed on the PM_{10} sample filters. With the final installation phase of the $PM_{2.5}$ monitoring network completed, 23 sites were operating in 2000 along with three continuous monitoring sites.

The COPAMS network is a totally automatic, microprocessor-controlled system that consists of 44 remote stations throughout the Commonwealth. Dial-up telephone lines used by a central computer system collect the raw data from these remote stations every hour. Each station measures selected parameters such as sulfur dioxide, hydrogen sulfide, ozone, carbon monoxide, nitrogen dioxide, oxides of nitrogen, continuous PM_{10}, continuous $PM_{2.5}$, wind speed, wind direction (vector averaged and sigma theta), ambient temperature and solar radiation.

The sampling locations for DEP's air monitoring sites and the pollutants monitored at the site are listed in Appendix C.

In addition to the normal air monitoring surveillance conducted by DEP, two cooperative monitoring efforts continued this year. DEP has renewed a cooperative agreement with Pennsylvania State University's (PSU) Department of Plant Pathology to conduct ozone monitoring in five remote areas of the state. The collected ozone data will be used to determine possible effects to forests and crops and assess ozone transport in rural Pennsylvania. The sites are located in the Moshannon State Forest, Clearfield County; Tiadaghton State Forest, Lycoming County; near Gleason, Tioga County; at the Department of Conservation and Natural Resources Penn Nursery, Centre County; and in State College, Centre County.

To continue the efforts to understand ozone formation and transport, DEP has partnered with West Chester University in Chester County to run an ozone monitor and collect air toxics (which include some ozone precursors) samples.

CHAPTER 1
AIR QUALITY STANDARDS

One of the primary goals of the ambient air monitoring program is to obtain data to compare against air quality standards. Pennsylvania has adopted all of the National Ambient Air Quality Standards (NAAQS), as well as several standards of its own. These standards, designed to protect the public health and welfare, are shown in Tables 1-1 and 1-2.

There are two types of NAAQS standards: primary and secondary. Primary standards protect against adverse health effects, while secondary standards protect against welfare effects such as damage to crops, vegetation, buildings and decreased visibility.

Table 1-1. National Ambient Air Quality Standards (NAAQS)

	Primary (Health Related)		Secondary (Welfare Related)	
Pollutant	Type of Average	Standard Level Concentration	Type of Average	Standard Level Concentration
Carbon Monoxide	8-hour Running	9 ppm	No Secondary Standard	
	1-hour	35 ppm	No Secondary Standard	
Lead	Maximum Quarterly Average	1.5 $\mu g/m^3$	Same as Primary Standard	
Nitrogen Dioxide	Annual Arithmetic Mean	0.053 ppm	Same as Primary Standard	
Ozone	Maximum Daily 1-Hour Average	0.12 ppm	Same as Primary Standard	
	Fourth Average Daily Maximum 8-hour Running Mean (based on 3 years)	0.08 ppm	Same as Primary Standard	
Particulate Matter PM_{10}	Annual Arithmetic Mean	50 $\mu g/m^3$	Same as Primary Standard	
	24-hour	150 $\mu g/m^3$	Same as Primary Standard	
Particulate Matter $PM_{2.5}$	Annual Arithmetic Mean	15 $\mu g/m^3$	Same as Primary Standard	
	24-hour	65 $\mu g/m^3$	Same as Primary Standard	
Sulfur Dioxide	Annual Arithmetic Mean	0.03 ppm	3-hour	0.50 ppm
	24-hour	0.14 ppm		

Table 1-2. Pennsylvania Ambient Air Quality Standards

Pollutant	Type of Average	Standard Level Concentration
Beryllium	30-day	0.01 $\mu g/m^3$
Fluorides (total soluble, as HF)	24-hour	5 $\mu g/m^3$
Hydrogen Sulfide	24-hour	0.005 ppm
	1-hour	0.1 ppm
Settled Particulate (Total)	30-day	43 tons/$mile^2$/month
	1-year	23 tons/$mile^2$/month

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CHAPTER 2
AIR QUALITY TRENDS AND COMPARISONS

TOTAL SUSPENDED PARTICULATE MATTER

With the monitoring for $PM_{2.5}$ particulate matter being so labor intensive, DEP made a significant cut in the number of sites monitoring for total particulate matter in 1999 since no air quality standard exists. The sites that remained were chosen for other needs, such as lead monitoring.

Total suspended particulates (TSP) are the solid or liquid matter in air. Particles vary in size and may remain suspended in the air a few seconds to several months. Particulate emissions come from coal-burning power plants, industrial processes, mining operations, municipal waste incinerators and fuel combustion. They also are produced by natural sources such as forest fires and volcanoes. The smaller of these particles are breathed into the lungs, where they can aggravate or cause respiratory ailments. These smaller particles also can carry other pollutants into the lungs.

The federal ambient air quality standard for particulate matter was revised to reflect the adverse health effects of smaller particulate matter less than 10 microns in size (PM_{10}). There is no federal or state air quality standard for TSP.

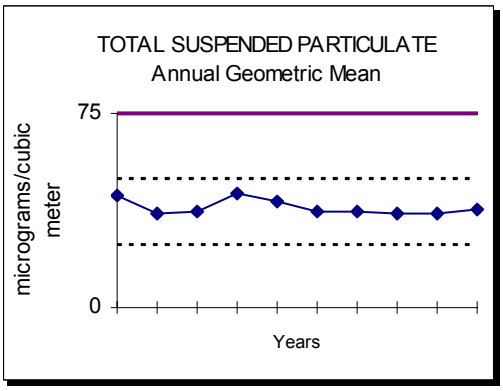


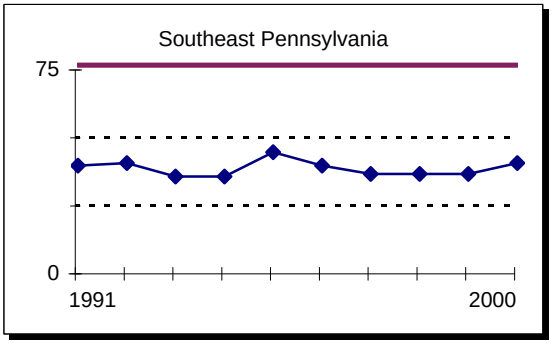
Figure 2-1. Trend in annual geometric mean TSP concentrations, 1991-2000.

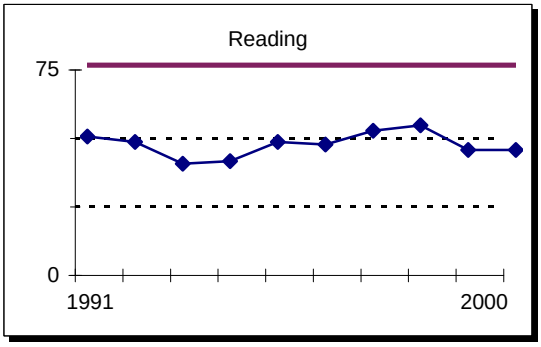
Figure 2-1 shows a 12 percent decrease in annual geometric mean TSP concentrations measured across the Commonwealth between 1991 and 2000. The solid line represents the former annual primary air quality standard of 75 micrograms per cubic meter ($\mu g/m^3$).

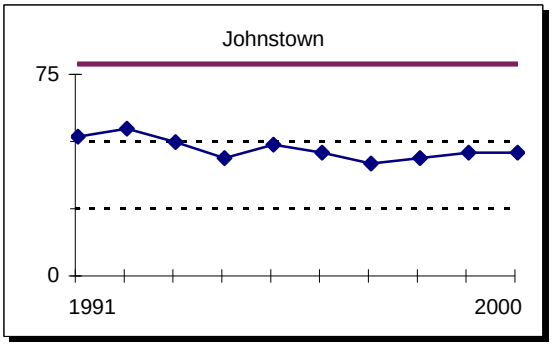
The calendar year 2000 TSP summary is contained in Table A-1 in Appendix A. There were no sites in the Commonwealth that exceeded the former annual or 24-hour primary air quality standards in 2000. For comparison to the PM_{10} annual air quality standard, the TSP annual arithmetic mean was calculated by averaging the four quarterly arithmetic means.

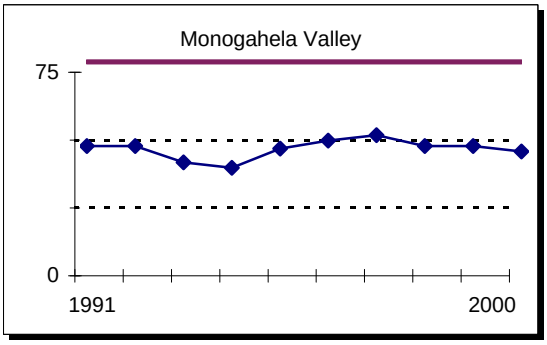
Figure 2-2, located on the following page, shows the TSP trends over the last 10 years in various areas of the Commonwealth where monitoring remains. The air basin and area's annual geometric means plotted consist of all stations that were operated during that year and which had at least 30 samples taken. Thus, stations that were moved or discontinued in the past are still included in the 10-year trend. The solid line represents the former annual primary air quality standard of 75 $\mu g/m^3$. The historical data that went into Figure 2-2 are contained in Table A-2 in Appendix A. This table lists the annual geometric means over the last 10 years for each site that was monitored in 2000. The annual mean is shown if there was at least 30 samples collected that year.

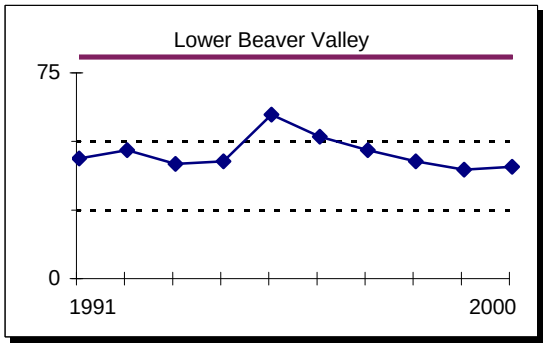
FIGURE 2-2. TSP PARTICULATE TRENDS IN PENNSYLVANIA 1991 to 2000
ANNUAL GEOMETRIC MEANS (micrograms per cubic meter)











Former annual air quality standard was
75 micrograms per cubic meter

SULFATE and NITRATE PARTICULATE MATTER

With the monitoring for $PM_{2.5}$ particulate matter being so labor intensive, DEP made a significant cut in the number of sites monitoring for total particulate matter in 1999 since no air quality standard exists. As a result, the number of sites with filter analysis for sulfates and nitrates was subsequently reduced.

Sulfate particulate matter in the atmosphere is composed of two types: primary and secondary. Primary sulfates are emitted directly into the atmosphere from industrial processes. Secondary sulfates are formed in the atmosphere from other sulfur-containing compounds under mechanisms that involve photochemical processes.

Studies have shown significant correlation between high sulfate levels and increased absences from work and school because of illness. Sulfates are also of interest due to their effects of reducing visibility and contributing to acid rain.

Sulfate continued to be a problem in 2000 with high 30-day averages at all monitoring sites. The state air quality standard was removed from the regulations since it was considered to be more stringent than federal regulations. There are no short- or long-term air quality standards for sulfates.

The 2000 sulfate summary is contained in Table A-3 in Appendix A. The large number of high sulfate levels during the summer is caused by the relationship between sulfate formation and photochemical processes. The maximum values will occur at the majority of sites from May to September. Table A-4 in Appendix A lists the maximum 30-day (monthly) means and the maximum 24-hour (daily) value over the last 10 years for each site that was monitored in 2000. The historical data is shown if there was at least 30 samples collected that year.

Nitrates are particulate compounds that are usually formed in the atmosphere from the oxidation of oxides of nitrogen gases. They are of interest since they represent a significant portion of the finer particulates which can be inhaled into the lungs and which have a great impact on visibility. Nitrates are also being studied to determine their impact on acid precipitation.

Table A-7 in Appendix A summarizes nitrate data collected during 2000. As seen from the annual means, the levels of nitrates in the Commonwealth are relatively constant from area to area.

There are no long-term or short-term air quality standards for nitrates.

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LEAD

Lead is a highly toxic metal when ingested or inhaled. It is a suspected carcinogen of the lungs and kidneys and has adverse effects on the cardio, nervous and renal systems. Lead is emitted to the atmosphere by vehicles burning leaded fuel and from certain industrial processes, primarily battery manufacturers and lead smelters. As a result of the reduction in lead in gasoline, metal processing is the major source of lead emissions.

Lead concentrations from 1991 to 2000 are represented in Figure 2-3 by the maximum quarterly mean during the year for all monitors across the state. Lead concentrations have leveled off in the last 10 years after dramatic reductions seen in the late 1970s to early 1980s due to the implementation of lead-free gasoline. Figure 2-3 indicates that the maximum quarterly lead concentrations have remained fairly constant and below the air quality standard over the past 10 years even though source-oriented sites dominate the data. The solid line represents the quarterly mean air quality standard of 1.5 micrograms per cubic meter ($\mu g/m^3$).

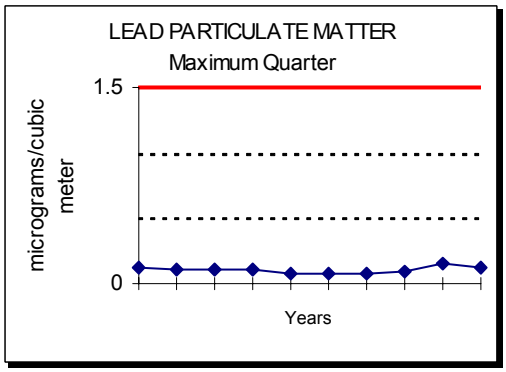


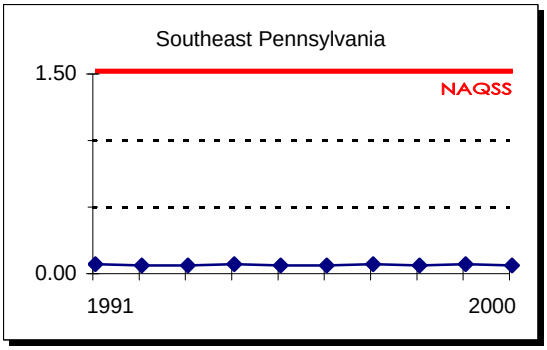
Figure 2-3. Trend in maximum quarterly average lead concentrations (including source-oriented sites), 1991-2000.

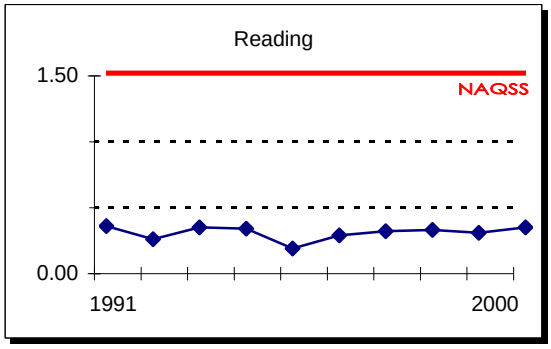
Lead trends for the individual areas in the state are shown in Figure 2-4, located on the following page, for 1991 to 2000. The solid line represents the quarterly mean air quality standard of 1.5 $\mu g/m^3$ on these graphs.

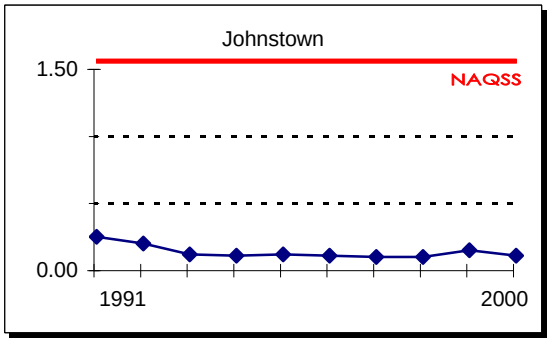
The particulate lead standard was not exceeded at any monitoring site in 2000, including source-oriented sites. Quarterly averages for all stations that monitored lead in 2000 are shown in Table A-5 in Appendix A, along with the number of samples taken in each quarter, the annual arithmetic mean and the total number of samples for the year.

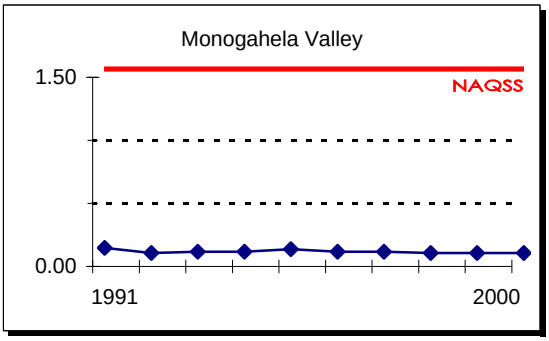
Lead historical trend data is presented in Table A-6 in Appendix A for 1991 to 2000. The table contains the maximum quarterly mean for each year. Trend data is shown for all sites that operated in 2000. The quarterly mean is shown if there was at least 30 samples collected that year. No current monitoring site has exceeded the air quality standard in the last 10 years. Relatively high lead levels experienced at sites located in Laureldale and Lyons are due to the influence of lead point sources close to the monitoring sites, although these sites are well below the air quality standard.

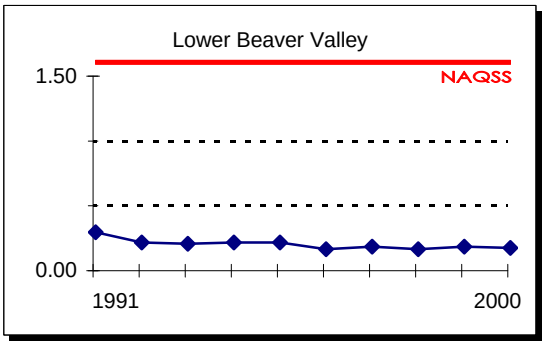
FIGURE 2-4. LEAD PARTICULATE TRENDS IN PENNSYLVANIA 1991 to 2000
MAXIMUM QUARTERLY MEANS (micrograms per cubic meter)



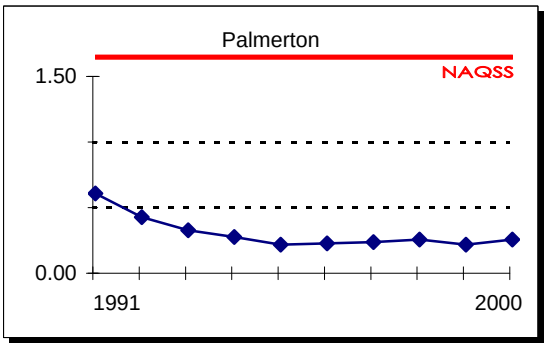


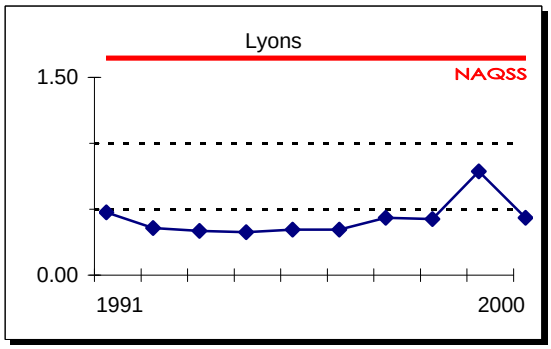






Lead air quality standard is
quarterly average of
1.5 micrograms per cubic meter





PM_{10} SUSPENDED PARTICULATE MATTER

Particulate matter (PM) is solid matter or liquid droplets from smoke, dust, fly ash or condensing vapors that can be suspended in the air for long periods of time. Particulate matter in air with aerodynamic diameters less than 10 micrometers is PM_{10}. PM_{10} has replaced the total suspended particulate (TSP) standards because many of the larger particles included in the TSP measurement (up to 45 micrometers) do not penetrate into the lungs and have very little effect on health. Consequently, the PM_{10} measurement is believed to be a better indicator of actual health risks.

PM_{10} appears to represent essentially all of the particulate emissions from transportation sources and most of the emissions in the other traditional categories. The standard for PM_{10} was adopted in July 1987. On July 18, 1997, EPA revised the particulate matter standards by adding new standards for $PM_{2.5}$ (particles less than or equal to 2.5 micrometers).

The Commonwealth measures PM_{10} concentrations using discrete (single sample) monitors that collect particulate matter on a filter for 24 hours and with a real-time instrument for measuring the PM_{10} particulate concentration. The TEOM monitor is a gravimetric instrument that draws ambient air through a filter, constantly weighing the filter and calculating real-time PM_{10} concentrations. The analyzer reports 1-hour data, which are then used to calculate daily 24-hour averages (midnight to midnight), for comparison to the ambient air quality standard.

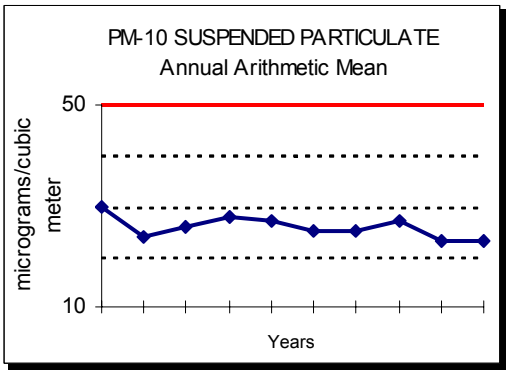


Figure 2-5. Trend in annual mean PM_{10} concentration, 1991-2000.

Figure 2-5 graphically represents the historical statewide PM_{10} trend from 1991 to 2000. Historical data is in units corrected to standard conditions while data in 1998-99 is corrected to local conditions. Monitored levels of PM_{10} levels in 2000 have improved 23 percent from levels observed in 1991 across the Commonwealth.

The map in Figure 2-6 on page 17, shows the relationship of PM_{10} annual mean levels in the different counties across the Commonwealth where monitoring is performed. When there are multiple sites in the county the annual mean is an average of the sites. Only sites that have monitored 50 percent of the time during 2000 are included in this figure. All counties monitored by DEP are in attainment of the annual PM_{10} air quality standard. The map in Figure 2-7 on page 18, displays the highest second maximum 24-hour PM_{10} by county in 2000. All counties monitored by DEP are in attainment of the 24-hour PM_{10} air quality standard.

PM_{10} trends for the individual areas of the state are shown in Figure 2-8 on page 19 for 1991 to 2000. The air basin or area averages consist of all stations that were operated during that year and had at least 30 discrete samples or 50 percent valid continuous data. PM_{10} levels have remained fairly constant over this period with an average 10 percent decrease in levels over the last five years. The apparent dramatic improvement shown in the Scranton-Wilkes Barre air basin for 1999 is probably due to the lack of sampling data and should not be viewed as representative of the particulate levels. All areas of the state, with the exception of Allentown-Bethlehem-Easton have improved by at least 14 percent over the last 10 years. The solid line represents the annual air quality standard of 50 micrograms per cubic meter ($\mu g/m^3$).

The 2000 PM_{10} data summary appears in Table A-8 in Appendix A. Historical trend data for each site that monitored in 2000 is shown in Table A-9 in Appendix A. This table lists the annual arithmetic means and second maximum 24-hour mean over the last 10 years for each site that monitored in 2000 with at least 50 percent data completeness.

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Fig 2-6 PM-10 Particulate Matter Concentrations

Annual Means (Average by County)
(Micrograms per Cubic Meter)

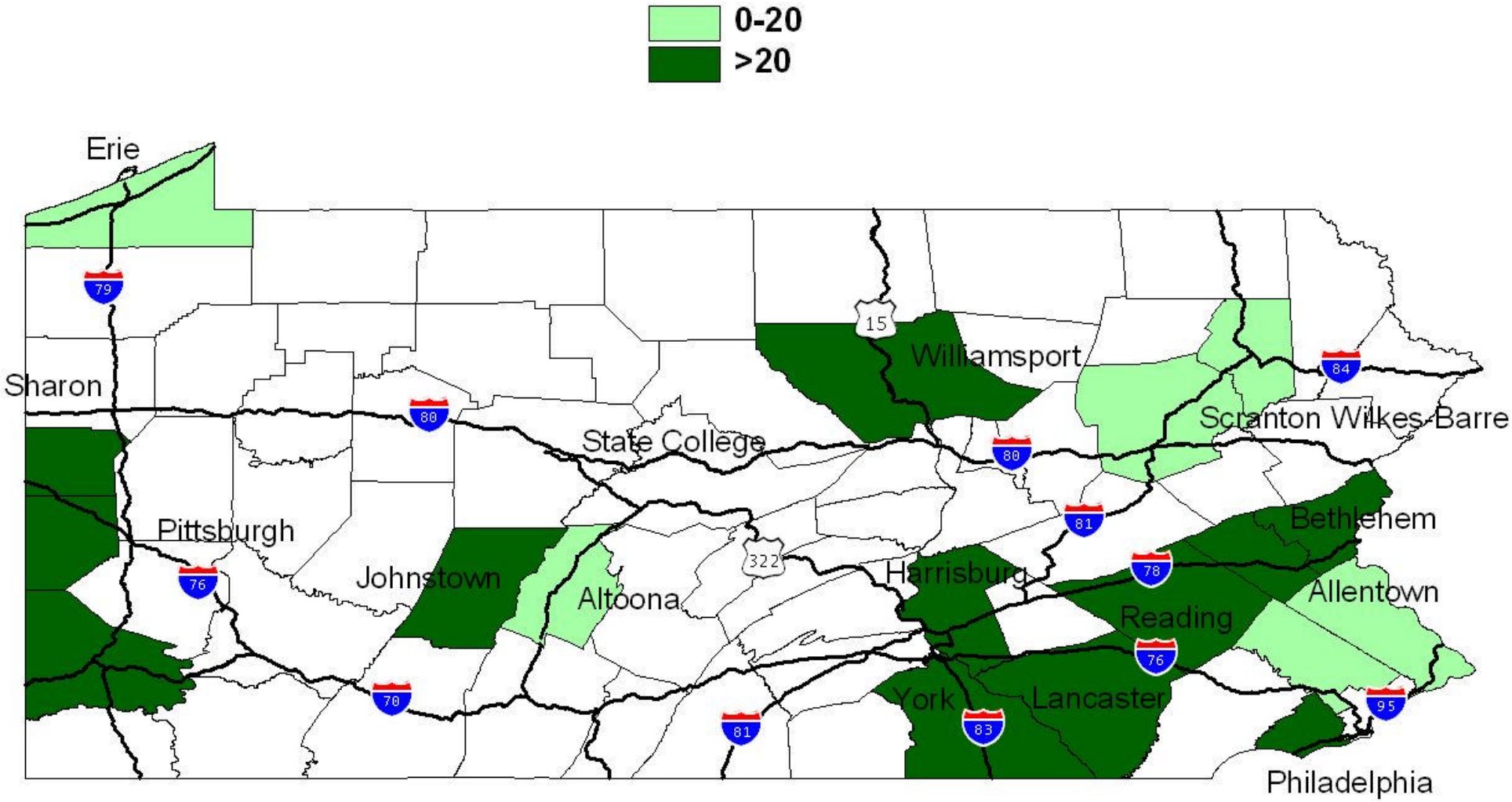

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Fig 2-7 PM-10 Particulate Matter Concentrations 2000

Highest Second Maximum 24-Hour PM-10 (by County)
(Micrograms per Cubic Meter)

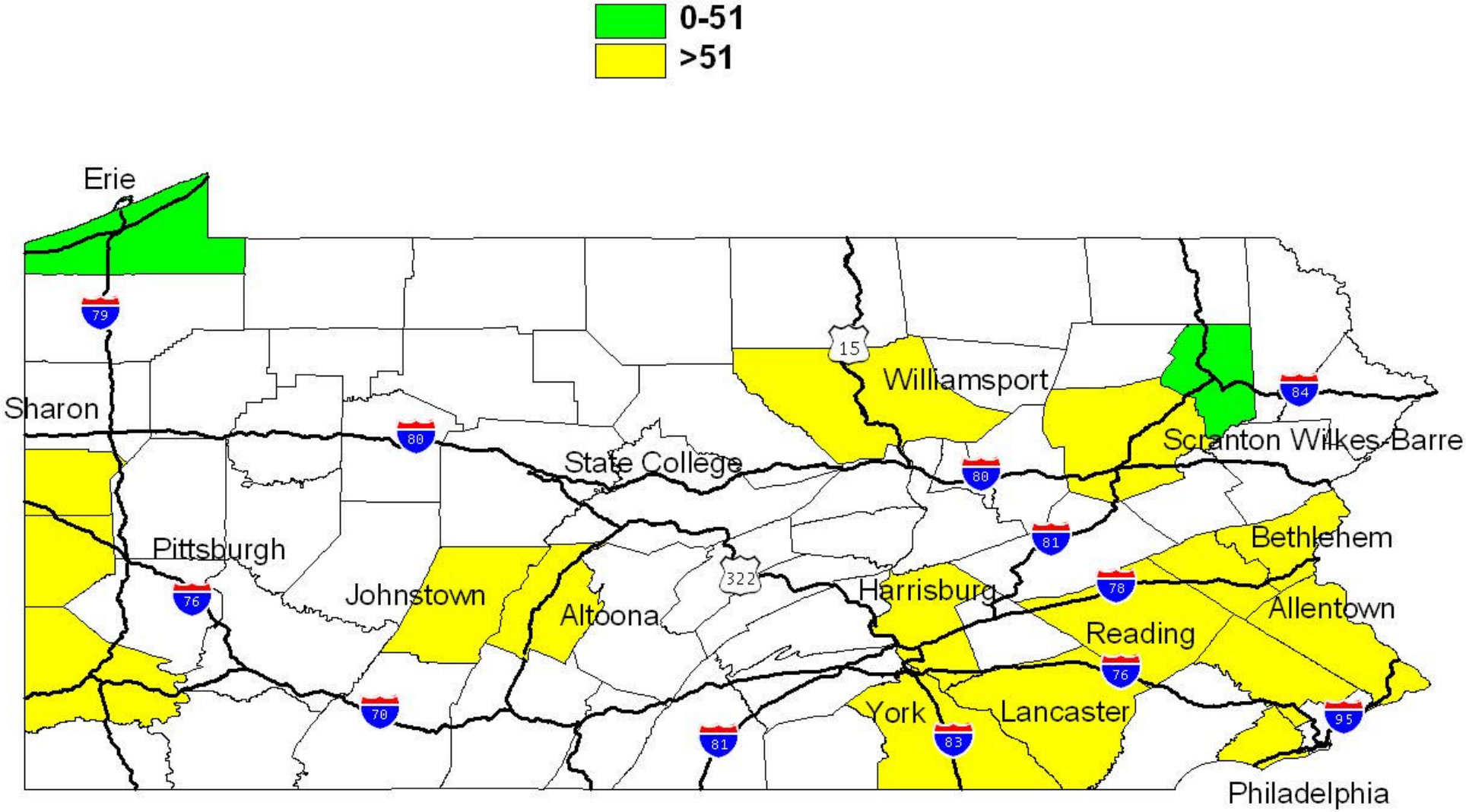

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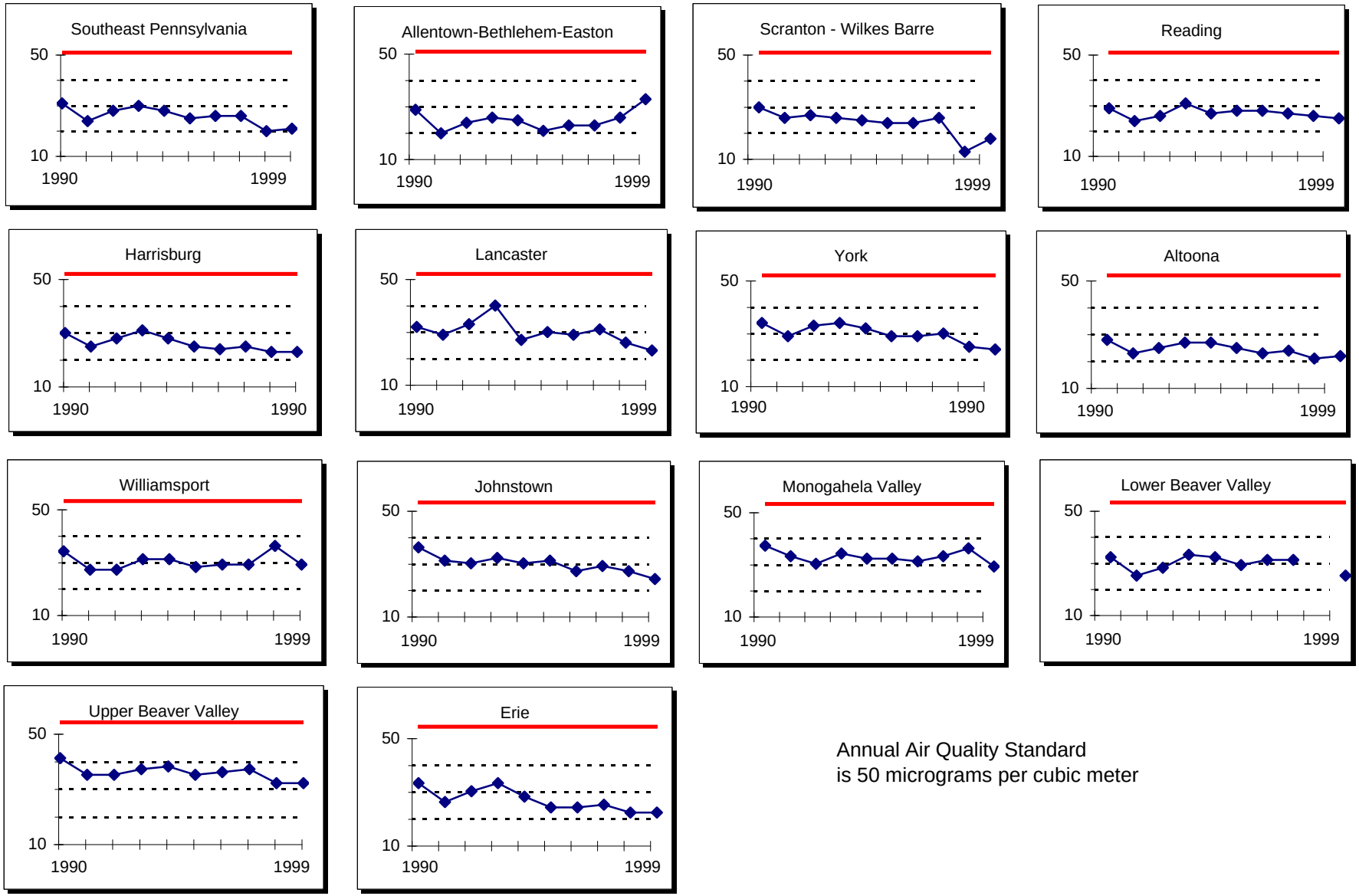
FIGURE 2-8. PM-10 PARTICULATE TRENDS IN PENNSYLVANIA 1991 to 2000
ANNUAL ARITHMETIC MEANS (micrograms per cubic meter)



Annual Air Quality Standard
is 50 micrograms per cubic meter

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$PM_{2.5}$ SUSPENDED PARTICULATE MATTER

Particulate matter (PM) is the general term used for a mixture of solid particles and liquid droplets found in the air. These particles, which come in a wide range of sizes, may be emitted directly by a source or formed in the atmosphere. Fine particles are those that are less than 2.5 micrometers in diameter ($PM_{2.5}$). Fine particles can accumulate in the respiratory system and are associated with numerous adverse health effects including decreased lung function and increased respiratory symptoms and disease. Sensitive groups that appear to be at greatest risk include the elderly, individuals with cardiopulmonary disease such as asthma, and children. Particulate matter also can cause adverse impacts to the environment. $PM_{2.5}$ is the major cause of reduced visibility in parts of the United States. Other environmental impacts occur when particles deposit onto soil, plants, water, or man-made materials such as monuments or statues.

With only two complete years of data collected, no trend analysis or comparison to the proposed air quality standard can be made since three years are required. Data collected for 2000 is summarized in Table A-10 in Appendix A for all federal reference method (FRM) monitors and continuous (TEOM) methods.

An interesting data event was observed on January 1, 2000, where high $PM_{2.5}$ concentrations were recorded at sites in Reading, Lancaster and York. Fine particulates, due to their small size, can stay airborne for long distances and transported between urban areas. A possible reason for the high data in this area of the state could be due to the transport of particulates from the elaborate firework displays in the Baltimore-Washington, D.C. area. Unfortunately, the chemical analysis (speciation) of the particulate matter on the filters could not be done to determine if the source was related to the gunpowder used in the fireworks. Chemical speciation of $PM_{2.5}$ filters is scheduled to begin in 2002.

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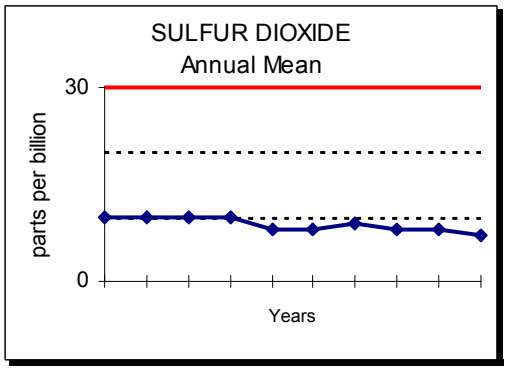
SULFUR DIOXIDE

Sulfur dioxide is a gaseous pollutant that is emitted primarily by industrial furnaces or power plants burning coal or oil containing sulfur. The major health effects associated with high exposures to sulfur dioxide include effects on breathing and respiratory illness symptoms. The population most sensitive to sulfur dioxide includes asthmatics and individuals with chronic lung disease or cardiovascular disease. Sulfur dioxide damages trees, plants and agricultural crops and acts as a precursor to acid rain. Finally, sulfur dioxide can accelerate the corrosion of natural and man-made materials that are used in buildings and monuments, as well as paper, iron-containing metals, zinc and other protective coatings.

The statewide composite average of sulfur dioxide annual mean concentration from 1991 to 2000 is shown in Figure 2-9. Sulfur dioxide levels have shown only a slight improvement over the last ten years and remain below 50 percent of the air quality standard.



The map in Figure 2-10 on the following page displays the average sulfur dioxide annual mean by county in 2000. When there are multiple sites in the county the annual mean is an average of the sites. All counties in which monitoring was conducted met the air quality standard of 30 parts per billion (ppb).

The map in Figure 2-11on page 25 displays the highest second maximum 24-hour (daily) average concentration by county in 2000. All areas of the Commonwealth met the 24-hour air quality standard of 140 ppb.

Figure 2-12 on page 26 displays the last 10-year trend (1991 to 2000) of the annual arithmetic mean in the 12 air basins and the Altoona, Williamsport and Shenango Valley non-air basins. The solid line represents the annual air quality standard of 0.030 parts per million (ppm).

Sulfur dioxide levels correlate significantly with ambient temperatures. As temperatures go down, the space heating requirements increase, resulting in additional burning of coal and oil.

Sulfur dioxide data for all sites that operated in 2000 is summarized in Table A-10 in Appendix A. All sites in the Commonwealth met the annual mean, 3-hour and 24-hour ambient air quality standards.

Sulfur dioxide historical data over the last 10 years is presented in Table A-11 in Appendix A for all stations that operated in 2000 with at least 50 percent valid data. This data was used to produce the trend chart shown in Figure 2-12.

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Fig 2-10 Sulfur Dioxide Concentrations 2000

Annual Means (Average by County)
(Parts per Billion)

0-30

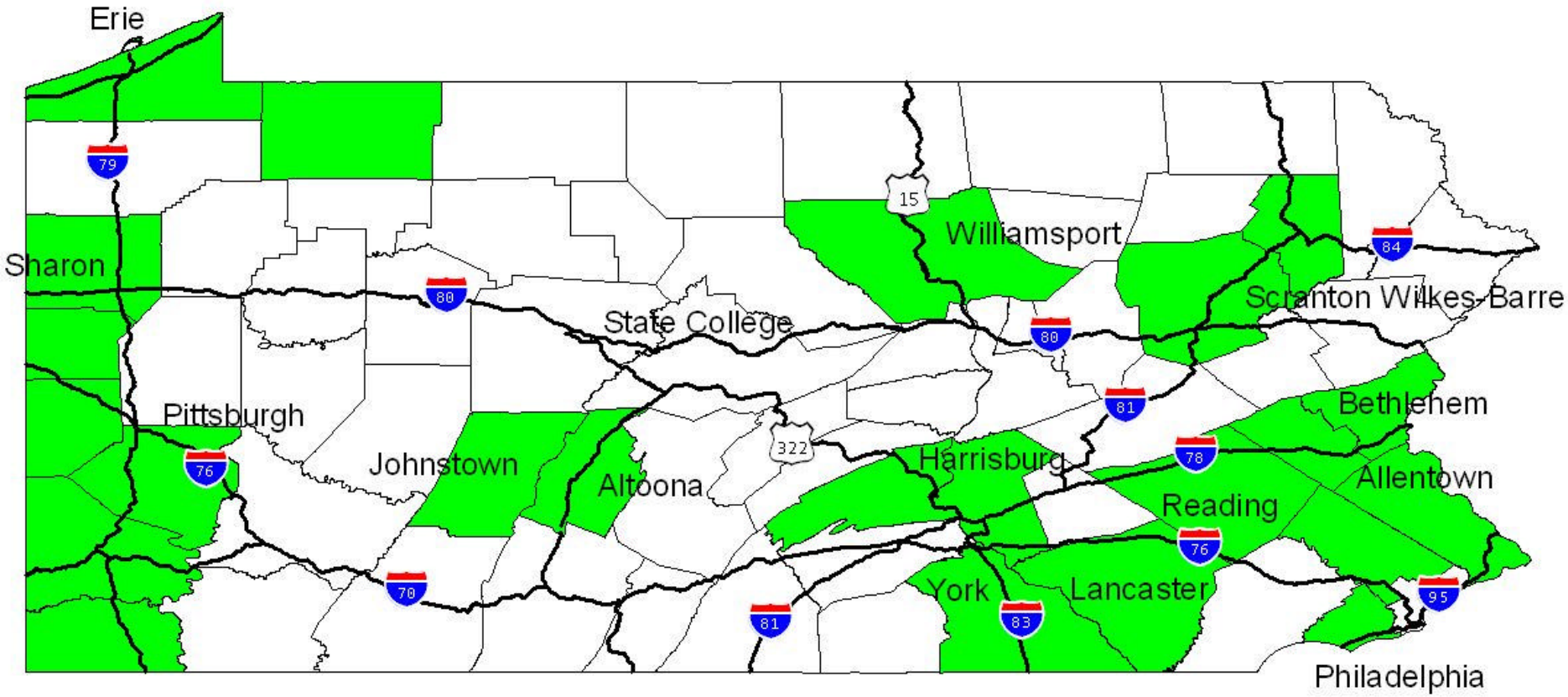

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Fig 2-11 Sulfur Dioxide Concentrations 2000

Highest Second Maximum 24-Hour Daily Mean (by County)
(Parts per Billion)

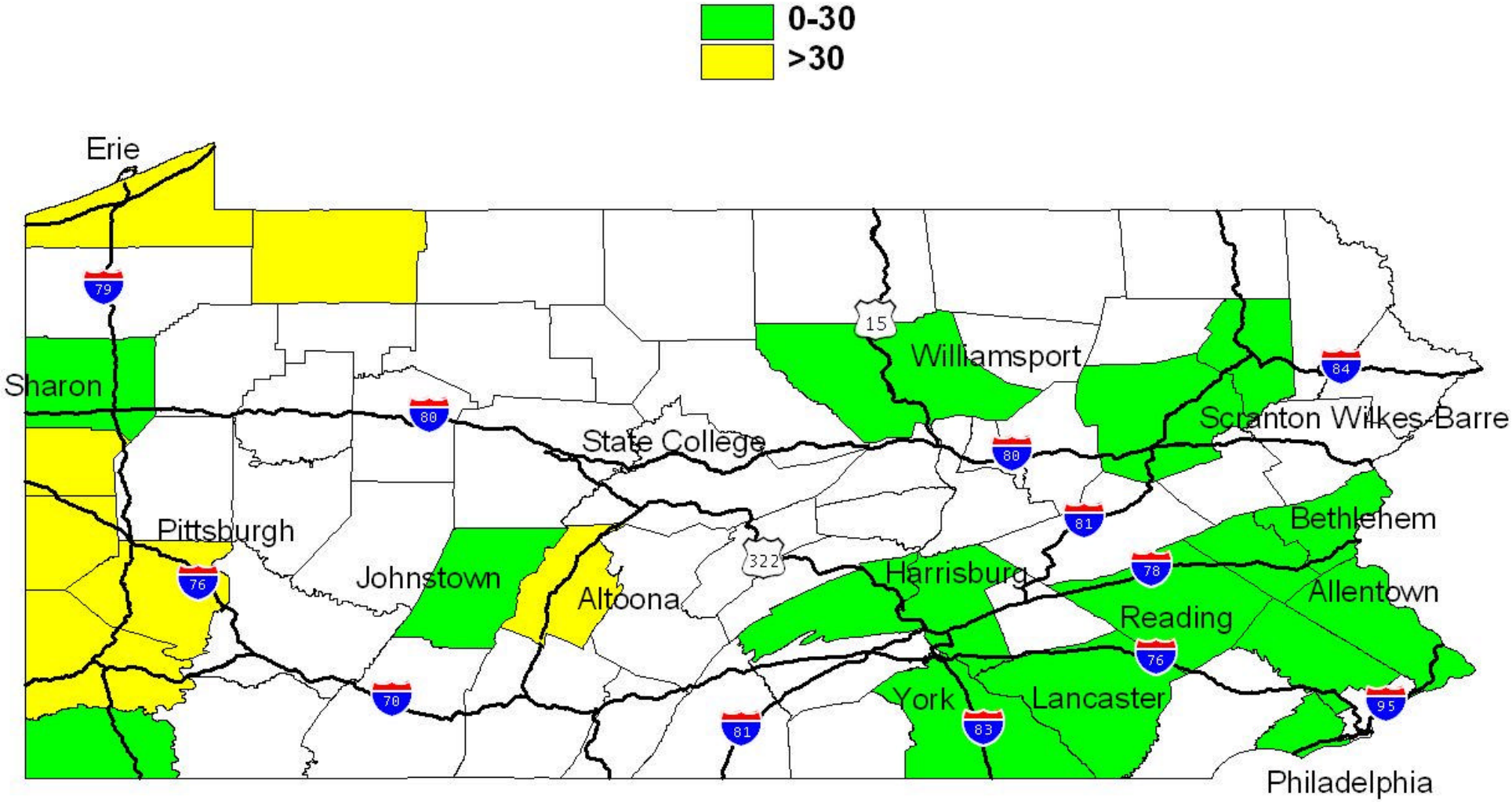

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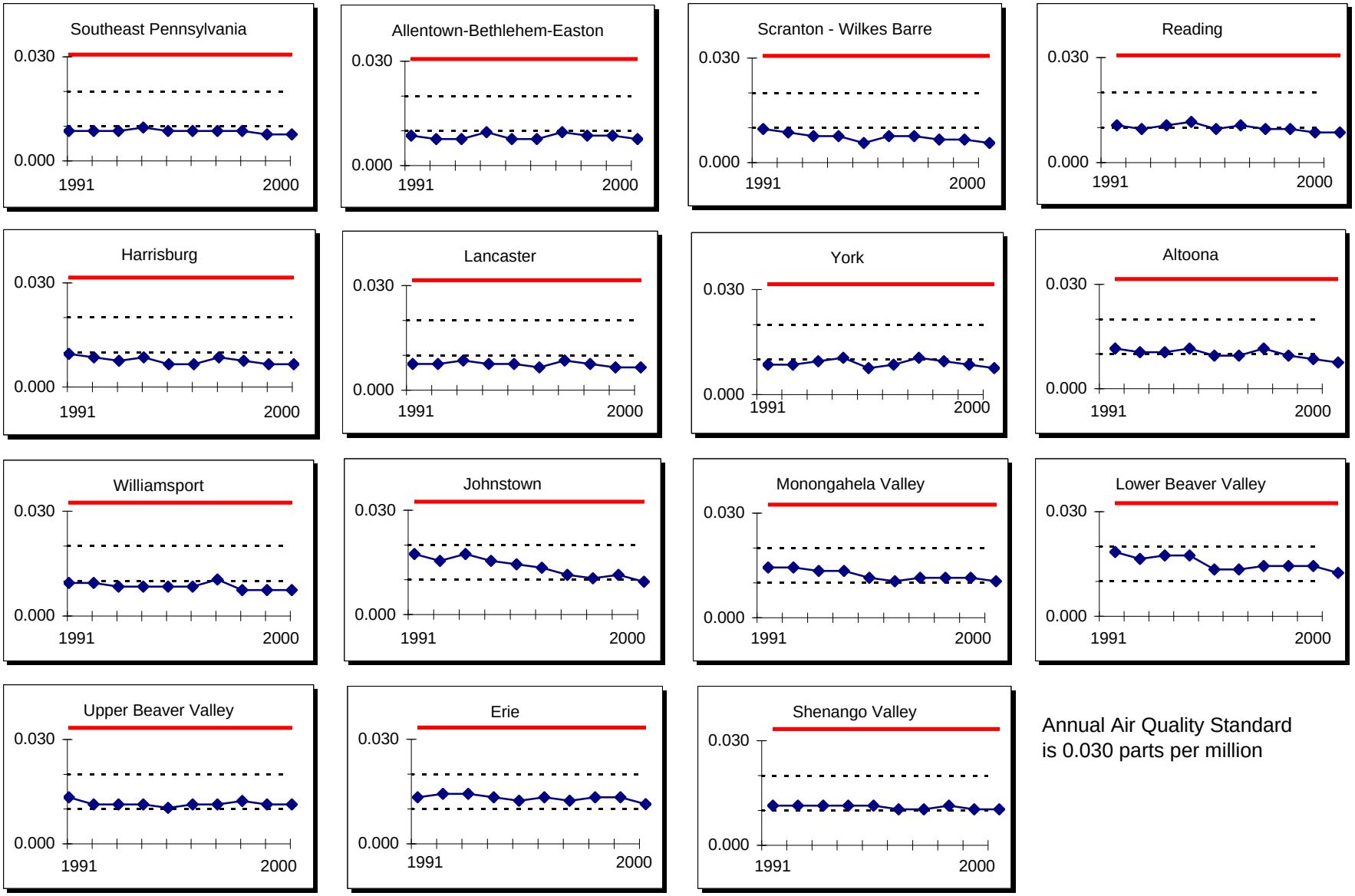
FIGURE 2-12. SULFUR DIOXIDE TRENDS IN PENNSYLVANIA 1991 to 2000
ANNUAL ARITHMETIC MEANS (PARTS PER MILLION)



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GROUND-LEVEL OZONE

Ground-level ozone, or photochemical smog, is a secondary pollutant. It is not emitted directly to the atmosphere but rather is formed in the atmosphere by the reactions of other pollutants. Ground-level ozone forms during the summer months, when nitrogen oxides (NO_x) and volatile organic compounds (VOC) combine and react in the presence of sunlight and warm temperatures. Nitrogen oxides come from burning fossil fuels at power plants, industrial boilers and motor vehicles. VOCs are emitted from a variety of sources, including motor vehicles, chemical plants, refineries and natural (biogenic) sources. Changing weather patterns contribute to yearly differences in ozone concentrations. Ozone and the precursor pollutants that cause ozone also can be transported into an area from pollution sources located hundreds of miles away. Ozone is a strong irritant to the eyes and upper respiratory system. It hampers breathing and also damages crops and man-made materials such as monuments and statues.

In July 1997, EPA established a new 8-hour primary standard to protect against longer exposure periods that are of concern for both human health and environmental welfare. However, unresolved legal challenges have left the 8-hour ozone standard enforceable, so the 1-hour ozone standard still applies. The proposed secondary standard (welfare-based) was set identical to the 8-hour primary standard. The secondary standard highlights the concerns associated with effects on vegetation. As a way of focusing on this DEP has contracted with Pennsylvania State University's Department of Plant Pathology to monitor at five rural sites: Moshannon State Forest, Clearfield County; Tiadaghton, Lycoming County; the Department of Conservation and Natural Resource Penn Nursery facility, Centre County; State College, Centre County; and a site between Mansfield and Williamsport, Tioga County.

In addition to the established surveillance monitoring sites, DEP continued monitoring begun by the North American Research Strategy for Tropospheric Ozone (NARSTO). The Holbrook site (Greene County) is primarily designed to study ozone transport in the Northeast.

Since the 1-hour ozone standard still applies in areas that have not attained compliance with the standard, this report presents both 1- and 8-hour ozone data. The ozone monitoring season in Pennsylvania runs from April 1 to Oct. 31.

Ambient ground-level ozone trends are erratic by nature. Changes in meteorological conditions, population growth and changes in emissions (VOC and NOx) influence ozone concentrations. Figure 2-13 shows that the 1991-2000 statewide (DEP sites only) average second daily maximum 1-hour ozone concentrations. Weather conditions were not favorable for ozone formation in 2000. The solid line is at the primary 1-hour air quality standard of 125 parts per billion (ppb).

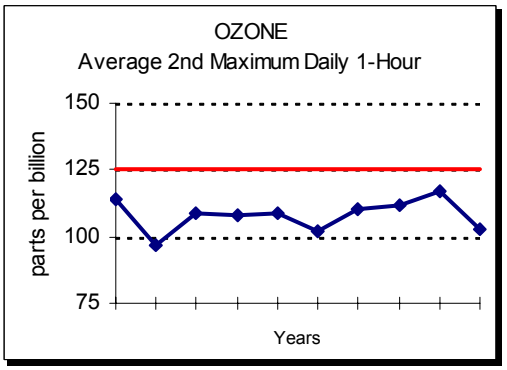

Figure 2-13. Trend in average second daily maximum 1-hour ozone concentrations, 1991-2000.

The map in Figure 2-14 on page 32, presents the highest second daily maximum 1-hour ozone concentration by county in 2000. Montgomery County had more than one exceedance of the 1-hour air quality standard in 2000. All ozone monitoring sites are included in the representation, with the exception of those monitors operated by Allegheny and Philadelphia counties.

The map in Figure 2-15 on page 33, presents the fourth highest daily maximum running 8-hour ozone concentration by county in 2000. All ozone monitoring sites are included in the representation, with the exception of those monitors operated by Allegheny and Philadelphia counties.

For the 12 air basins and Altoona, Williamsport and Shenango Valley non-air basins, Figure 2-16 on page 34, shows the 10-year trend (1991 to 2000) of the average second daily maximum 1-hour ozone concentration, during the ozone season for DEP monitoring sites. Figure 2-17 on page 35, shows the 10-year trend (1991 to 2000) of the 3-year average of the fourth highest daily 8-hour running ozone mean. All sites, with the exception of Williamsport and New Castle, have been close to or exceeded the 8-hour standard of 85 parts per billion (ppb). The solid

line in both figures indicates the 1- or 8-hour standard level.

Williamsport has been the only area consistently below the ozone air quality standards. Southeast Pennsylvania (Philadelphia area) is the only DEP monitoring area that is exceeding the 1-hour ozone air quality standard.

Table A-13a in Appendix A summarizes 1-hour ozone data during the ozone season of 2000 for all monitoring sites. Table A-13b in Appendix A summarizes 8-hour ozone data during the ozone season of 2000 for all monitoring sites.

Historical 1-hour data for ozone from 1991 to 2000 is contained in Table A-14 in Appendix A for all DEP sites that operated during the ozone monitoring season in 2000 with at least 50 percent valid data. To attain compliance with the air quality standard, a site can have no more than three exceedances of the 0.12 parts per million (ppm) standard over the last three years. DEP monitoring sites located in the Southeast Pennsylvania air basin have more than three exceedances in the last three years.

Table 2-1 on the following page lists the days on which the 1-hour ozone air quality standard was exceeded in 2000 at all sites in Pennsylvania.

Tables 2-2 and 2-3 on pages 30 and 31 summarize the 1-hour and 8-hour data over the last three years (1998-2000). These tables include monitoring sites operated by DEP, the Allegheny County Health Department, Philadelphia Air Management Services and the Pennsylvania State University.

Table 2-1. Ozone 1-Hour Exceedance Days in Pennsylvania – 2000

Date of Occurrence	Monitoring Site	County	Daily 1-Hour Concentration (ppb)
June 9, 2000	Norristown	Montgomery	125
June 10, 2000	Bristol	Bucks	147
	Norristown	Montgomery	147
	Freemansburg	Northampton	127
	Northwest Philadelphia	Philadelphia	126
	Northeast Philadelphia	Philadelphia	129

Table 2-2

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

1-HOUR OZONE EXCEEDANCES and MAXIMUMS SUMMARY
(Units: parts per billion)

	1998					1999					2000				
		Daily Maximums					Daily Maximums					Daily Maximums			
Station	Days > 124	1st 1-Hr	2nd 1-Hr	3rd 1-Hr	4th 1-Hr	Days > 124	1st 1-Hr	2nd 1-Hr	3rd 1-Hr	4th 1-Hr	Days > 124	1st 1-Hr	2nd 1-Hr	3rd 1-Hr	4th 1-Hr
Bristol	0	117	115	111	110	6	151	145	139	137	1	147	121	115	112
Chester	2	132	125	120	119	3	162	130	130	120	0	124	117	112	110
Norristown	2	129	126	120	118	2	140	126	117	117	2	147	125	112	112
New Garden (Airport)											0	103	95	92	90
Northwest (Rox)	0	124	116	110	109	0	114	98	93	92	1	126	106	99	98
Northeast (Airport)	0	116	112	111	110	0	94	90	76	74	1	129	108	101	97
Southwest (Elm)	0	107	105	103	101	1	154	121	116	111	0	119	104	99	91
Frankford (Lab)	0	100	100	93	92	1	130	101	95	92	0	101	87	87	86
Allentown	0	110	106	106	105	2	133	125	118	116	0	123	112	99	95
Freemansburg	0	107	104	102	102	2	139	126	119	119	1	127	114	105	96
Easton	0	124	111	110	109	1	131	115	110	109	0	109	100	92	89
Reading	0	117	106	105	103	1	140	123	118	117	0	113	105	93	90
Kutztown	0	106	104	102	102	2	135	128	114	109	0	106	101	89	88
Scranton	0	117	108	105	99	0	115	107	106	103	0	107	82	80	79
Peckville	0	109	105	102	102	0	122	115	111	106	0	115	90	90	87
Nanticoke	0	113	98	98	94	0	118	102	96	95	0	115	93	91	86
Wilkes-Barre	0	110	102	99	98	0	118	111	107	102	0	107	86	84	80
Harrisburg	0	120	116	109	109	0	115	114	111	110	0	102	101	100	89
Hershey	0	114	111	103	100	2	128	126	120	117	0	111	110	105	96
Perry County	0	124	110	102	101	0	111	106	106	103	0	99	99	90	87
Lancaster	0	121	119	118	115	2	132	127	123	116	0	113	107	96	95
York	0	121	112	108	105	1	133	121	109	107	0	114	112	104	98
Methodist Hill	0	123	120	115	110	0	116	115	106	104	0	101	100	97	88
Williamsport	0	101	97	86	83	0	96	87	87	81	0	103	88	86	81
Tiadaghton (PSU)	0	102	99	95	93	0	94	91	89	85	0	98	92	88	87
Tioga County (PSU)						0	97	93	91	89	0	104	103	101	94
State College (PSU)											0	102	101	89	88
Penn Nursery (PSU)	0	113	113	103	103	0	109	99	99	99	0	109	109	105	101
Altoona	0	117	114	113	111	0	117	111	103	103	0	106	104	96	88
Johnstown	1	131	124	112	111	0	116	107	106	106	0	108	104	97	94
Moshannon (PSU)	1	132	116	113	110	0	94	92	92	91	0	110	105	91	89
Greensburg						2	145	125	111	110	0	99	97	97	89
Murrysville	0	103	101	97	96	1	132	115	108	99	0	110	103	92	88
Kittanning	0	113	113	113	110	1	134	121	120	117	0	104	103	92	91
Brighton Twp	0	115	113	101	101	2	135	132	120	117	0	102	96	94	87
Beaver Falls	0	121	116	113	113	2	133	131	102	99	0	106	99	98	92
Hookstown	0	115	113	111	106	0	122	116	111	105	0	99	95	91	89
Florence	0	114	109	109	104	0	113	110	106	106	0	98	98	96	94
Charleroi	3	130	127	126	123	0	118	115	111	107	0	112	110	109	91
Washington	0	115	112	111	107	0	110	106	105	103	0	114	105	101	87
Holbrook	0	111	110	108	107	0	123	116	116	116	0	113	106	99	98
Pittsburgh (Carneige SC)	0	112	105	105	103	1	135	120	118	116	0	112	111	108	94
Harrison Twp	0	112	111	108	107	2	137	127	114	113	0	104	102	98	97
Lawrenceville	0	120	118	104	103	2	128	126	106	100	0	97	96	96	94
Penn Hills	0	113	112	110	108	2	131	128	112	108	0	101	100	100	97
South Fayette	1	125	115	113	112	0	123	118	112	110	0	106	103	103	101
New Castle	0	110	96	94	86	1	139	105	98	98	0	92	90	82	81
Farrell	1	129	121	118	117	0	111	108	107	105	0	111	98	96	95
Erie	1	130	122	113	111	0	115	112	107	107	0	108	95	88	88

Table 2-3

COMMWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

8-HOUR OZONE DAYS GREATER THAN 84 PPB and MAXIMUMS SUMMARY

	1998					1999					2000				
		Daily Maximums					Daily Maximums					Daily Maximums			
	Days	1st	2nd	3rd	4th	Days	1st	2nd	3rd	4th	Days	1st	2nd	3rd	4th
Station	> 84	8-Hr	8-Hr	8-Hr	8-Hr	> 84	8-Hr	8-Hr	8-Hr	8-Hr	> 84	8-Hr	8-Hr	8-Hr	8-Hr
Bristol	17	100	97	96	96	22	126	117	115	112	14	131	114	104	99
Chester	17	107	104	102	99	19	117	108	105	100	7	111	96	93	91
Norristown	17	109	106	104	103	20	114	106	106	104	11	132	119	105	100
New Garden											1	87	80	79	77
Northwest (Rox)	8	105	102	98	96	2	104	90	84	82	4	116	102	89	87
Northeast (Airport)	17	102	97	93	93	1	89	74	67	57	5	117	104	89	89
Southwest (Elm)	4	93	90	90	88	12	119	107	103	98	3	107	93	85	83
Frankford (Lab)	1	88	83	79	78	2	101	85	79	73	1	90	77	72	67
Allentown	17	98	95	95	95	18	116	116	105	105	5	112	105	92	91
Freemansburg	5	96	95	93	87	22	121	120	111	106	6	116	106	95	92
Easton	8	99	92	89	89	12	112	110	104	98	2	101	91	83	83
Reading	16	101	96	93	92	14	119	115	104	102	3	104	100	86	84
Kutztown	14	93	92	91	90	12	118	115	105	99	2	99	95	83	80
Scranton	6	97	92	92	88	11	96	96	94	93	1	99	73	73	73
Peckville	5	97	90	89	89	11	100	99	97	96	1	105	84	78	77
Nanticoke	2	92	85	84	81	4	99	90	87	86	1	106	82	78	76
Wilkes-Barre	7	93	90	88	88	9	105	94	94	93	1	98	77	76	73
Harrisburg	22	107	105	98	97	15	108	101	99	95	3	95	92	87	79
Hershey	9	98	97	91	88	15	115	106	105	104	5	101	100	92	88
Perry County	8	97	92	92	91	13	101	98	92	90	2	93	87	80	73
Lancaster	27	107	102	101	101	18	117	107	106	102	5	107	103	91	90
York	18	102	98	96	95	10	110	96	94	94	6	106	99	98	90
Methodist Hill	22	108	106	105	104	20	108	103	99	98	4	97	93	86	85
Williamsport	1	86	80	77	73	0	79	76	76	75	1	97	82	75	65
Tiadaghton (PSU)	3	95	89	87	84	0	82	77	76	76	1	88	79	78	73
Tioga County (PSU)						2	86	85	84	82	2	95	95	78	78
State College (PSU)											2	94	93	80	79
Penn Nursery (PSU)	8	103	93	93	92	4	84	87	85	85	2	97	95	84	75
Altoona	17	100	99	98	97	6	102	94	94	91	2	96	95	83	80
Johnstown	13	105	103	101	98	11	108	94	93	90	5	98	97	89	86
Moshannon (PSU)	16	117	106	103	101	1	88	84	83	81	2	104	100	81	79
Greensburg						16	134	107	100	98	3	93	91	85	76
Murrysville	3	89	88	86	82	5	111	99	88	87	2	95	88	84	76
Kittanning	21	103	103	102	100	18	107	101	101	100	2	98	97	84	79
Brighton Twp	14	106	99	96	91	11	115	110	104	101	1	98	84	83	77
Beaver Falls	10	106	105	98	98	6	120	110	88	87	3	100	89	87	84
Hookstown	11	110	98	96	95	9	115	107	97	95	1	90	83	81	77
Florence	11	99	98	96	94	9	101	100	98	96	2	93	89	84	80
Charleroi	33	116	112	110	108	11	109	99	98	96	3	103	99	94	80
Washington	14	99	95	95	94	11	98	97	96	90	3	105	98	90	80
Holbrook	16	107	105	105	100	20	107	105	101	100	6	107	96	95	87
Pittsburgh (Carneige SC)	6	100	97	92	90	16	121	104	100	99	4	103	103	97	86
Harrison Twp	18	101	101	101	97	14	123	112	99	98	4	99	96	90	88
Lawrenceville	14	107	102	99	95	10	112	99	97	89	3	90	90	88	81
Penn Hills	16	105	104	101	95	11	113	107	95	94	4	97	97	92	85
South Fayette	24	116	108	106	104	16	109	103	100	98	4	99	98	93	86
New Castle	2	94	90	77	77	5	107	8	89	88	0	75	74	73	69
Farrell	24	113	109	109	106	8	95	93	91	91	2	105	86	84	81
Erie	12	115	114	100	98	13	110	102	98	96	2	96	92	79	78

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Fig 2-14 Ozone Concentrations 2000

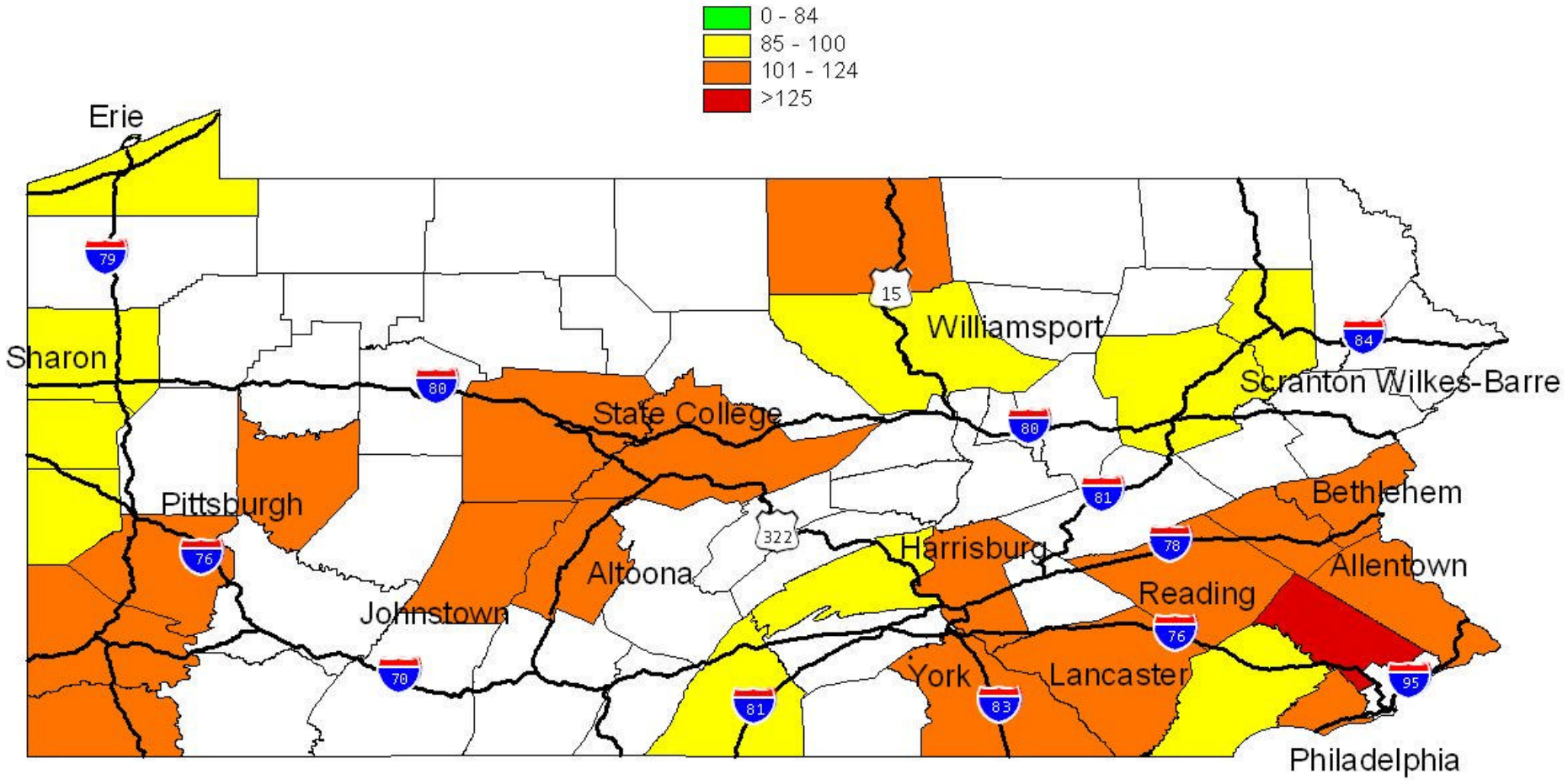

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Fig 2-15 Ozone Concentrations 2000

Fourth Maximum Daily 8-Hour Concentrations (by County)
(Parts per Billion)

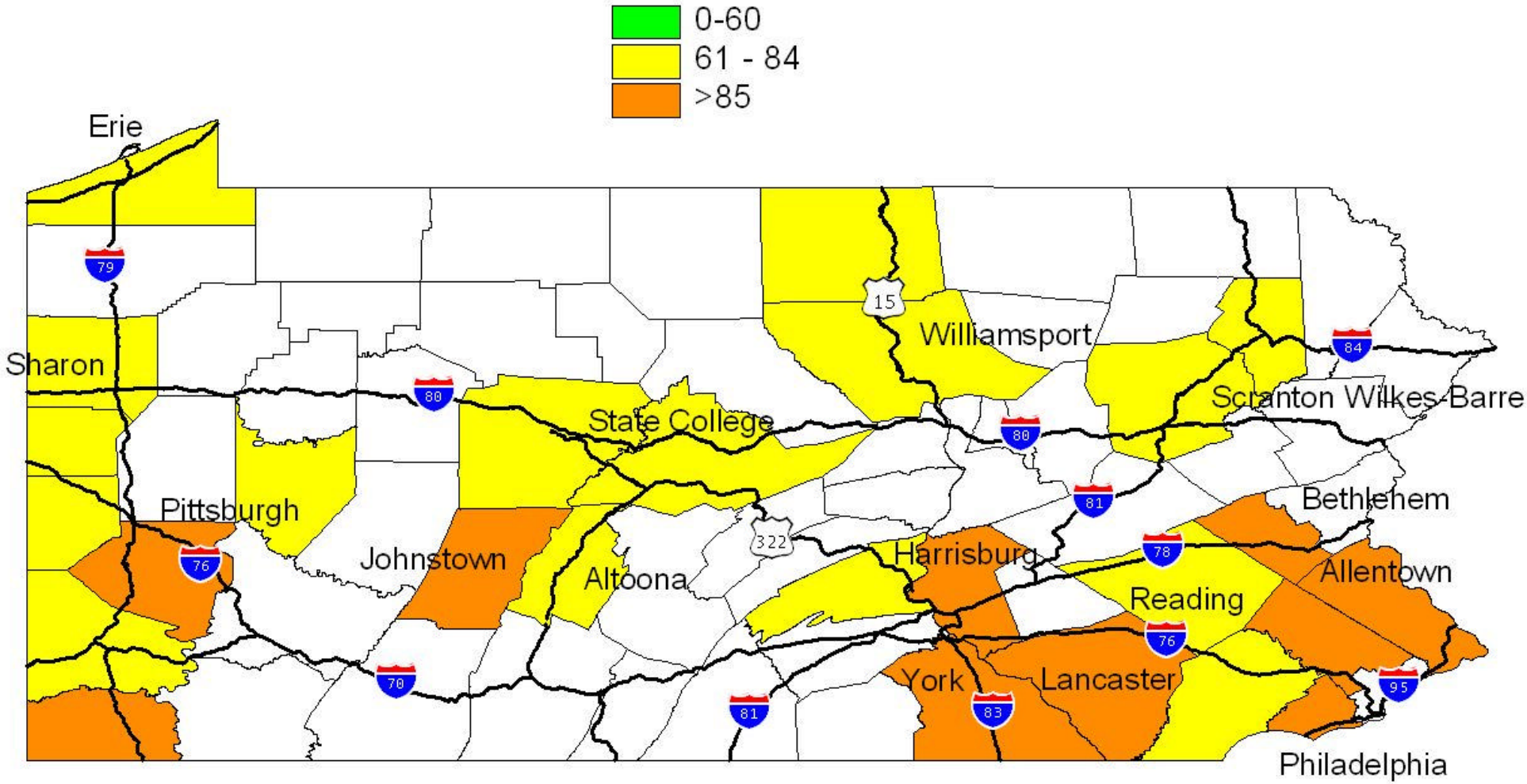

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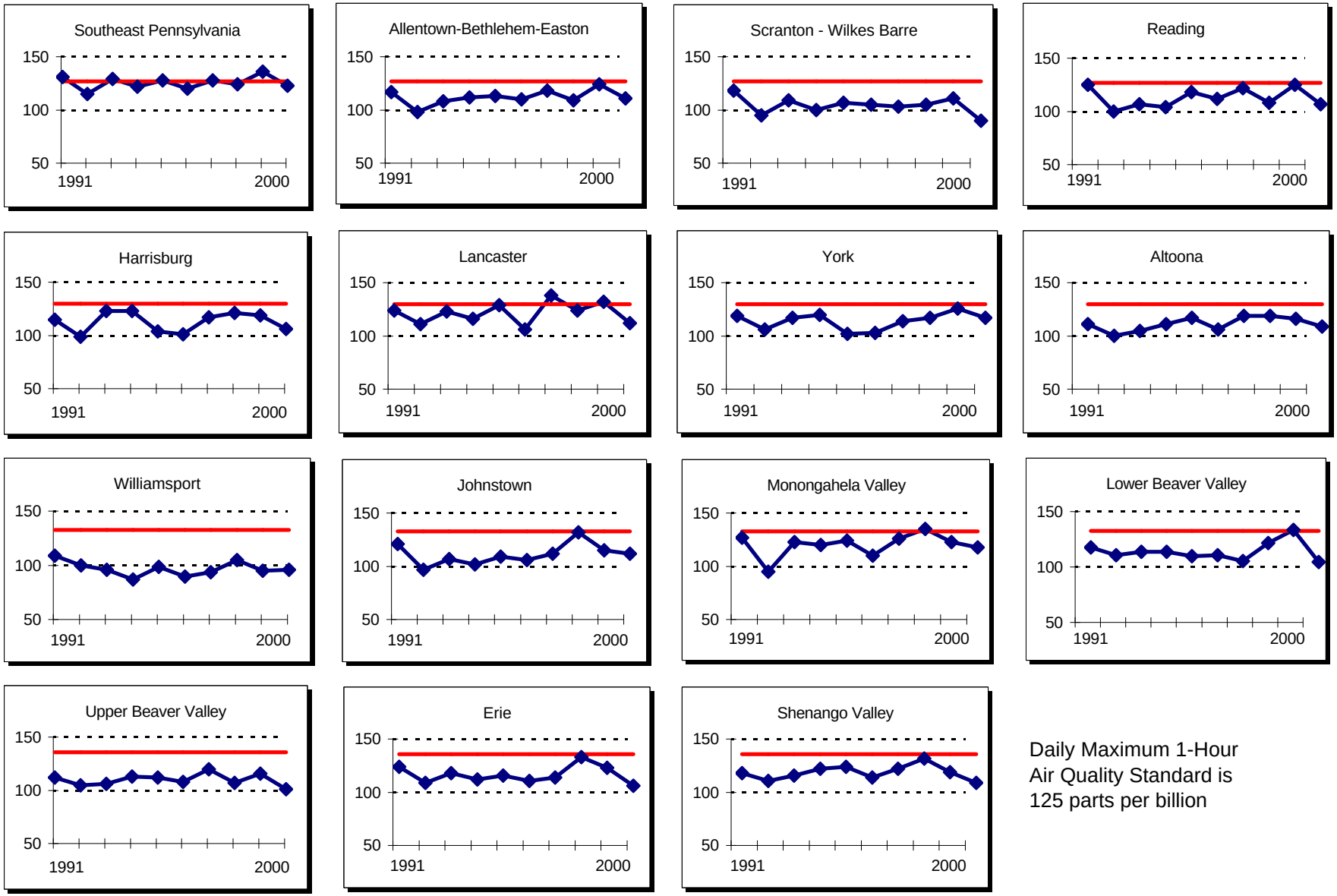
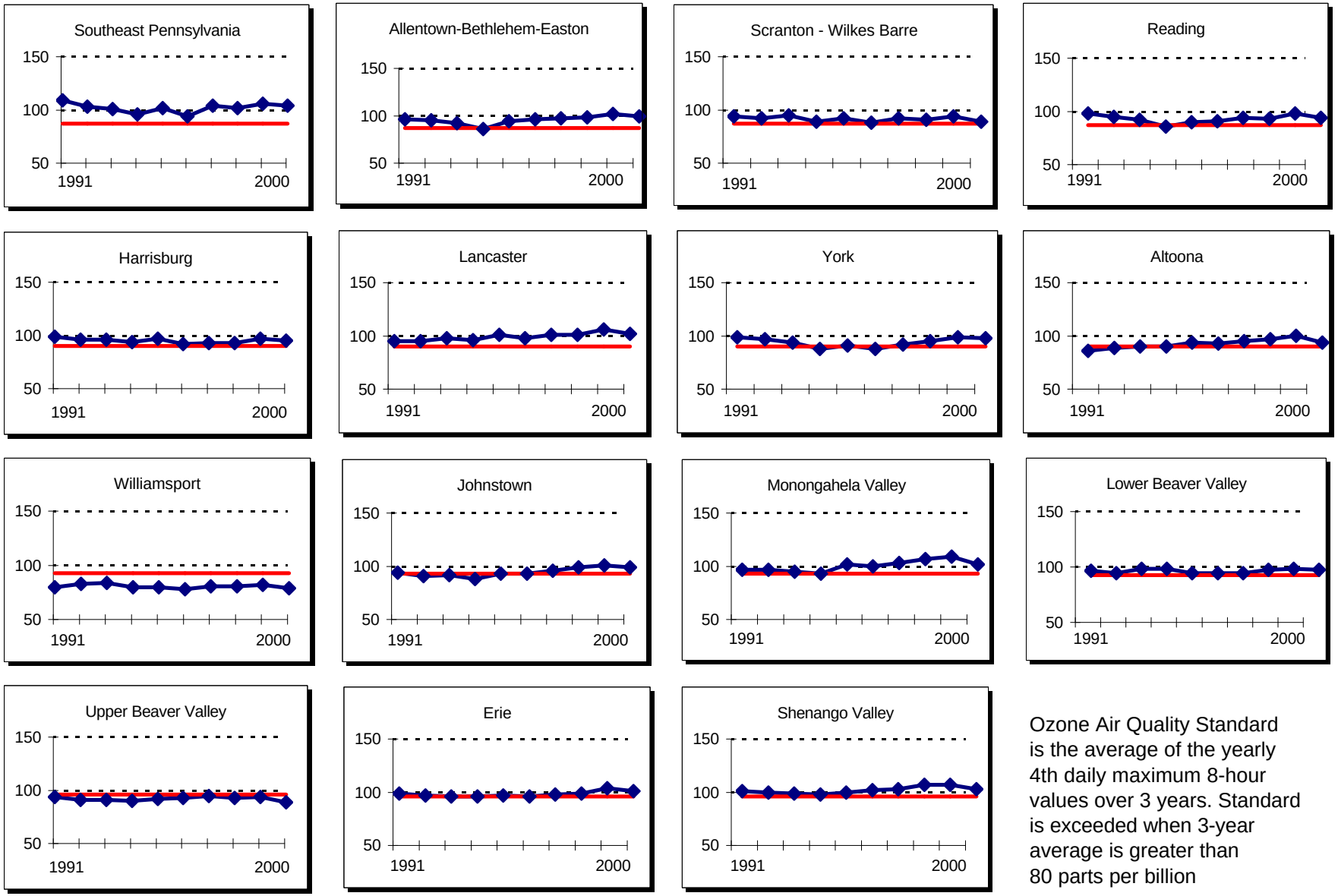
FIGURE 2-16. OZONE TRENDS IN PENNSYLVANIA 1991 to 2000
SECOND DAILY MAXIMUM 1-HOUR (PARTS PER BILLION)



Daily Maximum 1-Hour
Air Quality Standard is
125 parts per billion

FIGURE 2-17. OZONE TRENDS IN PENNSYLVANIA 1991 to 2000
3-YEAR AVERAGE OF 4th DAILY MAXIMUM 8-HOUR MEAN (PARTS PER BILLION)

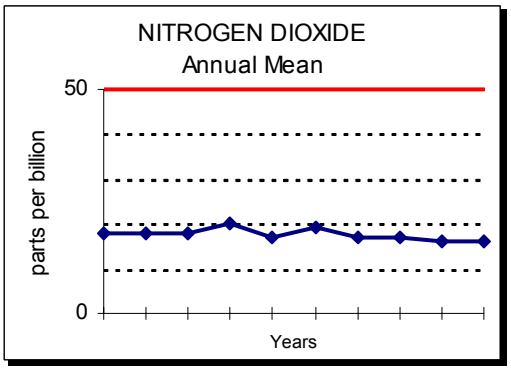


Ozone Air Quality Standard is the average of the yearly 4th daily maximum 8-hour values over 3 years. Standard is exceeded when 3-year average is greater than 80 parts per billion

NITROGEN DIOXIDE / OXIDES OF NITROGEN

Nitrogen dioxide (NO_2) is a highly toxic, reddish brown gas that is formed through the oxidation of nitric oxide (NO) emitted primarily from the combustion of fuels in stationary or transportation sources. It can cause an odorous, brown haze that irritates the eyes and nose, shuts out sunlight and reduces visibility. NO_2 acts as a precursor to acidic precipitation and plays a key role in nitrogen loading of forests and ecosystems. NO_2 has been associated with acute effects in sufferers of respiratory disease.

Oxides of nitrogen (NO_x) are a class of pollutants formed when fuel is burned at a very high temperature (above 1200° F), such as in automobiles and power plants. For air pollution purposes, it is composed primarily of nitric oxide (NO), nitrogen dioxide (NO_2) and other oxides of nitrogen. Although there is no air quality standard for NO_x, it plays a major role in the formation of ground-level ozone in the atmosphere through a complex series of reactions with volatile organic compounds (VOCs). Nitrogen oxides also contribute to deposition of nitrogen in soil and water through acid rain.



The trend in annual mean NO_2 concentrations statewide between 1991 and 2000 is shown in Figure 2-18. The trend shows an 11 percent decrease in the composite statewide mean over the last 10 years. All areas of the state continue to be well below the air quality annual standard of 53 parts per billion (ppb), which is indicated, by the solid line in Figure 2-18. Nitrogen dioxide concentrations have declined by 14 percent over the last 10 years across the state.

Figure 2-19 on the following page, indicates the 10-year trend of nitrogen dioxide annual mean levels from 1991 to 2000 in 12 air basins and the Altoona non-air basin. Nitrogen dioxide levels have remained relatively constant over the last 10 years. The solid line represents the air quality standard for an annual mean of 0.053 parts per million (ppm). All areas are at or below 50 percent of the annual air quality standard.

Nitrogen dioxide levels correlate significantly with ambient temperature levels, although not as high a statistical significance as ozone and sulfur dioxide.

Table A-15 in Appendix A summarizes nitrogen dioxide data for 2000. No site exceeded the annual primary air quality standard for nitrogen dioxide in Pennsylvania in 2000.

Historical trend data for those sites that monitored nitrogen dioxide in 2000 is presented in Table A-16 in Appendix A for 1991 to 2000. Data is shown for those sites with at least 50 percent valid data. The annual arithmetic mean is shown so that a comparison to the air quality standard can be made for the individual sites.

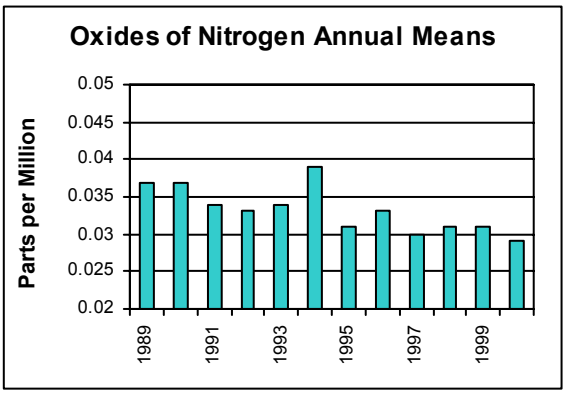
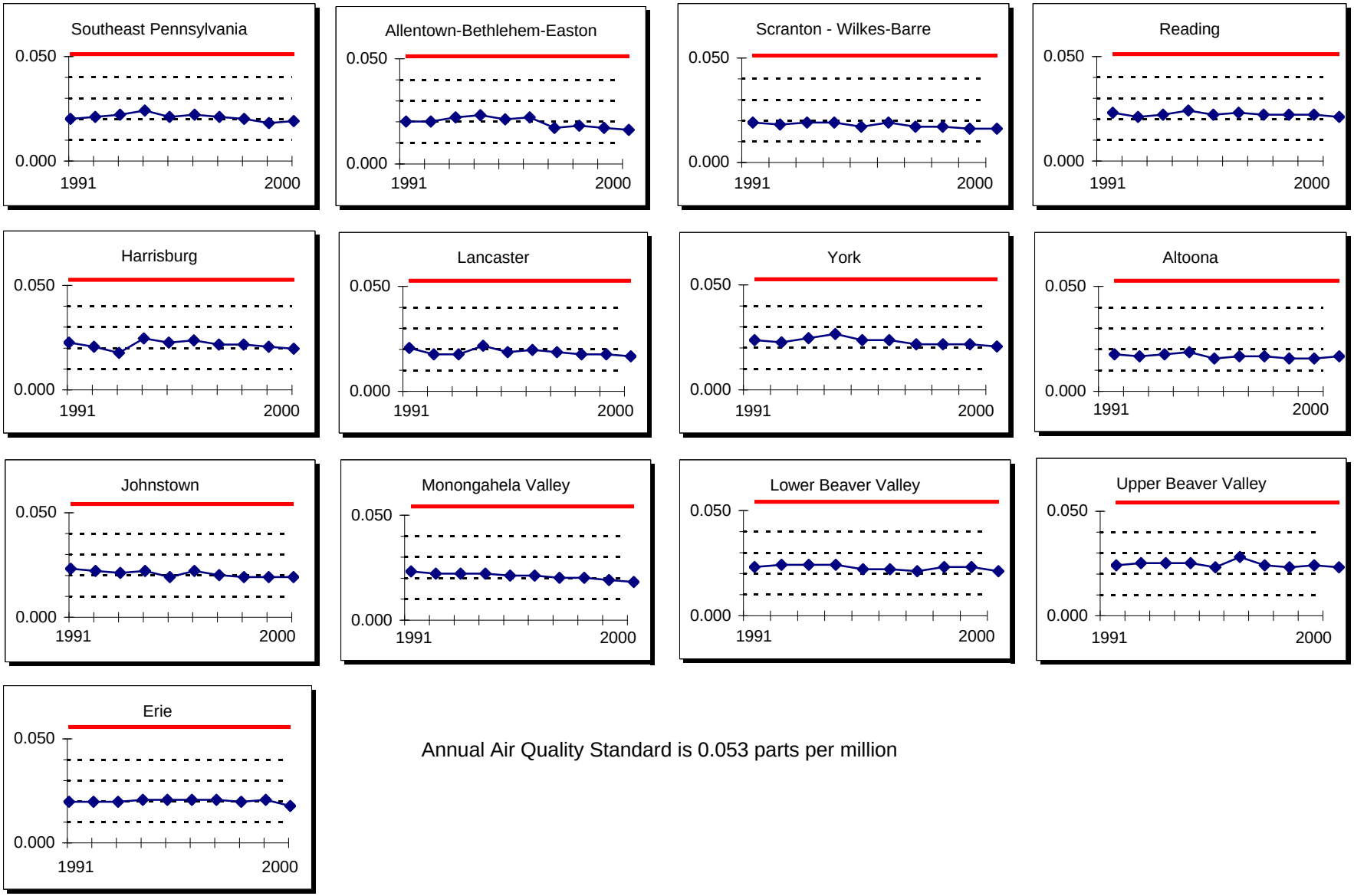


Table A-17 in Appendix A summarizes data for oxides of nitrogen (NO_X) in 2000. Figure 2-20 represents the statewide trend of oxides of nitrogen by using the arithmetic mean from all monitoring sites over the last 10 years with at least 50 percent data capture. Since 1994, average NO_X concentrations have declined by 24 percent.

FIGURE 2-19. NITROGEN DIOXIDE TRENDS IN PENNSYLVANIA 1991 to 2000
ANNUAL ARITHMETIC MEANS (PARTS PER MILLION)



Annual Air Quality Standard is 0.053 parts per million

CARBON MONOXIDE

Carbon monoxide (CO) is a colorless, odorless, poisonous gas that has an affinity for hemoglobin, 210 times that of oxygen. By combining with the hemoglobin in the blood, it inhibits the delivery of oxygen to the body's tissue, thereby causing asphyxia or shortness of breath. The health threat from carbon monoxide is most serious for those who suffer from cardiovascular disease. At much higher levels of exposure, healthy individuals are also affected.

Carbon monoxide is a byproduct of the incomplete burning of fuels. Industrial processes contribute to carbon monoxide pollution levels, but the principal source of carbon monoxide in most large urban areas is vehicle emissions. Peak carbon monoxide concentrations typically occur during the colder months of the year when automotive emissions are greater and nighttime inversion conditions are more frequent.

The downward trend in carbon monoxide levels continues between 1991 and 2000. Figure 2-21 shows that statewide average second maximum 8-hour carbon monoxide concentrations

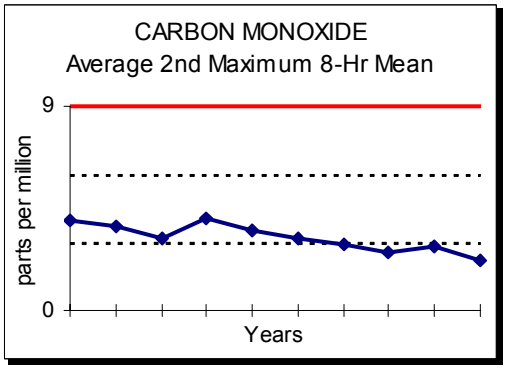


Figure 2-21. Trend in second maximum 8-hour average CO concentrations, 1991-2000.

decreased 42 percent over the 10-year period. The carbon monoxide improvement occurred across all monitoring environments – downtown central business district (CBD), rural and suburban (classified as other). As expected, Figure 2-22 shows that CBD sites recorded higher carbon monoxide concentrations on average than other monitoring site locations. The solid line at 9 parts per million in Figures 2-21 and 2-22 indicates the 8-hour running mean air quality standard.

The carbon monoxide 10-year historical trend for different areas of the state are shown in Figure 2-23 on the following page, using the highest second maximum 8-hour non-overlapping running average. All areas of the state, with the exception of the Erie air basin, have experienced improvements of at least 40 percent in carbon monoxide levels. The solid lines on the graphs represent the 8-hour ambient air quality standard.

Carbon monoxide data for 2000 has been summarized in Table A-18 in Appendix A. There were no exceedances of the 1- or 8-hour air quality standards observed in 2000.

Historical trend data for carbon monoxide is shown in Table A-19 in Appendix A for 1991 to 2000 for all air monitoring sites that operated in 2000 with at least 50 percent valid data. The

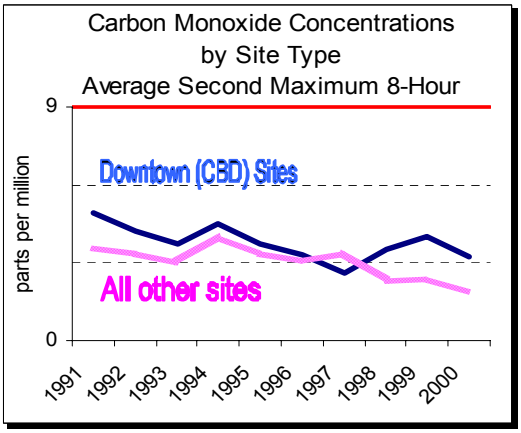
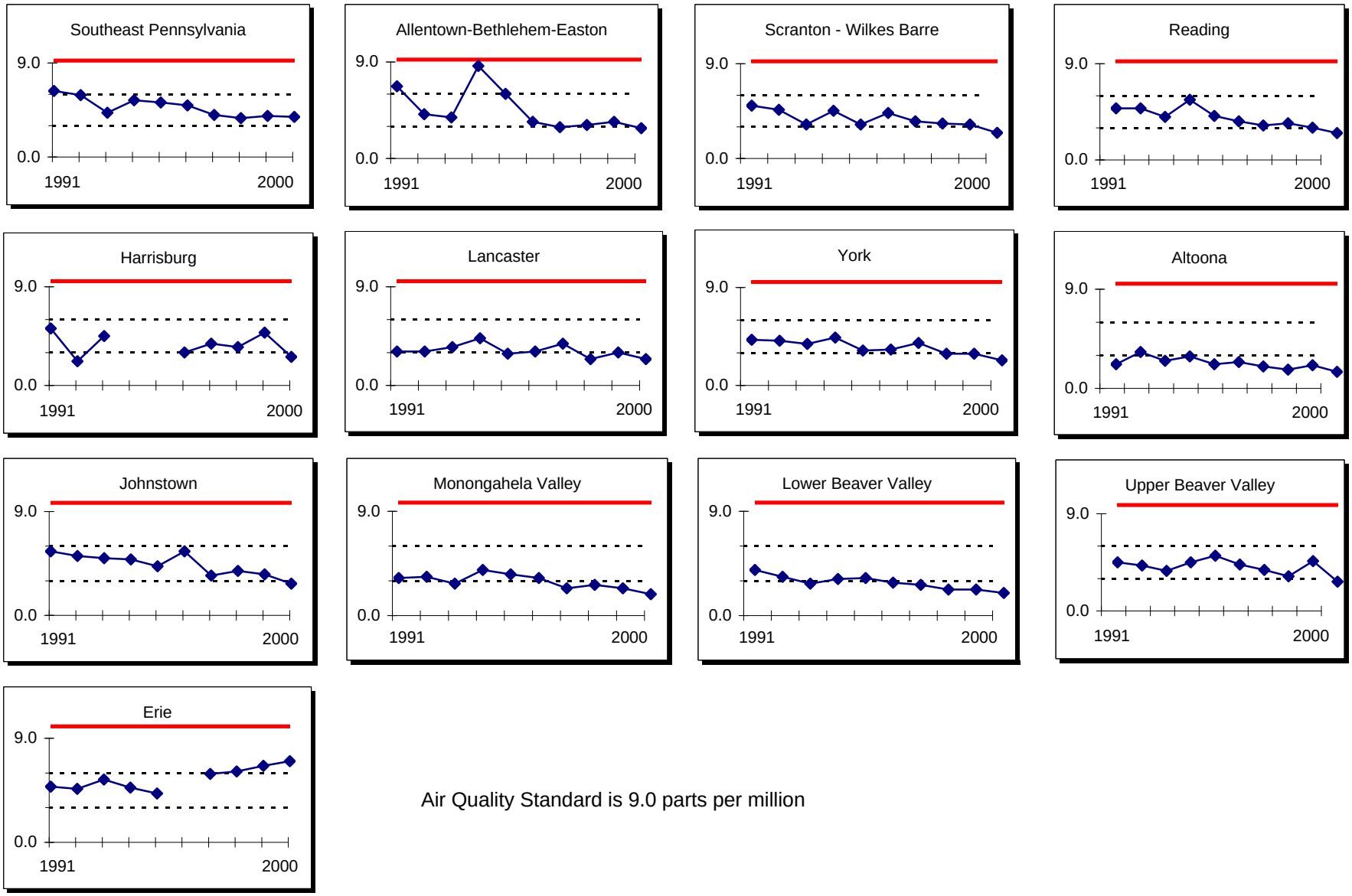


Figure 2-22. Trend in second maximum 8-hour average CO concentrations by location, 1991-2000.

second maximum value is presented to indicate whether the site is attaining the air quality standard. The 1994 levels were abnormally elevated in the Allentown-Bethlehem-Easton air basin due to two significant air stagnation events that occurred during morning rush hours that trapped vehicle emissions.

FIGURE 2-23. CARBON MONOXIDE TRENDS IN PENNSYLVANIA 1991 to 2000
SECOND MAXIMUM 8-HOUR RUNNING MEAN (PARTS PER MILLION)



Air Quality Standard is 9.0 parts per million

AIR TOXICS

For more information on PA's Air Toxics monitoring, visit us through the Department's website at www.dep.state.pa.us (directLINK "air toxics").

Hazardous air pollutants (HAPs), commonly referred to as air toxics, are pollutants known to cause or suspected of causing cancer or other serious human health effects or ecosystem damage. Some air toxics are released from natural sources such as volcanic eruptions and forest fires. Most air toxics originate from literally thousands of mobile sources (cars, trucks, buses) and stationary sources (factories, refineries, power plants). Examples of some of the 188 toxic air pollutants include heavy metals such as mercury and chromium; benzene, found in gasoline; perchloroethylene, emitted from some dry cleaning facilities; and methylene chloride, used as a solvent and paint stripper by a number of industries.

DEP performs ambient air monitoring of several air toxics at a Photochemical Assessment Monitoring Station (PAMS) site in Arendtsville, Adams County. This site studies the transport of ozone precursors from urban to rural areas. As part of the volatile organic compounds (VOCs) routinely measured, there are several VOC species considered to be air toxics, such as benzene, hexane, toluene and styrene. This station was not sited to represent the highest concentrations over a wide area, but it can be useful to study trends in ambient air toxics transported over long distances. The Arendtsville site operates from June to October. Figure 2-24 on the following page displays the average concentration trend of selected air toxics from 1996 until 2000.

Data from the Arendtsville site for 2000 has been summarized in Table A-20 in Appendix A. There are no federal or state air quality standards for the monitored compounds.

DEP performs air toxics monitoring for mercury at a site near Lancaster. This site is designed to comply with EPA's expanded national toxic monitoring program. Data supplied from this monitoring site, and the expanded national network, will assist in rulemaking and model validation. These computer models are to be used by EPA to estimate lifetime chemical exposures and subsequent ill-health risks.

Data from the Lancaster site for 2000 has been summarized in Table A-21 in Appendix A. There are no federal or state air quality standards for mercury.

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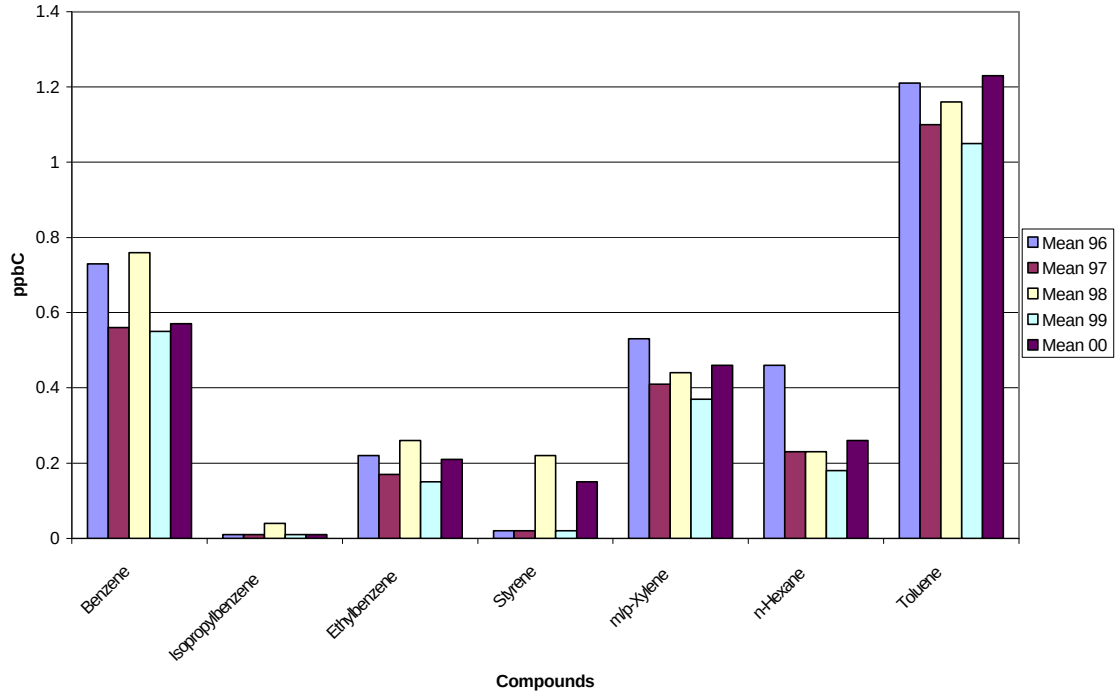
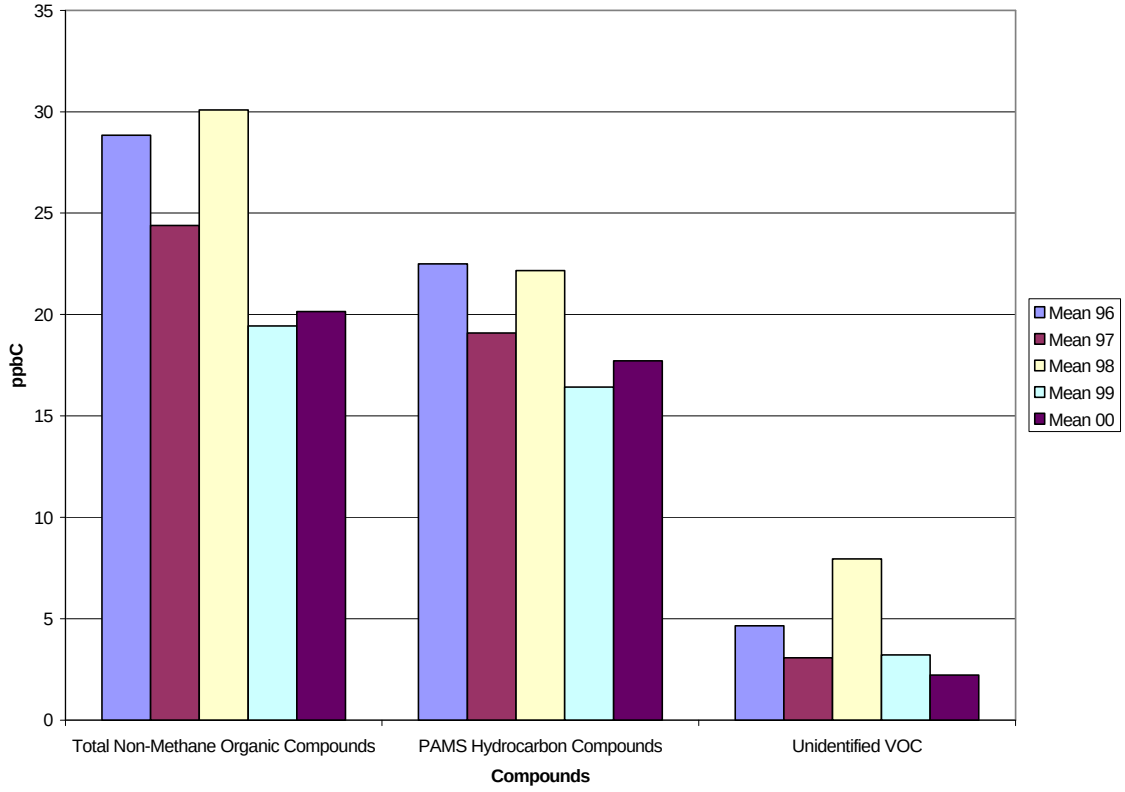
Figure 2-24. Air Toxics Trends at Arendtsville Monitoring Site – 1996 to 2000





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CHAPTER 3
POLLUTANT STANDARDS INDEX
(now the Air Quality Index)

A Pollutant Standards Index (PSI) is published daily for monitoring sites in Pennsylvania. The PSI is a nationally uniform method for reporting air quality that incorporates recorded levels of five common air contaminants: carbon monoxide (CO), sulfur dioxide (SO_2), suspended particulate matter 10 microns or less in size (PM_{10}), ozone and nitrogen dioxide (NO_2).

The PSI uses a segmented linear function to convert concentration levels of these pollutants into normalized numbers based on the National Ambient Air Quality Standards (NAAQS), the various episode levels and the significant harm levels for each pollutant. The actual breakpoints for the PSI values in terms of pollutant concentrations are shown in Table 3-1. The highest index number calculated from the five subindices is published along with the pollutant responsible and a descriptor term of good (0-50), moderate (51-100), unhealthful (101-199), very unhealthful (200-299) or hazardous (300-500).

Table 3-2 on the following page shows the number of days the index was reported in each descriptor category, as well as showing the number of times the pollutant (sub-index) was worse than moderate. Ozone readings were used only during the ozone monitoring season of April 1 to Oct. 31.

On Oct. 4, 1999, EPA revised the PSI to update health messages for carbon monoxide, sulfur dioxide and nitrogen dioxide. It reflects updated health information considered in the EPA proposal to revise the air quality standards for ground-level ozone (smog) and particulate matter. The revised index will ensure consistency between current science on the health effects of all of these air pollutants and the reporting of this air quality and health information to the public. The new index is called the Air Quality Index (AQI).

The AQI adds an additional air quality category just above the level of the standard. Previously, AQI values from 101 - 200 were characterized "unhealthful." The revised index establishes a category from 101 -150 characterized as "unhealthy for sensitive groups" and a category of 151 - 200 as "unhealthy." The AQI includes modifications to the ozone sub-index (an 8-hour sub-index) and a new sub-index for fine particulate matter. These changes to the AQI are based on health effects information from the review of the ozone and particulate matter standards. The AQI has been adopted by DEP and is published on DEP's site with hourly updates.

TABLE 3-1. BREAKPOINTS FOR THE POLLUTANT STANDARDS INDEX (PSI)

Breakpoints	PSI Value	PM_{10} ($\mu g/m^3$) 24-Hour	SO_2 (ppm) 24-Hour	CO (ppm) 8-Hour	Ozone (ppm) 1-Hour	NO_2 (ppm) 1-Hour
50% of Primary Short-Term NAAQS	50	50[a]	0.03[a]	4.5	0.06	---[b]
Primary Short-Term NAAQS	100	150	0.14	9.0	0.12	---[b]
Alert Level	200	350	0.30	15.0	0.20	0.6
Warning Level	300	420	0.60	30.0	0.40	1.2
Emergency Level	400	500	0.80	40.0	0.50	1.6
Significant Harm Level	500	600	1.00	50.0	0.60	2.0

[a] Annual primary NAAQS

[b] No index value reported at concentration levels below those specified by the Alert Level Criteria

TABLE 3-2. POLLUTANT STANDARDS INDEX SUMMARY BY CATEGORY

JANUARY 2000 to DECEMBER 2000

	Number of Days Index Reported in Category					No. Days	Number of days Subindex Worse than Moderate				
County	Good	Moderate	Unhealthful	Very Unhealthful	Hazardous	Index Reported	PM-10	Sulfur Dioxide	Ozone	Carbon Monoxide	Nitrogen Dioxide
Bucks	286	77	2	0	0	365	0	0	2	0	0
Delaware	301	63	1	0	0	365	0	0	1	0	0
Montgomery	275	85	2	0	0	362	0	0	2	0	0
Chester (2)	94	29	0	0	0	123	0	0	0	0	0
Philadelphia	292	72	2	0	0	366	1	0	1	0	0
Lehigh	304	61	1	0	0	366	0	0	1	0	0
Northampton	299	66	1	0	0	366	0	0	1	0	0
Lackawanna	311	55	0	0	0	366	0	0	0	0	0
Luzerne	311	55	0	0	0	366	0	0	0	0	0
Berks	307	59	0	0	0	366	0	0	0	0	0
Dauphin	305	61	0	0	0	366	0	0	0	0	0
Lancaster	298	68	0	0	0	366	0	0	0	0	0
York	291	75	0	0	0	366	0	0	0	0	0
Perry	314	51	0	0	0	365	0	0	0	0	0
Blair	315	51	0	0	0	366	0	0	0	0	0
Lycoming	332	33	0	0	0	365	0	0	0	0	0
Centre (2)	156	58	0	0	0	214	0	0	0	0	0
Cambria	296	70	0	0	0	366	0	0	0	0	0
Washington	264	102	0	0	0	366	0	0	0	0	0
Beaver	253	113	0	0	0	366	0	0	0	0	0
Westmoreland	299	67	0	0	0	366	0	0	0	0	0
Allegheny (1)	239	127	0	0	0	366	0	0	0	0	0
Armstrong (2)	164	50	0	0	0	214	0	0	0	0	0
Lawrence	335	31	0	0	0	366	0	0	0	0	0
Mercer	302	63	0	0	0	365	0	0	0	0	0
Warren (3)	331	34	0	0	0	365	0	0	0	0	0
Erie	314	52	0	0	0	366	0	0	0	0	0

(1) Includes all monitoring sites (DEP and local agency)
(2) Ozone monitoring only - operated from April 1-October 31
(3) Sulfur dioxide monitoring only

CHAPTER 4
PRECISION AND ACCURACY

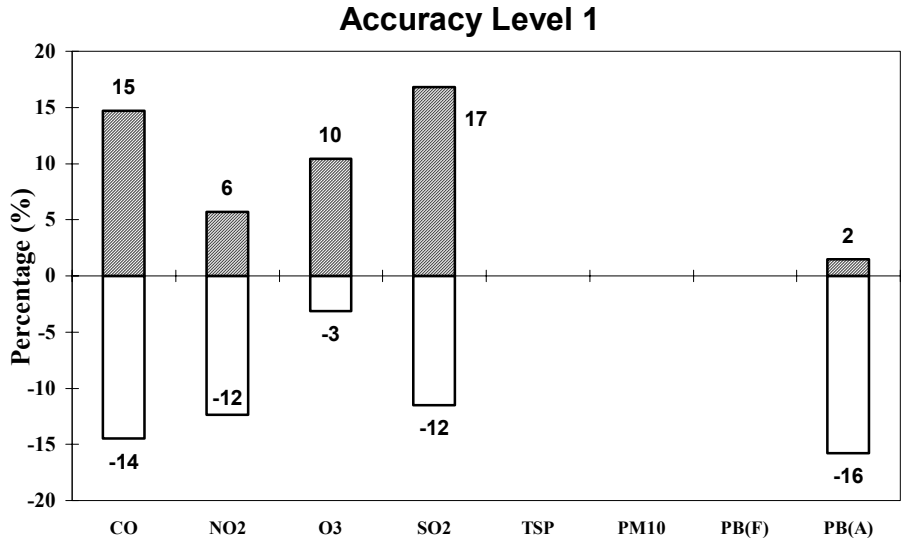
DEP conducts regularly scheduled performance audits and precision checks on all air monitoring equipment. Performance audits are conducted for the purpose of assessing data accuracy on carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), total suspended particulate (TSP), suspended particulate matter 10 microns or less in size (PM_{10}) and lead (Pb) monitoring equipment. Precision checks are performed biweekly on CO, SO_2, NO_2 and O_3 and every sampling day (once every sixth day) for selected TSP, PM_{10} and lead.

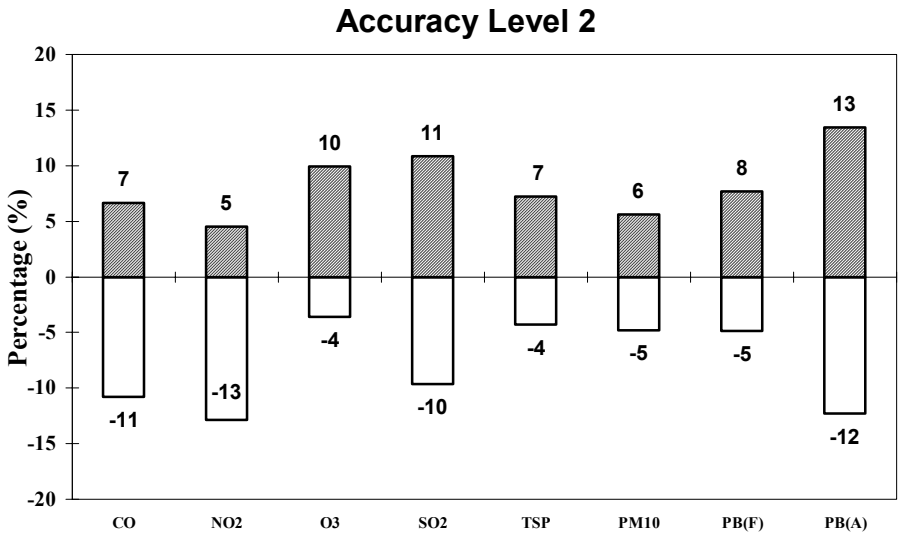
Data obtained from the performance audits and precision checks are converted to 95 percent upper and lower probability limits using standard statistical methods. For precision, only one probability level is calculated for each parameter. However, accuracy is determined at up to three points. Acceptable 95 percent probability limits for accuracy are within 20 percent for continuous gaseous parameters and within15 percent for discrete particulate parameters (TSP, PM_{10} and lead). Acceptable 95 percent probability limits for precision are within15 percent for all parameters.

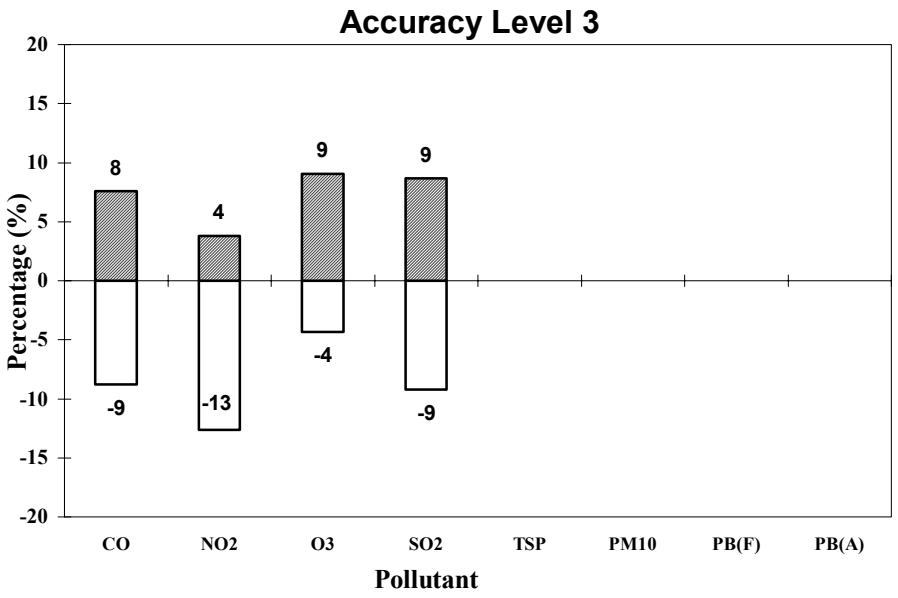
Figure 4-1 on the following page summarizes the 95 percent probability limits from all four quarterly reporting periods within the calendar year. The values presented were calculated from weighted arithmetic averages for each quarter's probability limits. Two different types of lead checks are performed: flow, which is indicated by PB(F) and analytical, which is indicated by PB(A) on the legends of each graph.

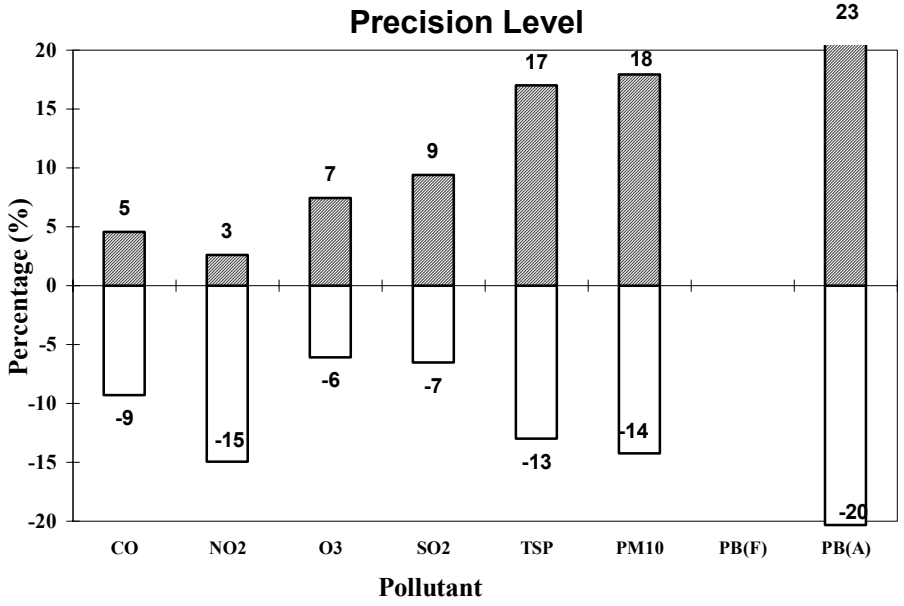
FIGURE 4-1 2000 ANNUAL ACCURACY AND PRECISION PROBABILITY LIMITS

95% LOWER/UPPER LIMITS









APPENDIX A

DATA TABLES

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

TOTAL SUSPENDED PARTICULATE MATTER SUMMARY

(Units: micrograms per cubic meter)

YEAR: 2000

Site Name	PA Site Code	Geometric Annual Mean	Geometric Standard Deviation	Arithmetic Annual Mean	Number Obs.	Daily Averages 1st Max 24HR Mean	1st Max Date MM/DD	2nd Max 24HR Mean	2nd Max Date MM/DD	3nd Max 24HR Mean	3nd Max Date MM/DD	Number Obs. >260	Number Obs. >150	Minimum 24 Hour Mean	Number of 24 Hour Values In Ranges 0 to 65	66 to 130	131 to 195	196 to 260	261 to 325	326 to 390	391 to 455	> 455
Southeast Pennsylvania Air Basin																						
Chester	P11	39	1.47	42	56	101	04/18	79	05/06	79	05/12	0	0	13	49	7	0	0	0	0	0	0
DEP Region 2 Non-Air Basin																						
Palmerton	205	28	1.74	32	53	125	02/24	98	05/06	61	05/18	0	0	5	51	2	0	0	0	0	0	0
Reading Air Basin																						
Laureldale	R10	44	1.66	51	58	170	03/07	157	05/18	140	04/06	0	2	14	48	7	3	0	0	0	0	0
DEP Region 3 Non-Air Basin																						
Lyons	301	39	1.69	45	57	119	05/18	116	03/07	110	05/06	0	0	11	48	9	0	0	0	0	0	0
Lyons	370	33	1.61	37	59	114	05/06	82	11/08	75	05/12	0	0	10	54	5	0	0	0	0	0	0
Johnstown Air Basin																						
East Conemaugh	J08	42	1.64	47	61	153	05/18	116	03/07	112	05/12	0	1	14	50	10	1	0	0	0	0	0
Monongahela Valley Air Basin																						
Monessen	M16	42	1.58	46	60	90	01/25	85	11/02	83	11/08	0	0	12	49	11	0	0	0	0	0	0
Lower Beaver Valley Air Basin																						
Vanport	B05	35	1.66	39	58	82	05/12	79	03/07	72	05/18	0	0	10	52	6	0	0	0	0	0	0

**** No Long-Term or Short-Term Air Quality Standards *****

TOTAL SUSPENDED PARTICULATE MATTER
HISTORICAL TREND
ANNUAL GEOMETRIC MEANS
(Units: micrograms/cubic meter)

STATION & SITE CODE		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Southeast Pennsylvania Air Basin											
CHESTER	(P11)	40	34	36	44	43	43	55	40	35	39
DEP Region 2 Non-Air Basin											
PALMERTON	(205)	37	32	29	34	29	32	31	29	27	28
Reading Air Basin											
LAURELDALE	(R10)	48	41	41	48	50	51	53	51	44	44
DEP Region 3 Non-Air Basin											
LYONS	(301)	32	28	27	37	36	34	32	30	**	39
LYONS	(370)	**	29	28	35	31	29	30	30	28	33
Johnstown Air Basin											
EAST CONEMAUGH	(J08	**	**	**	**	**	37	40	41	42	42
Monongahela Valley Air Basin											
MONESSEN	(M16)	**	**	**	**	**	**	44	44	44	42
Lower Beaver Valley Air Basin											
VANPORT	(B05)	40	31	32	50	**	35	35	33	34	35

** Indicates less than 30 samples collected during year

COMMWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

SULFATE SUSPENDED PARTICULATE MATTER SUMMARY

(UNITS: micrograms per cubic meter)

YEAR: 2000

Site Name	PA Site Code	Annual Mean	Number Obs.	Number 30 Day > 10	1st Max 30 Day Mean	1st Max 30 Day MM	2nd Max 30 Day Mean	2nd Max 30 Day MM	Number 24 Hour > 30	1st Max 24 Hour Mean	1st Max 24 Hour MM/DD	2nd Max 24 Hour Mean	2nd Max 24 Hour MM/DD
DEP Region 2 Non-Air Basin													
Palmerton	205	8.1	53	2	11.3	5	10.2	1	0	16.4	01/01	15.6	02/24
Reading Air Basin													
Laureldale	R10	8.5	58	3	11.1	6	11.0	1	0	23.7	01/01	16.4	07/17
Johnstown Air Basin													
East Conemaugh	J08	10.2	61	6	12.7	10	12.5	5	0	19.9	06/11	17.6	09/09
Monongahela Valley Air Basin													
Monessen	M16	10.5	60	6	13.6	10	12.5	8	0	22.4	11/02	19.1	11/08

**** No Long-Term or Short-Term AIr Quality Standards ****

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

LEAD SUSPENDED PARTICULATE MATTER SUMMARY

(Units: micrograms per cubic meter)

YEAR: 2000

Site Name	PA Site Code	1st Quarter Arithmetic Mean	1st Quarter Num. Obs.	2nd Quarter Arithmetic Mean	2nd Quarter Num. Obs.	3rd Quarter Arithmetic Mean	3rd Quarter Num. Obs.	4th Quarter Arithmetic Mean	4th Quarter Num. Obs.	Number Quarters > 1.5
Southeast Pennsylvania Air Basin										
Chester	P11	***	**	0.04	14	0.04	14	0.04	14	0
DEP Region 2 Non-Air Basin										
Palmerton	205	0.11	15	0.05	12	0.05	11	0.07	15	0
Reading Air Basin										
Laureldale	R10	0.21	12	0.25	14	0.02	14	0.33	15	0
DEP Region 3 Non-Air Basin										
Lyons	301	0.10	14	0.13	13	0.14	15	0.22	15	0
Lyons	370	0.10	15	0.12	14	0.14	14	0.29	15	0
Johnstown Air Basin										
East Conemaugh	J08	0.05	16	0.04	15	0.04	15	0.04	15	0
Monongahela Valley Air Basin										
Monessen	M16	***	**	0.04	15	0.04	15	0.04	15	0
Lower Beaver Valley Air Basin										
Vanport	B05	0.07	15	0.06	14	0.04	14	0.05	15	0

***** Primary Quarterly Standard = 1.5 micrograms per cubic meter *****

LEAD PARTICULATE MATTER HISTORICAL TREND
MAXIMUM QUARTERLY MEANS
(Units: micrograms/cubic meter)

STATION & SITE CODE		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Southeast Pennsylvania Air Basin											
CHESTER	(P11)	**	**	**	0.05	0.05	0.04	0.05	0.04	0.05	0.04
DEP Region 2 Non-Air Basin											
PALMERTON	(205)	0.46	0.28	0.18	0.13	0.07	0.08	0.09	0.11	0.07	0.11
Reading Air Basin											
LAURELDALE	(R10)	0.60	0.43	0.59	0.56	0.29	0.27	0.30	0.31	0.29	0.33
DEP Region 3 Non-Air Basin											
LYONS	(301)	0.33	0.17	0.14	0.12	0.17	0.17	0.29	0.22	**	0.22
LYONS	(370)	**	0.21	0.19	0.18	0.20	0.20	0.16	0.28	0.64	0.29
Johnstown Air Basin											
EAST CONEMAUGH	(J08)	**	**	**	**	**	0.04	0.04	0.04	0.09	0.05
Monongahela Valley Air Basin											
MONESSEN	(M16)	**	**	**	**	**	0.05	0.05	0.04	0.04	0.04
Lower Beaver Valley Air Basin											
VANPORT	(B05)	0.19	0.15	0.13	0.17	0.15	0.06	0.08	0.06	0.08	0.07

** Indicates less than 30 samples collected during year

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

NITRATE SUSPENDED PARTICULATE MATTER SUMMARY

(Units: micrograms per cubic meter)

YEAR: 2000

Site Name	PA Site Code	Arithmetic Annual Mean	Num. Obs.	1st Max 24 Hour Mean	1st Max 24 Hour MM/DD	2nd Max 24 Hour Mean	2nd Max 24 Hour MM/DD	3nd Max 24 Hour Mean	3nd Max 24 Hour MM/DD	Minimum 24 Hour Mean
DEP Region 2 Non-Air Basin										
Palmerton	205	4.06	53	13.79	02/24	12.15	03/25	9.69	05/18	0.85
Reading Air Basin										
Laureldale	R10	4.69	58	11.64	01/01	9.55	03/25	8.92	12/08	1.04
Johnstown Air Basin										
East Conemaugh	J08	3.32	61	7.28	02/06	6.33	01/25	6.29	01/31	1.36
Monongahela Valley Air Basin										
Monessen	M16	3.92	60	9.09	01/25	8.32	02/06	6.33	01/31	1.41

***** No Long-Term or Short-Term Air Quality Standards *****

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

PM-10 SUSPENDED PARTICULATE MATTER SUMMARY

(Units: micrograms per cubic meter / standard and local conditions)

YEAR: 2000

				Daily Means										Number of 24 Hour Values In Ranges								
	PA	Arithmetic		1st Max		2nd Max		3rd Max		4th Max		Number	Minimum	0	26	51	76	101	126	151	176	
	Site	Annual	Number	24HR	Date	24HR	Date	24HR	Date	24HR	Date	Obs.	24 Hour	to	to	to	to	to	to	to	to	>
Site Name	Code	Mean	Obs.	Mean	MM/DD	Mean	MM/DD	Mean	MM/DD	Mean	MM/DD	>150	Mean	25	50	75	100	125	150	175	200	200
Southeast Pennsylvania Air Basin																						
Bristol (TEOM)	P01	18	349	60	05/08	56	06/10	54	05/07	53	05/09	0	3	265	79	5	0	0	0	0	0	0
Chester (TEOM)	P11	22	362	76	04/18	75	03/21	69	05/10	62	03/20	0	4	249	97	15	1	0	0	0	0	0
Norristown (TEOM)	P21	19	357	61	05/08	52	06/02	52	06/10	49	05/09	0	3	259	95	3	0	0	0	0	0	0
Allentown-Bethlehem-Easton Air Basin																						
Allentown (TEOM)	A19	29	345	103	06/10	100	05/09	95	06/02	94	05/08	0	3	160	132	40	11	2	0	0	0	0
Freemansburg (TEOM)	A25	35	364	112	02/24	104	05/09	104	06/10	98	06/02	0	4	131	159	56	15	3	0	0	0	0
Scranton-Wilkes-Barre Air Basin																						
Scranton (TEOM)	S01	16	359	51	02/24	51	06/10	47	09/10	41	06/01	0	3	288	69	2	0	0	0	0	0	0
Wilkes-Barre (TEOM)	S28	18	362	60	02/24	53	06/10	50	03/08	49	09/10	0	2	283	77	2	0	0	0	0	0	0
Reading Air Basin																						
Reading (TEOM)	R01	20	364	76	02/10	54	02/25	53	02/24	52	06/10	0	5	261	99	3	1	0	0	0	0	0
Reading	R15	27	60	84	02/24	66	01/01	59	11/08	50	10/27	0	8	36	21	2	1	0	0	0	0	0
Harrisburg Air Basin																						
Harrisburg (TEOM)	H11	21	359	72	05/07	70	04/30	66	05/06	65	02/10	0	5	246	101	12	0	0	0	0	0	0
Lancaster Air Basin																						
Lancaster (TEOM)	L01	21	364	61	11/08	61	02/10	56	10/27	55	05/08	0	3	262	96	6	0	0	0	0	0	0
York Air Basin																						
York (TEOM)	Y01	22	359	65	10/03	57	02/24	56	06/02	55	05/08	0	5	226	123	10	0	0	0	0	0	0

**** Primary and Secondary Air Quality Standards ****
**** Annual Mean = 50 micrograms per cubic meter ****
**** 24 Hour Mean = 150 micrograms per cubic meter ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

PM-10 SUSPENDED PARTICULATE MATTER SUMMARY

(Units: micrograms per cubic meter / standard and local conditions)

YEAR: 2000

				Daily Means										Number of 24 Hour Values In Ranges								
	PA	Arithmetic		1st Max		2nd Max		3rd Max		4th Max		Number	Minimum	0	26	51	76	101	126	151	176	
	Site	Annual	Number	24HR	Date	24HR	Date	24HR	Date	24HR	Date	Obs.	24 Hour	to	to	to	to	to	to	to	to	>
Site Name	Code	Mean	Obs.	Mean	MM/DD	Mean	MM/DD	Mean	MM/DD	Mean	MM/DD	>150	Mean	25	50	75	100	125	150	175	200	200
Altoona Non-Air Basin																						
Altoona (TEOM)	308	20	353	59	03/08	55	06/02	55	05/08	54	03/07	0	3	252	90	11	0	0	0	0	0	0
Williamsport Non-Air Basin																						
Williamsport	407	26	52	69	02/24	52	10/27	47	05/06	46	06/11	0	11	31	19	2	0	0	0	0	0	0
Johnstown Air Basin																						
Johnstown (TEOM)	J01	21	350	67	03/08	60	02/10	54	05/18	53	05/12	0	5	227	115	8	0	0	0	0	0	0
Monongahela Valley Air Basin																						
Charleroi (TEOM)	M01	21	363	63	06/09	57	06/10	55	07/09	51	05/18	0	2	232	127	4	0	0	0	0	0	0
Monessen	M16	31	56	62	11/08	57	11/02	54	01/25	54	10/27	0	8	20	31	5	0	0	0	0	0	0
Lower Beaver Valley Air Basin																						
Beaver Falls (TEOM)	B11	22	333	70	03/08	66	06/10	55	06/09	53	03/09	0	4	195	127	11	0	0	0	0	0	0
DEP Region 5 Non-Air Basin																						
Florence	504	22	56	54	08/22	50	05/12	44	06/11	42	05/06	0	7	40	15	1	0	0	0	0	0	0
Greensburg (TEOM)	513	19	331	48	06/02	48	07/13	48	06/10	47	11/08	0	3	221	110	0	0	0	0	0	0	0
Upper Beaver Valley Air Basin																						
New Castle (TEOM)	B21	28	346	91	03/09	81	03/08	75	03/07	74	08/02	0	6	154	152	38	2	0	0	0	0	0
Erie Air Basin																						
Erie (TEOM)	E10	18	353	90	04/16	51	04/15	48	03/08	47	06/09	0	4	271	80	1	1	0	0	0	0	0

**** Primary and Secondary Air Quality Standards ****
**** Annual Mean = 50 micrograms per cubic meter ****
**** 24 Hour Mean = 150 micrograms per cubic meter ****

PM-10 PARTICULATE MATTER HISTORICAL TREND
(Units: micrograms per cubic meter)

STATION & SITE CODE		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Southeast Pennsylvania Air Basin												
BRISTOL (TEOM)	(P01)	**	**	**	**	21	21	20	23	17	18	Annual Mean
		**	**	**	**	75	58	61	60	59	56	2nd Max 24-Hour Mean
CHESTER (TEOM)	(P11)	**	**	**	**	25	24	24	25	21	22	Annual Mean
		**	**	**	**	105	69	76	72	57	75	2nd Max 24-Hour Mean
NORRISTOWN (TEOM)	(P21)	**	**	**	**	**	22	21	21	18	19	Annual Mean
		**	**	**	**	**	64	79	62	50	52	2nd Max 24-Hour Mean
Allentown-Bethlehem-Easton Air Basin												
ALLENTOWN (TEOM)	(A19)	**	**	**	**	**	20	19	17	11	29	Annual Mean
		**	**	**	**	**	54	59	50	38	100	2nd Max 24-Hour Mean
FREEMANSBURG (TEOM)	(A25)	**	**	**	**	**	**	**	26	38	35	Annual Mean
		**	**	**	**	**	**	**	65	101	104	2nd Max 24-Hour Mean
Scranton-Wilkes Barre Air Basin												
SCRANTON (TEOM)	(S01)	**	**	**	**	23	21	20	21	12	16	Annual Mean
		**	**	**	**	76	61	69	60	51	51	2nd Max 24-Hour Mean
WILKES-BARRE (TEOM)	(S28)	**	**	**	**	21	21	21	24	**	18	Annual Mean
		**	**	**	**	60	60	67	67	**	53	2nd Max 24-Hour Mean
Reading Air Basin												
READING (TEOM)	(R01)	**	**	**	**	**	22	21	21	21	20	Annual Mean
		**	**	**	**	**	52	61	57	54	54	2nd Max 24-Hour Mean
READING	(R15)	**	**	**	**	**	29	29	27	29	27	Annual Mean
		**	**	**	**	**	66	67	63	51	66	2nd Max 24-Hour Mean
Harrisburg Air Basin												
HARRISBURG (TEOM)	(H11)	**	**	25	24	22	23	22	23	21	21	Annual Mean
		**	**	64	72	67	63	67	66	54	70	2nd Max 24-Hour Mean
Lancaster Air Basin												
LANCASTER (TEOM)	(L01)	**	**	**	**	27	24	23	24	24	21	Annual Mean
		**	**	**	**	72	69	76	63	65	61	2nd Max 24-Hour Mean
York Air Basin												
YORK (TEOM)	(Y01)	**	**	**	**	**	**	23	26	23	22	Annual Mean
		**	**	**	**	**	**	75	63	62	57	2nd Max 24-Hour Mean

** Indicates less than 30 discrete samples collected or less than 50 percent continuous data (TEOM)

PM-10 PARTICULATE MATTER HISTORICAL TREND
(Units: micrograms per cubic meter)

STATION & SITE CODE		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Altoona Non-Air Basin												
ALTOONA (TEOM)	(308)	**	**	**	**	25	23	21	22	19	20	Annual Mean
		**	**	**	**	70	60	67	59	64	55	2nd Max 24-Hour Mean
Williamsport Non-Air Basin												
WILLIAMSPORT	(407)	**	**	**	**	**	**	**	26	33	26	Annual Mean
		**	**	**	**	**	**	**	57	61	52	2nd Max 24-Hour Mean
Johnstown Air Basin												
JOHNSTOWN (TEOM)	(J01)	**	**	**	**	**	28	24	26	24	21	Annual Mean
		**	**	**	**	**	63	67	66	65	60	2nd Max 24-Hour Mean
Monongahela Valley Air Basin												
CHARLEROI (TEOM)	(M01)	**	**	**	**	26	26	24	26	27	21	Annual Mean
		**	**	**	**	74	72	60	70	102	57	2nd Max 24-Hour Mean
MONESSEN	(M16)	**	**	**	**	**	**	32	34	38	31	Annual Mean
		**	**	**	**	**	**	62	63	71	57	2nd Max 24-Hour Mean
Lower Beaver Valley Air Basin												
BEAVER FALLS (TEOM)	(B11)	**	**	**	**	**	26	27	28	**	22	Annual Mean
		**	**	**	**	**	76	87	87	**	66	2nd Max 24-Hour Mean
DEP Region 5 Non-Air Basin												
FLORENCE	(504)	**	**	**	**	**	**	**	**	27	22	Annual Mean
		**	**	**	**	**	**	**	**	60	50	2nd Max 24-Hour Mean
GREENSBURG (TEOM)	(513)	**	**	**	**	**	**	**	22	20	19	Annual Mean
		**	**	**	**	**	**	**	71	69	48	2nd Max 24-Hour Mean
Upper Beaver Valley Air Basin												
NEW CASTLE (TEOM)	(B21)	**	**	**	**	**	33	33	33	28	28	Annual Mean
		**	**	**	**	**	91	94	93	88	81	2nd Max 24-Hour Mean
Erie Air Basin												
ERIE (TEOM)	(E10)	**	**	**	**	**	20	20	21	18	18	Annual Mean
		**	**	**	**	**	61	68	67	53	51	2nd Max 24-Hour Mean

** Indicates less than 30 discrete samples collected or less than 50 percent continuous data (TEOM)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

PM-2.5 SUSPENDED PARTICULATE MATTER SUMMARY

(Units: micrograms per cubic meter / local conditions)

YEAR: 2000

				Daily Means										Number of 24 Hour Values In Ranges						
	PA			1st Max		2nd Max		3rd Max		4th Max		Number	Minimum	0	16	31	51	71	91	
	Site	Annual	Number	24HR	Date	24HR	Date	24HR	Date	24HR	Date	Obs.	24 Hour	to	to	to	to	to	to	>
Site Name	Code	Mean	Obs.	Mean	MM/DD	Mean	MM/DD	Mean	MM/DD	Mean	MM/DD	>65	Mean	15	30	50	70	90	110	110
Southeast Pennsylvania Air Basin																				
Bristol	P01	13.8	94	39.3	06/11	38.4	11/20	36.6	06/02	35.7	12/08	0	2.9	62	27	5	0	0	0	0
Chester	P11	15.9	117	46.9	06/02	44.9	06/11	36.2	04/18	34.2	10/27	0	2.2	68	42	7	0	0	0	0
Norristown	P21	13.6	100	39.6	06/11	37.5	06/02	31.5	11/20	30.0	05/09	0	1.8	69	28	3	0	0	0	0
Allentown-Bethlehem-Easton Air Basin																				
Allentown	A19	14.3	302	57.2	02/10	46.3	02/24	44.0	02/04	43.6	02/25	0	1.5	192	94	15	1	0	0	0
Easton (TEOM)	A20	12.2	365	42.0	06/10	35.0	01/02	35.0	02/24	35.0	06/11	0	2.0	269	88	8	0	0	0	0
Freemansburg	A25	13.6	285	52.3	02/10	44.0	02/09	40.9	06/10	39.0	02/04	0	1.6	189	84	11	1	0	0	0
Scranton-Wilkes-Barre Air Basin																				
Scranton	S01	11.7	339	43.1	06/10	39.0	09/10	38.9	02/10	33.0	02/24	0	1.4	250	78	11	0	0	0	0
Wilkes-Barre	S28	12.7	333	43.0	02/10	42.8	06/10	41.1	09/10	34.5	02/04	0	1.1	232	88	13	0	0	0	0
Reading Air Basin																				
Reading	R01	16.9	113	55.2	01/01	47.4	02/09	37.5	02/24	37.2	06/11	0	3.5	57	46	9	1	0	0	0
Harrisburg Air Basin																				
Harrisburg	H11	15.4	268	65.9	02/04	49.4	02/25	47.9	11/09	45.8	02/24	1	2.0	160	90	17	1	0	0	0
Lancaster Air Basin																				
Lancaster	L01	17.8	106	67.2	01/01	47.4	11/08	47.0	10/27	41.1	12/11	1	1.0	48	47	10	1	0	0	0
York Air Basin																				
York	Y01	16.7	118	50.9	01/01	42.7	10/27	41.1	06/02	37.8	06/11	0	3.5	61	48	8	1	0	0	0

**** Primary and Secondary Air Quality Standards ****
**** Annual Mean = 15 micrograms per cubic meter ****
**** 24 Hour Mean = 65 micrograms per cubic meter ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

PM-2.5 SUSPENDED PARTICULATE MATTER SUMMARY

(Units: micrograms per cubic meter / local conditions)

YEAR: 2000

				Daily Means										Number of 24 Hour Values In Ranges						
	PA			1st Max		2nd Max		3rd Max		4th Max		Number	Minimum	0	16	31	51	71	91	
	Site	Annual	Number	24HR	Date	24HR	Date	24HR	Date	24HR	Date	Obs.	24 Hour	to	to	to	to	to	to	>
Site Name	Code	Mean	Obs.	Mean	MM/DD	Mean	MM/DD	Mean	MM/DD	Mean	MM/DD	>65	Mean	15	30	50	70	90	110	110
DEP Region 3 Non-Air Basin																				
Perry County	305	12.2	109	34.2	02/09	32.0	12/11	30.2	06/11	26.4	06/02	0	2.0	83	24	2	0	0	0	0
Arendtsville	314	13.1	303	54.1	11/09	46.1	10/16	43.0	02/04	39.2	01/19	0	1.7	216	75	11	1	0	0	0
Arendtsville (TEOM)	314	****	79	35.0	11/09	32.0	10/27	31.0	10/26	30.0	10/16	0	1.0	68	8	3	0	0	0	0
Carlisle	315	14.0	283	54.7	11/09	41.4	12/11	40.2	10/16	39.7	02/25	0	2.0	174	95	13	1	0	0	0
DEP Region 4 Non-Air Basin																				
State College	409	11.7	69	39.7	06/02	34.0	06/11	31.3	12/11	25.6	05/09	0	2.1	51	15	3	0	0	0	0
Johnstown Air Basin																				
Johnstown	J01	15.9	88	38.3	12/11	35.4	06/11	34.1	06/02	30.4	05/12	0	3.1	50	35	3	0	0	0	0
Lower Beaver Valley Air Basin																				
Beaver Falls	B11	16.3	96	45.5	11/08	43.6	10/24	36.7	06/14	35.7	10/15	0	4.4	57	32	7	0	0	0	0
Monongahela Valley Air Basin																				
Charleroi	M01	15.5	110	36.5	11/08	36.0	06/11	36.0	10/24	35.4	06/02	0	2.8	66	38	6	0	0	0	0
DEP Region 5 Non-Air Basin																				
Florence	504	13.3	321	37.0	06/10	32.6	08/22	32.5	06/02	32.3	11/08	0	2.1	215	99	7	0	0	0	0
Washington	508	15.1	104	38.2	08/22	34.1	06/11	33.3	11/08	32.0	10/27	0	4.7	65	34	5	0	0	0	0
Kittanning (TEOM)	512	12.2	363	36.0	06/10	32.0	08/22	31.0	06/11	31.0	06/14	0	3.0	266	92	5	0	0	0	0
Greensburg	513	16.0	92	39.0	06/02	37.2	06/11	36.2	06/14	33.7	10/27	0	1.8	52	33	7	0	0	0	0
Erie Air Basin																				
Erie	E10	13.8	57	37.5	11/08	28.2	05/07	27.3	02/09	26.1	12/11	0	2.1	38	18	1	0	0	0	0
DEP Region 6 Non-Air Basin																				
Farrell	606	****	46	34.9	11/08	30.3	10/27	29.9	06/02	28.1	07/26	0	3.6	28	17	1	0	0	0	0

**** Primary and Secondary Air Quality Standards ****
**** Annual Mean = 15 micrograms per cubic meter ****
**** 24 Hour Mean = 65 micrograms per cubic meter ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

SULFUR DIOXIDE SUMMARY

(Units: parts per million)

YEAR: 2000

					Block Averages					Daily Averages				Number of 24 Hour Values In Ranges							
	PA	Percent		Number	1st Max		2nd Max		Number	1st Max		2nd Max		.00	.05	.09	.13	.17	.21	.25	
	Site	Valid	Annual	3 HR	3 HR		3 HR		24 HR	24 HR		24 HR		to	to	to	to	to	to	to	>
Site Name	Code	Data	Mean	> 0.50	Mean	Date-Hour	Mean	Date-Hour	> 0.14	Mean	Date	Mean	Date	.04	.08	.12	.16	.20	.24	.28	.28
Southeast Pennsylvania Air Basin																					
Bristol	P01	93.5	0.007	0	0.045	12/30-23	0.044	10/25-11	0	0.030	12/30	0.027	12/27	340	0	0	0	0	0	0	0
Chester	P11	98.5	0.008	0	0.049	09/03-11	0.049	01/31-23	0	0.029	02/04	0.026	11/08	362	0	0	0	0	0	0	0
Norristown	P21	97.9	0.005	0	0.037	12/30-20	0.033	12/30-23	0	0.026	12/19	0.022	12/18	358	0	0	0	0	0	0	0
Allentown-Bethlehem-Easton Air Basin																					
Allentown	A19	98.9	0.007	0	0.054	02/18-17	0.053	02/04-17	0	0.038	02/04	0.027	02/10	362	0	0	0	0	0	0	0
Freemansburg	A25	99.2	0.006	0	0.035	12/30-23	0.034	02/05-02	0	0.027	02/04	0.020	02/03	364	0	0	0	0	0	0	0
Easton	A20	97.7	0.008	0	0.073	06/28-08	0.069	06/16-05	0	0.023	11/08	0.023	01/03	356	0	0	0	0	0	0	0
Scranton-Wilkes-Barre Air Basin																					
Scranton	S01	97.9	0.004	0	0.041	10/24-23	0.038	10/24-20	0	0.022	10/24	0.021	02/04	357	0	0	0	0	0	0	0
Wilkes-Barre	S28	99.3	0.006	0	0.058	10/24-17	0.052	10/24-20	0	0.029	10/24	0.026	02/04	365	0	0	0	0	0	0	0
Reading Air Basin																					
Reading	R01	98.8	0.008	0	0.077	12/11-14	0.075	05/31-11	0	0.028	02/04	0.028	12/11	364	0	0	0	0	0	0	0
Harrisburg Air Basin																					
Harrisburg	H11	98.9	0.005	0	0.066	05/17-11	0.050	12/30-14	0	0.035	12/30	0.024	12/27	363	0	0	0	0	0	0	0
Lancaster Air Basin																					
Lancaster	L01	99.1	0.005	0	0.049	11/07-17	0.049	11/07-20	0	0.025	12/27	0.024	12/30	365	0	0	0	0	0	0	0

**** Primary Annual Mean = 0.03 parts per million ****
**** Primary 24 Hour Mean = 0.14 parts per million ****
**** Seconday 3 Hour Mean = 0.50 parts per million ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

SULFUR DIOXIDE SUMMARY

(Units: parts per million)

YEAR: 2000

					Block Averages					Daily Averages				Number of 24 Hour Values In Ranges							
	PA	Percent		Number	1st Max		2nd Max		Number	1st Max		2nd Max		.00	.05	.09	.13	.17	.21	.25	
	Site	Valid	Annual	3 HR	3 HR		3 HR		24 HR	24 HR		24 HR		to	to	to	to	to	to	to	>
Site Name	Code	Data	Mean	> 0.50	Mean	Date-Hour	Mean	Date-Hour	> 0.14	Mean	Date	Mean	Date	.04	.08	.12	.16	.20	.24	.28	.28
York Air Basin																					
York	Y01	98.9	0.006	0	0.060	03/23-11	0.059	06/19-14	0	0.023	12/30	0.020	01/31	362	0	0	0	0	0	0	0
DEP Region 3 Non-Air Basin																					
Perry County	305	98.0	0.003	0	0.036	12/29-20	0.034	12/29-17	0	0.021	12/30	0.015	12/27	359	0	0	0	0	0	0	0
Altoona Non-Air Basin																					
Altoona	308	99.2	0.006	0	0.072	11/03-17	0.072	12/27-02	0	0.051	12/27	0.045	12/23	361	2	0	0	0	0	0	0
Williamsport Non-Air Basin																					
Williamsport	407	99.4	0.005	0	0.037	12/13-17	0.037	02/07-05	0	0.021	02/10	0.019	12/11	365	0	0	0	0	0	0	0
Johnstown Air Basin																					
Johnstown	J01	99.2	0.007	0	0.068	08/24-14	0.065	11/23-14	0	0.027	12/30	0.026	12/27	362	0	0	0	0	0	0	0
Monongahela Valley Air Basin																					
Charleroi	M01	99.1	0.008	0	0.089	03/24-17	0.059	03/24-14	0	0.035	12/27	0.031	12/23	362	0	0	0	0	0	0	0
Lower Beaver Valley Air Basin																					
Beaver Falls	B11	99.3	0.007	0	0.101	12/04-14	0.071	12/23-14	0	0.037	12/04	0.036	12/30	365	0	0	0	0	0	0	0
Hookstown	B23	99.0	0.011	0	0.131	03/13-11	0.126	01/01-17	0	0.044	01/01	0.039	01/18	361	0	0	0	0	0	0	0
Brighton Township	B27	99.4	0.013	0	0.249	05/30-23	0.215	05/31-02	0	0.091	02/10	0.086	03/07	356	7	2	0	0	0	0	0

**** Primary Annual Mean = 0.03 parts per million ****
**** Primary 24 Hour Mean = 0.14 parts per million ****
**** Seconday 3 Hour Mean = 0.50 parts per million ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

SULFUR DIOXIDE SUMMARY

(Units: parts per million)

YEAR: 2000

					Block Averages					Daily Averages				Number of 24 Hour Values In Ranges							
	PA	Percent		Number	1st Max		2nd Max		Number	1st Max		2nd Max		.00	.05	.09	.13	.17	.21	.25	
	Site	Valid	Annual	3 HR	3 HR		3 HR		24 HR	24 HR		24 HR		to	to	to	to	to	to	to	>
Site Name	Code	Data	Mean	> 0.50	Mean	Date-Hour	Mean	Date-Hour	> 0.14	Mean	Date	Mean	Date	.04	.08	.12	.16	.20	.24	.28	.28
Allegheny County Air Basin																					
Pittsburgh	D12	99.1	0.010	0	0.091	12/29-14	0.079	12/03-14	0	0.038	01/18	0.037	12/29	362	0	0	0	0	0	0	0
DEP Region 5 Non-Air Basin																					
Florence	504	98.8	0.009	0	0.102	10/02-11	0.100	07/02-11	0	0.033	12/23	0.031	12/29	362	0	0	0	0	0	0	0
Washington	508	99.6	0.009	0	0.060	07/29-20	0.059	01/24-11	0	0.031	12/30	0.027	01/23	364	0	0	0	0	0	0	0
Greensburg	513	99.4	0.010	0	0.118	12/04-14	0.072	06/19-02	0	0.030	01/08	0.029	12/23	365	0	0	0	0	0	0	0
Upper Beaver Valley Air Basin																					
New Castle	B21	98.1	0.008	0	0.084	09/19-14	0.079	01/08-11	0	0.042	01/08	0.031	01/09	358	0	0	0	0	0	0	0
Erie Air Basin																					
Erie	E10	99.2	0.008	0	0.077	05/19-14	0.077	02/18-20	0	0.041	05/19	0.041	06/05	365	0	0	0	0	0	0	0
Shenango Valley Non-Air Basin																					
Farrell	606	99.4	0.007	0	0.054	09/10-14	0.052	10/11-11	0	0.029	01/09	0.024	12/04	365	0	0	0	0	0	0	0
DEP Region 6 Non-Air Basin																					
Warren	611	98.3	0.006	0	0.078	01/29-11	0.071	03/28-05	0	0.024	02/03	0.024	11/16	358	0	0	0	0	0	0	0
Warren	612	99.1	0.013	0	0.230	11/02-23	0.214	11/03-08	0	0.100	11/03	0.092	11/02	352	8	2	0	0	0	0	0
Special Purpose Monitoring Sites																					
Holbrook	514	58.2	0.007	0	0.063	10/31-20	0.062	09/29-11	0	0.022	09/29	0.022	10/31	213	0	0	0	0	0	0	0

**** Primary Annual Mean = 0.03 parts per million ****
**** Primary 24 Hour Mean = 0.14 parts per million ****
**** Seconday 3 Hour Mean = 0.50 parts per million ****

SULFUR DIOXIDE
HISTORICAL TREND
(Units: parts per million)

STATION & CODE	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Southeast Pennsylvania Air Basin											
BRISTOL	0.008	0.008	0.008	0.008	0.006	0.007	0.007	0.008	0.005	0.007	Annual Mean
P01	0.031	0.030	0.027	0.040	0.023	0.028	0.029	0.024	0.020	0.027	2nd Max 24-Hour Mean
	0.053	0.061	0.047	0.076	0.048	0.043	0.043	0.043	0.035	0.044	2nd Max 3-Hour Mean
CHESTER	0.008	0.008	0.009	0.010	0.008	0.008	0.008	0.009	0.009	0.008	Annual Mean
P11	0.027	0.031	0.026	0.035	0.028	0.025	0.026	0.027	0.025	0.026	2nd Max 24-Hour Mean
	0.065	0.057	0.046	0.074	0.054	0.048	0.063	0.048	0.057	0.049	2nd Max 3-Hour Mean
NORRISTOWN	0.008	0.008	0.008	0.010	0.009	0.008	0.008	0.006	0.006	0.005	Annual Mean
P21	0.031	0.026	0.029	0.045	0.025	0.028	0.025	0.022	0.020	0.022	2nd Max 24-Hour Mean
	0.058	0.051	0.049	0.066	0.037	0.043	0.048	0.029	0.042	0.033	2nd Max 3-Hour Mean
Allentown-Bethlehem-Easton Air Basin											
ALLENTOWN	0.007	0.006	0.007	0.008	0.006	0.006	0.008	0.008	0.007	0.007	Annual Mean
A19	0.041	0.028	0.034	0.053	0.028	0.035	0.030	0.030	0.030	0.027	2nd Max 24-Hour Mean
	0.082	0.042	0.050	0.079	0.050	0.052	0.058	0.047	0.058	0.053	2nd Max 3-Hour Mean
FREEMANSBURG	***	***	***	***	***	***	***	0.006	0.009	0.006	Annual Mean
A25	***	***	***	***	***	***	***	0.027	0.021	0.020	2nd Max 24-Hour Mean
	***	***	***	***	***	***	***	0.041	0.047	0.034	2nd Max 3-Hour Mean
EASTON	***	***	***	***	***	***	***	***	***	0.008	Annual Mean
A20	***	***	***	***	***	***	***	***	***	0.023	2nd Max 24-Hour Mean
	***	***	***	***	***	***	***	***	***	0.069	2nd Max 3-Hour Mean
Scranton-Wilkes Barre Air Basin											
SCRANTON	0.011	0.009	0.008	0.007	0.005	0.007	0.006	0.005	0.005	0.004	Annual Mean
S01	0.045	0.031	0.025	0.034	0.023	0.033	0.031	0.026	0.021	0.021	2nd Max 24-Hour Mean
	0.114	0.081	0.044	0.087	0.068	0.043	0.050	0.039	0.033	0.038	2nd Max 3-Hour Mean
WILKES-BARRE	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.006	0.007	0.006	Annual Mean
S28	0.032	0.031	0.026	0.034	0.027	0.023	0.026	0.021	0.023	0.026	2nd Max 24-Hour Mean
	0.047	0.072	0.047	0.058	0.056	0.043	0.047	0.040	0.039	0.052	2nd Max 3-Hour Mean
Reading Air Basin											
READING	0.008	0.008	0.009	0.010	0.009	0.009	0.008	0.009	0.008	0.008	Annual Mean
R01	0.028	0.023	0.027	0.036	0.032	0.037	0.028	0.022	0.027	0.028	2nd Max 24-Hour Mean
	0.073	0.069	0.092	0.084	0.072	0.094	0.067	0.096	0.094	0.075	2nd Max 3-Hour Mean

*** Indicates less than 50 percent valid data for the year

SULFUR DIOXIDE
HISTORICAL TREND
(Units: parts per million)

STATION & CODE	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Harrisburg Air Basin											
HARRISBURG	0.008	0.007	0.006	0.007	0.005	0.005	0.007	0.006	0.005	0.005	Annual Mean
H11	0.025	0.023	0.025	0.040	0.020	0.022	0.022	0.021	0.021	0.024	2nd Max 24-Hour Mean
	0.065	0.058	0.043	0.055	0.065	0.047	0.049	0.043	0.048	0.050	2nd Max 3-Hour Mean
Lancaster Air Basin											
LANCASTER	0.006	0.006	0.007	0.006	0.006	0.005	0.007	0.006	0.005	0.005	Annual Mean
L01	0.023	0.018	0.026	0.030	0.018	0.021	0.023	0.020	0.021	0.024	2nd Max 24-Hour Mean
	0.047	0.052	0.058	0.045	0.037	0.036	0.051	0.047	0.045	0.049	2nd Max 3-Hour Mean
York Air Basin											
YORK	0.007	0.007	0.008	0.009	0.006	0.007	0.009	0.008	0.007	0.006	Annual Mean
Y01	0.020	0.034	0.032	0.041	0.020	0.022	0.026	0.023	0.019	0.020	2nd Max 24-Hour Mean
	0.069	0.084	0.069	0.071	0.062	0.055	0.073	0.064	0.059	0.059	2nd Max 3-Hour Mean
DEP Region 3 Non-Air Basin											
PERRY COUNTY	0.004	0.004	0.005	0.007	0.004	0.005	0.004	0.003	0.003	0.003	Annual Mean
305	0.016	0.014	0.017	0.023	0.014	0.020	0.021	0.012	0.012	0.015	2nd Max 24-Hour Mean
	0.033	0.034	0.035	0.040	0.050	0.038	0.033	0.027	0.034	0.034	2nd Max 3-Hour Mean
Altoona Non-Air Basin											
ALTOONA	0.010	0.009	0.009	0.010	0.008	0.008	0.010	0.008	0.007	0.006	Annual Mean
308	0.044	0.046	0.052	0.057	0.037	0.033	0.046	0.032	0.030	0.045	2nd Max 24-Hour Mean
	0.082	0.093	0.073	0.108	0.067	0.071	0.070	0.061	0.058	0.072	2nd Max 3-Hour Mean
Williamsport Non-Air Basin											
WILLIAMSPORT	0.007	0.007	0.006	0.006	0.006	0.006	0.008	0.005	0.005	0.005	Annual Mean
407	0.025	0.026	0.025	0.042	0.021	0.028	0.028	0.021	0.021	0.019	2nd Max 24-Hour Mean
	0.047	0.072	0.045	0.063	0.046	0.052	0.050	0.040	0.038	0.037	2nd Max 3-Hour Mean
Johnstown Air Basin											
JOHNSTOWN	0.015	0.013	0.015	0.013	0.012	0.011	0.009	0.008	0.009	0.007	Annual Mean
J01	0.043	0.052	0.049	0.054	0.042	0.034	0.030	0.027	0.025	0.026	2nd Max 24-Hour Mean
	0.134	0.106	0.153	0.112	0.128	0.068	0.069	0.080	0.070	0.065	2nd Max 3-Hour Mean
Monongahela Valley Air Basin											
CHARLEROI	0.012	0.012	0.011	0.011	0.009	0.008	0.009	0.009	0.009	0.008	Annual Mean
M01	0.037	0.038	0.036	0.063	0.030	0.033	0.035	0.025	0.023	0.031	2nd Max 24-Hour Mean
	0.093	0.140	0.084	0.129	0.097	0.084	0.074	0.056	0.059	0.059	2nd Max 3-Hour Mean

*** Indicates less than 50 percent valid data for the year

SULFUR DIOXIDE
HISTORICAL TREND
(Units: parts per million)

STATION & CODE	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Lower Beaver Valley Air Basin											
BEAVER FALLS	0.013	0.012	0.012	0.012	0.009	0.007	0.009	0.007	0.009	0.007	Annual Mean
B11	0.048	0.068	0.040	0.059	0.030	0.038	0.034	0.034	0.028	0.036	2nd Max 24-Hour Mean
	0.117	0.125	0.095	0.127	0.075	0.078	0.082	0.079	0.070	0.071	2nd Max 3-Hour Mean
HOOKSTOWN	0.020	0.012	0.017	0.018	0.012	0.011	0.011	0.013	0.011	0.011	Annual Mean
B23	0.068	0.088	0.075	0.072	0.046	0.038	0.049	0.046	0.044	0.039	2nd Max 24-Hour Mean
	0.172	0.181	0.178	0.166	0.127	0.105	0.163	0.129	0.145	0.126	2nd Max 3-Hour Mean
BRIGHTON TWP	***	***	***	0.015	0.015	0.015	0.015	0.016	0.015	0.013	Annual Mean
B27	***	***	***	0.092	0.080	0.058	0.078	0.094	0.070	0.086	2nd Max 24-Hour Mean
	***	***	***	0.199	0.216	0.207	0.251	0.208	0.215	0.215	2nd Max 3-Hour Mean
Allegheny County Air Basin											
PITTSBURGH	***	***	***	***	***	***	***	0.005	0.006	0.010	Annual Mean
D12	***	***	***	***	***	***	***	0.014	0.019	0.037	2nd Max 24-Hour Mean
	***	***	***	***	***	***	***	0.047	0.043	0.079	2nd Max 3-Hour Mean
DEP Region 5 Non-Air Basin											
FLORENCE	0.013	0.015	0.013	0.012	0.009	0.010	0.012	0.013	0.010	0.009	Annual Mean
504	0.047	0.059	0.058	0.086	0.034	0.035	0.050	0.043	0.036	0.031	2nd Max 24-Hour Mean
	0.116	0.131	0.156	0.152	0.095	0.084	0.127	0.102	0.100	0.100	2nd Max 3-Hour Mean
WASHINGTON	0.012	0.012	0.012	0.012	0.009	0.008	0.010	0.010	0.009	0.009	Annual Mean
508	0.044	0.050	0.054	0.043	0.045	0.030	0.047	0.040	0.030	0.027	2nd Max 24-Hour Mean
	0.106	0.109	0.134	0.122	0.093	0.094	0.086	0.073	0.062	0.059	2nd Max 3-Hour Mean
GREENSBURG	***	***	***	***	***	***	***	0.009	0.011	0.010	Annual Mean
513	***	***	***	***	***	***	***	0.033	0.037	0.029	2nd Max 24-Hour Mean
	***	***	***	***	***	***	***	0.066	0.101	0.072	2nd Max 3-Hour Mean
Upper Beaver Valley Air Basin											
NEW CASTLE	0.010	0.008	0.008	0.008	0.007	0.008	0.008	0.009	0.008	0.008	Annual Mean
B21	0.042	0.048	0.036	0.037	0.032	0.035	0.033	0.032	0.035	0.031	2nd Max 24-Hour Mean
	0.110	0.099	0.103	0.077	0.070	0.064	0.114	0.117	0.086	0.079	2nd Max 3-Hour Mean

*** Indicates less than 50 percent valid data for the year

SULFUR DIOXIDE
HISTORICAL TREND
(Units: parts per million)

STATION & CODE	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Erie Air Basin											
ERIE	0.010	0.011	0.011	0.010	0.009	0.010	0.009	0.010	0.010	0.008	Annual Mean
E10	0.044	0.056	0.072	0.076	0.050	0.066	0.035	0.068	0.043	0.041	2nd Max 24-Hour Mean
	0.114	0.137	0.190	0.155	0.112	0.173	0.097	0.138	0.153	0.077	2nd Max 3-Hour Mean
Shenango Valley Non-Air Basin											
FARRELL	0.008	0.008	0.008	0.008	0.008	0.007	0.007	0.008	0.007	0.007	Annual Mean
606	0.032	0.030	0.029	0.047	0.032	0.029	0.032	0.029	0.039	0.024	2nd Max 24-Hour Mean
	0.082	0.074	0.085	0.086	0.064	0.060	0.074	0.063	0.060	0.052	2nd Max 3-Hour Mean
DEP Region 6 Non-Air Basin											
WARREN	***	***	***	***	***	0.008	0.009	0.008	0.008	0.006	Annual Mean
611	***	***	***	***	***	0.028	0.038	0.028	0.031	0.024	2nd Max 24-Hour Mean
	***	***	***	***	***	0.096	0.083	0.103	0.072	0.071	2nd Max 3-Hour Mean
WARREN	***	***	***	***	***	***	0.015	0.016	0.015	0.013	Annual Mean
612	***	***	***	***	***	***	0.069	0.098	0.097	0.092	2nd Max 24-Hour Mean
	***	***	***	***	***	***	0.291	0.248	0.227	0.214	2nd Max 3-Hour Mean

*** Indicates less than 50 percent valid data for the year

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

OZONE SUMMARY

(Units: parts per million)

YEAR: 2000 (APRIL-OCTOBER)

Site Name	PA Site Code	Percent Valid Data	Number Daily 1 HR >= 0.125	1st Daily Max 1 HR Mean	1st Daily Max Date MM/DD-HH	2nd Daily Max 1 HR Mean	2nd Daily Max Date MM/DD-HH	3nd Daily Max 1 HR Mean	3nd Daily Max Date MM/DD-HH	4th Daily Max 1 HR Mean	4th Daily Max Date MM/DD-HH	Number of 1 Hour Values In Ranges .00 to .04	.05 to .08	.09 to .12	.13 to .16	.17 to .20	.21 to .24	.25 to .28	> .28
Southeast Pennsylvania Air Basin																			
Bristol	P01	93.5	1	0.147	06/10-16	0.121	06/09-15	0.115	06/02-12	0.112	07/09-18	67	110	21	1	0	0	0	0
Chester	P11	98.6	0	0.124	06/10-16	0.117	06/09-15	0.112	05/09-16	0.110	05/13-16	81	113	17	0	0	0	0	0
Norristown	P21	99.4	2	0.147	06/10-17	0.125	06/09-14	0.112	06/02-14	0.112	07/09-18	76	115	19	2	0	0	0	0
New Garden (Toughkenamon)	P30	56.4	0	0.103	07/09-16	0.095	07/02-17	0.092	07/21-17	0.090	07/03-13	57	57	5	0	0	0	0	0
Allentown-Bethlehem-Easton Air Basin																			
Allentown	A19	98.7	0	0.123	06/10-16	0.112	06/09-13	0.099	06/02-12	0.095	05/08-15	82	118	11	0	0	0	0	0
Freemansburg	A25	97.5	1	0.127	06/10-16	0.114	06/09-13	0.105	06/02-13	0.096	06/11-14	71	122	15	1	0	0	0	0
Easton	A20	98.8	0	0.109	06/10-14	0.100	06/09-13	0.092	06/02-12	0.089	09/10-14	104	96	9	0	0	0	0	0
Scranton-Wilkes-Barre Air Basin																			
Scranton	S01	99.3	0	0.107	06/10-14	0.082	05/08-14	0.080	06/09-12	0.079	09/20-14	100	113	1	0	0	0	0	0
Nanticoke	S26	99.4	0	0.115	06/10-13	0.093	06/09-12	0.091	06/02-12	0.086	06/25-13	82	124	6	0	0	0	0	0
Wilkes-Barre	S28	99.0	0	0.107	06/10-13	0.086	06/09-12	0.084	06/02-13	0.080	06/25-13	96	113	2	0	0	0	0	0
Peckville	S29	99.3	0	0.115	06/10-15	0.090	05/08-14	0.090	05/09-15	0.087	06/02-11	85	120	7	0	0	0	0	0
Reading Air Basin																			
Reading	R01	98.6	0	0.113	06/10-14	0.105	06/09-13	0.093	06/02-15	0.090	05/08-14	93	110	7	0	0	0	0	0
Harrisburg Air Basin																			
Harrisburg	H11	99.5	0	0.102	06/10-12	0.101	06/24-15	0.100	06/09-15	0.089	09/09-15	91	116	6	0	0	0	0	0
Lancaster Air Basin																			
Lancaster	L01	99.3	0	0.113	06/10-12	0.107	06/09-13	0.096	06/24-14	0.095	05/12-15	85	117	11	0	0	0	0	0

**** Primary Daily 1 Hour Air Quality Standard of 0.12 parts per million ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

OZONE SUMMARY

(Units: parts per million)

YEAR: 2000 (APRIL-OCTOBER)

Site Name	PA Site Code	Percent Valid Data	Number Daily 1 HR >= 0.125	1st Daily Max 1 HR Mean	1st Daily Max Date MM/DD-HH	2nd Daily Max 1 HR Mean	2nd Daily Max Date MM/DD-HH	3nd Daily Max 1 HR Mean	3nd Daily Max Date MM/DD-HH	4th Daily Max 1 HR Mean	4th Daily Max Date MM/DD-HH	Number of 1 Hour Values In Ranges .00 to .04	.05 to .08	.09 to .12	.13 to .16	.17 to .20	.21 to .24	.25 to .28	> .28
York Air Basin																			
York	Y01	99.3	0	0.114	06/24-14	0.112	06/10-15	0.104	06/09-16	0.098	05/13-17	85	118	10	0	0	0	0	0
DEP Region 3 Non-Air Basin																			
Perry County	305	97.6	0	0.099	06/09-14	0.099	06/10-13	0.090	05/12-16	0.087	07/14-15	79	123	6	0	0	0	0	0
Hershey	306	99.4	0	0.111	06/10-12	0.110	06/09-15	0.105	06/24-16	0.096	06/11-12	82	122	7	0	0	0	0	0
Kutztown	310	98.7	0	0.106	06/10-14	0.101	06/09-17	0.089	06/02-15	0.088	09/20-15	83	122	6	0	0	0	0	0
Methodist Hill	313	97.6	0	0.101	09/10-17	0.100	06/09-15	0.097	06/10-15	0.088	05/17-17	46	152	8	0	0	0	0	0
Altoona Non-Air Basin																			
Altoona East	308	99.0	0	0.106	06/10-13	0.104	06/09-15	0.096	07/14-12	0.088	05/01-13	72	131	7	0	0	0	0	0
Williamsport Non-Air Basin																			
Williamsport	407	99.5	0	0.103	06/10-13	0.088	06/09-12	0.086	07/02-14	0.081	05/01-18	120	90	3	0	0	0	0	0
Johnstown Air Basin																			
Johnstown	J01	99.8	0	0.108	06/10-16	0.104	06/09-13	0.097	05/01-12	0.094	05/07-16	65	137	12	0	0	0	0	0
Monongahela Valley Air Basin																			
Charleroi	M01	99.8	0	0.112	06/09-15	0.110	07/09-17	0.109	06/10-15	0.091	06/13-13	55	149	10	0	0	0	0	0
Lower Beaver Valley Air Basin																			
Beaver Falls	B11	99.2	0	0.106	06/09-18	0.099	07/09-14	0.098	06/10-11	0.092	06/24-14	74	133	9	0	0	0	0	0
Hookstown	B23	98.1	0	0.099	06/09-17	0.095	06/10-19	0.091	06/24-16	0.089	07/09-15	54	150	4	0	0	0	0	0
Brighton Township	B27	96.6	0	0.102	06/09-18	0.096	06/10-11	0.094	06/24-17	0.087	06/14-11	61	141	4	0	0	0	0	0

**** Primary Daily 1 Hour Air Quality Standard of 0.12 parts per million ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

OZONE SUMMARY

(Units: parts per million)

YEAR: 2000 (APRIL-OCTOBER)

Site Name	PA Site Code	Percent Valid Data	Number Daily 1 HR >= 0.125	1st Daily Max 1 HR Mean	1st Daily Max Date MM/DD-HH	2nd Daily Max 1 HR Mean	2nd Daily Max Date MM/DD-HH	3nd Daily Max 1 HR Mean	3nd Daily Max Date MM/DD-HH	4th Daily Max 1 HR Mean	4th Daily Max Date MM/DD-HH	Number of 1 Hour Values In Ranges .00 to .04	.05 to .08	.09 to .12	.13 to .16	.17 to .20	.21 to .24	.25 to .28	> .28
Allegheny County Air Basin																			
Pittsburgh	D12	99.7	0	0.112	06/10-13	0.111	06/09-16	0.108	07/09-15	0.094	07/13-15	59	138	16	0	0	0	0	0
DEP Region 5 Non-Air Basin																			
Florence	504	96.6	0	0.098	06/09-16	0.098	06/10-18	0.096	06/24-15	0.094	07/09-15	50	151	6	0	0	0	0	0
Washington	508	99.5	0	0.114	06/10-15	0.105	06/09-19	0.101	07/09-13	0.087	05/31-17	54	153	5	0	0	0	0	0
Murrysville	510	99.7	0	0.110	06/10-17	0.103	07/09-16	0.092	06/09-15	0.088	07/13-14	81	128	4	0	0	0	0	0
Kittanning	512	99.0	0	0.104	06/09-15	0.103	06/10-14	0.092	07/09-17	0.091	05/31-16	86	118	7	0	0	0	0	0
Greensburg	513	99.3	0	0.099	07/09-17	0.097	06/09-13	0.097	06/10-14	0.089	07/13-16	70	137	5	0	0	0	0	0
Upper Beaver Valley Air Basin																			
New Castle	B21	99.1	0	0.092	06/09-14	0.090	07/13-17	0.082	06/10-11	0.081	08/26-16	98	112	2	0	0	0	0	0
Erie Air Basin																			
Erie	E10	99.3	0	0.108	06/09-18	0.095	06/10-11	0.088	05/31-17	0.088	07/02-14	76	130	6	0	0	0	0	0
Shenango Valley Non-Air Basin																			
Farrell	606	98.1	0	0.111	06/09-13	0.098	06/14-14	0.096	07/28-13	0.095	06/10-18	69	133	7	0	0	0	0	0
Special Purpose Monitoring Sites																			
Holbrook	514	95.3	0	0.113	06/09-19	0.106	07/09-15	0.099	06/10-11	0.098	06/13-13	27	162	14	0	0	0	0	0
Moshannon	D09	99.9	0	0.110	06/10-17	0.105	06/09-17	0.091	06/11-00	0.089	06/02-13	58	146	10	0	0	0	0	0
Tiadaghton	D10	96.9	0	0.098	05/06-14	0.092	06/10-14	0.088	05/01-16	0.087	06/09-20	106	98	4	0	0	0	0	0
State College	409	99.5	0	0.102	06/09-18	0.101	06/10-16	0.089	07/14-14	0.088	05/01-15	83	125	5	0	0	0	0	0
Penn Nursery	D11	99.1	0	0.109	06/02-16	0.109	06/11-18	0.105	06/10-15	0.101	06/09-18	75	131	6	0	0	0	0	0
Tioga County	D13	99.9	0	0.104	06/10-22	0.103	06/09-22	0.101	05/18-14	0.094	06/11-00	71	137	6	0	0	0	0	0

**** Primary Daily 1 Hour Air Quality Standard of 0.12 parts per million ****

Appendix A: Table A-12a

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

OZONE SUMMARY

(Units: parts per million)

YEAR: 2000 (APRIL-OCTOBER)

Site Name	PA Site Code	Number of Valid Days	Percent Data Complete	Number Daily 8 HR >= 0.085	1st Daily Max 8 HR Mean	1st Daily Max Date MM/DD-HH	2nd Daily Max 8 HR Mean	2nd Daily Max Date MM/DD-HH	3nd Daily Max 8 HR Mean	3nd Daily Max Date MM/DD-HH	4th Daily Max 8 HR Mean	4th Daily Max Date MM/DD-HH
Southeast Pennsylvania Air Basin												
Bristol	P01	198	93	14	0.131	06/10-12	0.114	06/09-11	0.104	06/02-11	0.099	05/08-11
Chester	P11	210	98	7	0.111	06/10-11	0.096	06/09-13	0.093	06/11-11	0.091	05/09-11
Norristown	P21	211	99	11	0.132	06/10-12	0.119	06/09-11	0.105	06/02-10	0.100	06/11-12
New Garden (Toughkenamon)	P30	119	56	1	0.087	07/09-12	0.080	07/03-11	0.079	07/21-13	0.077	07/02-13
Allentown-Bethlehem-Easton Air Basin												
Allentown	A19	209	98	5	0.112	06/10-11	0.105	06/09-12	0.092	06/02-09	0.091	06/11-10
Freemansburg	A25	208	97	6	0.116	06/10-11	0.106	06/09-12	0.095	06/02-10	0.092	06/11-10
Easton	A41	209	98	2	0.101	06/10-11	0.091	06/09-11	0.083	06/02-10	0.083	06/11-10
Scranton-Wilkes-Barre Air Basin												
Scranton	S01	214	100	1	0.099	06/10-11	0.073	05/06-10	0.073	05/09-11	0.073	06/24-12
Nanticoke	S26	212	99	1	0.106	06/10-10	0.082	06/02-09	0.078	09/10-10	0.076	05/08-10
Wilkes-Barre	S28	210	98	1	0.098	06/10-10	0.077	06/09-11	0.076	06/02-09	0.073	05/09-11
Peckville	S29	212	99	1	0.105	06/10-11	0.084	05/09-11	0.078	06/02-09	0.077	05/06-10
Reading Air Basin												
Reading	R01	206	96	3	0.104	06/10-11	0.100	06/09-11	0.086	06/02-10	0.084	06/11-09
Harrisburg Air Basin												
Harrisburg	H11	213	100	3	0.095	06/10-09	0.092	06/09-11	0.087	06/24-12	0.079	06/11-09
Lancaster Air Basin												
Lancaster	L01	212	99	5	0.106	06/10-10	0.103	06/09-11	0.091	06/02-10	0.090	06/11-09
York Air Basin												
York	Y01	212	99	6	0.106	06/10-10	0.099	06/09-11	0.098	06/24-12	0.090	06/11-10

**** Primary 8 Hour Air Quality Standard of 0.08 parts per million for 4th daily maximum averaged over 3 years ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

OZONE SUMMARY

(Units: parts per million)

YEAR: 2000 (APRIL-OCTOBER)

Site Name	PA Site Code	Number of Valid Days	Percent Data Complete	Number Daily 8 HR >= 0.085	1st Daily Max 8 HR Mean	1st Daily Max Date MM/DD-HH	2nd Daily Max 8 HR Mean	2nd Daily Max Date MM/DD-HH	3nd Daily Max 8 HR Mean	3nd Daily Max Date MM/DD-HH	4th Daily Max 8 HR Mean	4th Daily Max Date MM/DD-HH
DEP Region 3 Non-Air Basin												
Perry County	305	204	95	2	0.093	06/10-09	0.087	06/09-11	0.080	06/02-09	0.073	05/07-10
Hershey	306	211	99	5	0.101	06/10-10	0.100	06/09-11	0.092	06/24-12	0.088	06/02-10
Kutztown	310	209	98	2	0.099	06/10-11	0.095	06/09-11	0.080	06/11-09	0.075	05/08-10
Methodist Hill	313	204	95	4	0.097	06/09-11	0.093	06/10-10	0.086	09/10-12	0.085	06/02-10
Altoona Non-Air Basin												
Altoona East	308	210	98	2	0.096	06/09-11	0.095	06/10-10	0.083	07/14-10	0.080	06/02-00
Williamsport Non-Air Basin												
Williamsport	407	213	100	1	0.097	06/10-11	0.082	07/02-11	0.075	06/09-11	0.065	05/17-16
Johnstown Air Basin												
Johnstown	J01	214	100	5	0.098	06/09-11	0.097	06/10-09	0.089	05/01-10	0.086	07/09-11
Monongahela Valley Air Basin												
Charleroi	M01	214	100	3	0.103	06/09-11	0.099	06/10-10	0.094	07/09-11	0.080	06/02-08
Lower Beaver Valley Air Basin												
Beaver Falls	B11	213	100	3	0.100	06/09-11	0.089	06/10-09	0.087	07/09-10	0.084	06/24-10
Hookstown	B23	206	96	1	0.090	06/09-14	0.083	06/10-13	0.081	07/09-12	0.077	06/24-11
Brighton Township	B27	203	95	1	0.098	06/09-11	0.084	06/10-09	0.083	06/24-11	0.077	06/08-15
Allegheny County Air Basin												
Pittsburgh	D12	213	100	4	0.103	06/09-11	0.103	06/10-11	0.097	07/09-11	0.086	07/02-11
DEP Region 5 Non-Air Basin												
Florence	504	205	96	2	0.093	06/09-10	0.089	06/10-11	0.084	07/09-11	0.080	06/24-10
Washington	508	211	99	3	0.105	06/10-12	0.098	06/09-13	0.090	07/09-11	0.080	05/17-12
Murrysville	510	213	100	2	0.095	06/10-11	0.088	06/09-11	0.084	07/09-11	0.076	07/13-11
Kittanning	512	210	98	2	0.098	06/09-12	0.097	06/10-10	0.084	07/09-12	0.079	05/31-12
Greensburg	513	212	99	3	0.093	06/10-09	0.091	06/09-11	0.085	07/09-13	0.076	05/07-10

**** Primary 8 Hour Air Quality Standard of 0.08 parts per million for 4th daily maximum averaged over 3 years ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

OZONE SUMMARY

(Units: parts per million)

YEAR: 2000 (APRIL-OCTOBER)

Site Name	PA Site Code	Number of Valid Days	Percent Data Complete	Number Daily 8 HR >= 0.085	1st Daily Max 8 HR Mean	1st Daily Max Date MM/DD-HH	2nd Daily Max 8 HR Mean	2nd Daily Max Date MM/DD-HH	3nd Daily Max 8 HR Mean	3nd Daily Max Date MM/DD-HH	4th Daily Max 8 HR Mean	4th Daily Max Date MM/DD-HH
Upper Beaver Valley Air Basin												
New Castle	B21	212	99	0	0.075	06/09-09	0.074	07/13-11	0.073	06/24-11	0.069	06/10-09
Erie Air Basin												
Erie	E10	212	99	2	0.096	06/09-11	0.092	06/10-10	0.079	05/31-12	0.078	07/02-10
Shenango Valley Non-Air Basin												
Farrell	606	207	97	2	0.105	06/09-12	0.086	06/10-11	0.084	06/14-10	0.081	06/08-12
Special Purpose Monitoring Sites												
Holbrook	514	203	95	6	0.107	06/09-13	0.096	07/09-12	0.095	06/10-10	0.087	06/08-14
Moshannon	D09	214	100	2	0.104	06/10-14	0.100	06/09-12	0.081	05/31-14	0.079	06/02-07
Tiadaghton	D10	206	96	1	0.088	06/10-10	0.079	06/09-13	0.078	05/01-13	0.073	09/20-12
Penn Nursery	D11	211	99	2	0.097	06/10-10	0.095	06/09-11	0.084	06/02-09	0.075	06/11-11
State College	409	212	99	2	0.094	06/10-10	0.093	06/09-12	0.080	05/01-12	0.079	06/02-08
Tioga County	D13	214	100	2	0.095	06/09-20	0.095	06/10-16	0.078	06/11-00	0.078	06/24-17

**** Primary 8 Hour Air Quality Standard of 0.08 parts per million for 4th daily maximum averaged over 3 years ****

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OZONE HISTORICAL TREND
(Units: parts per million)

STATION	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Southeast Pennsylvania Air Basin											
BRISTOL	0.138	0.117	0.129	0.128	0.137	0.120	0.119	0.115	0.145	0.121	2nd Max Daily 1 Hour Average
P01	9	0	2	2	5	1	1	0	6	1	Number Standard Exceedances
CHESTER	0.125	0.109	0.123	0.118	0.126	0.117	0.127	0.125	0.130	0.117	2nd Max Daily 1 Hour Average
P11	3	0	1	1	2	0	3	2	3	0	Number Standard Exceedances
NORRISTOWN	0.125	0.114	0.130	0.115	0.114	0.118	0.131	0.126	0.126	0.125	2nd Max Daily 1 Hour Average
P21	2	1	3	0	1	0	2	2	2	2	Number Standard Exceedances
NEW GARDEN	***	***	***	***	***	***	***	***	***	0.095	2nd Max Daily 1 Hour Average
P30	***	***	***	***	***	***	***	***	***	0	Number Standard Exceedances
Allentown-Bethlehem-Easton Air Basin											
ALLENTOWN	0.118	0.095	0.104	0.105	0.109	0.114	0.116	0.106	0.125	0.112	2nd Max Daily 1 Hour Average
A19	1	0	0	0	0	0	1	0	2	0	Number Standard Exceedances
FREEMANSBURG	***	***	***	***	***	***	***	0.104	0.126	0.114	2nd Max Daily 1 Hour Average
A25	***	***	***	***	***	***	***	0	2	1	Number Standard Exceedances
EASTON	***	***	***	***	***	***	***	***	***	0.100	2nd Max Daily 1 Hour Average
A20	***	***	***	***	***	***	***	***	***	0	Number Standard Exceedances
Scranton-Wilkes Barre Air Basin											
SCRANTON	0.126	0.096	0.111	0.106	0.105	0.108	0.095	0.108	0.107	0.082	2nd Max Daily 1 Hour Average
S01	2	0	0	0	0	0	0	0	0	0	Number Standard Exceedances
NANTICOKE	0.108	0.094	0.105	0.083	0.100	0.087	0.091	0.098	0.102	0.093	2nd Max Daily 1 Hour Average
S26	0	0	0	0	0	0	0	0	0	0	Number Standard Exceedances
WILKES-BARRE	0.114	0.097	0.112	0.100	0.105	0.105	0.111	0.102	0.111	0.086	2nd Max Daily 1 Hour Average
S28	0	0	0	0	0	0	0	0	0	0	Number Standard Exceedances
PECKVILLE	0.123	0.093	0.111	0.102	0.110	0.113	0.106	0.105	0.115	0.090	2nd Max Daily 1 Hour Average
S29	1	0	0	0	0	0	0	0	0	0	Number Standard Exceedances
Reading Air Basin											
READING	0.123	0.098	0.105	0.102	0.116	0.110	0.120	0.106	0.123	0.105	2nd Max Daily 1 Hour Average
R01	1	0	0	1	0	0	1	0	1	0	Number Standard Exceedances

*** Indicates less than 50 percent valid data for year

OZONE HISTORICAL TREND
(Units: parts per million)

STATION	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Harrisburg Air Basin											
HARRISBURG	0.110	0.094	0.118	0.118	0.099	0.096	0.112	0.116	0.114	0.101	2nd Max Daily 1 Hour Average
H11	0	0	0	0	0	0	0	0	0	0	Number Standard Exceedances
Lancaster Air Basin											
LANCASTER	0.119	0.106	0.118	0.111	0.124	0.101	0.133	0.119	0.127	0.107	2nd Max Daily 1 Hour Average
L01	0	0	1	0	1	0	3	0	2	0	Number Standard Exceedances
York Air Basin											
YORK	0.114	0.101	0.112	0.115	0.097	0.098	0.109	0.112	0.121	0.112	2nd Max Daily 1 Hour Average
Y01	0	0	0	0	0	0	0	0	1	0	Number Standard Exceedances
DEP Region 3 Non-Air Basin											
PERRY COUNTY	0.103	0.088	0.110	0.106	0.103	0.090	0.103	0.110	0.106	0.099	2nd Max Daily 1 Hour Average
305	0	0	0	0	0	0	0	0	0	0	Number Standard Exceedances
HERSHEY	0.113	0.097	0.110	0.122	0.113	0.104	0.116	0.111	0.126	0.110	2nd Max Daily 1 Hour Average
306	0	0	0	0	0	0	0	0	2	0	Number Standard Exceedances
KUTZTOWN	0.119	0.100	0.110	0.106	0.107	0.100	0.109	0.104	0.128	0.101	2nd Max Daily 1 Hour Average
310	1	0	0	1	0	0	0	0	2	0	Number Standard Exceedances
METHODIST HILL	***	***	***	***	***	0.096	0.114	0.120	0.115	0.100	2nd Max Daily 1 Hour Average
313	***	***	***	***	***	0	0	0	0	0	Number Standard Exceedances
Altoona Non-Air Basin											
ALTOONA	0.106	0.095	0.100	0.106	0.112	0.101	0.114	0.114	0.111	0.104	2nd Max Daily 1 Hour Average
308	0	0	0	0	0	0	0	0	0	0	Number Standard Exceedances
Williamsport Non-Air Basin											
WILLIAMSPORT	0.101	0.092	0.088	0.079	0.091	0.082	0.086	0.097	0.087	0.088	2nd Max Daily 1 Hour Average
407	0	0	0	0	0	0	0	0	0	0	Number Standard Exceedances

*** Indicates less than 50 percent valid data for year

OZONE HISTORICAL TREND
(Units: parts per million)

STATION	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Johnstown Air Basin											
JOHNSTOWN	0.113	0.089	0.099	0.094	0.101	0.098	0.104	0.124	0.107	0.104	2nd Max Daily 1 Hour Average
J01	0	0	0	0	0	0	1	1	0	0	Number Standard Exceedances
Monongahela Valley Air Basin											
CHARLEROI	0.119	0.085	0.115	0.112	0.116	0.102	0.118	0.127	0.115	0.110	2nd Max Daily 1 Hour Average
M01	0	0	0	0	0	0	0	3	0	0	Number Standard Exceedances
Lower Beaver Valley Air Basin											
BEAVER FALLS	0.108	0.101	0.099	0.107	0.106	0.105	0.101	0.116	0.131	0.099	2nd Max Daily 1 Hour Average
B11	0	0	0	0	0	0	0	0	2	0	Number Standard Exceedances
HOOKSTOWN	***	***	***	***	0.102	0.104	0.098	0.113	0.116	0.095	2nd Max Daily 1 Hour Average
B23	***	***	***	***	0	0	0	0	0	0	Number Standard Exceedances
BRIGHTON TWP	***	***	***	0.104	0.098	0.099	0.096	0.113	0.132	0.096	2nd Max Daily 1 Hour Average
B27	***	***	***	0	0	0	0	0	2	0	Number Standard Exceedances
Allegheny County Air Basin											
PITTSBURGH	***	***	***	***	***	***	***	0.105	0.120	0.111	2nd Max Daily 1 Hour Average
D12	***	***	***	***	***	***	***	0	1	0	Number Standard Exceedances
DEP Region 5 Non-Air Basin											
FLORENCE	***	***	***	***	0.104	0.092	0.111	0.109	0.110	0.098	2nd Max Daily 1 Hour Average
504	***	***	***	***	0	0	0	0	0	0	Number Standard Exceedances
WASHINGTON	0.106	0.092	0.104	0.115	0.111	0.103	0.107	0.112	0.106	0.105	2nd Max Daily 1 Hour Average
508	0	0	0	0	0	0	0	0	0	0	Number Standard Exceedances
MURRYSVILLE	0.105	0.073	0.120	0.118	0.127	0.104	0.123	0.101	0.115	0.103	2nd Max Daily 1 Hour Average
510	0	0	0	0	3	0	1	0	1	0	Number Standard Exceedances
KITTANNING	***	***	***	***	***	***	***	0.113	0.121	0.103	2nd Max Daily 1 Hour Average
512	***	***	***	***	***	***	***	0	1	0	Number Standard Exceedances
GREENSBURG	***	***	***	***	***	***	***	***	0.125	0.097	2nd Max Daily 1 Hour Average
513	***	***	***	***	***	***	***	***	2	0	Number Standard Exceedances

*** Indicates less than 50 percent valid data for year

OZONE HISTORICAL TREND
(Units: parts per million)

STATION	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Upper Beaver Valley Air Basin											
NEW CASTLE	0.101	0.094	0.095	0.102	0.101	0.097	0.109	0.096	0.105	0.090	2nd Max Daily 1 Hour Average
B21	0	0	0	0	0	0	0	0	1	0	Number Standard Exceedances
Erie Air Basin											
ERIE	0.113	0.098	0.107	0.101	0.105	0.100	0.103	0.122	0.112	0.095	2nd Max Daily 1 Hour Average
E10	0	0	0	0	0	0	0	1	0	0	Number Standard Exceedances
Shenango Valley Non-Air Basin											
FARRELL	0.107	0.100	0.105	0.111	0.113	0.103	0.111	0.121	0.108	0.098	2nd Max Daily 1 Hour Average
606	0	0	0	0	0	0	0	1	0	0	Number Standard Exceedances

*** Indicates less than 50 percent valid data for year

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

NITROGEN DIOXIDE SUMMARY

(Units: parts per million)

YEAR: 2000

Site Name	PA Site Code	Percent Valid Data	Annual Mean	1st Max 1 HR Mean	1st Max Date MM/DD-HH	2nd Max 1 HR Mean	2nd Max Date MM/DD-HH	Number of 1 Hour Values In Ranges 0.00 to 0.04	0.05 to 0.08	0.09 to 0.12	0.13 to 0.16	0.17 to 0.20	0.21 to 0.24	0.25 to 0.28	> 0.28
Southeast Pennsylvania Air Basin															
Bristol	P01	98.6	0.017	0.086	02/25-07	0.077	11/09-06	8469	192	1	0	0	0	0	0
Chester	P11	98.1	0.019	0.081	01/30-13	0.072	01/30-12	8371	250	0	0	0	0	0	0
Norristown	P21	97.9	0.018	0.086	02/10-07	0.085	02/10-08	8347	249	2	0	0	0	0	0
Allentown-Bethlehem-Easton Air Basin															
Allentown	A19	98.5	0.013	0.067	02/10-08	0.063	02/10-10	8545	107	0	0	0	0	0	0
Freemansburg	A25	98.3	0.017	0.078	01/22-19	0.077	01/22-20	8386	252	0	0	0	0	0	0
Scranton-Wilkes-Barre Air Basin															
Scranton	S01	98.3	0.015	0.072	06/09-21	0.068	02/09-08	8549	86	0	0	0	0	0	0
Wilkes-Barre	S28	98.7	0.014	0.058	02/10-09	0.058	02/10-10	8609	57	0	0	0	0	0	0
Reading Air Basin															
Reading	R01	98.6	0.020	0.100	02/10-08	0.100	02/10-12	8458	196	4	0	0	0	0	0
Harrisburg Air Basin															
Harrisburg	H11	98.8	0.017	0.091	02/10-08	0.088	02/10-05	8489	181	6	0	0	0	0	0
Lancaster Air Basin															
Lancaster	L01	98.5	0.014	0.064	03/08-18	0.060	02/09-23	8565	83	0	0	0	0	0	0
York Air Basin															
York	Y01	98.4	0.018	0.101	02/10-09	0.091	02/10-10	8402	242	3	0	0	0	0	0
DEP Region 3 Non-Air Basin															
Perry County	305	99.3	0.007	0.053	02/04-17	0.051	02/03-20	8703	17	0	0	0	0	0	0
Altoona Non-Air Basin															
Altoona East	308	97.1	0.014	0.079	12/01-05	0.071	12/01-04	8482	47	0	0	0	0	0	0

**** Primary Annual Air Quality Standard of 0.053 parts per million ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

NITROGEN DIOXIDE SUMMARY

(Units: parts per million)

YEAR: 2000

								Number of 1 Hour Values In Ranges							
	PA	Percent		1st Max		2nd Max		0.00	0.05	0.09	0.13	0.17	0.21	0.25	
	Site	Valid	Annual	1 HR	Date	1 HR	Date	to	to	to	to	to	to	to	>
Site Name	Code	Data	Mean	Mean	MM/DD-HH	Mean	MM/DD-HH	0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.28
Johnstown Air Basin															
Johnstown	J01	99.4	0.015	0.057	02/03-11	0.057	02/10-11	8693	34	0	0	0	0	0	0
Monongahela Valley Air Basin															
Charleroi	M01	98.8	0.014	0.087	12/27-15	0.059	02/10-10	8662	15	1	0	0	0	0	0
Lower Beaver Valley Air Basin															
Beaver Falls	B11	98.3	0.017	0.081	03/10-17	0.079	02/10-12	8513	125	0	0	0	0	0	0
Allegheny County Air Basin															
Pittsburgh	D12	94.8	0.022	0.094	02/10-10	0.083	02/10-09	7974	350	1	0	0	0	0	0
DEP Region 5 Non-Air Basin															
Florence	504	97.0	0.008	0.044	11/08-17	0.039	11/08-16	8518	0	0	0	0	0	0	0
Washington	508	99.5	0.015	0.064	04/28-21	0.062	02/09-21	8685	57	0	0	0	0	0	0
Greensburg	513	98.7	0.017	0.056	03/08-18	0.053	03/08-19	8637	31	0	0	0	0	0	0
Upper Beaver Valley Air Basin															
New Castle	B21	96.6	0.019	0.067	07/09-18	0.065	02/10-09	8364	122	0	0	0	0	0	0
Erie Air Basin															
Erie	E10	92.8	0.012	0.063	03/08-18	0.054	01/29-04	8115	34	0	0	0	0	0	0
Special Purpose Monitoring Sites															
Arendtsville	314	55.5	0.004	0.041	10/26-22	0.039	10/26-20	4872	0	0	0	0	0	0	0

**** Primary Annual Air Quality Standard of 0.053 parts per million ****

NITROGEN DIOXIDE HISTORICAL TREND
ANNUAL MEANS
(Units: parts per million)

STATION & SITE CODE		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Southeast Pennsylvania Air Basin											
BRISTOL	(P01)	0.022	0.021	0.019	0.023	0.020	0.021	0.020	0.018	0.018	0.017
CHESTER	(P11)	0.021	0.021	0.021	0.022	0.020	0.021	0.020	0.019	0.017	0.019
NORRISTOWN	(P21)	0.015	0.017	0.022	0.023	0.020	0.021	0.019	0.019	0.016	0.018
Allentown-Bethlehem-Easton Air Basin											
ALLENTOWN	(A19)	0.018	0.018	0.020	0.021	0.018	0.018	0.016	0.016	0.015	0.013
FREEMANSBURG	(A25)	***	***	***	***	***	***	***	0.017	0.017	0.017
Scranton-Wilkes Barre Air Basin											
SCRANTON	(S01)	0.018	0.017	0.018	0.020	0.018	0.018	0.018	0.016	0.014	0.015
WILKES-BARRE	(S28)	0.017	0.016	0.018	0.016	0.014	0.018	0.015	0.015	0.015	0.014
Reading Air Basin											
READING	(R01)	0.022	0.020	0.021	0.023	0.021	0.022	0.021	0.021	0.021	0.020
Harrisburg Air Basin											
HARRISBURG	(H11)	0.020	0.018	0.015	0.022	0.020	0.021	0.019	0.019	0.018	0.017
Lancaster Air Basin											
LANCASTER	(L01)	0.018	0.015	0.015	0.019	0.016	0.017	0.016	0.015	0.015	0.014
York Air Basin											
YORK	(Y01)	0.021	0.020	0.022	0.024	0.021	0.021	0.019	0.019	0.019	0.018
DEP Region 3 Non-Air Basin											
PERRY COUNTY	(305)	0.008	0.007	0.008	0.008	0.007	0.009	0.007	0.006	0.006	0.007
Altoona Non-Air Basin											
ALTOONA	(308)	0.015	0.014	0.015	0.016	0.013	0.014	0.014	0.013	0.013	0.014
Johnstown Air Basin											
JOHNSTOWN	(J01)	0.019	0.018	0.017	0.018	0.015	0.018	0.016	0.015	0.015	0.015
Monongahela Valley Air Basin											
CHARLEROI	(M01)	0.019	0.018	0.018	0.018	0.017	0.017	0.016	0.016	0.015	0.014
Lower Beaver Valley Air Basin											
BEAVER FALLS	(B11)	0.019	0.020	0.020	0.020	0.018	0.018	0.017	0.019	0.019	0.017

*** Indicates less than 50 percent valid data for year

NITROGEN DIOXIDE HISTORICAL TREND
ANNUAL MEANS
(Units: parts per million)

STATION & SITE CODE		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Allegheny County Air Basin											
PITTSBURGH	(D12)	***	***	***	***	***	***	***	0.021	0.023	0.022
DEP Region 5 Non-Air Basin											
FLORENCE	(504)	***	***	***	***	***	***	***	***	0.008	0.008
WASHINGTON	(508)	0.019	0.019	0.019	0.019	0.016	0.015	0.018	0.017	0.016	0.015
GREENSBURG	(513)	***	***	***	***	***	***	***	0.018	0.018	0.017
Upper Beaver Valley Air Basin											
NEW CASTLE	(B21)	0.020	0.021	0.021	0.021	0.019	0.024	0.020	0.019	0.020	0.019
Erie Air Basin											
ERIE	(E10)	0.014	0.014	0.014	0.015	0.015	0.015	0.015	0.014	0.015	0.012

*** Indicates less than 50 percent valid data for year

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

OXIDES OF NITROGEN SUMMARY

(Units: parts per million)

YEAR: 2000

Site Name	PA Site Code	Percent Valid Data	Annual Mean	1st Max 1 HR Mean	1st Max Date MM/DD-HH	2nd Max 1 HR Mean	2nd Max Date MM/DD-HH	Number of 1 Hour Values In Ranges 0.00 to 0.04	0.05 to 0.08	0.09 to 0.12	0.13 to 0.16	0.17 to 0.20	0.21 to 0.24	0.25 to 0.28	> 0.28
Southeast Pennsylvania Air Basin															
Bristol	P01	98.6	0.038	0.602	12/09-00	0.567	02/24-07	6583	1082	400	222	125	66	58	126
Chester	P11	98.1	0.033	0.360	03/01-07	0.356	04/07-00	6390	1439	461	160	115	36	9	11
Norristown	P21	97.9	0.033	0.512	02/22-07	0.460	01/07-07	6511	1308	431	159	96	30	31	32
Allentown-Bethlehem-Easton Air Basin															
Allentown	A19	98.5	0.028	0.354	01/02-08	0.349	01/02-09	7101	853	276	167	98	79	40	36
Freemansburg	A25	98.3	0.033	0.381	02/10-07	0.363	02/10-08	6582	1231	443	183	104	55	22	18
Scranton-Wilkes-Barre Air Basin															
Scranton	S01	98.6	0.026	0.370	02/09-08	0.358	12/05-08	6994	1178	347	83	40	11	4	3
Wilkes-Barre	S28	98.7	0.028	0.282	12/05-06	0.272	02/25-08	6860	1023	474	193	83	21	11	1
Reading Air Basin															
Reading	R01	98.6	0.041	0.562	02/09-08	0.561	12/05-07	5976	1643	558	243	99	54	30	55
Harrisburg Air Basin															
Harrisburg	H11	98.8	0.033	0.593	02/10-06	0.592	02/10-00	6651	1224	403	201	80	54	26	37
Lancaster Air Basin															
Lancaster	L01	98.5	0.027	0.367	02/09-08	0.348	02/10-06	7029	966	372	161	67	27	14	12
York Air Basin															
York	Y01	98.4	0.038	0.514	11/20-07	0.504	02/09-08	6301	1291	525	248	138	63	36	45
DEP Region 3 Non-Air Basin															
Perry County	305	99.3	0.008	0.114	02/04-21	0.113	02/04-16	8586	124	10	0	0	0	0	0
Altoona Non-Air Basin															
Altoona East	308	97.1	0.022	0.266	02/09-22	0.235	03/23-09	7232	926	262	77	22	9	1	0

**** No Long- or Short-Term Air Quality Standards ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

OXIDES OF NITROGEN SUMMARY

(Units: parts per million)

YEAR: 2000

								Number of 1 Hour Values In Ranges							
	PA	Percent		1st Max		2nd Max		0.00	0.05	0.09	0.13	0.17	0.21	0.25	
	Site	Valid	Annual	1 HR	Date	1 HR	Date	to	to	to	to	to	to	to	>
Site Name	Code	Data	Mean	Mean	MM/DD-HH	Mean	MM/DD-HH	0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.28
Johnstown Air Basin															
Johnstown	J01	99.4	0.023	0.218	11/03-16	0.218	11/03-18	7544	920	188	56	16	3	0	0
Monongahela Valley Air Basin															
Charleroi	M01	98.8	0.028	0.351	02/09-08	0.322	02/10-10	6957	981	391	224	93	19	7	6
Lower Beaver Valley Air Basin															
Beaver Falls	B11	98.3	0.033	0.356	11/03-09	0.348	11/03-08	6299	1489	507	214	68	38	13	10
Allegheny County Air Basin															
Pittsburgh	D12	94.8	0.044	0.503	12/04-08	0.488	02/10-10	5649	1384	678	297	181	68	27	41
DEP Region 5 Non-Air Basin															
Florence	504	97.0	0.009	0.126	07/22-18	0.111	11/02-09	8434	77	5	1	0	0	0	0
Washington	508	99.5	0.029	0.322	02/09-21	0.317	11/08-09	7149	986	310	181	79	25	9	3
Greensburg	513	98.7	0.030	0.258	10/27-07	0.247	10/27-06	6762	1483	265	107	34	14	4	0
Upper Beaver Valley Air Basin															
New Castle	B21	96.6	0.036	0.292	02/24-08	0.271	02/09-07	5792	2078	415	134	63	7	6	1
Erie Air Basin															
Erie	E10	92.6	0.019	0.284	11/02-20	0.255	03/06-07	7298	666	114	40	13	1	1	1
Special Purpose Monitoring Sites															
Arendtsville	314	58.0	0.004	0.042	10/26-22	0.041	10/26-20	5095	2	0	0	0	0	0	0

**** No Long- or Short-Term Air Quality Standards ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

CARBON MONOXIDE SUMMARY

(Units: parts per million)

YEAR: 2000

Site Name	PA Site Code	Percent Valid Data	Number 1 HR > 35	1st Max 1 HR Mean	1st Max 1 HR Date MM/DD-HH	2nd Max 1 HR Mean	2nd Max 1 HR Date MM/DD-HH	Number 8 HR > 9	Running Averages 1st Max 8 HR Mean	Running Averages 1st Max 8 HR Date MM/DD-HH	Running Averages 2nd Max 8 HR Mean	Running Averages 2nd Max 8 HR Date MM/DD-HH	Number of 8 Hour Values In Ranges 0 to 4	5 to 8	9 to 12	13 to 16	17 to 20	21 to 24	25 to 28	> 28
Southeast Pennsylvania Air Basin																				
Bristol	P01	85.1	0	4.4	11/20-07	4.3	12/09-00	0	3.8	12/09-03	3.6	12/05-02	7467	0	0	0	0	0	0	0
Norristown	P21	97.2	0	3.0	02/10-08	2.8	12/04-22	0	2.0	12/05-00	1.7	11/25-06	8523	0	0	0	0	0	0	0
Allentown-Bethlehem-Easton Air Basin																				
Freemansburg	A25	99.4	0	15.7	04/03-18	5.5	02/24-07	0	2.6	02/10-08	2.4	04/03-09	8750	0	0	0	0	0	0	0
Allentown CBD	A51	99.3	0	5.1	07/17-13	4.1	02/24-21	0	2.7	12/05-08	2.6	01/02-02	8720	0	0	0	0	0	0	0
Scranton-Wilkes-Barre Air Basin																				
Scranton	S01	96.6	0	5.2	02/09-08	4.4	02/09-07	0	2.4	02/09-09	2.1	02/25-00	8500	0	0	0	0	0	0	0
Wilkes-Barre CBD	S27	99.6	0	4.1	01/03-09	3.8	01/03-10	0	2.2	01/03-14	2.2	02/10-03	8758	0	0	0	0	0	0	0
Reading Air Basin																				
Reading	R01	99.1	0	4.3	12/05-07	3.8	10/12-07	0	2.3	02/10-02	2.1	02/10-12	8726	0	0	0	0	0	0	0
Harrisburg Air Basin																				
Harrisburg CBD	H16	99.6	0	3.8	12/04-23	3.5	02/19-23	0	2.8	12/05-00	2.1	02/25-12	8757	0	0	0	0	0	0	0
Lancaster Air Basin																				
Lancaster	L01	94.2	0	3.4	12/04-17	3.0	12/04-18	0	2.3	11/04-00	1.9	12/05-00	8279	0	0	0	0	0	0	0
York Air Basin																				
York	Y01	99.0	0	3.7	10/13-06	3.7	10/13-07	0	2.0	02/10-11	1.8	10/13-09	8711	0	0	0	0	0	0	0
Altoona Non-Air Basin																				
Altoona	308	97.7	0	1.7	02/22-07	1.7	12/04-07	0	1.0	12/04-10	1.0	10/24-22	8584	0	0	0	0	0	0	0

**** Primary Air Quality Standards ****
**** 1 Hour Mean = 35 parts per million ****
**** 8 Hour Running Mean = 9 parts per million ****

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

CARBON MONOXIDE SUMMARY

(Units: parts per million)

YEAR: 2000

Site Name	PA Site Code	Percent Valid Data	Number 1 HR > 35	1st Max 1 HR Mean	1st Max Date MM/DD-HH	2nd Max 1 HR Mean	2nd Max Date MM/DD-HH	Number 8 HR > 9	Running Averages 1st Max 8 HR Mean	1st Max Date MM/DD-HH	Running Averages 2nd Max 8 HR Mean	2nd Max Date MM/DD-HH	Number of 8 Hour Values In Ranges 0 to 4	5 to 8	9 to 12	13 to 16	17 to 20	21 to 24	25 to 28	> 28
Johnstown Air Basin																				
Johnstown	J01	99.8	0	3.2	11/03-18	2.8	11/03-17	0	2.5	11/03-23	2.0	12/11-15	8758	0	0	0	0	0	0	0
Monongahela Valley Air Basin																				
Charleroi	M01	97.9	0	2.0	11/02-01	1.8	11/01-21	0	1.2	11/02-02	1.1	11/01-04	8592	0	0	0	0	0	0	0
Lower Beaver Valley Air Basin																				
Beaver Falls	B11	98.3	0	1.8	02/09-09	1.7	01/06-21	0	1.2	12/11-17	1.2	01/07-01	8643	0	0	0	0	0	0	0
Allegheny County Air Basin																				
Pittsburgh	D12	97.3	0	3.3	02/10-10	3.2	02/10-09	0	2.4	02/10-03	2.4	02/09-03	8528	0	0	0	0	0	0	0
DEP Region 5 Non-Air Basin																				
Greensburg	513	98.1	0	2.8	02/08-22	2.6	02/02-22	0	1.9	02/09-01	1.8	11/03-00	8602	0	0	0	0	0	0	0
Upper Beaver Valley Air Basin																				
New Castle	B21	99.1	0	3.7	02/24-08	3.5	01/01-17	0	1.9	11/04-00	1.9	03/09-01	8704	0	0	0	0	0	0	0
Erie Air Basin																				
Erie CBD	E12	96.0	0	12.1	08/07-23	11.9	05/06-03	0	7.9	08/08-04	6.0	02/07-04	8403	27	0	0	0	0	0	0
Special Purpose Monitoring Sites																				
Arendtsville	314	57.9	0	1.4	10/06-00	1.4	10/06-01	0	1.3	10/06-06	1.2	10/06-11	5099	0	0	0	0	0	0	0
Holbrook	514	49.8	0	0.9	06/25-18	0.6	07/15-10	0	0.3	06/25-18	0.3	09/04-05	4369	0	0	0	0	0	0	0

**** Primary Air Quality Standards ****
**** 1 Hour Mean = 35 parts per million ****
**** 8 Hour Running Mean = 9 parts per million ****

CARBON MONOXIDE HISTORICAL TREND
(Units: parts per million)

STATION	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Southeast Pennsylvania Air Basin											
BRISTOL	9.6	8.6	6.2	7.9	9.2	6.3	6.8	5.2	6.6	4.3	2nd Maximum 1 Hour Average
P01	6.1	5.7	4.0	5.2	5.0	4.7	3.8	3.5	3.7	3.6	2nd Maximum 8 Hour Average
NORRISTOWN	6.1	4.5	3.9	5.0	4.8	3.5	3.2	2.9	3.1	2.8	2nd Maximum 1 Hour Average
P21	3.8	3.1	2.8	3.9	4.1	2.9	2.2	1.8	1.9	1.7	2nd Maximum 8 Hour Average
Allentown-Bethlehem-Easton Air Basin											
FREEMANSBURG	***	***	***	***	***	***	***	3.4	4.4	5.5	2nd Maximum 1 Hour Average
A25	***	***	***	***	***	***	***	2.4	3.0	2.4	2nd Maximum 8 Hour Average
ALLENTOWN CBD	13.4	6.1	5.6	7.5	7.3	5.3	4.8	5.0	5.5	4.1	2nd Maximum 1 Hour Average
A51	6.5	3.9	3.5	4.7	4.8	3.2	2.7	2.9	3.2	2.6	2nd Maximum 8 Hour Average
Scranton-Wilkes Barre Air Basin											
SCRANTON	5.3	5.5	4.3	4.6	5.2	7.0	4.7	3.4	3.5	4.4	2nd Maximum 1 Hour Average
S01	3.5	3.1	2.8	2.8	2.6	3.5	2.8	1.9	1.7	2.1	2nd Maximum 8 Hour Average
WILKES-BARRE CBD	13.7	7.0	3.7	6.9	5.7	7.4	4.6	7.0	4.2	3.8	2nd Maximum 1 Hour Average
S27	4.8	4.4	3.0	4.3	3.0	4.1	3.3	3.1	3.0	2.2	2nd Maximum 8 Hour Average
Reading Air Basin											
READING	***	***	***	***	***	***	***	4.7	4.6	3.8	2nd Maximum 1 Hour Average
R01	***	***	***	***	***	***	***	3.2	2.8	2.3	2nd Maximum 8 Hour Average
Harrisburg Air Basin											
HARRISBURG CBD	***	***	***	***	***	4.2	5.2	4.1	4.9	3.5	2nd Maximum 1 Hour Average
H16	***	***	***	***	***	2.5	3.3	3.0	4.3	2.1	2nd Maximum 8 Hour Average
Lancaster Air Basin											
LANCASTER	4.2	3.9	4.7	5.2	4.4	3.6	5.1	3.4	3.1	3.0	2nd Maximum 1 Hour Average
L01	2.6	2.6	3.0	3.8	2.4	2.6	3.3	1.9	2.5	1.9	2nd Maximum 8 Hour Average
York Air Basin											
YORK	7.2	6.8	5.4	6.3	5.5	5.0	5.7	5.0	5.3	3.7	2nd Maximum 1 Hour Average
Y01	3.7	3.6	3.3	3.9	2.7	2.8	3.4	2.4	2.4	1.8	2nd Maximum 8 Hour Average

*** Indicates less than 50 percent valid data for year

CARBON MONOXIDE HISTORICAL TREND
(Units: parts per million)

STATION	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Altoona Non-Air Basin											
ALTOONA	3.5	4.7	3.2	3.5	3.1	2.7	2.7	2.0	2.6	1.7	2nd Maximum 1 Hour Average
308	1.7	2.8	2.0	2.4	1.7	1.9	1.5	1.2	1.6	1.0	2nd Maximum 8 Hour Average
Johnstown Air Basin											
JOHNSTOWN	8.4	8.5	5.8	5.4	5.4	7.0	4.7	4.2	4.4	2.8	2nd Maximum 1 Hour Average
J01	4.8	4.4	4.2	4.1	3.5	4.8	2.7	3.1	2.8	2.0	2nd Maximum 8 Hour Average
Monongahela Valley Air Basin											
CHARLEROI	4.0	3.1	2.4	3.5	3.5	2.8	1.8	3.0	2.0	1.8	2nd Maximum 1 Hour Average
M01	2.5	2.6	2.0	3.2	2.8	2.5	1.6	1.9	1.6	1.1	2nd Maximum 8 Hour Average
Lower Beaver Valley Air Basin											
BEAVER FALLS	4.8	3.4	2.7	3.4	3.2	3.2	2.6	2.2	2.5	1.7	2nd Maximum 1 Hour Average
B11	3.2	2.6	2.0	2.4	2.5	2.1	1.9	1.5	1.5	1.2	2nd Maximum 8 Hour Average
Allegheny County Air Basin											
PITTSBURGH	***	***	***	***	***	***	***	3.5	3.3	3.2	2nd Maximum 1 Hour Average
D12	***	***	***	***	***	***	***	2.7	2.5	2.4	2nd Maximum 8 Hour Average
DEP Region 5 Non-Air Basin											
GREENSBURG	***	***	***	***	***	***	***	3.3	3.2	2.6	2nd Maximum 1 Hour Average
513	***	***	***	***	***	***	***	2.3	2.4	1.8	2nd Maximum 8 Hour Average
Upper Beaver Valley Air Basin											
NEW CASTLE	8.2	7.6	5.9	6.7	6.1	6.5	4.6	7.2	5.5	3.5	2nd Maximum 1 Hour Average
B21	3.7	3.4	2.9	3.7	4.3	3.5	3.0	2.4	3.8	1.9	2nd Maximum 8 Hour Average
Erie Air Basin											
ERIE CBD	***	***	***	***	***	***	9.3	9.5	10.6	11.9	2nd Maximum 1 Hour Average
E12	***	***	***	***	***	***	4.9	5.1	5.6	6.0	2nd Maximum 8 Hour Average

*** Indicates less than 50 percent valid data for year

Arendtsville, Pennsylvania
Photochemical Assessment Monitoring Station (PAMS) Compounds
Units: parts per billion carbon (ppbC)
[The concentration in ppbC for a compound can be divided by the number of carbon atoms for that target compound to estimate the concentration in parts per billion volume (ppbv).]

YEAR: 2000 (June-October)

Compound	1 Hour Max	Date/Time of Max	Mean
Acetylene	3.3	8/15/2000 7:00	0.43
Ethylene	5.37	9/20/2000 7:00	0.76
Ethane	15.63	9/28/2000 4:00	3.21
Propylene	2.18	9/20/2000 7:00	0.38
Propane	9.46	9/28/2000 5:00	2.31
Isobutane	2.62	7/26/2000 2:00	0.48
Butene-1	0.55	9/20/2000 7:00	0.15
n-Butane	4.9	9/20/2000 7:00	0.94
t-Butene-2	1.1	8/28/2000 10:00	0.2
c-Butene-2	0.46	9/20/2000 7:00	0.06
Isopentane	12.99	6/28/2000 18:00	1.39
Pentene-1	0.64	8/8/2000 18:00	0.05
n-Pentane	6.61	6/28/2000 18:00	0.67
Isoprene	20.18	8/10/2000 19:00	0.86
trans-2-Pentene	1.42	6/28/2000 18:00	0.02
c-2-Pentene	0.53	6/28/2000 18:00	0
2,2-Dimethylbutane	0.65	6/28/2000 18:00	0.07
cyclopentane	0.76	6/28/2000 18:00	0.05
2,3-Dimethylbutane	1.1	6/28/2000 18:00	0.12
2-Methylpentane	4.56	6/28/2000 18:00	0.38
3-Methylpentane	2.84	6/28/2000 18:00	0.26
1-Hexene	1.44	6/21/2000 3:00	0.05
n-Hexane	2.74	6/28/2000 18:00	0.26
Methylcyclopentane	2.44	6/28/2000 18:00	0.08
2,4-Dimethylpentane	0.73	6/28/2000 18:00	0
Benzene	2.97	6/28/2000 18:00	0.57
Cyclohexane	0.86	6/28/2000 18:00	0.01
2-Methylhexane	1	6/28/2000 18:00	0.06
2,3-Dimethylpentane	0.44	9/20/2000 7:00	0.01
3-Methylhexane	2.54	6/28/2000 18:00	0.23
2,2,4-Trimethylpentane	2.18	6/28/2000 18:00	0.3
n-Heptane	2.01	6/28/2000 18:00	0.1
Methylcyclohexane	1.36	8/9/2000 17:00	0.09
2,3,4-Trimethylpentane	0.74	6/28/2000 18:00	0.06
Toluene	14.82	6/28/2000 18:00	1.23

Arendtsville, Pennsylvania
Photochemical Assessment Monitoring Station (PAMS) Compounds
Units: parts per billion carbon (ppbC)
[The concentration in ppbC for a compound can be divided by the number of carbon atoms for that target compound to estimate the concentration in parts per billion volume (ppbv).]

YEAR: 2000 (June-October)

Compound	1 Hour Max	Date/Time of Max	Mean
2-Methylheptane	0.91	6/28/2000 18:00	0.02
3-Methylheptane	1	6/28/2000 18:00	0.02
n-Octane	1.17	8/9/2000 17:00	0.05
Ethylbenzene	2.82	6/28/2000 18:00	0.21
m/p-Xylene	10.71	6/28/2000 18:00	0.46
Styrene	0.93	8/19/2000 21:00	0.15
o-Xylene	3.73	6/28/2000 18:00	0.2
n-Nonane	0.46	8/9/2000 17:00	0.04
Isopropylbenzene	0.33	8/29/2000 3:00	0.01
n-Propylbenzene	0.88	9/14/2000 7:00	0.02
1,3,5-Trimethylbenzene	1.51	9/14/2000 7:00	0.04
1,2,4-Trimethylbenzene	4.2	9/14/2000 7:00	0.2
o-Ethyltoluene	1.16	9/14/2000 7:00	0.03
m-Ethyltoluene	2.84	9/14/2000 7:00	0.2
p-Ethyltoluene	1.42	9/14/2000 7:00	0.02
m-Diethylbenzene	0.43	6/28/2000 18:00	0.01
p-Diethylbenzene	0.78	6/28/2000 18:00	0.05
1,2,3-Trimethylbenzene	1.29	7/24/2000 10:00	0.16
n-Decane	0.82	9/21/2000 15:00	0.06
Undecane	1.14	9/15/2000 13:00	0.08
tnmoc*	131.12	6/28/2000 18:00	20.14
pamshc**	118.3	6/28/2000 18:00	17.71
Unidentifed VOC	12.83	6/21/2000 14:00	2.22

*Total Nonmethane Organic Compounds
**PAMS Hydrocarbons
VOCs refer to gaseous aliphatic and aromatic nonmethane organic compounds that have a vapor pressure greater than 0.14 mmHg at 25C, and generally have a carbon number in the range of C2-C12.

ELEMENTAL MERCURY VAPOR SUMMARY

YEAR 2000

Instrumental Method: Tekran 2537A Analyzer (Cold Vapor Atomic Fluorescence Spectrometry)

Site: Lancaster Lincoln Junior High School

Monitoring for this Parameter Start Date: June 21, 1999

Valid Hours: 6600 (75.1% Data Availability)

Units: nanograms per cubic meter (ng/m^3)

Annual Mean:	1.8	
1^{st} 1-hour Maximum	37.2	5/26/00 04:00
2^{nd} 1-hour Maximum	32.3	5/21/00 22:00
3^{rd} 1-hour Maximum	25.9	5/21/00 23:00
Maximum 5-minute Sample	104.9	5/26/00 04:20

Number of 1-Hour Average Values in Ranges

0 to 1	1 to 2	2 to 4	4 to 6	6 to 10	10 to 20	20 or More
3.02%	72.19%	23.40%	1.18%	0.12%	0.03%	0.06%

Ambient Air Quality Standard: None

Other Standards: ATSDR Minimal Risk Level for Hazardous Substances
Inhalation Chronic 0.0002 mg/m3 (200 ng/m^3) Neurol. Final 03/99 007439-97-6

EPA Integrated Risk Information System (IRIS) Reference Concentration: 0.0003 mg/m^3 (300 ng/m^3)

The instrument samples air and traps mercury vapor in a cartridge containing ultra-pure gold adsorbent. The amalgamated mercury is thermally desorbed and detected by cold vapor atomic fluorescence spectrometry. Dual cartridges allow alternate sampling and analysis providing continuous measurement on a five-minute cycle.

The risk to human health from direct exposure by inhalation to elemental mercury vapor in ambient air is well below any level of concern. Mercury can be deposited to surface waters and concentrated in the food chain.

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APPENDIX B

Air Pollution Control Agencies in Pennsylvania

Allegheny County Health Department
39th Street and Penn Avenue
Pittsburgh, PA 15201
(412) 578-8140

City of Philadelphia
Air Management Services
1501 East Lycoming Street
Philadelphia, PA 19124
(215) 685-1225

Commonwealth of Pennsylvania
Department of Environmental Protection
Bureau of Air Quality
Division of Air Quality Monitoring
Rachel Carson State Office Building 12th Floor
400 Market Street
P.O. Box 8468
Harrisburg, PA 17105-8468
(717) 787-6548

Related environmental information is available electronically via the Internet. Access the DEP website at www.dep.state.pa.us (directLINK “Air Quality”).

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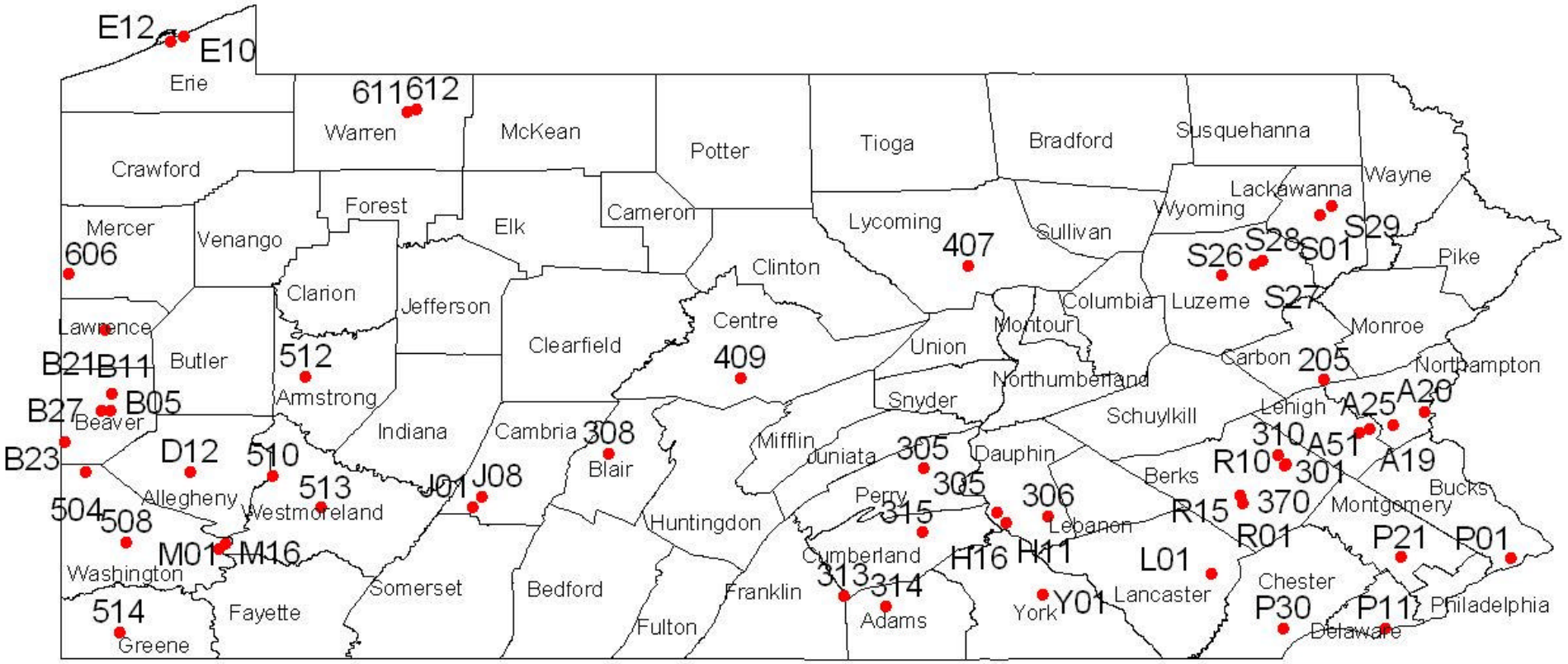
APPENDIX C

MONITORING SITES AND ADDRESSES

Commonwealth of Pennsylvania
2000 Air Monitoring Sites



Numbers Indicate Station Identifiers

SOUTHEAST PENNSYLVANIA AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
P01	BRISTOL	42-017-0012	BUCKS	Roosevelt Junior High School Rockview Lane	40 06 27 74 52 57
P11	CHESTER	42-045-0002	DELAWARE	Front & Norris Streets	39 50 08 75 22 22
P21	NORRISTOWN	42-091-0013	MONTGOMERY	State Armory 1046 Belvoir Road	40 06 45 75 18 34
P30	NEW GARDEN (TOUGHKENAMON)	42-029-0100	CHESTER	1235 Newark Road New Garden Airport	39 50 04 75 46 04

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
BUCKS	P01	X	X					X	X	X	X
DELAWARE	P11	X	X	X		X		X	X	X	
CHESTER	P30									X	
MONTGOMERY	P21	X	X					X	X	X	X

ALLENTOWN - BETHLEHEM - EASTON AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
A19	ALLENTOWN	42-077-0004	LEHIGH	Allentown State Hospital Rear 1600 Hanover Avenue	40 36 43 75 25 58
A20	EASTON	42-095-8000	NORTHAMPTON	Spring Garden	40 41 32 75 14 14
A25	FREEMANSBURG	42-095-0025	NORTHAMPTON	Washington & Cambria Streets	40 37 41 75 20 28
A51	ALLENTOWN	42-077-0100	LEHIGH	2 North Ninth Street Hamilton Street Side	40 35 57 75 28 28

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
NORTHAMPTON	A20		X					X		X	
	A25	X	X					X	X	X	X
LEHIGH	A19	X	X					X	X	X	
	A51										X

SCRANTON - WILKES-BARRE AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
S01	SCRANTON	42-069-2006	LACKAWANNA	Behind Penn State Campus George Street	41 26 34 75 37 23
S26	NANTICOKE	42-079-1100	LUZERNE	255 Lower Broadway	41 12 33 76 00 13
S27	WILKES-BARRE	42-079-2100	LUZERNE	North River Street	41 15 01 75 52 49
S28	WILKES-BARRE	42-079-1101	LUZERNE	Chilwick & Washington Streets	41 15 58 75 50 47
S29	PECKVILLE	42-069-0101	LACKAWANNA	Pleasant Avenue & Erie Street Wilson Fire Company No. 1	41 28 45 75 34 41

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
LACKAWANNA	S01	X	X					X	X	X	X
	S29									X	
LUZERNE	S26									X	
	S27										X
	S28	X	X					X	X	X	

REGION II NON - AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
205	PALMERTON	42-025-0105	CARBON	New Jersey Zinc Research Bldg. Fourth Street & Franklin Avenue	40 48 12 75 36 31

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
CARBON	205			X	X	X	X				

READING AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
R01	READING	42-011-0009	BERKS	UGI Property 234 Morgantown Road	40 19 14 75 55 37
R10	LAURELDALE	42-011-1717	BERKS	Muhlenberg Township Authority Spring Valley Road Substation	40 22 38 75 54 53
R15	READING	42-011-0015	BERKS	Northwest Junior High School North Front & West Spring Streets	40 21 04 75 56 08

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
BERKS	R01	X	X					X	X	X	X
	R10			X	X	X	X				
	R15	X									

LANCASTER AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
L01	LANCASTER	42-071-0007	LANCASTER	Lincoln Junior High School	40 02 49 76 17 00

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
LANCASTER	L01	X	X					X	X	X	X

HARRISBURG AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
H11	HARRISBURG	42-043-0401	DAUPHIN	1833 UPS Drive	40 14 42 76 50 41
H16	HARRISBURG CBD	42-043-0102	DAUPHIN	PA Dept. of Agriculture Parking Lot 2301 North Cameron Street	40 17 09 76 52 53

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
CUMBERLAND											
DAUPHIN	H11	X	X					X	X	X	
	H16										X

YORK AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
Y01	YORK	42-133-0008	YORK	Davis Junior High School Hill Street	39 57 56 76 41 59

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
YORK	Y01	X	X					X	X	X	X

REGION III NON - AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
301	LYONS EAST	42-011-0717	BERKS	Near State & Kemp Streets	40 28 36 75 45 33
305	PERRY COUNTY	42-099-0301	PERRY	Little Buffalo State Park	40 27 26 77 09 57
306	HERSHEY	42-043-1100	DAUPHIN	Hershey Foods Technical Center Sipe Avenue & Mae Street	40 16 21 76 40 53
308	ALTOONA	42-013-0801	BLAIR	Ward Trucking Corporation Second Avenue & Seventh Street	40 32 07 78 22 15
310	KUTZTOWN	42-011-0001	BERKS	Kutztown State College Grim Science Building	40 30 40 75 47 11
313	METHODIST HILL	42-055-0001	FRANKLIN	Forest Road (High Elevation Site)	39 57 40 77 28 31
314	ARENDTSVILLE	42-001-0001	ADAMS	Penn State Research Orchard	39 55 25 77 18 29
315	CARLISLE	42-041-0100	CUMBERLAND	North Middlesex Road	40 15 07 77 08 27
370	LYONS SOUTH	42-011-0003	BERKS	Heffner & Deka Roads	40 28 06 75 45 51

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
BERKS	301			X		X					
	310									X	
	370			X		X					
PERRY	305		X					X	X	X	
CUMBERLAND	315		X								
DAUPHIN	306									X	
FRANKLIN	313									X	
ADAMS	314		X						X		X
BLAIR	308	X						X	X	X	X

REGION IV NON - AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
407	WILLIAMSPORT	42-081-0403	LYCOMING	East Third & Railway Streets	41 14 46 76 59 24
409	STATE COLLEGE	42-027-0100	CENTRE	Pennsylvania State University	40 48 40 77 52 38

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
LYCOMING	407	X						X		X	
CENTRE	409		X							X	

JOHNSTOWN AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
J01	JOHNSTOWN	42-021-0011	CAMBRIA	Miller Auto Body Crafts Shop One Messenger Street	40 18 35 78 54 54
J08	EAST CONEMAUGH	42-021-0808	CAMBRIA	Recreation Field Citron Alley & First Street	40 20 53 78 52 58

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
CAMBRIA	J01	X	X					X	X	X	X
	J08			X	X	X	X				

MONONGAHELA VALLEY AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
M01	CHARLEROI	42-125-0005	WASHINGTON	Borough Waste Treatment Plant Front Street	40 08 48 79 54 08
M16	MONESSEN	42-129-0007	WESTMORELAND	Monessen Community Center 435 Donner Avenue	40 10 00 79 52 30

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
WASHINGTON	M01	X	X					X	X	X	X
WESTMORELAND	M16	X		X	X	X	X				

LOWER BEAVER VALLEY AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
B05	VANPORT	42-007-0505	BEAVER	Vanport Water Works Tamaqui Drive	40 41 05 80 19 30
B11	BEAVER FALLS	42-007-0014	BEAVER	Eighth Street & River Alley	40 44 52 80 19 00
B23	HOOKSTOWN	42-007-0002	BEAVER	FAA Microwave Relay Tower	40 33 47 80 30 16
B27	BRIGHTON TOWNSHIP	42-007-0005	BEAVER	1015 Sebring Road	40 41 05 80 21 35

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
BEAVER	B05			X		X					
	B11	X	X					X	X	X	X
	B23							X		X	
	B27							X		X	

REGION V NON - AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
504	FLORENCE	42-125-5001	WASHINGTON	Hillman State Park	40 26 44 80 25 16
508	WASHINGTON	42-125-0200	WASHINGTON	McCarrell & Fayette Streets	40 10 14 80 15 42
510	MURRYSVILLE	42-129-0006	WESTMORELAND	Murrysville Volunteer Fire Co. Old William Penn Hwy & Sardis Ave.	40 25 41 79 41 35
512	KITTANNING	42-005-0001	ARMSTRONG	Glade Drive & Nolte Road PA State Police Barracks	40 48 51 79 33 54
513	GREENSBURG	42-129-0008	WESTMORELAND	Donohue Road PA Dept. of Transportation Bldg.	40 18 17 79 30 20
514	HOLBROOK	42-059-0002	GREENE		39 48 58 80 17 06
D12	PITTSBURGH	42-003-0010	ALLEGHENY	Carnegie Science Center	40 26 44 80 00 59

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
WASHINGTON	504	X	X					X	X	X	
	508		X					X	X	X	
WESTMORELAND	510									X	
	513	X	X					X	X	X	X
ARMSTRONG	512		X							X	
GREENE	514							X		X	X
ALLEGHENY	D12							X	X	X	X

UPPER BEAVER VALLEY AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
B21	NEW CASTLE	42-073-0015	LAWRENCE	Croton Avenue & Jefferson Street	40 59 45 80 20 48

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
LAWRENCE	B21	X						X	X	X	X

ERIE AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
E10	ERIE	42-049-0003	ERIE	East 10th & Marne Streets	42 08 30 80 02 19
E12	ERIE	42-049-0101	ERIE	West 12th & Myrtle Streets	42 07 14 80 05 21

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
ERIE	E10	X	X					X	X	X	
	E12										X

REGION VI NON - AIR BASIN SITES

SITE LOCATIONS

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
606	FARRELL	42-085-0100	MERCER	Farrell High School Field New Castle Road & Mercer Avenue	41 12 52 80 28 59
611	WARREN	42-123-0003	WARREN	School District Building 345 East 5th Avenue	41 51 26 79 08 15
612	WARREN	42-123-0004	WARREN	Overlook Site near Stone Hill Road	41 50 41 79 10 11

PARAMETERS MONITORED

COUNTY	PA SITE CODE	PM-10	PM-2.5	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
MERCER	606		X					X		X	
WARREN	611							X			
	612							X			

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This and related environmental information are available electronically via Internet. For more information, visit us through the PA PowerPort at http://www.state.pa.us or visit DEP directly at http://www.dep.state.pa.us (directLINK “Air Quality”).

www.GreenWorks.tv - A web space dedicated to helping you learn how to protect and improve the environment. The site features the largest collection of environmental videos available on the Internet and is produced by the nonprofit Environmental Fund for Pennsylvania, with financial support from the Pennsylvania Department of Environmental Protection, 877-PA-GREEN.