



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Commonwealth of Pennsylvania
Department of Environmental Protection
2014 Annual Ambient Air Monitoring
Network Plan

July 2014

Tom Corbett, Governor
Commonwealth of Pennsylvania

E. Christopher Abruzzo, Secretary
Department of Environmental Protection

This page intentionally left blank

Table of Contents

List of Tables	4
List of Figures.....	4
List of Acronyms	5
Introduction.....	6
General Descriptions of Criteria Pollutants	7
Carbon Monoxide (CO)	7
Fine Particulate Matter (PM_{2.5})	7
Lead (Pb)	7
Nitrogen Dioxide (NO₂)	8
Ozone (O₃)	8
Particulate Matter (PM₁₀)	9
Sulfur Dioxide (SO₂)	9
Ambient Air Quality Monitoring Organizations in Pennsylvania.....	10
Ambient Air Monitoring Network Requirements.....	10
Commonwealth of Pennsylvania Ambient Air Monitoring Network.....	11
Program History.....	11
Description of PA DEP’s Ambient Air Monitoring Network	12
Description of Monitoring Networks Operated by Philadelphia and Allegheny Counties	12
Overview of Pennsylvania’s Ambient Air Monitoring Network	14
Commonwealth of Pennsylvania’s Air Monitoring Network Sites	16
Changes to Monitoring Sites and Samplers in 2013-2014	18
Termination of the Carnegie Site:	18
Site and Monitoring Activity Anticipated within the Next 18 Months	20
Proposed Site Terminations:	21
Site Relocations:	31
Modifications to the CO Network:	33
Modifications to the PM_{2.5} Network:	36
Near-road NO₂ Site Installation Plan	42
Modification to the NO₂ Network:	46
Modification to the Ozone Network:	46
Modifications to the PM₁₀ Network:	46
Modifications to the SO₂ Network:	48
Modifications to the Air Toxics Network:	49
Potential Department Actions Following Public Comment Period.....	50
Possible Monitor Additions or Modificaitons:	50
Loss of EPA funding for PM_{2.5} Speciation Monitors:	50
Appendix A — PA DEP Ambient Air Monitoring Sites, Parameters and Maps	A-1
Appendix B — Pennsylvania Monitoring Network Site Details.....	B-1
Appendix C — PA DEP Ambient Air Monitoring Methods.....	C-1

List of Tables

Table 1. National Ambient Air Quality Standards (NAAQS).....	6
Table 2. Air Pollution Control Agencies in the Commonwealth of Pennsylvania.....	10
Table 3. PA DEP Air Monitoring Network Sites and Parameters Monitored.....	17
Table 4. Summary of Changes to the PA DEP Air Monitoring Network in 2013-2014.....	18
Table 5. Summary of Proposed Changes to the PA DEP Air Monitoring Network 2014-2015.....	20
Table 6. Population Weighted Emission Index Values for the Harrisburg-Carlisle MSA.....	25
Table 7. 8-Hour CO Concentrations, PA DEP CO Network, 2009-2013.....	35
Table 8. 1-Hour CO Concentrations, PA DEP CO Network, 2009-2013.....	35
Table 9. Silicon Concentrations as Percentage of PM _{2.5} , Average 2005-2007.....	37
Table 10. Near-road NO ₂ Minimum Monitoring Requirements.....	42
Table 11. PM ₁₀ Concentrations, Reading Airport, 2007-2013.....	47

List of Figures

Figure 1. Map of Metropolitan Statistical Areas (MSA) in Pennsylvania.....	14
Figure 2. Map of Pennsylvania Air Basins.....	15
Figure 3. Map of PA DEP Air Monitoring Network.....	16
Figure 4. Ozone Design Values in the Harrisburg-Carlisle MSA.....	21
Figure 5. Ozone Design Values in the Harrisburg-Lebanon-Carlisle, PA Ozone Maintenance Area.....	22
Figure 6. Perry County and Arendtsville CASTNET Site Locations.....	23
Figure 7. Comparison of Perry County and Arendtsville CASTNET Annual Ozone Data.....	24
Figure 8. Comparison of Perry County and Arendtsville CASTNET Daily Ozone Data.....	24
Figure 9. Ozone Design Values in the Scranton-Wilkes-Barre MSA.....	26
Figure 10. Ozone Design Values in the Scranton-Wilkes-Barre, PA Ozone Maintenance Area.....	27
Figure 11. Ozone Design Values in the Pittsburgh MSA.....	28
Figure 12. Pittsburgh MSA Site Location.....	29
Figure 13. Ozone Design Values in the Pittsburgh-Beaver Valley, PA Ozone Maintenance Area.....	30
Figure 14. Proposed Relocation of the Beaver Valley Site.....	31
Figure 15. Proposed Relocation of the Scranton Site.....	32
Figure 16. Second Maximum 8-Hour CO Concentrations, Historical Trend of Current CO Network.....	34
Figure 17. Second Maximum 1-Hour CO Concentrations, Historical Trend of Current CO Network.....	34
Figure 18. Location of Chester site and Evonik Degussa Facility.....	37
Figure 19. Annual PM _{2.5} Design Values, Chester, 2002-2013.....	38
Figure 20. Daily PM _{2.5} Design Values, Chester, 2002-2013.....	38
Figure 21. Location of Chester and Marcus Hook Air Monitoring Sites.....	39
Figure 22. PM _{2.5} Design Values, State College, 2002-2013.....	40
Figure 23. PM _{2.5} Design Values, York, 2002-2013.....	40
Figure 24. Apportionment of PM _{2.5} Speciation Constituents, State College.....	41
Figure 25. Apportionment of PM _{2.5} Speciation Constituents, York.....	41
Figure 26. Proposed location of the Harrisburg near road site.....	44
Figure 27. Proposed location of the Harrisburg near road site-looking west.....	44
Figure 28. Proposed site location for the Allentown near road monitor.....	45
Figure 29. Proposed location of the Allentown near road site-looking east.....	45
Figure 30. Comparison of PM ₁₀ Concentrations at Harrisburg and Hershey Monitoring Sites.....	46
Figure 31. Location of Warren East Monitoring Station.....	48

List of Acronyms

APCA	Air Pollution Control Act
AQS	Air Quality System
BAM	Beta Attenuation Monitor
CAA	Clean Air Act
CBSA	Core based statistical area
CFR	Code of Federal Regulations
CSA	Combined Statistical Area
CO	Carbon Monoxide
COPAMS	Commonwealth of Pennsylvania's Air Monitoring System
EPA	U. S. Environmental Protection Agency
FDMS	Filter Dynamics Measurement System
FEM	Federal Equivalent Method
FID	Flame Ionization Detector
FRM	Federal Reference Method
GC	Gas Chromatograph
IR	Infrared (radiation)
H ₂ S	Hydrogen Sulfide
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NCORE	National Core multipollutant monitoring stations
NO	The gaseous pollutant Nitrogen Oxide
NO ₂	The gaseous pollutant Nitrogen Dioxide
NO _x	Oxides of Nitrogen
O ₃	The gaseous pollutant Ozone
PA DEP	Pennsylvania Department of Environmental Protection
PAMS	Photochemical Assessment Monitoring Station
Pb	Lead
PM _{2.5}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PM _{10-2.5}	Particulate matter with an aerodynamic diameter between 10 and 2.5 micrometers
PWEI	Population Weighted Emissions Index
QA	Quality Assurance
SIP	State Implementation Plan
SLAMS	State or Local Air Monitoring Stations
SO ₂	The gaseous pollutant Sulfur Dioxide
SPM	Special Purpose Monitor
STN	PM _{2.5} Speciation Trends Network
TSP	Total Suspended Particulate
TEOM	Tapered Element Oscillating Microbalance
UV	Ultraviolet
VOC	Volatile Organic Compounds

Introduction

In 1970, Congress enacted the Clean Air Act (CAA) authorizing the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for pollutants shown to threaten human health and welfare. Primary NAAQS were promulgated according to criteria designed to protect public health, including an adequate margin of safety to protect sensitive populations such as children and asthmatics. The secondary NAAQS were promulgated according to criteria designed to protect public welfare (decreased visibility, damage to crops, vegetation, and buildings, etc.).

The EPA has promulgated NAAQS for the following pollutants: ozone (O₃), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter less than 10 microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), and lead (Pb). These are commonly called the “criteria” pollutants. In accordance with Section 107 of the CAA, 42 U.S.C. section 7407, after EPA establishes or revises a primary and/or secondary National Ambient Air Quality Standard (NAAQS), EPA designates areas as “attainment” (meeting), “nonattainment” (not meeting), or “unclassifiable” (insufficient data) upon review of monitoring data collected by state, local and tribal governments. For areas with nonattainment designations, the state and local agencies must develop and submit to EPA implementation plans outlining how areas will attain and maintain the standards by reducing air pollutant emissions. Table 1 below lists all of the NAAQS for the criteria pollutants and is available at <http://www.epa.gov/air/criteria.html>.

Table 1. National Ambient Air Quality Standards (NAAQS)

Pollutant [final rule cite]	Primary/ Secondary	Averaging Time	Level	Form	
Carbon Monoxide [76 FR 54294, Aug 31, 2011]	Primary	8-hour 1-hour	9 ppm 35 ppm	Not to be exceeded more than once per year	
Lead [73 FR 66964, Nov 12, 2008]	Primary and Secondary	Rolling 3 month average	0.15 µg/m ³ (1)	Not to be exceeded	
Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]	Primary	1-hour	100 ppb	98th percentile, averaged over 3 years	
	Primary and Secondary	Annual	53 ppb (2)	Annual Mean	
Ozone [73 FR 16436, Mar 27, 2008]	Primary and Secondary	8-hour	0.075 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years	
Particle Pollution Dec 14, 2012 [78 FR 3086, Jan 15, 2013]	PM _{2.5}	Primary	Annual	12 µg/m ³	annual mean, averaged over 3 years
		Secondary	Annual	15 µg/m ³	annual mean, averaged over 3 years
		Primary and Secondary	24-hour	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	Primary and Secondary	24-hour	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]	primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year	

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remained in effect until one year after an area was designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

(2) The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO₂ standards were revoked in that same rulemaking. However, these standards remained in effect until one year after an area was designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

General Descriptions of Criteria Pollutants

Carbon Monoxide (CO)

Carbon monoxide is a byproduct of the incomplete burning of fuels. Industrial processes contribute to carbon monoxide pollution levels, but the largest man-made source of carbon monoxide is motor vehicle emissions. This pollutant is a health concern in areas of high traffic density or near industrial sources. Peak carbon monoxide concentrations typically occur during the colder months of the year when automotive emissions are greater and nighttime inversion (a weather-related phenomenon) conditions are more frequent.

Carbon monoxide 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 or shortness of breath, asphyxia, and eventually death. 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 measured by infrared absorption photometry. A continuous flow of air is drawn through a sample cell where infrared light passes through it. The carbon monoxide molecules absorb a portion of the infrared light. This reduces the amount of light getting to the sensor. The light is then converted into an electrical signal related to the concentration of carbon monoxide in the sample cell.

Fine Particulate Matter (PM_{2.5})

Fine particulate emissions result primarily from industrial processes and fuel combustion - including motor vehicles, residential wood burning, and forest or agricultural fires.

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. 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.

PM_{2.5} is sampled by drawing air through a specially designed inlet that excludes particles larger than 2.5 microns in diameter. For the manual Federal Reference Method (FRM) sampler, the particles are collected on a Teflon™ Microfiber filter that is weighed to determine the particulate mass. The normal sampling schedule is for a 24-hour sample to be taken daily. In addition, PA DEP utilizes Federal Equivalent Method (FEM) Met One Model 1020 and Thermo-Fisher TEOM-FDMS monitors.

Lead (Pb)

Lead is emitted to the atmosphere primarily from certain industrial processes, such as battery manufacturers and lead smelters. A portion of the private aviation sector is an additional source of lead emissions. As a result of the reduction in lead in gasoline, metal processing is now the major source of lead emissions.

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 cardiovascular, nervous, and renal systems.

The amount of lead in ambient air is measured by laboratory analysis of TSP filters using Inductively Coupled Plasma - Mass Spectrometry.

Nitrogen Dioxide (NO₂)

Nitrogen dioxide is a highly toxic, reddish brown gas that is created primarily from fuel combustion in industrial sources and vehicles. It creates an odorless brown haze that causes eye and sinus irritation, blocks natural sunlight and reduces visibility. It can severely irritate the respiratory system and has been associated with acute effects in individuals diagnosed with respiratory disease. Nitrogen dioxide contributes to the creation of acid rain and plays a key role in nitrogen loading, adversely impacting forests and other ecosystems.

Nitrogen oxides are measured using the chemiluminescence reaction of nitric oxide (NO) with ozone (O₃). Air is drawn into a reaction chamber where it is mixed with a high concentration of ozone from an internal ozone generator. Any nitric oxide mixes with ozone to produce NO₂. Light from this reaction is detected with a photomultiplier tube and converted to an electrical signal proportional to the nitric oxide concentration. Total nitrogen oxides (NO_x) are measured by passing the air through a converter where any NO₂ in the air is reduced to nitric oxide before the air is passed to the reaction chamber. By alternately passing the air directly to the reaction chamber and through the converter before the reaction chamber, the analyzer alternately measures nitric oxide and NO_x. Nitrogen dioxide (NO₂) is measured indirectly by a subtraction of the NO_x and NO₂ concentrations.

Ozone (O₃)

Ground-level ozone, or photochemical smog, is a secondary pollutant. Ozone is generally not emitted directly into the atmosphere as ozone, but rather is formed by chemical reactions between other air pollutants. The primary pollutants involved in these reactions – volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) – form ozone in the presence of sunlight and warm temperatures. Thus, sources that emit these ozone precursors are sources of ozone. Nitrogen oxides result from fossil fuel combustion and sources commonly include power plants, industrial boilers, and motor vehicles. VOCs are emitted from a variety of sources, including motor vehicles, chemical plants, refineries, and even natural (biogenic) sources. Ozone and the precursor pollutants that cause ozone also can be transported into an area from pollution sources located hundreds of miles away. Because the formation of ozone is boosted by increasing sunlight and temperatures, changing weather patterns contribute to yearly differences in ozone concentrations, with peak concentrations occurring during the summer months.

Ground-level ozone is a strong irritant to the eyes and upper respiratory system and can hamper breathing. It also damages vegetation, including forest and agricultural crops, and man-made materials such as monuments and statues.

Ozone is measured by ultraviolet absorption photometry. Air is drawn through a sample cell where ultraviolet light (254 nm wavelength) passes through it. Any light that is not absorbed by the ozone is then converted into an electrical signal proportional to the ozone concentration.

Particulate Matter (PM₁₀)

PM₁₀ appears to represent essentially all of the particulate emissions from transportation sources and most of the emissions in the other traditional categories (coal-burning power plants, steel mills, mining operations, etc.). Although PM_{2.5} is technically included in the definition of PM₁₀, the terms “PM₁₀” or “coarse” particles are commonly used to refer to particles greater than PM_{2.5}, but less than 10 micrometers in diameter.

Sources of coarse particles may include dust-producing process, such as crushing or grinding operations, as well as dust stirred up by vehicles traveling on roads. While they are not as much of a health concern as are fine particles, they can aggravate respiratory conditions and irritate the linings of the eyes, nose, throat and lungs. In the environment, PM₁₀ contributes to reduced visibility and degradation of man-made materials.

PM₁₀ is sampled continuously using a tapered element oscillating microbalance (TEOM). Air is drawn through a specially designed inlet that excludes particles larger than 10 microns in diameter. Particle accumulation causes changes in the microbalance oscillation that are recorded by the instrument.

Sulfur Dioxide (SO₂)

Sulfur dioxide is a gaseous pollutant that is emitted primarily by industrial furnaces or power plants burning sulfur-containing coal or oil. 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 vegetation, including forests 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.

Sulfur dioxide is measured with an ultraviolet fluorescence analyzer. Air is drawn through a sample cell where it is then subjected to high intensity ultraviolet light. This causes the sulfur dioxide molecules in the air to fluoresce and release light. The fluorescence is detected with a photomultiplier tube and converted to an electrical signal proportional to the SO₂ concentration.

Ambient Air Quality Monitoring Organizations in Pennsylvania

Table 2. Air Pollution Control Agencies in the Commonwealth of Pennsylvania

Organization	Address and Phone	Internet
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	http://www.depweb.state.pa.us/ (Choose "Air" from the left-hand menu)
Allegheny County Health Department	39th Street and Penn Ave Pittsburgh, PA 15201 (412) 578-8104	http://www.achd.net/air/index.html
City of Philadelphia Department of Public Health Air Management Services	321 University Avenue Philadelphia, PA 19104 (215) 685-7584	http://www.phila.gov/health/airmanagement/

Ambient Air Monitoring Network Requirements

On October 17, 2006, the EPA promulgated a final rule entitled "Revisions to Ambient Air Monitoring Regulations" for criteria pollutants. EPA stated in the Preamble that "[t]he purpose of the amendments is to enhance ambient air quality monitoring to better serve current and future air quality" (71 FR 61236). The October 2006 rule also includes provisions concerning state and local agency ambient air monitoring networks. In addition to establishing limited air quality monitoring requirements for thoracic coarse particles in the size range of PM_{10-2.5}, EPA also modified the general monitoring network work design requirements for ambient air monitoring networks operated and maintained by state and local agencies. The minimum requirements for the number of monitors for PM_{2.5} and ozone monitoring networks were also amended. Pursuant to Sections 58.10(a) and 58.10(b), network plans must include the following for existing and proposed monitoring sites:

- A statement of purpose for each monitor
- Evidence that siting and operation of each monitor meets the requirements of 40 CFR Part 58, Appendices A, C, D, and E where applicable
- The Air Quality System (AQS) site identification number
- The location, including street address and geographical coordinates
- The sampling and analysis method(s) for each measured parameter
- The operating schedules for each monitor
- Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal
- The monitoring objective and spatial scale of representativeness for each monitor
- The identification of any sites that are suitable and sites that are not suitable for comparison against the annual PM_{2.5} NAAQS, as described in 40 CFR § 58.30
- The Metropolitan Statistical Area (MSA), Core Based Statistical Area (CBSA), Combined Statistical Area (CSA), or other area represented by the monitor

Commonwealth of Pennsylvania Ambient Air Monitoring Network

Program History

The Air Pollution Control Act of 1955 was the first federal legislation involving air pollution. This Act provided funds for federal research in air pollution. The Clean Air Act of 1963 was the first federal legislation regarding air pollution *control*. It established a federal program within the U.S. Public Health Service and authorized research into techniques for monitoring and controlling air pollution. In 1967, the Air Quality Act was enacted in order to expand federal government activities. In accordance with this law, enforcement proceedings were initiated in areas subject to interstate air pollution transport. As part of these proceedings, the federal government for the first time conducted extensive ambient monitoring studies and stationary source inspections.¹

The federal Clean Air Act Amendments of 1970 included provisions which established criteria pollutants, authorized EPA to set national ambient air quality standards (NAAQS), and required states to develop State Implementation Plans (SIPs), which include enforceable requirements and control measures to attain and maintain the standards.

The Pennsylvania Air Pollution Control Act (APCA), enacted originally on January 8, 1960, 35 P.S. Section 4001 et seq., established the framework for the Commonwealth's air pollution control program. The Declaration of Policy set forth in Section 2 of the APCA, 35 P.S. Section 4002, provides:

It is hereby declared to be the policy of the Commonwealth of Pennsylvania to protect the air resources of the Commonwealth to the degree necessary for the (i) protection of public health, safety and well-being of its citizens; (ii) prevention of injury to plant and animal life and to property; (iii) protection of the comfort and convenience of the public and the protection of the recreational resources of the Commonwealth; (iv) development, attraction and expansion of industry, commerce and agriculture; and (v) implementation of the provisions of the Clean Air Act in the Commonwealth.

Section 4 of the APCA empowers the Department of Environmental Protection (formerly the Department of Environmental Resources and hereafter referred to as the PA DEP or Department) to implement the provisions of the Clean Air Act in the Commonwealth. 35 P.S. Section 4004(1).

When established in 1971, the Department implemented air pollution control programs to protect the air resources of the Commonwealth that, with a great deal of success, have largely addressed major public health and welfare air quality concerns. Significant changes have occurred over the years with the program, notably with the passage of the Clean Air Act Amendments in 1990 as well as the adoption and implementation of PM_{2.5} NAAQS requirements in 1997. Currently, PA DEP has an extensive monitoring program that not only monitors for criteria pollutants, but also for air toxics and volatile organic compounds (VOCs).

¹ http://www.epa.gov/air/caa/caa_history.html

Description of PA DEP's Ambient Air Monitoring Network

The PA DEP Air Monitoring Network consists of 75 air monitoring stations, located in 40 of the 67 counties in Pennsylvania. The Department operates the Commonwealth of Pennsylvania Air Monitoring System (COPAMS) as its air monitoring network for criteria pollutants. The COPAMS network consists of 66 stations, located in 36 Pennsylvania counties, and encompasses both continuous and discrete methods of pollutant sampling. The continuous portion of the COPAMS network utilizes a totally automatic, microprocessor-controlled system of remote stations throughout the Commonwealth. Continuous methods employ specialized instruments designed to continuously sample and analyze ambient air *in situ*. The output of these devices is hourly pollutant concentrations. These concentrations are the raw data used to calculate the various pollutant averages needed for NAAQS comparisons. A centralized computer system operated by the Bureau of Air Quality collects the raw data on an hourly basis, enabling real-time monitoring. PA DEP utilizes continuous methods for the following pollutants: ozone, sulfur dioxide, nitrogen dioxide, oxides of nitrogen, carbon monoxide, hydrogen sulfide, PM_{2.5}, and PM₁₀. Various meteorological data from many of the COPAMS stations are measured using continuous methods as well, including wind speed, wind direction (vector averaged and sigma theta), ambient temperature, and solar radiation.

The non-continuous portion of the COPAMS network utilizes discrete sampling methods, with analysis of the sample performed off-site at the PA DEP Bureau of Laboratories. A discrete method is generally defined as a "manual" method of sampling, most commonly using an air filter to trap air pollutants from ambient air on a filter substrate for a defined or "discrete" period of time. The filter is then removed from the collection site and analyzed by the PA DEP Bureau of Laboratories in Harrisburg, PA. The discrete portion of the COPAMS network includes analysis methods for particulate matter 2.5 microns or less in size (PM_{2.5}), particulate matter 10 microns or less in size (PM₁₀) and lead. In addition, PA DEP conducts PM_{2.5} speciation monitoring at selected sites. Speciation analysis provides a breakdown of PM_{2.5} constituent compounds. Speciation analysis is performed at the Research Triangle Institute (RTI) laboratory in Research Triangle Park, NC.

The Air Toxics component of the PA DEP Air Monitoring Network utilizes various continuous and discrete sampling methods to monitor for selected toxic air pollutants, including heavy metals such as mercury and chromium; and VOCs such as benzene, trichloroethylene, and methylene chloride. Although there are no national concentration standards for these pollutants, PA DEP uses approved EPA analytical methods to determine ambient concentrations. PA DEP conducts air toxics monitoring at 18 stations, located in 14 Pennsylvania counties.

Description of Monitoring Networks Operated by Philadelphia and Allegheny Counties

This document does not provide detailed descriptions of the monitoring networks operated and maintained by the PA DEP- approved local air pollution control programs in Philadelphia and Allegheny Counties. Detailed descriptions of local networks will be submitted to EPA by the Allegheny County Health Department and the City of Philadelphia Department of Public Health Air Management Services, respectively. Contact information for ACHD and AMS is located on page 10 of this plan.

Allegheny County Health Department

The Allegheny County Health Department (ACHD) operates a network of seventeen ambient air monitoring stations, including one multi-pollutant NCore site, throughout Allegheny County. In addition to criteria pollutant monitoring, ACHD also conducts monitoring for air toxics and the chemical speciation of PM_{2.5} at selected sites.

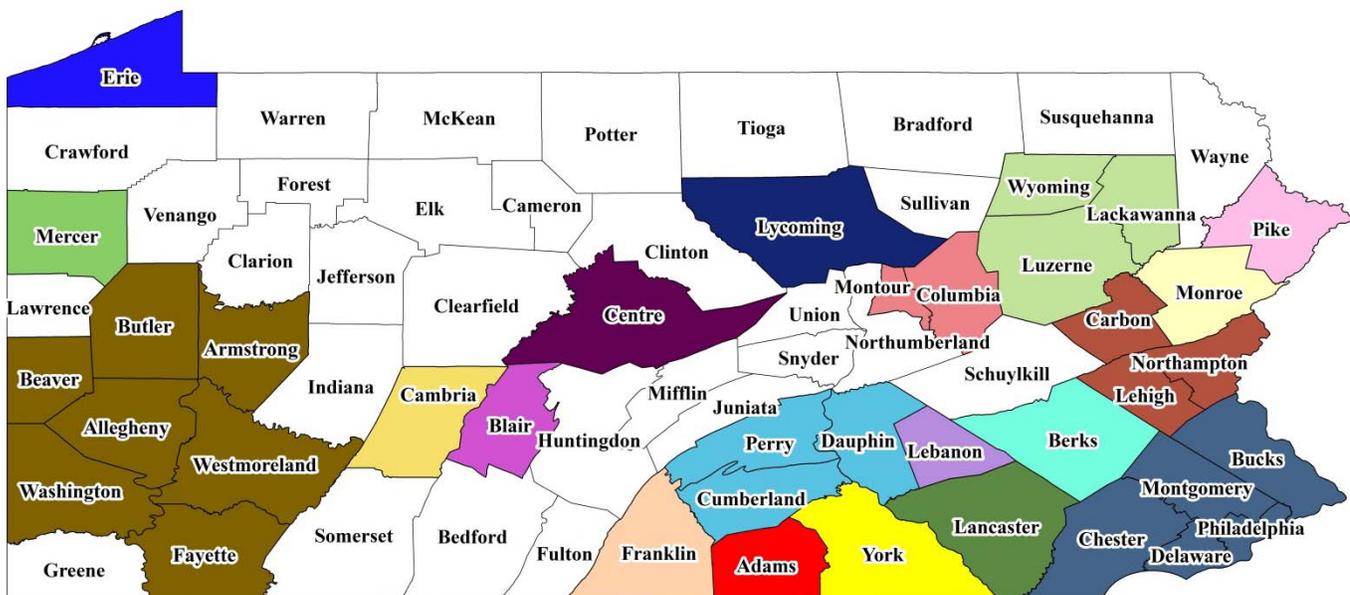
Philadelphia Air Management Services

The City of Philadelphia Health Department's Air Management Services (AMS) operates a network of ten air monitoring sites, including one multi-pollutant NCore site, located throughout Philadelphia County. In addition to criteria pollutant monitoring, AMS also conducts monitoring for air toxics and chemical speciation of PM_{2.5} at selected sites.

Overview of Pennsylvania’s Ambient Air Monitoring Network

The Department’s monitoring strategy requires the installation of monitors in areas under PA DEP’s jurisdiction having high population density and/or high levels of contaminants, based on EPA guidance and population information from the U.S. Office of Management and Budget (OMB). The OMB defines urbanized areas of concentrated population of 50,000 or greater as Metropolitan Statistical Areas (MSA). The Commonwealth of Pennsylvania encompasses twenty MSAs, either wholly or in part. Figure 2-1 displays the geographical boundaries of MSA regions and population estimates for 2010 available at <http://www.census.gov>. The Code of Federal Regulations (CFR) sets forth minimum monitoring requirements based at least in part on population statistics for ozone, sulfur dioxide, nitrogen dioxide and particulate matter (PM) monitoring networks. PA DEP conducts air monitoring surveillance in both MSA and non-MSA regions.

Figure 1. Map of Metropolitan Statistical Areas (MSA) in Pennsylvania

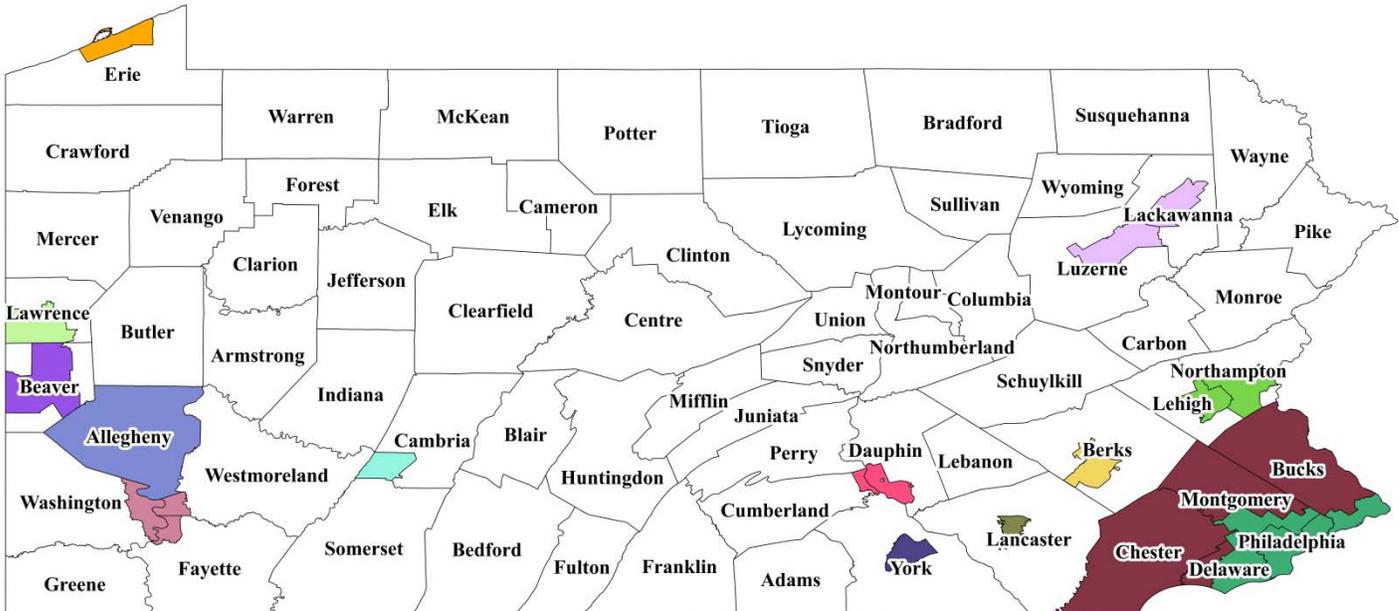


LEGEND:

MSA	Population	MSA	Population
Allentown-Bethlehem-Easton, PA-NJ	827,048	New York-Newark-Jersey City, NY-NJ-PA	19,949,502
Altoona, PA	126,314	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	6,034,678
Bloomsburg-Berwick, PA	85,338	Pittsburgh, PA	2,360,867
Chambersburg-Waynesboro, PA	152,085	Reading, PA	413,521
East Stroudsburg, PA	167,148	Scranton--Wilkes-Barre--Hazleton, PA	562,037
Erie, PA	280,294	State College, PA	155,403
Gettysburg, PA	101,546	Williamsport, PA	116,754
Harrisburg-Carlisle, PA	557,711	York-Hanover, PA	438,965
Johnstown, PA	140,499	Youngstown-Warren-Boardman, OH-PA	555,506
Lancaster, PA	529,600	Non-MSA Regions	
Lebanon, PA	135,486		

In addition to conducting monitoring in the federally defined MSA, almost half of PA DEP air monitoring stations are located in the “air basins” of the Commonwealth. Air basins as defined in 25 Pa. Code § 121.1 consist of thirteen geographical areas. Figure 2-2 displays the geographical boundaries of these areas. PA DEP conducts air monitoring surveillance in both air basin and non-air basin regions.

Figure 2. Map of Pennsylvania Air Basins



Air Basin

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

PA DEP maintains a cooperative agreement with Pennsylvania State University’s (PSU) Department of Plant Pathology for ozone monitoring in three remote areas of the Commonwealth: Centre County (on the grounds of the PSU arboretum), Clearfield County (near Moshannon), and Tioga County (near Gleason). PSU uses ozone data collected from this cooperative monitoring effort to determine detrimental effects to Pennsylvania’s forests and crops, and to assess ozone transport in rural Pennsylvania. Under the same cooperative agreement, PSU also operates ozone and NO₂ monitors in Bradford County (near Towanda) to assess air quality downwind of Marcellus shale gas extraction drilling sites and gas compression facilities.

PA DEP 2014 Annual Air Monitoring Network Plan

Table 3. PA DEP Air Monitoring Network Sites and Parameters Monitored

SITENAME	Criteria Pollutants								Air Toxics					
	Ozone	Sulfur Dioxide	Nitrogen Dioxide	Carbon Monoxide	PM _{2.5}	PM _{2.5} Speciation	PM ₁₀	Lead	VOC	Carbonyls	TSP/ Metals	Mercury	Hydrogen Sulfide	Methane/ Non-methane Hydrocarbons
ALLENTOWN	x						x							
ALTOONA	x	x			x		x							
ARENDSVILLE			x	x	x	x			x	x				
BEAVER FALLS	x		x		x		x		x					
BEAVER VALLEY								x			x			
BRIGHTON TWP	x	x												
BRISTOL	x	x	x	x	x									
CARLISLE					x									
CHARLEROI	x	x	x	x	x		x		x					
CHESTER	x	x	x		x		x	x	x		x			
COLLEGEVILLE									x					
CONEMAUGH								x						
DURYEA								x						
EASTON	x	x											x	
ELLWOOD CITY								x						
ERIE	x	x	x	x	x	x	x							
EVANSBURG UNITED METHODIST									x					
FARRELL	x				x									
FLORENCE	x	x			x	x								
FREEMANSBURG	x		x	x	x	x			x					
GREENSBURG	x				x	x			x					
HARRISBURG	x				x	x	x							
HERSHEY	x							x						
HOLBROOK	x	x												
HOOKSTOWN	x	x												
HOUSTON	x		x	x	x				x	x			x	x
JOHNSTOWN	x	x	x	x	x	x	x							
KITTANNING	x				x									
KUTZTOWN	x													
LANCASTER	x		x		x	x	x		x	x	x	x		
LANCASTER DOWNWIND	x				x									
LAURELDALE NORTH								x						
LAURELDALE SOUTH								x						
LEBANON	x				x									
LEHIGH VALLEY					x									
LEWISBURG									x	x	x			
LYONS BORO								x						
LYONS PARK								x						
MARCUS HOOK									x		x			
MEHOOPANY									x					
METHODIST HILL	x													
MONTOURSVILLE	x							x						
MOSHANNON	x													
MT JOY								x						
MURRYSVILLE	x													
NANTICOKE	x													
NAZARETH								x						
NEW CASTLE	x	x		x				x						
NEW GARDEN	x				x	x								
NORRISTOWN	x	x			x									
PALMERTON								x						
PECKVILLE	x													
PERRY COUNTY	x	x	x											
POTTER TOWNSHIP								x						
PRESQUE ISLE									x		x			
READING AIRPORT	x	x	x	x	x	x	x		x		x			
RIDLEY PARK								x						
SCRANTON	x		x	x	x	x								
SHELOCTA								x						
SLIPPERY ROCK									x		x			
SPRINGVILLE									x					x
STATE COLLEGE	x	x	x		x	x								
STRONGSTOWN	x	x												
SWARTHMORE									x		x			
SWIFTWATER	x				x									
TIOGA COUNTY	x		x											
TOWANDA	x		x											
UPPER STRASBURG								x						
VANPORT								x						
WARREN EAST		x											x	
WARREN OVERLOOK		x												
WASHINGTON	x				x									
WILKES BARRE	x	x						x						
YORK	x	x	x	x	x	x	x		x					
YORK DOWNWIND	x													
TOTALS	45	21	17	11	28	13	16	16	19	4	9	1	3	2

Changes to Monitoring Sites and Samplers in 2013-2014

The Department has completed several modifications to its air monitoring network in the 2013-2014 time period. Those changes are briefly described below in Table 4.

Table 4. Summary of Changes to the PA DEP Air Monitoring Network in 2013-2014

Pollutant Network/ Site	Changes
Site Termination – Carnegie	<ul style="list-style-type: none"> • Ozone, SO₂, NO₂ and CO monitors removed from exhibit at the Carnegie Science Center (Allegheny County)
Modifications to Air Toxics Network	<ul style="list-style-type: none"> • Continuation of the long-term Marcellus shale monitoring study in Washington County. These sites are located in Washington County near permanent natural gas processing facilities • Continue operation of Springville Site (Susquehanna County) • Establish new Wyoming County VOC monitoring site

Termination of the Carnegie Site:

Beginning in 1997, PA DEP operated one air monitoring site in Allegheny County, as part of a science exhibit at the Carnegie Science Center in Pittsburgh, PA. Although the Department does not generally operate air monitors in Allegheny County proper (monitoring and air quality standard compliance evaluation in Allegheny County is performed by the Allegheny County Health Department), the Carnegie site was installed as a Special Purpose Monitoring (SPM) site in November 1997, and was intended to be used for educational purposes at the Center.

The Carnegie monitoring site contained automated samplers for ozone, sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and carbon monoxide (CO). Although the samplers employed federally-approved sampling methods, the monitoring equipment did not meet the siting requirements prescribed in 40 CFR Part 58, Appendix E “Probe and Monitoring Path Siting Criteria”. Specifically, the sampler inlet was installed on the roof of the multi-story Science Center building, considerably higher than the probe height requirement range of 2 – 15 meters. Because the monitoring site did not meet this requirement, the site could not be used to fulfil the minimum monitoring requirements of State and Local Air Monitoring Stations (SLAMS) networks, nor were data obtained from the monitors applicable for comparison to the National Ambient Air Quality Standards (NAAQS) for regulatory compliance purposes.

In January 2014, the Center informed the Department that it would be discontinuing the exhibit and requested that the Department relocate its monitoring equipment to a non-public area of the facility, following the Center’s termination of the licensing agreement for the equipment in 2011. Because the Carnegie monitoring site could not be used for regulatory compliance purposes, and considering the resources needed to both relocate and maintain the monitoring equipment, the Department discontinued this site in March 2014.

Modifications to the Air Toxics Network:

In 2012, the PA DEP commenced a year-long ambient sampling study in Southwestern Pennsylvania (Washington County) to assess the air quality impacts and potential chronic risk and hazard related to exposure to emissions from permanent facilities extracting, transporting and/or processing natural gas obtained using unconventional extraction methods from the Marcellus shale formation. This study, while largely looking at toxic emissions, will also examine ambient concentrations of criteria pollutants through installed continuous and discrete monitors and samplers at a new monitoring station in the study area. In addition to the primary monitoring site monitoring for Toxic VOCs (canister and carbonyl) and criteria pollutants, three smaller sites will collect Toxic VOCs (canister and/or carbonyl) and meteorological data. One of the three smaller sites will also monitor for H₂S. Data collection for this study ceased at the end of December 2013 and the data is currently being reviewed. A final report is anticipated to be released by August 2014.

The primary monitoring site for this study will be retained and changed from its current SPM (Special Purpose Monitor) designation to a SLAMS designation for NO₂/NO_x. SPM monitoring for Ozone, CO, PM_{2.5}, and H₂S will be discontinued. Non-criteria pollutant ambient sampling for VOC, Carbonyls and Methane/Non-Methane Hydrocarbons will continue. This site has been renamed the Houston site in order to delineate the site's SPM activities from its new role as a SLAMS site and to conform to Department naming conventions for SLAMS sites.

In response to concerns regarding the potential of increased toxic emissions from new Marcellus shale extraction activities taking place in the northeast region of Pennsylvania, in early 2013 the Department relocated an existing toxic VOC canister sampler from the Wilkes-Barre COPAMS station to a new site located in Susquehanna County (Springville) where both active shale gas drilling and start-up/operation of multiple new natural gas compressor stations exist. Sampling in Susquehanna County commenced in late-February of 2013.

While PADEP originally intended to relocate the Springville monitor to a location in Wyoming County, it was decided to both continue monitoring at Springville and to establish an additional, new monitoring site in Wyoming County in 2014. VOC sampling at this site, which is located near the town of Mehoopany in Wyoming County, commenced in March 2014. Sampling at this location will continue for at least one year. Data collected during the one-year monitoring period will be assessed to determine the Department's future activity at this site.

Site and Monitoring Activity Anticipated within the Next 18 Months

The Department is proposing numerous changes to its air monitoring network over the next eighteen months. Those changes are briefly described below in Table 5.

Table 5. Summary of Proposed Changes to the PA DEP Air Monitoring Network 2014-2015

Pollutant Network/ Site	Proposed Changes
Site Terminations	<ul style="list-style-type: none"> • Discontinue Perry County site (Ozone, SO₂ and NO₂) • Discontinue Nanticoke (Luzerne County) site – Ozone • Discontinue Murrysville site – Ozone
Site Relocations	<ul style="list-style-type: none"> • Move Beaver Valley (Beaver County) site from location in Beaver Valley Mall to location offsite • Move Scranton (Lackawanna County) site from location on PSU-Worthington campus to Marywood University
Near-road NO ₂ Site Installation Plan	<ul style="list-style-type: none"> • Install Harrisburg (Dauphin County) prior to Dec. 2014 • Install Allentown (Lehigh County) prior to Jun. 2015 • Install Scranton (Lackawanna County) prior to Dec. 2015 • Install Lancaster (Lancaster County) prior to Jun. 2016 • Tentative equipment configuration – NO₂/NO_x, CO, PM_{2.5}, BC/Aethalometer, Meteorology and possibly traffic count
Modifications to Ozone Network	<ul style="list-style-type: none"> • Install ozone monitor at Arendtsville (Adams County)
Modifications to the PM _{2.5} Network	<ul style="list-style-type: none"> • Install PM_{2.5} monitor at the Tioga County site • Install PM_{2.5} and PM_{2.5} speciation monitors at the Marcus Hook (Delaware County) site • Install PM_{2.5} speciation monitor at Chester (Delaware County) site • Discontinue PM_{2.5} speciation monitors at State College (Centre County) and York (York County) sites • Update spatial scale for the PM_{2.5} monitor at Scranton (Lackawanna County) from “urban” to “neighborhood”
Modifications to the CO Network	<p>Refocus the CO Network on Near-road monitoring while keeping some monitors in underrepresented areas of the Commonwealth</p> <ul style="list-style-type: none"> • Discontinue CO monitoring at Bristol (Bucks County), Freemansburg (Northampton County), Houston (Washington County), New Castle (Lawrence County) and Reading (Berks County) sites • Install CO monitors at Allentown (Lehigh County) and Harrisburg (Dauphin County) NO₂ near-road sites
Modifications to the PM ₁₀ Network	<ul style="list-style-type: none"> • Discontinue PM₁₀ monitoring at Harrisburg (Dauphin County) and Reading (Berks County) sites
Modifications to the SO ₂ Network	<ul style="list-style-type: none"> • Install SO₂ monitor at Arendtsville (Adams County) regional background site • Change the spatial scale of the Warren East (Warren County) SO₂ monitor from “neighborhood” to “micro-scale”
Modification to the NO ₂ Network	<ul style="list-style-type: none"> • Designate NO₂ monitor at Houston (Washington County) site as a SLAMS monitor
Modifications to the Air Toxics Network	<ul style="list-style-type: none"> • Complete Washington County Marcellus shale monitoring study data collection at end of 2014. • Keep the primary Washington County Marcellus study site as a permanent site and rename as “Houston” • Discontinue Ozone, CO, PM_{2.5} and H₂S SPM monitoring at Houston site • Continue ambient VOC monitoring at Springville Site for at least one year. • Establish new VOC monitoring site in Mehoopany (Wyoming County)
Miscellaneous	<ul style="list-style-type: none"> • Change spatial scale H₂S monitor at Warren East site (Warren County) from “neighborhood” to “micro-scale”

Proposed Site Terminations:

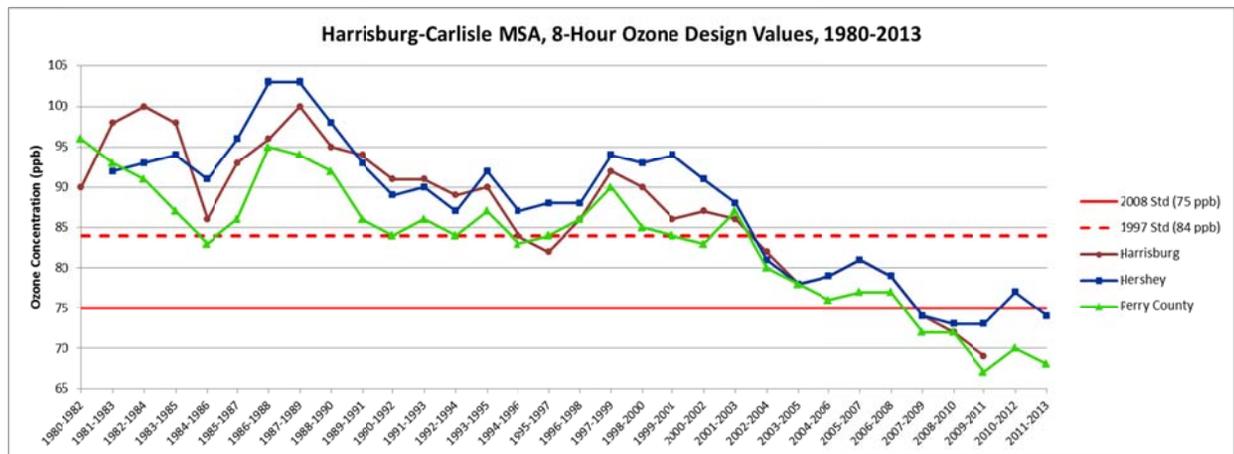
The PA DEP intends to discontinue three monitoring sites in July 2014 – Perry County, Nanticoke (Luzerne County) and Murrysville (Westmoreland County), as the data collected from these sites are either redundant, no longer required to support NAAQS compliance or are single parameter sites measuring well below the relevant NAAQS.

Perry County Monitors

Located in Little Buffalo State Park, PA DEP established the Perry County air monitoring station in 1979 as a regional background site, and installed a particulate matter sampler for Total Suspended Particulates (TSP), sulfates and nitrates. Monitors for ozone and SO₂ were added in 1980 and for NO₂ in 1982. The TSP sampler was replaced with a PM₁₀ sampler in 1989, and then with a PM_{2.5} sampler in 1998, reflecting the revisions in the particulate matter NAAQS. In 2002, a PM_{2.5} speciation monitor was installed. However, in light of EPA reductions in funding of the PM_{2.5} FRM sampling program, particulate monitoring at the site was discontinued in 2005, and the speciation monitor was relocated to Berks County. The ambient air monitoring site in Perry County currently contains monitors for ozone, sulfur dioxide (SO₂) and nitrogen dioxide (NO₂).

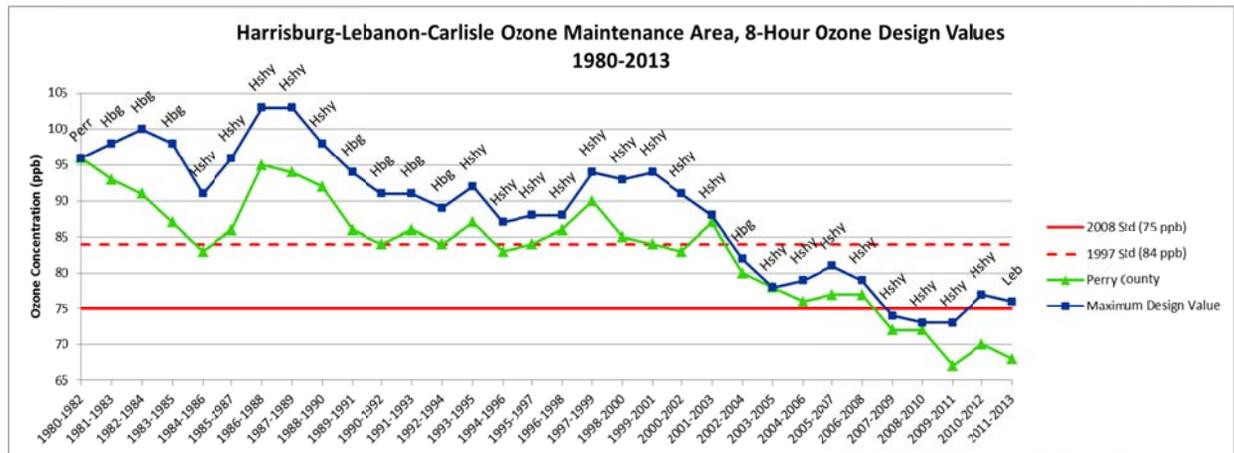
Perry County Ozone: The minimum monitoring requirements set forth in 40 CFR Part 58, Appendix D require the Department to maintain a minimum of two ozone monitors in the Harrisburg-Carlisle (Cumberland, Dauphin and Perry Counties) MSA, based on population and historical ozone concentration measurements in the MSA. The Department currently maintains two monitors in the MSA apart from Perry County – the Harrisburg site (Dauphin County) and the Hershey site (Dauphin County). As a background monitor, with few exceptions, the Perry County site has historically measured ozone concentrations below both the Harrisburg and Hershey sites (the differences in design values are highlighted in Figure 4 below. Note: The Harrisburg site was temporarily discontinued in 2012 while the site was relocated due to the termination of the lease; Harrisburg design values for the 2010-2012 and 2011-2013 time frames are not complete and therefore not displayed in the figure.) Minimum monitoring requirements set forth in the 40 CFR Part 58, Appendix D are based on the maximum concentration measured within an MSA; as a background site, the Perry County monitor is not needed to determine NAAQS compliance within the Harrisburg-Carlisle MSA.

Figure 4. Ozone Design Values in the Harrisburg-Carlisle MSA



In 2004, EPA designated Cumberland, Dauphin, Lebanon and Perry Counties collectively as the Harrisburg-Lebanon-Carlisle, PA ozone nonattainment area, in relation to the 1997 ozone NAAQS of 0.08 parts per million (84 parts per billion). In 2007, following several years in which all sites within the MSA measured ozone concentrations below the 1997 NAAQS, EPA redesignated the 1997 8-hour ozone nonattainment area to attainment at the Department’s request and approval of the maintenance plan. As part of the ozone maintenance plan submitted to EPA along with the redesignation request, the Department committed to maintaining an appropriate monitoring network in the area, and seeking EPA approval before removing any ozone monitors. The Department maintains three additional monitors in the Harrisburg-Lebanon-Carlisle ozone maintenance area apart from the Perry County site – Harrisburg (Dauphin County), Hershey (Dauphin County) and Lebanon (Lebanon County). Figure 5 displays a graph of 3-year ozone design values measured at the Perry County site compared to the maximum ozone design value measured within the Harrisburg-Lebanon-Carlisle ozone maintenance area. Historically, the Hershey monitor most commonly measures the maximum concentration within the area, being downwind of the city of Harrisburg. (Note: The trend for the Lebanon site as an area maximum is yet to be determined, as the monitor was installed in 2011, and therefore has only one valid 3-year average.) With few exceptions, the Perry County site has primarily measured ozone concentrations below to well below the maximum for the area, and only recorded an ozone design value equal to the area maximum once in its history, during the 1980-1982 design value period. Similar to the minimum monitoring requirements discussed in the previous paragraph, area designation determinations are based on the maximum concentration measured within the designated area; as a background site, the Perry County monitor is not needed to determine designation status, or to support redesignation requests for the Harrisburg-Lebanon-Carlisle ozone maintenance area.

Figure 5. Ozone Design Values in the Harrisburg-Lebanon-Carlisle, PA Ozone Maintenance Area

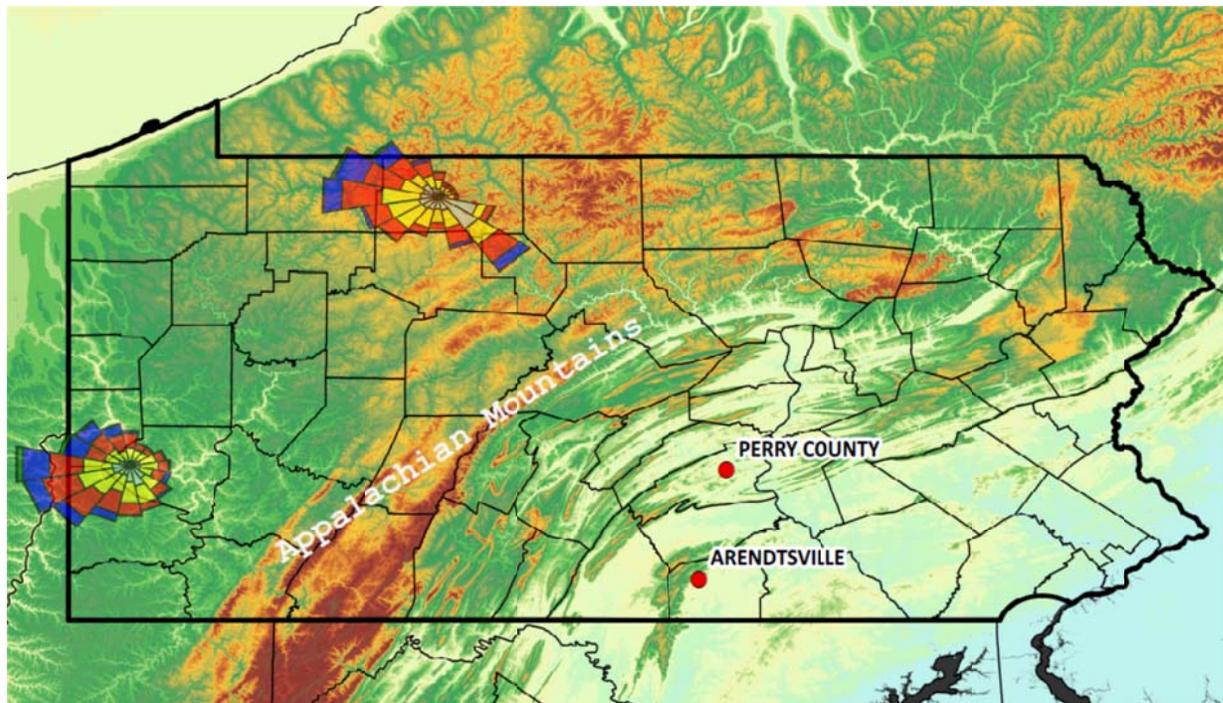


With the discontinuation of the Perry County site, the Department plans to use a future ozone monitor installed at the Department’s Arendtsville (Adams County) monitoring site to assess regional ozone transport in eastern Pennsylvania. The Perry County and Arendtsville monitors are on the “lee” side (or “leeward”² side) of the Appalachian Mountains and reside in rural

² “on the side away from the wind, or in the direction toward which the wind is blowing”, Cambridge Dictionaries Online, <http://dictionary.cambridge.org/us/dictionary/american-english/>

agricultural areas of their respective counties. With no major source of pollution (major power plant or other industry) within a 20 mile radius of either location, data collection at either site is suitable to assess the impact of ozone transport from western-originating air masses traveling across the Appalachian Mountains into eastern Pennsylvania (Figure 3). The two wind roses displayed in figure 6 were generated using 2006 to 2010 meteorological data collected at two sites that are not influenced by local terrain west of the Appalachian Mountains – Bradford Regional Airport (KBFD) in McKean County and Pittsburgh International Airport (KPIT) in Allegheny County. The wind roses illustrate the predominate direction and speed at which the wind travels. As figure 6 illustrates below, the flow is predominately westerly as it moves into Pennsylvania from the Great Lakes / Ohio Valley region toward the Appalachian Mountains. Therefore, the transport of pollution across the Commonwealth would impact both the Perry County and Arendtsville monitoring locations before moving into eastern PA.

Figure 6. Perry County and Arendtsville CASTNET Site Locations



In addition to topographic, meteorological and land use considerations, the Department has reviewed ozone measurement data obtained from an EPA-maintained ozone monitor located adjacent to the Department’s monitoring site in Arendtsville. Beginning in 2011, EPA has operated an ozone monitor at its Arendtsville site as part of the Clean Air Status and Trends Network (CASTNET). CASTNET is a national air quality monitoring network designed to provide data to assess trends in air quality, atmospheric deposition, and ecological effects due to changes in air pollutant emissions.³ Ozone monitoring performed as part of the CASTNET network utilizes federally-approved monitoring methods, and data obtained from CASTNET ozone monitoring sites are considered in determining NAAQS compliance. Data analysis of ozone concentrations measured at the Arendtsville CASTNET site, in comparison to

³ <http://epa.gov/castnet/javaweb/index.html>

concentrations measured at the Perry County site, indicate the two sites correlate reasonably well in both pattern and value, with a slight positive bias towards the Arendtsville site (Figures 7 and 8).

Figure 7. Comparison of Perry County and Arendtsville CASTNET Annual Ozone Data

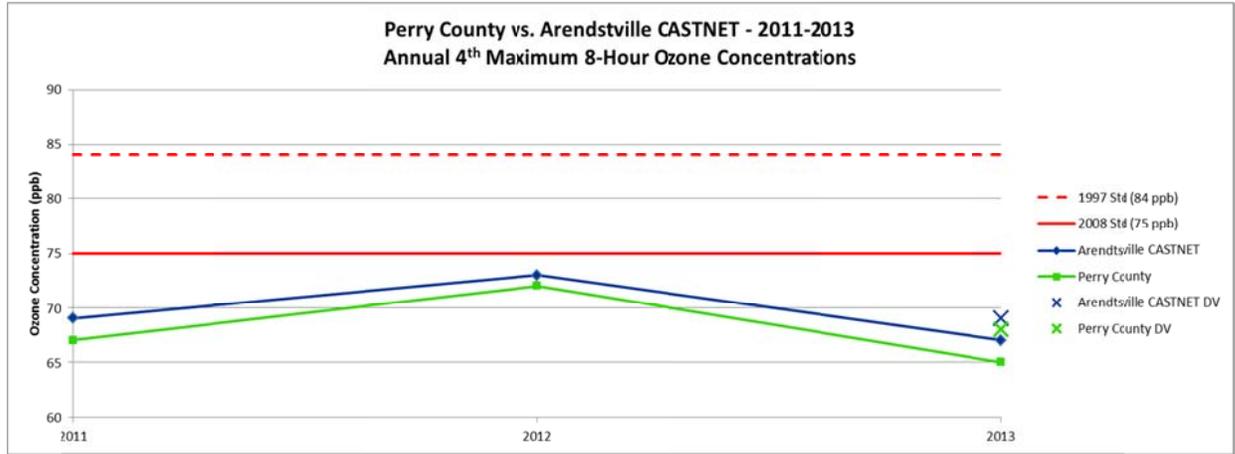
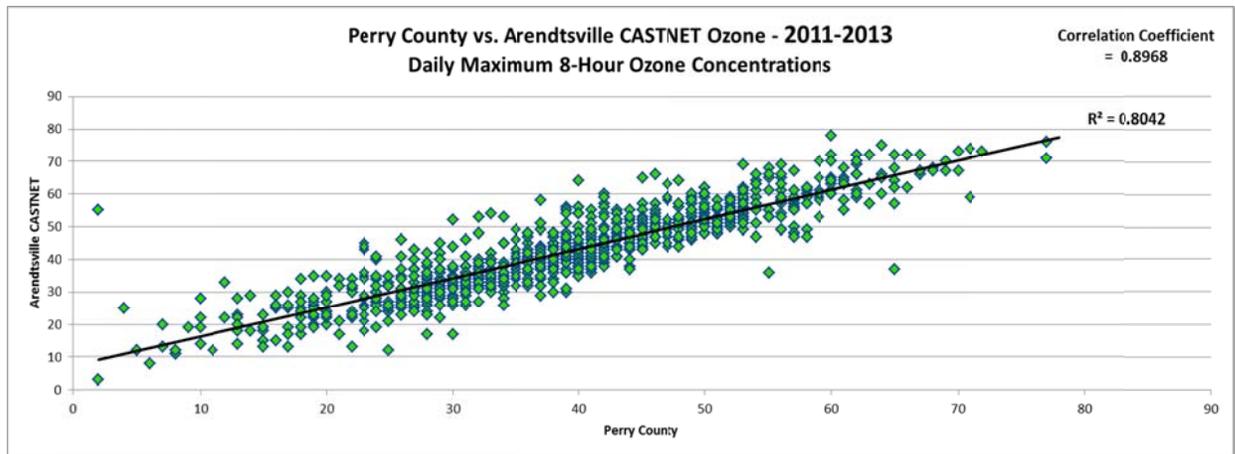


Figure 8. Comparison of Perry County and Arendtsville CASTNET Daily Ozone Data



Perry County SO₂ Monitor: The SO₂ NAAQS promulgated by EPA in 2010 require SO₂ monitors to be installed in regions where higher populations and/or higher SO₂ source emissions occur, as determined by a Population Weighted Emissions Index (PWEI).⁴ The PWEI is calculated by multiplying the population of an area by the SO₂ emissions in the area (in tons per year) and dividing by 1,000,000 – resulting in a value representing the tons per year for every one million persons. To meet minimum monitoring requirements, SO₂ monitors are required to be installed in areas with PWEI values of 5,000 or greater. Table 6 displays calculated PWEI values for the Harrisburg-Carlisle MSA from 2000-2012. Using the most current year available, the calculated PWEI value for the Harrisburg-Carlisle MSA is approximately one-tenth of the minimum monitoring requirement threshold. Therefore, the Department intends to discontinue SO₂ monitoring in this region at the Perry County site.

Table 6. Population Weighted Emission Index Values for the Harrisburg-Carlisle MSA

Harrisburg-Carlisle Metropolitan Statistical Area													
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population	509,454	510,511	513,711	516,171	517,793	520,431	525,594	529,783	533,802	536,919	550,212	551,611	553,980
Emissions (tpy)	1571.2	1553	1111.9	1873.7	1689.4	1777.5	1632	1615.2	1041.9	1046.5	1110.9	1004.3	939.74
PWEI	800.4	792.8	571.2	967.2	874.8	925.1	857.8	855.7	556.2	561.9	611.2	554.0	520.6

Perry County NO₂ Monitor: The 1-hour NO₂ NAAQS promulgated by EPA in 2010 requires NO₂ monitors to be installed in regions containing high populations and/or heavily-traveled roads or highways.⁵ To meet minimum monitoring requirements, area-wide NO₂ monitoring is required for MSA with populations exceeding one million persons. Near-road monitoring is required in MSA with populations exceeding 500,000. With a population over 500,000, and containing no road segments with an AADT count of 250,000 or greater, the Harrisburg-Carlisle MSA is required to have one near-road NO₂ monitoring site installed near a major road with high AADT counts. As discussed on pages 42-44 of this document, the Department will be installing a near-road monitor near the city of Harrisburg, PA (Dauphin County) by the end of 2014, to satisfy the NO₂ minimum monitoring requirements. However, NO₂ monitoring at the Perry County site is not required at this time to determine NAAQS compliance.

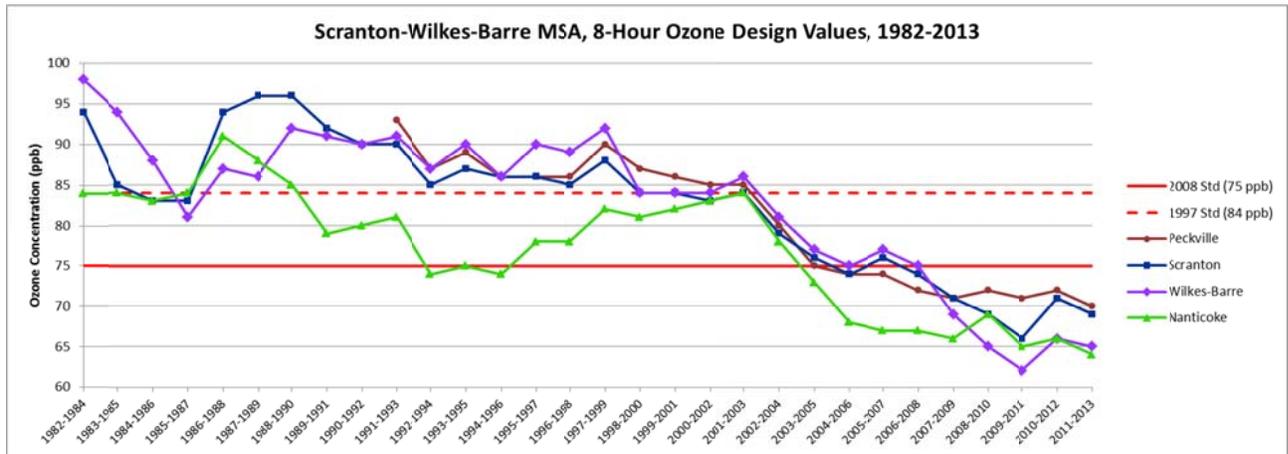
⁴ 40 CFR Part 58, Appendix D §4.4

⁵ 40 CFR Part 58, Appendix D §4.3

Nanticoke Ozone Monitor

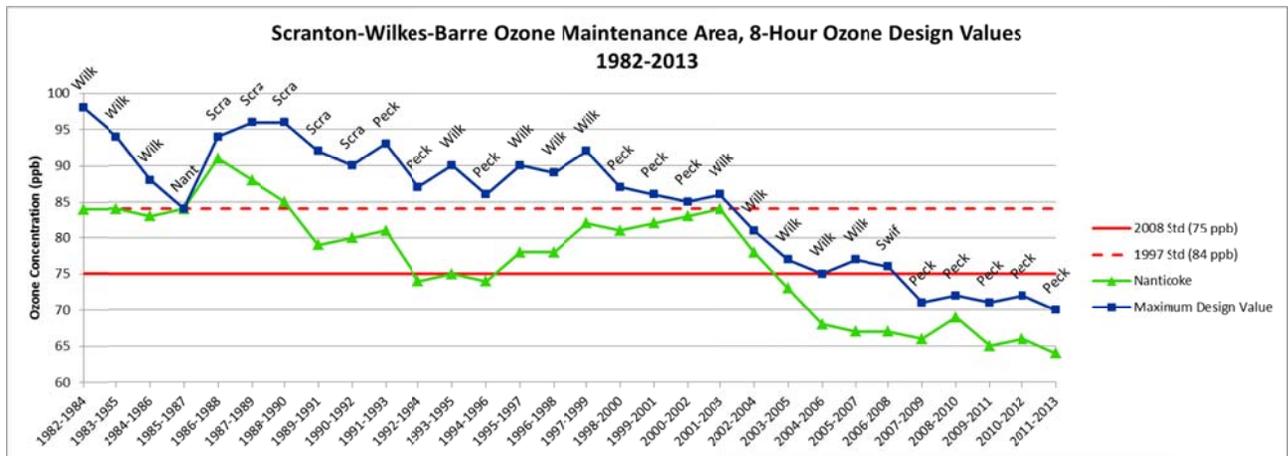
The Department installed the Nanticoke (Luzerne County) air monitoring site in 1982 as a general background site for ozone, and has monitored for ozone solely at the site since that time. Minimum monitoring requirements set forth in 40 CFR Part 58, Appendix D require the Department to maintain a minimum of two ozone monitors in the Scranton-Wilkes-Barre (Lackawanna, Luzerne and Wyoming Counties) MSA, based on population and historical ozone concentration measurements in the MSA. The Department currently operates three additional ozone monitoring sites located in the Scranton-Wilkes-Barre MSA apart from the Nanticoke site – Peckville (Lackawanna County), Scranton (Lackawanna County) and Wilkes-Barre (Luzerne County). As a background monitor, the Nanticoke site has historically measured ozone concentrations below other sites in the MSA (Figure 9), alternating occasionally with Wilkes-Barre as the lowest ozone concentration site. Minimum monitoring requirements set forth in the Part 58, Appendix D are based on the maximum concentration measured within an MSA; as a background site, the Nanticoke monitor is not needed to determine ozone NAAQS compliance within the Scranton-Wilkes-Barre MSA.

Figure 9. Ozone Design Values in the Scranton-Wilkes-Barre MSA



In 2004, EPA designated Lackawanna, Luzerne, Monroe and Wyoming Counties collectively as the Scranton-Wilkes-Barre, PA ozone nonattainment area, in relation to the 1997 8-hour ozone NAAQS of 0.08 parts per million (84 parts per billion). In 2007, following several years in which all sites within the MSA measured ozone concentrations below the 1997 8-hour ozone NAAQS, EPA redesignated the nonattainment area to attainment at the Department’s request and the approval of the maintenance plan; the area is currently an ozone maintenance area. As part of the ozone maintenance plan submitted to EPA along with the redesignation request, the Department committed to maintaining an appropriate monitoring network in the area, and seeking EPA approval before removing any ozone monitors. The Department maintains four additional monitors in the Scranton-Wilkes-Barre ozone maintenance area apart from the Nanticoke site – Peckville (Lackawanna County), Scranton (Lackawanna County), Wilkes-Barre (Luzerne County) and Swiftwater (Monroe County). Figure 10 displays a graph of 3-year ozone design values measured at the Nanticoke site compared to the maximum ozone design value measured within the Scranton-Wilkes-Barre ozone maintenance area. Historically, the Peckville monitor most commonly measures the maximum concentration within the area, being downwind of the Scranton-Wilkes-Barre area. With few exceptions, the Nanticoke site has primarily measured ozone concentrations below the maximum for the area, and only recorded an ozone design value equal to the area maximum once in its history, during the 1985-1987 design value period. Similar to the minimum monitoring requirements discussed in the previous paragraph, area designation determinations are based on the maximum concentration measured within the designated area; as a background site, the Nanticoke monitor is not required to determine designation status, or to support redesignation requests for the Scranton-Wilkes-Barre ozone maintenance area.

Figure 10. Ozone Design Values in the Scranton-Wilkes-Barre, PA Ozone Maintenance Area



Murrysville Ozone Monitor

The Department installed the Murrysville (Westmoreland County) air monitoring site in 1982 to measure area maximum ozone concentrations, and has monitored for ozone solely at the site since that time. Minimum monitoring requirements set forth in 40 CFR Part 58, Appendix D require the operation of a minimum of two ozone monitors in the Pittsburgh (Allegheny, Armstrong, Beaver, Butler, Fayette, Washington and Westmoreland Counties) MSA, based on population and historical ozone concentration measurements in the MSA. The Department currently operates nine additional ozone monitoring sites located in the Pittsburgh MSA – Kittanning (Armstrong), Beaver Falls, Brighton Twp and Hookstown (Beaver County), Charleroi, Florence, Houston and Washington (Washington County) and Greensburg (Westmoreland County). Monitoring for Allegheny County proper is performed by the Allegheny Health Department, which operates three ozone monitors – Harrison, Lawrenceville and South Fayette. Although the Murrysville site was originally installed to monitor maximum ozone concentrations, ozone design value data indicate that the site has regularly measured lower concentrations than other monitors in the region, and has often measured the lowest ozone concentration in the Pittsburgh MSA (Figure 11).

Figure 11. Ozone Design Values in the Pittsburgh MSA

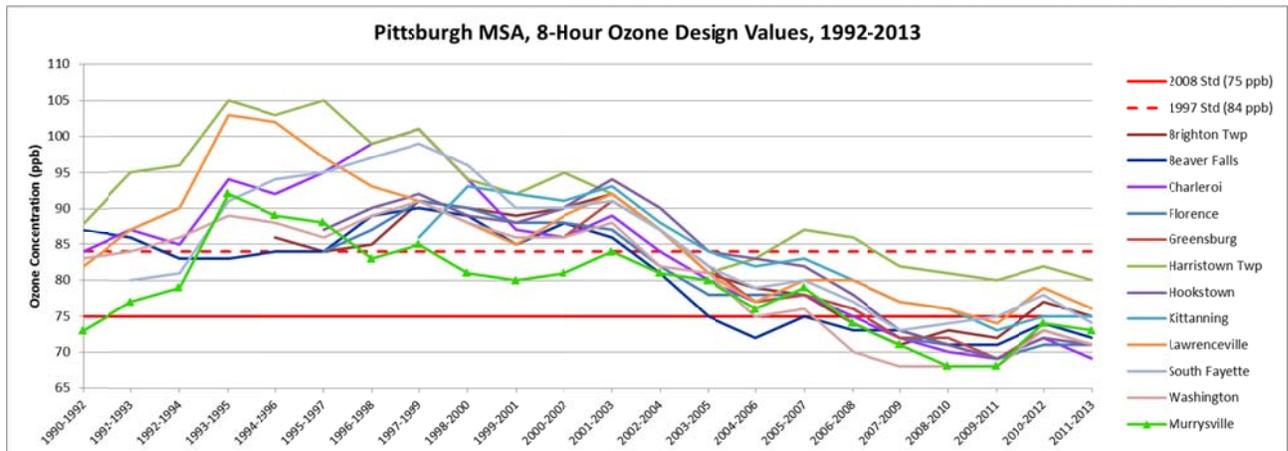
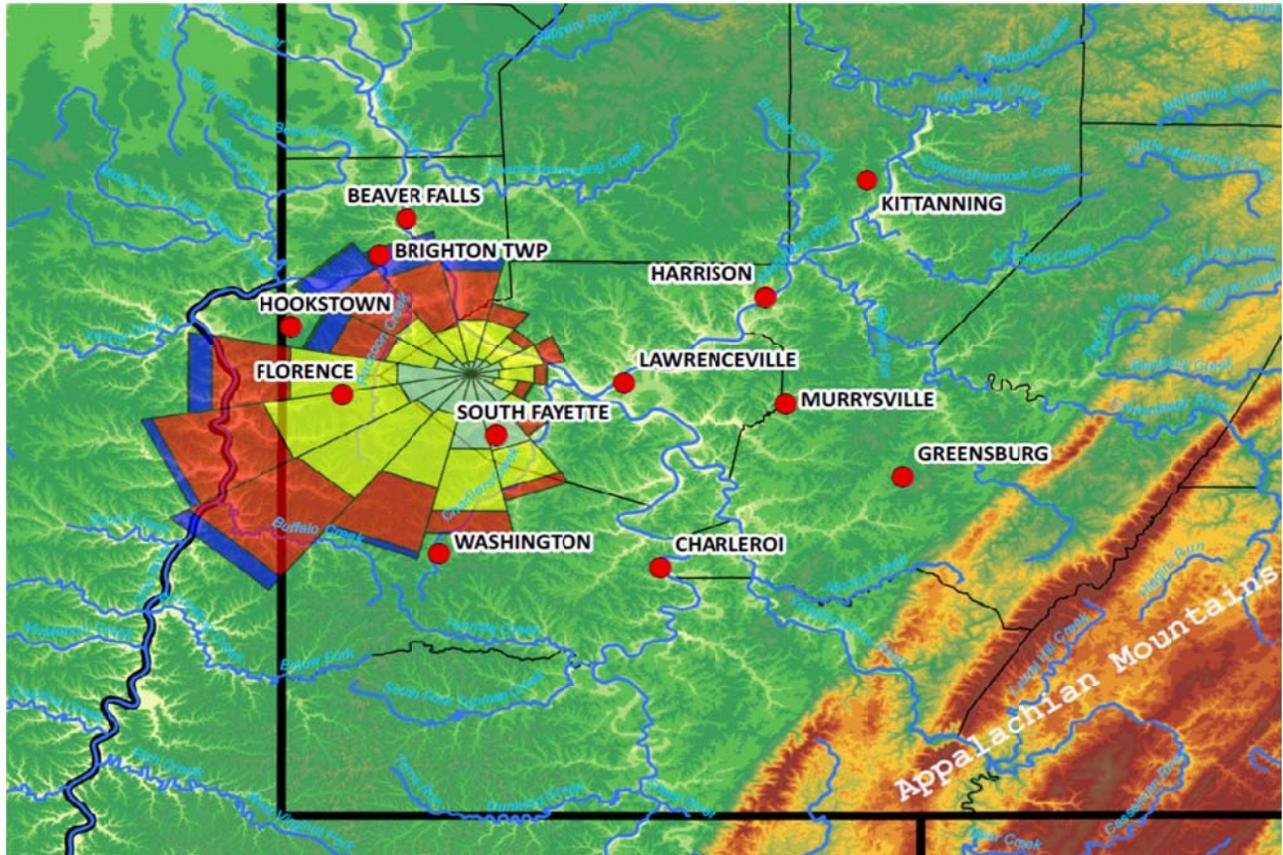


Figure 12 illustrates a wind rose from 2006 to 2010 meteorological summer (June to August) data collection period at KPIT with respect to regional topography. The wind rose highlights the increased frequency of southwesterly winds during this three month period. Due to the topography associated with the Allegheny River, which runs from just south of Lawrenceville northeastward toward Kittanning, the predominate southwesterly flow enhances ozone concentrations to the northeast of the Pittsburgh metro area. Therefore, monitors such as Harrison and Kittanning are monitoring the highest ozone design values for the Pittsburgh-Beaver Valley as opposed to Murrysville.

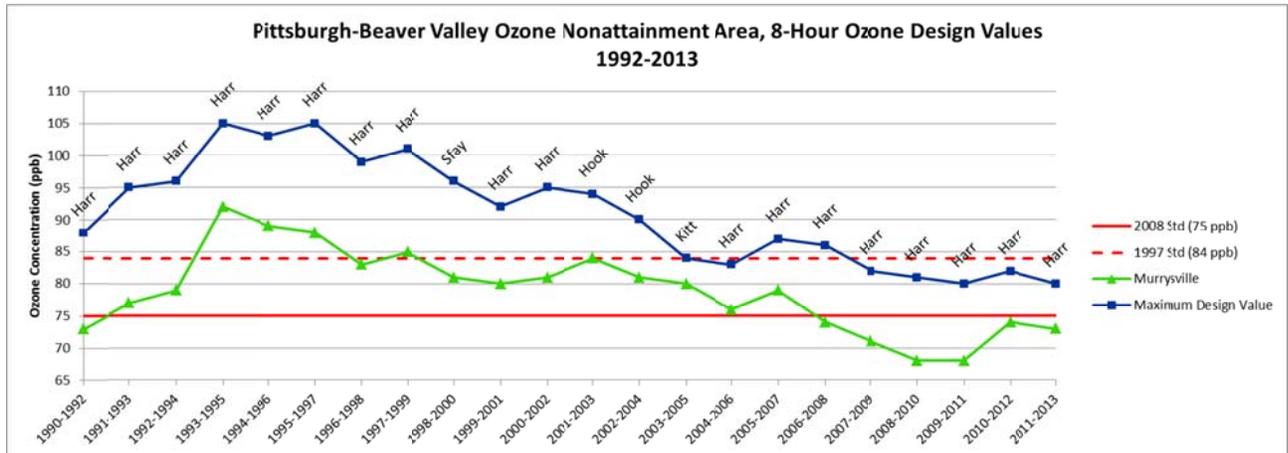
Figure 12. Pittsburgh MSA Site Location



Minimum monitoring requirements set forth in 40 CFR Part 58, Appendix D are based on the maximum concentration measured within an MSA; in light of the low ozone concentrations historically measured at the site, the Murrysville monitor is not required to determine ozone NAAQS compliance within the Pittsburgh MSA.

In 2004, EPA designated the Pittsburgh MSA as the Pittsburgh-Beaver Valley, PA ozone nonattainment area, in relation to the 1997 8-hour ozone NAAQS of 0.08 parts per million (84 parts per billion). In 2012, EPA designated the same area as nonattainment for the 2008 ozone NAAQS of 0.075 parts per million (75 parts per billion). Figure 13 displays a graph of 3-year ozone design values measured at the Murrysville site compared to the maximum ozone design value measured within the Pittsburgh-Beaver Valley ozone nonattainment area. As discussed above, historically, the Harrison monitor in Allegheny County most commonly measures the maximum concentration within the area. The Murrysville site has measured ozone concentrations well below the maximum for the area, for the entirety of its monitoring record. Similar to the minimum monitoring requirements discussed in the previous paragraph, area designation determinations are based on the maximum concentration measured within the designated area; as a low concentration site, the Murrysville monitor is not required to determine designation status, or to support redesignation requests for the Pittsburgh-Beaver Valley ozone maintenance area.

Figure 13. Ozone Design Values in the Pittsburgh-Beaver Valley, PA Ozone Maintenance Area



Site Relocations:

The PA DEP will move two sites in 2014 – Beaver Valley (Beaver County) and Scranton (Lackawanna County), due to logistical siting issues.

Beaver Valley

Due to contract difficulties with multiple property owners at the current Beaver Valley (Beaver County) lead site, the Department has been working to relocate the criteria lead monitor and toxic metals monitor to a new location 375 meters to the southeast. EPA was consulted on the proposed move and approval was granted. PA DEP entered into a lease agreement with Center Township Water Authority (CTWA) on July 1, 2013 to place the samplers on their Fairway Drive property. Once constructed, the Department will attempt to operate both sites concurrently, for a sufficient period of time, to provide comparison data between the two sites.

Figure 14. Proposed Relocation of the Beaver Valley Site

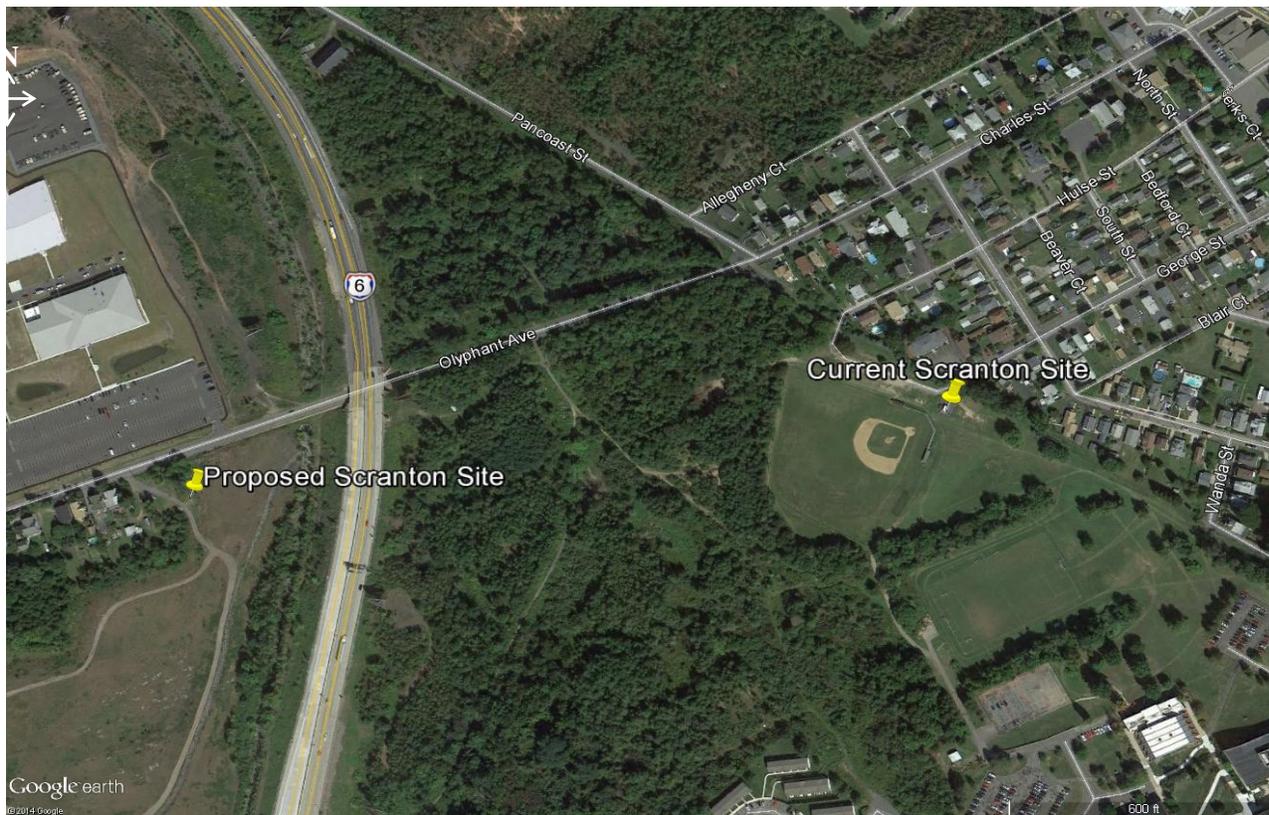


Scranton Monitors

The Department has operated a multi-parameter air monitoring station on the Pennsylvania State University's Worthington Scranton branch campus in Scranton, PA (Lackawanna County) since September 19, 1972. Penn State contacted the Department in late July, 2013 to provide notification of plans to construct a field house complex at the exact monitoring site location starting in May 2014. The Department initially looked into incorporating the site into the new construction, but technical difficulties and costs were prohibitive. The Department then began a search for an

alternative location, and settled on a spot approximately 0.37 mile to the west on Marywood University property. The PA DEP entered into a lease agreement with Marywood University on March 1, 2014. Construction of the new site at Marywood University is ongoing at the time of this writing. Completion of the site and a restart of monitoring is expected by the end of April 2014.

Figure 15. Proposed Relocation of the Scranton Site



Air sampling at the Penn State location in Scranton ended March 17, 2014. Because federal monitoring requirements for the MSA are being met through sampling at other nearby locations, sampling for the following parameters has been suspended until completion of the new site: ozone, nitrogen dioxide, carbon monoxide, fine-particulate speciation and meteorology. However, the Department continued air sampling for concentrations of fine particulate matter (PM_{2.5}) during the move by setting up a temporary site on the Penn State campus.

Modifications to the CO Network:

In its network assessment guidance, EPA advises monitoring agencies reevaluate their monitoring networks to better focus resources on pollutants that are persistent challenges, while deemphasizing pollutants that are less problematic.⁶ Towards this goal, the Department has reviewed its CO monitoring network and intends to implement the following changes:

- Discontinue CO monitors at Bristol (Bucks County), Freemansburg (Northampton County), Houston (Washington County), New Castle (Lawrence) and Reading Airport (Berks County) sites
- Retain CO monitors at Arendtsville (Adams County), Charleroi (Washington County), Erie (Erie County), Johnstown (Cambria County), Scranton (Lackawanna County) and York (York County)
- Install CO monitors at future near-road NO₂ monitoring sites in Allentown (Lehigh County) by June 2015, Harrisburg (Dauphin County) by December 2014, Lancaster (Lancaster County) by June 2016 and Scranton (Lackawanna County) by December 2015.

In 2011, EPA revised the minimum monitoring requirements in 40 CFR Part 58, Appendix D to require that one CO monitor be collocated with near-road NO₂ monitors in urban areas having populations of 1,000,000 or more, or located as specifically required by the EPA Regional Administrator on a case-by-case basis. The Commonwealth of Pennsylvania contains three MSAs, either wholly or in part, with populations greater than 1,000,000 persons – New York-Newark-Jersey City (NY-NJ-PA), Philadelphia-Camden-Wilmington (PA-NJ-DE-MD) and Pittsburgh (PA). Air quality monitoring for the New York-Newark-Jersey City MSA is performed by the New York State Department of Environmental Conservation and New Jersey Department of Environmental Protection. Air Quality Monitoring for the Philadelphia-Camden-Wilmington MSA is shared between the Delaware Department of Natural Resources and Environmental Control, Maryland Department of the Environment, New Jersey Department of Environmental Protection, Philadelphia Air Management Services (Philadelphia County, PA) and PA DEP (remaining PA portion). Air quality monitoring for the Pittsburgh MSA is shared between the Allegheny County Health Department (Allegheny County) and PA DEP. For the Pennsylvania portions of these three MSAs, the NO₂ near-road monitoring requirements, and thus the CO monitoring requirements, are being met by the two aforementioned Pennsylvania county agencies. As such, the Department is not required to maintain additional CO monitors outside the Philadelphia and Allegheny County networks, for NAAQS compliance purposes.

Ambient concentrations of CO have decreased greatly over the past several decades, on both a national and regional scale. The significant downward trend in CO concentrations can be attributed to the reduction of CO emissions from mobile sources through increased emission standards and pollutant controls, reformulations of fuel, and technological advancements in combustion efficiency. Ambient CO concentrations in Pennsylvania have mirrored the national decreasing trend.

⁶ “Ambient Air Monitoring Network Assessment Guidance, Analytical Techniques for Technical Assessments of Ambient Air Monitoring Networks”, EPA-454/D-07-001, February 2007

Figures 16 and 17 below display the long term trends for 8-hour and 1-hour CO concentrations measured by currently active monitors. Average 8-hour CO concentrations for the current network have decreased 84% from 1974 to 2013, and 50% since 2000. Average 1-hour CO concentrations for the current network have decreased 91% from 1974 to 2013, and 59% since 2000.

Figure 16. Second Maximum 8-Hour CO Concentrations, Historical Trend of Current CO Network

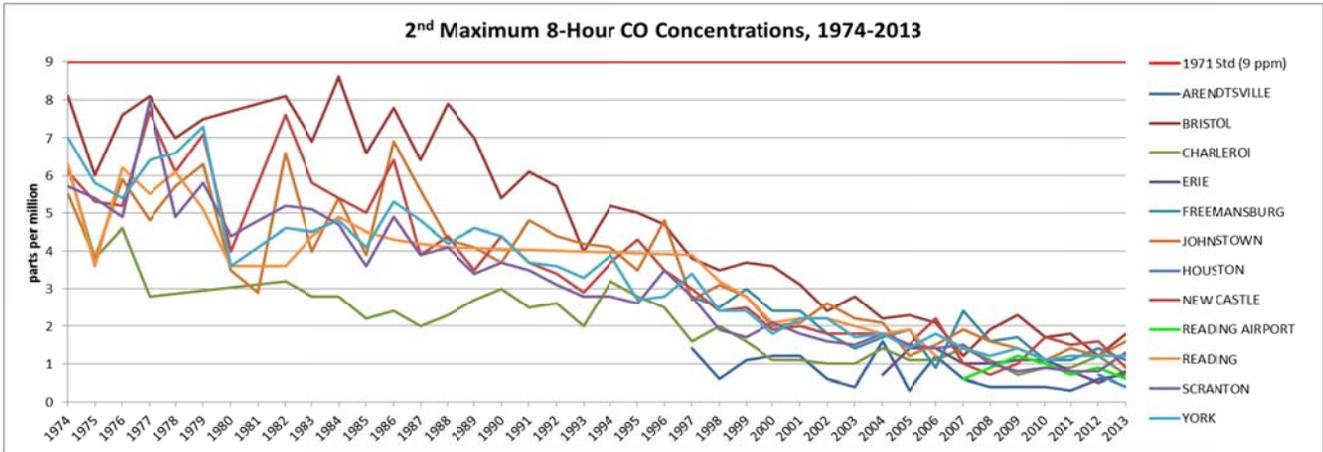
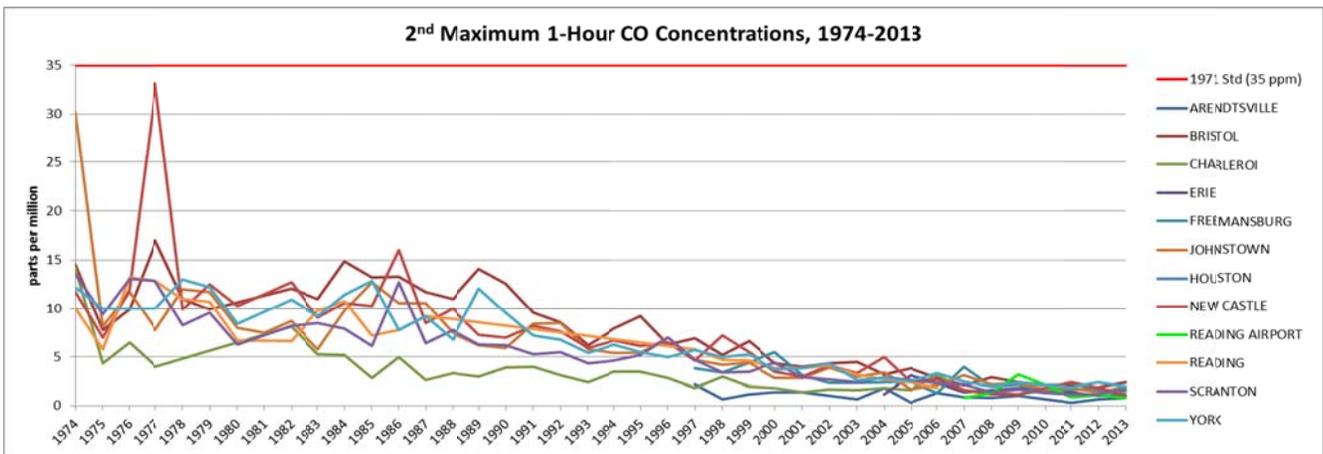


Figure 17. Second Maximum 1-Hour CO Concentrations, Historical Trend of Current CO Network



Data analyses of CO concentrations are presented in Tables 7 and 8 for the ten SLAMS sites. No site has exceeded one-third of the 8-hour NAAQS, or one-fourth the 1-hour NAAQS, during the previous ten years. In addition, no site has a probability of less than 10% of exceeding 80% of the applicable NAAQS during the next three years based on the levels, trends, and variability observed in the past (90% Upper CI). As a result of these analyses, all ten sites satisfy the site discontinuation conditions set forth in 40 CFR Part 58 §58.14(c)(1).

Table 7. 8-Hour CO Concentrations, PA DEP CO Network, 2009-2013

AQ5 CODE	COUNTY	SITE NAME	2 nd Maximum 8-HR CO Concentrations					Max Value		% of NAAQS		90% Upper CI	
			2009	2010	2011	2012	2013	5 yrs	10 yrs	5 yrs	10 yrs	5 yrs	10 yrs
420010001	ADAMS	ARENDTSTVILLE	0.4	0.4	0.3	0.6	0.7	0.7	1.6	8%	18%	0.6	0.9
420110011	BERKS	READING AIRPORT	1.2	1	0.7	0.9	0.6	1.2	1.2	13%	13%	1.1	#N/A
420170012	BUCKS	BRISTOL	2.3	1.7	1.8	1.2	1.8	2.3	2.3	26%	26%	2.1	2.1
420210011	CAMBRIA	JOHNSTOWN	1.4	1.1	1.4	1.2	1.6	1.6	2.1	18%	23%	1.5	1.7
420490003	ERIE	ERIE	1.1	1.1	0.8	0.5	0.8	1.1	1.4	12%	16%	1.1	1.1
420692006	LACKAWANNA	SCRANTON	0.8	0.9	0.8	0.8	1.3	1.3	1.8	14%	20%	1.1	1.4
420730015	LAWRENCE	NEW CASTLE	1	1.7	1.5	1.6	0.9	1.7	2.2	19%	24%	1.7	1.7
420950025	NORTHAMPTON	FREEMANSBURG	1.7	1.1	1.1	1.4	1.1	1.7	2.4	19%	27%	1.5	1.8
421250005	WASHINGTON	CHARLEROI	0.7	0.9	0.9	1.2	0.7	1.2	1.4	13%	16%	1.1	1.2
421330008	YORK	YORK	1.4	1.1	1.2	1.2	1.2	1.4	1.8	16%	20%	1.3	1.5

Table 8. 1-Hour CO Concentrations, PA DEP CO Network, 2009-2013

AQ5 CODE	COUNTY	SITE NAME	2 nd Maximum 1-HR CO Concentrations					Max Value		% of NAAQS		90% Upper CI	
			2009	2010	2011	2012	2013	5 yrs	10 yrs	5 yrs	10 yrs	5 yrs	10 yrs
420010001	ADAMS	ARENDTSTVILLE	1	0.7	0.3	0.7	0.8	1	1.8	3%	5%	0.9	1.1
420110011	BERKS	READING AIRPORT	3.2	2.1	0.9	1.1	0.8	3.2	3.2	9%	9%	2.6	#N/A
420170012	BUCKS	BRISTOL	2.4	2.1	2.1	1.9	1.5	2.4	3.8	7%	11%	2.3	2.9
420210011	CAMBRIA	JOHNSTOWN	2.3	1.7	1.8	1.4	1.5	2.3	3.4	7%	10%	2.1	2.5
420490003	ERIE	ERIE	1.8	1.7	1.4	1	1	1.8	3.1	5%	9%	1.7	2.0
420692006	LACKAWANNA	SCRANTON	1.7	1.3	1.2	1.2	1.1	1.7	2.9	5%	8%	1.5	2.2
420730015	LAWRENCE	NEW CASTLE	1.2	1.8	2.4	1.8	1	2.4	5	7%	14%	2.2	2.8
420950025	NORTHAMPTON	FREEMANSBURG	2.2	1.3	1.7	1.7	1.5	2.2	4	6%	11%	2.0	2.5
421250005	WASHINGTON	CHARLEROI	1.2	1.6	1.6	1.8	1.1	1.8	3.2	5%	9%	1.7	2.0
421330008	YORK	YORK	2.4	2.1	1.9	2.4	1.4	2.4	3.3	7%	9%	2.4	2.6

Based on minimum monitoring requirements, data and trend analyses, the PA DEP intends to discontinue CO SLAMS monitoring at the Bristol (Bucks County), Freemansburg (Northampton County), New Castle (Lawrence) and Reading Airport (Berks County) sites, as well as the SPM monitor at Houston (Washington County).

In addition, although not required, the Department intends to install CO monitors at all four future near-road NO₂ sites. In the 1970s and 1980s, CO monitoring was conducted in urban areas where there were high amounts of vehicular traffic in a confined area. However, since the early 1990s, enhancements in motor vehicle emission controls have resulted in significant reductions of CO ambient concentrations. Installing CO monitors at the near road NO₂ sites will enhance the Department’s understanding of CO concentrations in high traffic areas, outside of the urban core, throughout the Commonwealth.

Modifications to the PM_{2.5} Network:

The Department is proposing the following changes to its PM_{2.5} air monitoring network:

Installation of PM_{2.5} monitor at Tioga County

In response to previous public comments regarding the adequacy of monitoring in the Northern Tier region, as well as the diversity of the pollutants monitored, the Department intends to install a PM_{2.5} monitor at the Tioga County site to monitor for air quality impacts on ambient fine particulate concentrations in this region. In light of citizens' growing concerns over shale gas drilling and processing activities, the Department, over the past two years, has moved to provide additional, permanent air monitoring coverage at several locations in the Northern Tier region (Bradford, Sullivan, Susquehanna, Tioga, and Wyoming Counties) of the Commonwealth. So far, this effort has primarily focused on gaseous air pollutants – ozone, NO₂ and air toxic compounds. The Department will install the PM_{2.5} monitor at Tioga to monitor for impacts of shale gas activities on regional fine particulate concentrations.

Installation of PM_{2.5} and PM_{2.5} Speciation Monitors at Marcus Hook; Discontinuation of PM_{2.5} Speciation Monitors at State College and York

In April 2002, the Department began operating a PM_{2.5} speciation monitor in Chester. Due to increasing concern with PM_{2.5} concentrations in the Johnstown area, the Department discontinued the PM_{2.5} speciation monitor in Chester in January 2009 and, in the same month, installed a PM_{2.5} speciation monitor in Johnstown. In December 2012, EPA released a new PM_{2.5} standard, reducing the annual standard from 15 µg/m³ to 12 µg/m³. As part of a requirement to designate areas as nonattainment in a one-year period after promulgation of a new standard, the Department submitted their recommendations for nonattainment areas to EPA Region III in December 2013. This document, entitled "Designation Recommendations for the 2012 Annual Fine Particulate Matter (PM_{2.5}) National Ambient Air Quality Standard," described a PM_{2.5} problem in Chester which could be source impacted. As part of the Department's December 2013 designation recommendations document listed above, the Department analyzed Chester's 2005 to 2007 speciation data. After analyzing the speciation data, the Department was able to determine that there was an abnormally high amount of silicon in the PM_{2.5}. When the 2005 to 2007 speciation data was analyzed compared to the speciation monitors (New Garden (Chester County) and Freemansburg (Northampton County)) surrounding the Chester monitor, the Chester monitor's silicon concentrations were higher. To that end, the changes the Department has highlighted below are in support of determining whether the PM_{2.5} concentrations being measured at Chester are indeed source impacted.

The table below (Table 9) breaks down the silicon concentrations at the three monitors:

Table 9. Silicon Concentrations as Percentage of PM_{2.5}, Average 2005-2007

Concentration Threshold	Chester	New Garden	Freemansburg
Greater Than 1 µg/m ³	1.7%	0.0%	0.0%
Between 0.5 µg/m ³ and 1 µg/m ³	2.9%	0.6%	0.0%
Between 0.1 µg/m ³ and 0.5 µg/m ³	28.7%	16.4%	15.7%

The Chester monitor measured silicon concentrations in excess of 0.1 µg/m³ 33.3% of the time, whereas New Garden was 17.0% of the time and Freemansburg was 15.7% of the time.

The Chester monitor is cited on the property of Evonik Degussa Corporation. PQ Corporation, which produces sodium silicate and is located near the Chester monitor, sends the sodium silicate to Evonik Degussa Corporation to undergo a drying process. A map illustrating the location of the Chester monitor with respect to Evonik Degussa Corporation and PQ Corporation is shown in Figure 18 below.

Figure 18. Location of Chester site and Evonik Degussa Facility



Even though the Chester monitor has seen a steady decline in criteria PM_{2.5} concentrations since the early 2000s, it continues to monitor nonattainment of the 2012 PM_{2.5} standard. Based on 2010-2013 monitoring data, PM_{2.5} concentrations are slightly above the 12 µg/m³ standard. Figures 19 and 20 display the trend in annual and daily PM_{2.5} concentration values at the Chester site from 2002-2013.

Figure 19. Annual PM_{2.5} Design Values, Chester, 2002-2013

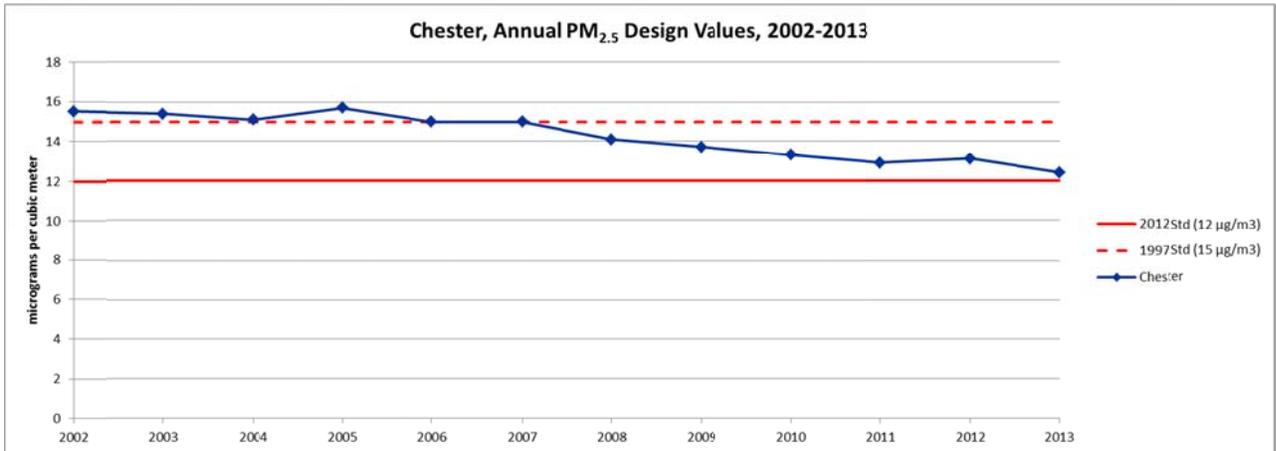
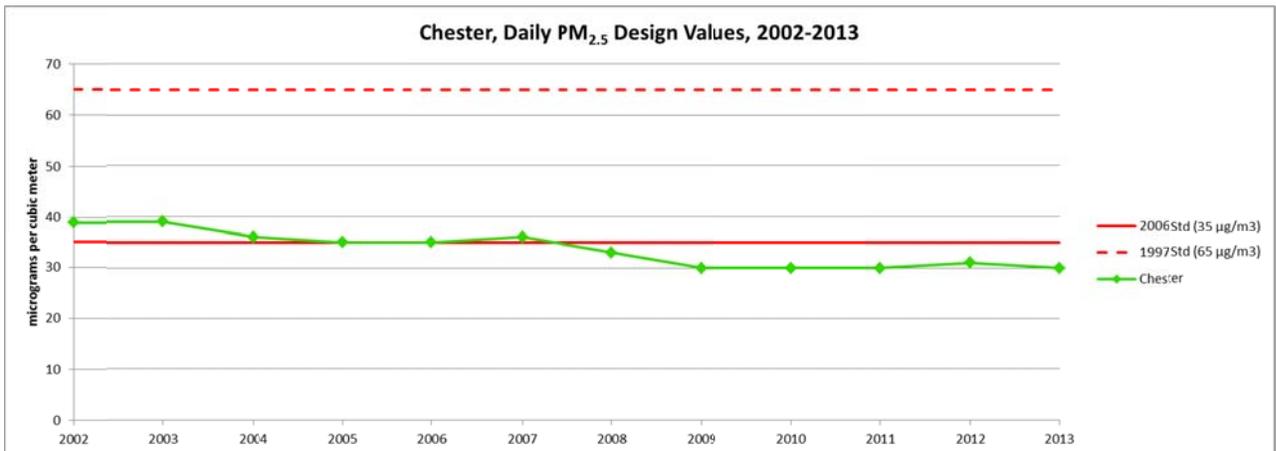
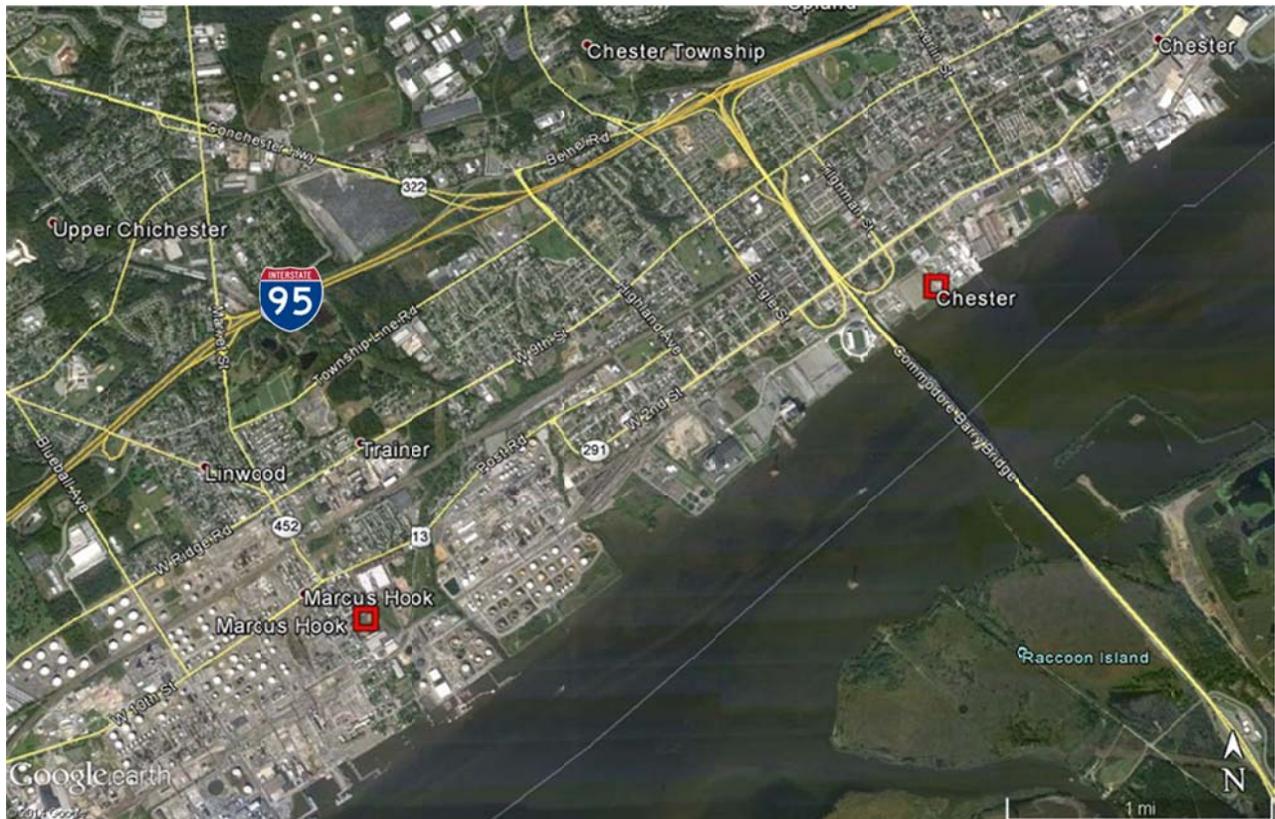


Figure 20. Daily PM_{2.5} Design Values, Chester, 2002-2013



In order to determine whether the $PM_{2.5}$ concentrations measured at the Chester monitor are source influenced, the Department is proposing to complete an analysis by installing a continuous $PM_{2.5}$ monitor at Marcus Hook as well as installing $PM_{2.5}$ speciation monitors at Marcus Hook and Chester. The Marcus Hook location is approximately 2.3 miles to the southwest of the Chester and will provide an ideal comparison site to determine if Chester is source impacted. A map illustrating the location of the Marcus Hook monitor with respect to Chester is shown in Figure 21.

Figure 21. Location of Chester and Marcus Hook Air Monitoring Sites



Using data from the Over the last twelve years, both the State College and York monitoring sites have measured a steady decline in criteria PM_{2.5} levels, as shown in Figures 22 and 23 below.

Figure 22. PM_{2.5} Design Values, State College, 2002-2013

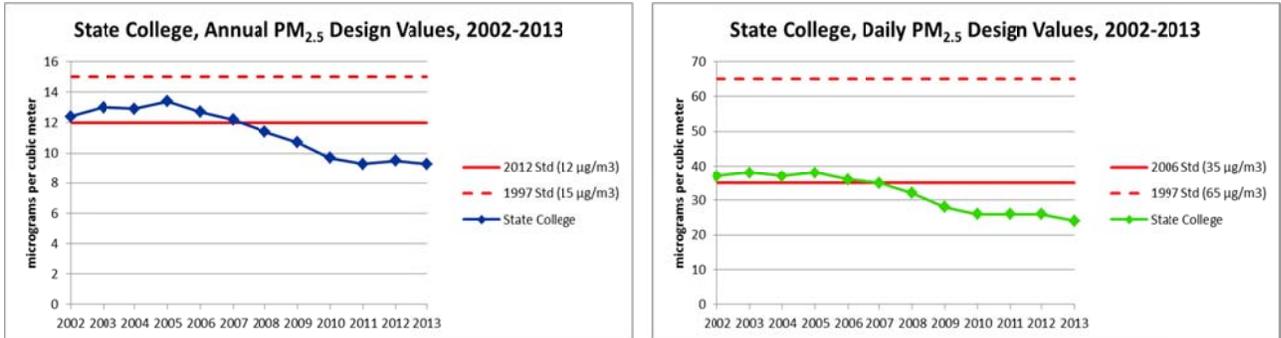
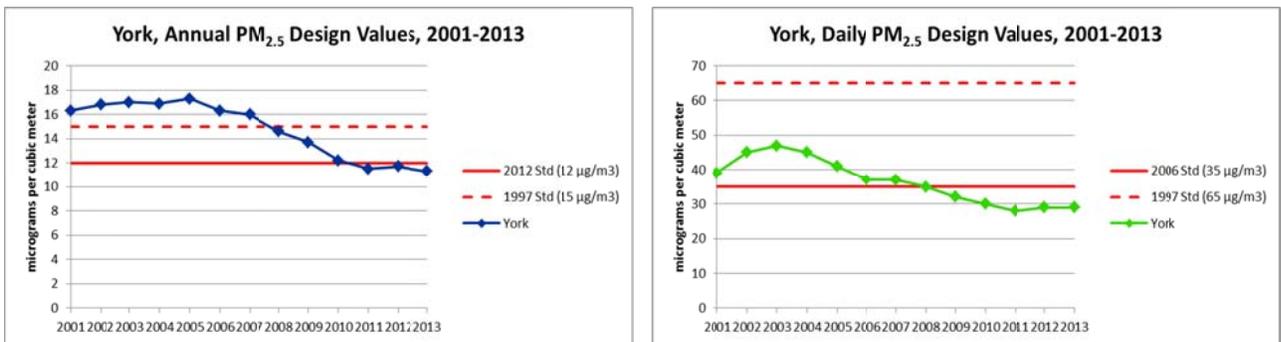


Figure 23. PM_{2.5} Design Values, York, 2001-2013



Because of the consistency of PM_{2.5} composition data over time, and in comparison to the Department’s other speciation sites, the State College and York speciation monitors do not appear to measure source impacts on PM_{2.5} in their respective regions. Utilizing data from other sites in its PM_{2.5} speciation monitoring network, the Department is able to accurately describe PM components spatially with the network as reconfigured

PM_{2.5} speciation monitors were installed at both sites in 2002. The State College monitoring location has been operating a PM_{2.5} speciation monitor since January 2002, while the York monitoring location has been operating a PM_{2.5} speciation monitor since April 2002. Even with the decline in the annual and 24-hour design values over the last twelve years, speciation data from both sites indicate that the apportionment of PM_{2.5} constituents have remained very stable. The two figures below (Figures 24 and 25) outline the breakdown of the six major constituents of PM_{2.5} at the State College and York monitors – ammonium, nitrate, sulfate, organic carbon (OC), elemental carbon (EC), and crustal material - during two periods, 2005 to 2007 and 2010 to 2012. For both sites, the speciated PM_{2.5} in 2005 to 2007 is nearly identical to the speciated PM_{2.5} in 2010 to 2012, even with the decline in overall average mass of 4.5 µg/m³ at State College and 5.7 µg/m³ at York.

Figure 24. Apportionment of PM_{2.5} Speciation Constituents, State College

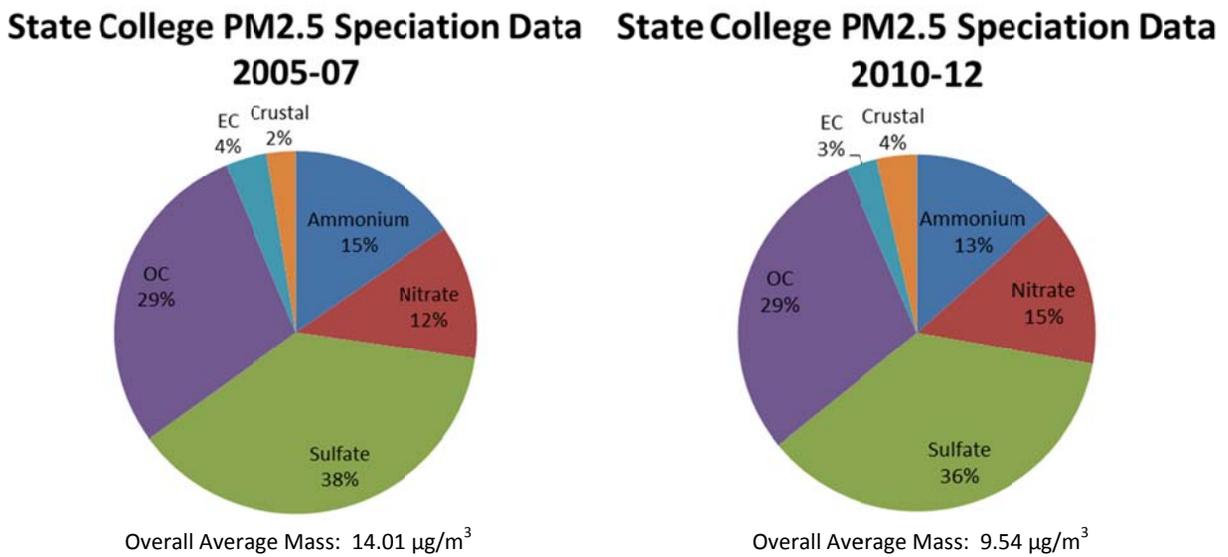
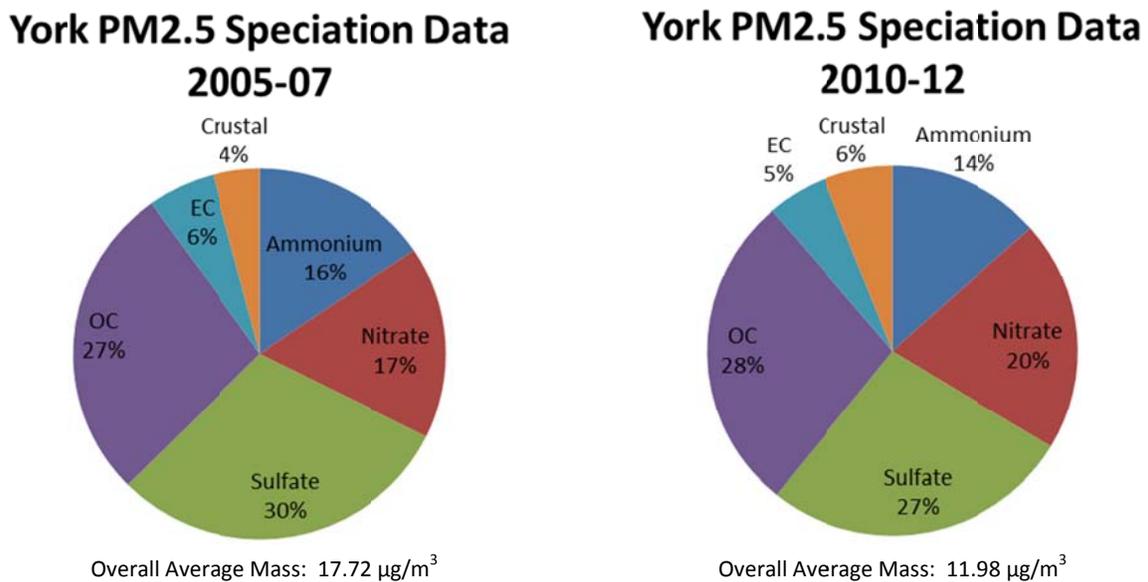


Figure 25. Apportionment of PM_{2.5} Speciation Constituents, York



Spatial Scale Change for PM_{2.5} monitor at Scranton (Lackawanna County)

While reviewing network design criteria (Part 58, Appendix D) for the new site at Marywood University, the Department noticed a spatial scale mischaracterization for the PM_{2.5} parameter due to the new site being closer to I-81. The Department is requesting EPA approval to change the scale from urban to neighborhood. The neighborhood scale is more appropriate in terms of the location of the monitor and the monitoring objectives (trend and compliance with federal standards), and is the scale assigned to all other measured parameters at the site.

Near-road NO₂ Site Installation Plan

On February 9, 2010, the EPA strengthened the National Ambient Air Quality Standards (NAAQS) for nitrogen dioxide to a new one hour value of 100 ppb based on the 3-year average of the 98th percentile of yearly maximum concentration (75 FR 6474). In addition to making the NAAQS more stringent, the NO₂ NAAQS promulgated in 2010 require NO₂ monitors to be installed in regions containing high populations and/or heavily-traveled roads or highways.⁷ To meet minimum monitoring requirements, area-wide NO₂ monitoring is required for MSA with populations exceeding one million persons. Near-road monitoring is required in MSA with populations exceeding 500,000. MSA with populations greater than 2,500,000 persons, or with populations greater than 500,000 and containing a road segment with an Average Annual Daily Traffic (AADT) count of 250,000 or greater, are required to have more than one near-road NO₂ monitor. The Commonwealth of Pennsylvania contains seven MSAs, either wholly or in part, with populations greater than 500,000 persons (Figure 1). For the Pennsylvania portions of these MSAs, NO₂ near-road monitoring responsibilities are shared by PA DEP as well as two county agencies – Allegheny County Health Department and Philadelphia Air Management Services. Near-road NO₂ monitoring network sites for the Pennsylvania portion of the Philadelphia-Camden-Wilmington and Pittsburgh MSAs are described in the annual air monitoring network plans of these county agencies. Based on minimum monitoring requirements, the Department will be installing near-road NO₂ monitors in four MSA – Allentown-Bethlehem-Easton, Harrisburg-Carlisle, Lancaster and Scranton-Wilkes Barre-Hazleton. Table 10 below displays the population and maximum AADT for these four MSAs.

Table 10. Near-road NO₂ Minimum Monitoring Requirements

MSA	2013 Population Estimate	2013 Max AADT Estimate	No. of Required Monitors
Allentown-Bethlehem-Easton, PA-NJ	827,048	89,000	1
Harrisburg-Carlisle, PA	557,711	123,000	1
Lancaster, PA	529,600	109,000	1
Scranton-Wilkes-Barre-Hazleton, PA	562,037	75,000	1

MSAs with populations between 500,000 and 1 million persons were to have near-road monitors installed by January 1, 2013. Due to funding concerns amongst state and local agencies, EPA pushed back the installation deadline for MSAs in the 500,000 to 1 million persons range until January 1, 2017. The final rule concerning the revised dates for installation was issued March 14, 2013 (78 FR 16184) During the coming year, the Department intends to add two near road monitoring sites for nitrogen dioxide, one in the Harrisburg-Carlisle MSA and the other in the Allentown-Bethlehem-

⁷ 40 CFR Part 58, Appendix D §4.3

Easton MSA. Tentatively, the sites will be configured with NO_x, CO, PM_{2.5}, BC/Aethalometer and Meteorology. The Department is also investigating traffic count technology for possible inclusion at these sites.

The Harrisburg site will most likely be sited along the I-81 corridor between the I-83 split and the US 322 interchange, somewhere close to the Progress Ave exit, on the north side of the highway (Figures 26 and 27). This site will be installed by the Department by December 2014. The Allentown site will be placed at property near the US 222 exit (Hamilton Blvd) (Figures 28 and 29). The Allentown site will be installed by June of 2015. These site locations were chosen according to guidelines found in EPA's Near Road NO₂ Monitoring Technical Assistance Document, published in June 2012, and according to siting criteria found in 40 CFR Part 58, Appendix E. During 2015 and 2016, other near road monitors will be installed in locations in Lancaster and Scranton-Wilkes Barre-Hazleton MSAs.

Figure 26. Proposed Location of the Harrisburg Near-Road Site

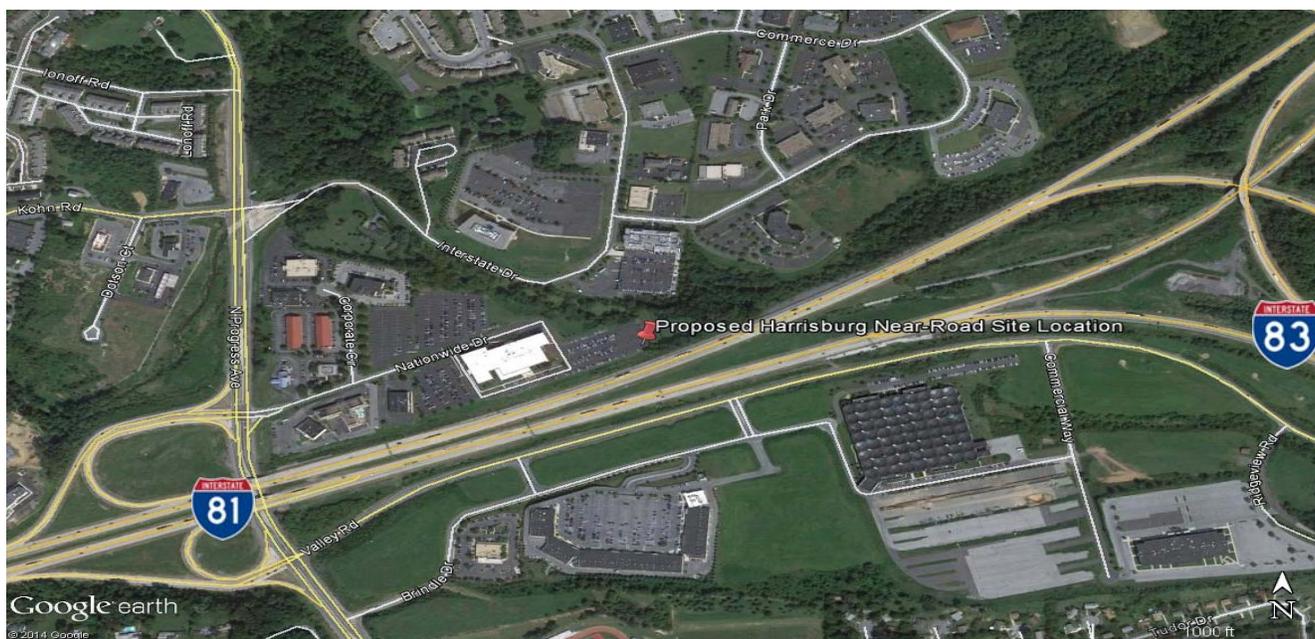


Figure 27. Proposed Location across Interstate 81 from the Harrisburg Near-Road Site - Looking West



Figure 28. Proposed Location for the Allentown Near-Road Site



Figure 29. Proposed Location of the Allentown Near-Road Site – Looking East



Modification to the NO₂ Network:

As discussed on page 50 of this document, the NO₂ monitor at the Houston (Washington County) will be designated as SLAMS and be maintained as part of the Department’s criteria NO₂ monitoring network.

Modification to the Ozone Network:

The Department will install an ozone monitor at the Arendtsville (Adams County) site, to enhance the site’s role as a regional background monitoring site. Additionally by siting this sensor it will provide the Department the ability to correlate reading with the CASTNET ozone monitor located at the Arendtsville site.

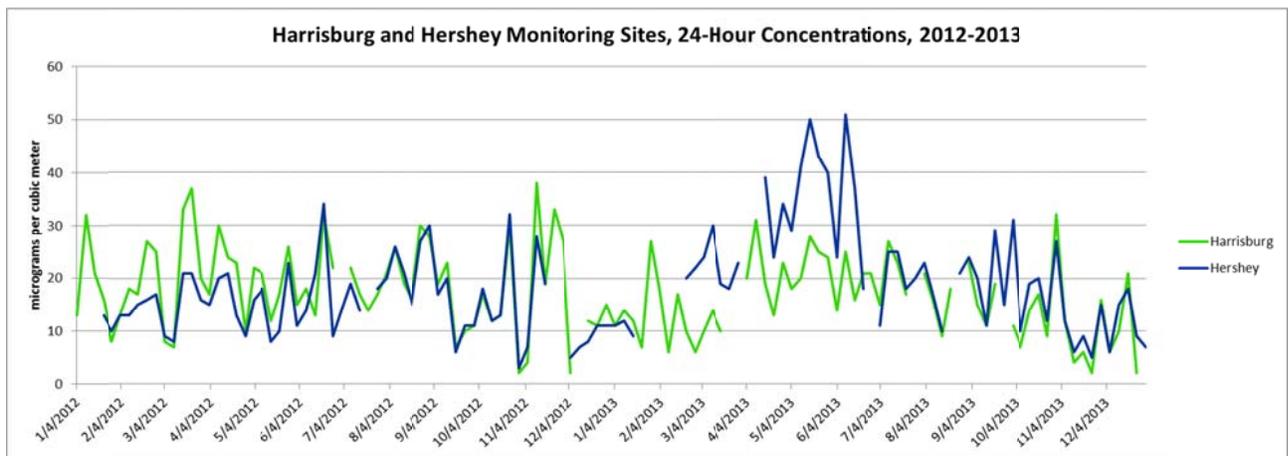
Modifications to the PM₁₀ Network:

The Department will terminate PM₁₀ monitoring at two sites – Harrisburg (Dauphin County) and Reading Airport (Berks County), as neither site is required to support NAAQS compliance.

Harrisburg

Manual PM₁₀ monitoring is planned to be terminated at the Harrisburg (Dauphin County) site, as the site has consistently measured low PM₁₀ concentrations, and is redundant to the Hershey (Dauphin County) monitor for NAAQS compliance monitoring purposes. The minimum monitoring requirements set forth in 40 CFR Part 58, Appendix D require the Department to maintain a minimum of one PM₁₀ monitor in the Harrisburg-Carlisle (Cumberland, Dauphin and Perry Counties) MSA, based on population and historical PM₁₀ concentration measurements in the MSA. The Department installed the PM₁₀ monitor at Hershey in 2012, to support PM₁₀ monitoring in the MSA during the site relocation of the Harrisburg site. As the Hershey PM₁₀ monitor has been measuring PM₁₀ concentrations above those of the Harrisburg monitor over the past year (Figure 30), the Department will retain the PM₁₀ monitor at Hershey and discontinue the monitor at Harrisburg.

Figure 30. Comparison of PM10 Concentrations at Harrisburg and Hershey Monitoring Sites



Reading Airport

The PM₁₀ monitor at the Reading Airport site is proposed to be terminated due to historically low concentrations which have been well below the 24 hour NAAQS. This monitor has the lowest second maximum reading among all PM₁₀ monitors in southeastern PA. The following table (Table 11) shows annual 2nd maximum PM₁₀ concentrations for the Reading Airport site since 2007.

Table 11. PM₁₀ Concentrations, Reading Airport, 2007-2013

Year	2 nd maximum 24 hour concentration (µg/m ³)	Percent of 24 hour NAAQS (150 µg/m ³)
2007	38	25
2008	39	26
2009	27	18
2010	28	19
2011	21	14
2012	31	21
2013	33	22

The minimum monitoring requirements set forth in 40 CFR Part 58, Appendix D do not require the Department to maintain PM₁₀ monitoring in the Reading (Berks County) MSA, based on population and historical PM₁₀ concentration measurements in the MSA. Therefore, the Department will discontinue the PM₁₀ monitor at Reading Airport site.

Modifications to the SO₂ Network:

The Department intends to make the following changes to its SO₂ air monitoring network:

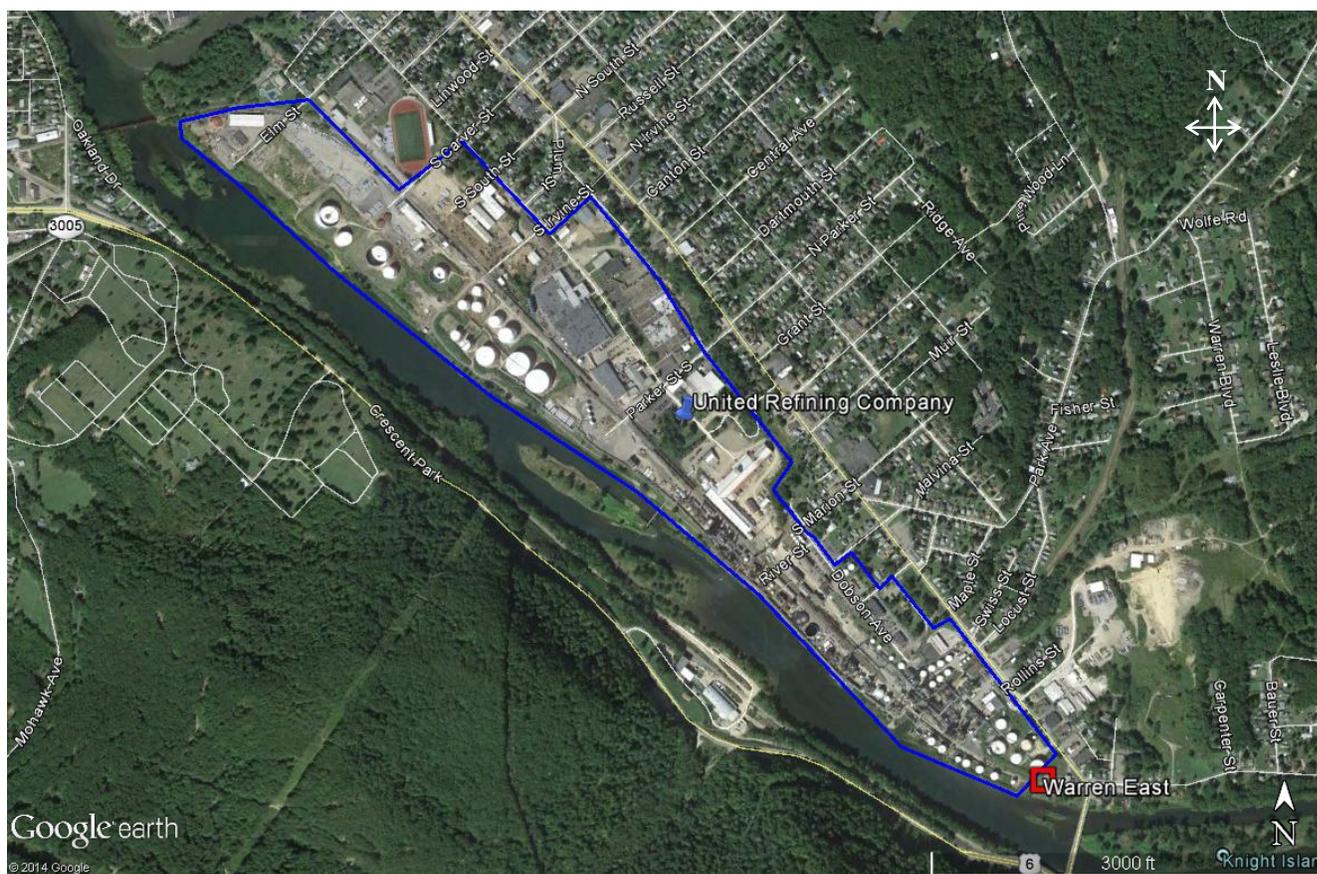
Installation of SO₂ Monitor at Arendtsville

The Department will install an SO₂ ozone monitor at the Arendtsville (Adams County) site, to enhance the site's role as a regional background monitoring site.

Warren East SO₂ and H₂S Spatial Scale Change

In response to a request by the Northwest Regional Air Quality Office and to assist in addressing health and odor concerns in the city of Warren (Warren County), a second monitoring site in the area was installed in November, 2011. The "Warren East" site continuously monitors sulfur-containing compounds, including sulfur dioxide (SO₂) and hydrogen sulfide (H₂S) just outside the fence line of the United Refinery Company (Figure 31).

Figure 31. Location of Warren East Monitoring Station



Upon further review of the network design criteria for the site, the Department is requesting EPA approval to change the spatial scale of representativeness from neighborhood to micro scale for both parameters. The micro scale better represents the size of the air quality impact at the point of monitoring. The site, under the right conditions, is expected to measure high ground-level concentrations.

Modifications to the Air Toxics Network:

The Department intends to make the following change to its air toxics monitoring network:

Retention and Reconfiguration of Houston Site

In July 2012, PA DEP initiated a year-long air sampling study to continue its assessment of air quality impacts and any potential chronic risk from natural gas operations in Pennsylvania. Data collection for this study concluded at the end of 2013. Data analysis commenced in early 2014 and a final report is anticipated for release in 2014. Monitoring for VOC, Carbonyls and Methane/Non-Methane Hydrocarbons and NO₂/NO_x will continue at the study's primary site, which will be renamed "Houston" to conform to SLAMS site naming practice. The Houston (Washington County) site utilizes EPA-approved monitoring methods for NO₂/NO_x monitoring, and meets the siting requirements for SLAMS monitors set forth in 40 CFR Part 58. Therefore, the NO₂ monitor will be re-designated from SPM to SLAMS.

The Department intended to relocate the VOC canister sampler located at the Springville site in Susquehanna County (established in March of 2013) to a location in Wyoming County that is also undergoing Marcellus shale gas well pad development, extraction, gathering and transmission. However, the Department decided to continue monitoring at Springville for at least one additional year to more fully develop a VOC profile for the area.

In order to enhance the Department's toxics pollutant monitoring in the regions of Northeast Pennsylvania in the midst of Marcellus shale development, the Department installed a new, 19th toxic monitoring site in Wyoming County near the town of Mehoopany. This site will collect VOC data for one year. After one year of data collection, the Department will evaluate the data and determine what additional action, if any, might be necessary.

The Department continues the operation of its air toxics monitoring network in partnership with Millersville University, Gannon University, Bucknell University, Ursinus University, Slippery Rock University, and the Pennsylvania State University to collect samples across the Commonwealth. PA DEP will continue to work with these University partners.

Potential Department Actions Following Public Comment Period

Possible Monitor Additions or Modifications:

However, in light of the public comments received, and considering the growing development of shale activities within the Commonwealth, the Department will continue to diligently monitor air quality in these regions. In response to the concerns of citizens over air quality issues in relation to drilling activities, the Department will examine the feasibility for initiating air toxics monitoring in Fayette County (Southwestern PA), as well as expanding or retaining existing monitors longer than originally planned in the Northern Tier region (Northeastern PA).

Loss of EPA funding for PM_{2.5} Speciation Monitors:

The Department acknowledges that in light of reduced funding, EPA is conducting an assessment on the Chemical Speciation Network (CSN) to identify optimum practices and monitoring locations to create a more financially sustainable and streamlined network. EPA has preliminarily identified PM_{2.5} speciation monitors for which EPA-funding may be discontinued. As expected, as the Department currently operates a substantial number of speciation sites in the CSN network in relation to agency size, and does not operate many of the monitoring sites that were anticipated to be high-value sites (such as NCore sites), several of the Department's monitors were identified by EPA for discontinuation. The Department will evaluate this list and provide feedback to EPA regarding its evaluation later this year. Due to the timing of EPA's defunding study and final decisions, the Department was not able to include this information in the 2014 Annual Network Plan prior to the public comment period.

Appendix A — PA DEP Ambient Air Monitoring Sites, Parameters and Maps

Description of Appendix A

The 2014 Pennsylvania Air Monitoring Network consists of the sites and monitors listed in Appendix A, “PA DEP Ambient Air Monitoring Sites, Parameters and Maps.” This appendix details site information, pollutants monitored at each site, and area maps of sampling sites, organized into MSA and non-MSA regions.

Table A-1. DEP Ambient Air Monitoring Site Locations by Region.

Southeast Region

Includes Bucks, Chester, Delaware, Montgomery and Philadelphia Counties

Philadelphia-Camden-Wilmington MSA					
AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420170012	BRISTOL	BUCKS	ROCKVIEW DRIVE	40.107389 -74.882472	Southeast Pennsylvania AB
420290100	NEW GARDEN	CHESTER	NEW GARDEN AIRPORT - TOUGHKENAMON	39.834583 -75.768056	Southeast Pennsylvania AB
420450002	CHESTER	DELAWARE	FRONT ST & NORRIS ST	39.835194 -75.372111	Southeast Pennsylvania AB
420450003	SWARTHMORE	DELAWARE	500 COLLEGE AVE.	39.896900 -75.353900	Southeast Pennsylvania AB
420450004	RIDLEY PARK	DELAWARE	INDUSTRIAL HIGHWAY (RT291)	39.862928 -75.325689	Southeast Pennsylvania AB
420450109	MARCUS HOOK	DELAWARE	EAST 8TH AVE & CHURCH ST.	39.817800 -75.414200	Southeast Pennsylvania AB
420910005	COLLEGEVILLE	MONTGOMERY	URSINUS COLLEGE	40.192500 -75.457500	Southeast Pennsylvania AB
420910013	NORRISTOWN	MONTGOMERY	STATE ARMORY - 1046 BELVOIR RD	40.113278 -75.308694	Southeast Pennsylvania AB
420910016	EVANSBURG UNITED METHODIST	MONTGOMERY	3871 GERMANTOWN PIKE	40.183056 -75.434167	Southeast Pennsylvania AB

Northeast Region

Includes Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne and Wyoming Counties

Allentown-Bethlehem-Easton MSA					
AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420250214	PALMERTON	CARBON	620 LITTLE GAP RD	40.814204 -75.580448	
420770004	ALLENTOWN	LEHIGH	STATE HOSPITAL REAR 1600 HANOVER AVE	40.611944 -75.432611	Allentown-Bethlehem-Easton AB
420950025	FREEMANSBURG	NORTHAMPTON	WASHINGTON & CAMBRIA STS. FREEMANSBURG	40.628472 -75.341583	Allentown-Bethlehem-Easton AB
420950027	LEHIGH VALLEY	NORTHAMPTON	2604 Schoenersville Road	40.645864 -75.404356	Allentown-Bethlehem-Easton AB
420951000	NAZARETH	NORTHAMPTON	SOUTH GREEN & DELAWARE	40.734731 -75.313175	Allentown-Bethlehem-Easton AB
420958000	EASTON	NORTHAMPTON	17TH AND SPRING GARDEN STREETS	40.692306 -75.237111	Allentown-Bethlehem-Easton AB

East Stroudsburg MSA					
AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420890002	SWIFTWATER	MONROE	DEP/DCNR Pocono District Office	41.083060 -75.323280	

Scranton-Wilkes-Barre-Hazleton MSA					
AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420690101	PECKVILLE	LACKAWANNA	WILSON FIRE CO. ERIE & PLEASANT	41.479083 -75.578194	Scranton-Wilkes-Barre AB

420692006	SCRANTON	LACKAWANNA	GEORGE ST TROOP AND CITY OF SCRANTON	41.442861 -75.623000	Scranton-Wilkes-Barre AB
420790036	DURYEA	LUZERNE	401 YORK AVE	41.348869 -75.747322	Scranton-Wilkes-Barre AB
420791100	NANTICOKE	LUZERNE	255 LOWER BROADWAY(NEXT TO LEON&EDDY'S)	41.209194 -76.003528	Scranton-Wilkes-Barre AB
420791101	WILKES BARRE	LUZERNE	CHILWICK & WASHINGTON STS	41.265972 -75.846361	Scranton-Wilkes-Barre AB
421310001	MEHOOPANY	WYOMING	SCHOOLHOUSE RD & PEARL RD	41.565836 -76.064347	

Northeast Region - Non-MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
421150001	SPRINGVILLE	SUSQUEHANNA	TWP PROPERTY SR3004	41.697200 -75.914500	

Southcentral Region

Includes Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry and York Counties

Lancaster MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420710007	LANCASTER	LANCASTER	ABRAHAM LINCOLN JR HIGH GROFFTOWN RD	40.046861 -76.283417	Lancaster AB
420710009	MT JOY	LANCASTER	1088 EAST MAIN STREET	40.108944 -76.472235	
420710012	LANCASTER DOWNWIND	LANCASTER	3445 W. NEWPORT ROAD	40.043833 -76.112400	

York-Hanover MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
421330008	YORK	YORK	HILL ST.	39.965528 -76.699583	York AB
421330011	YORK DOWNWIND	YORK	2632 DELTA ROAD	39.860972 -76.462055	

Reading MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420110006	KUTZTOWN	BERKS	KUTZTOWN UNIVERSITY CAMPUS	40.514080 -75.789720	
420110011	READING AIRPORT	BERKS	1059 ARNOLD ROAD	40.383350 -75.968600	Reading AB
420110020	LAURELDALE NORTH	BERKS	3139 KUTZTOWN ROAD	40.385981 -75.912856	Reading AB
420110021	LYONS BORO	BERKS	KEMP ST.	40.477075 -75.756919	
420110022	LYONS PARK	BERKS	PARK AVE.	40.478319 -75.753947	
420111717	LAURELDALE SOUTH	BERKS	SPRING VALLEY ROAD	40.377306 -75.914583	Reading AB

Lebanon MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
----------	-----------	--------	----------------	-----------------------	----------------

420750100	LEBANON	LEBANON	1275 BIRCH RD	40.337328 -76.383447	
-----------	---------	---------	---------------	-------------------------	--

Harrisburg-Carlisle MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420410101	CARLISLE	CUMBERLAND	IMPERIAL COURT	40.246611 -77.183722	
420430401	HARRISBURG	DAUPHIN	651 Gibson Blvd	40.246992 -76.846988	Harrisburg AB
420431100	HERSHEY	DAUPHIN	SIPE AVE & MAE STREET	40.272417 -76.681417	
420990301	PERRY COUNTY	PERRY	720 GILL HILL ROAD, LITTLE BUFFALO STATE PARK	40.460000 -77.168750	

Gettysburg MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420010001	ARENDSVILLE	ADAMS	NARSTO SITE - ARENDSVILLE	39.923306 -77.308167	

Chambersburg-Waynesboro MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420550001	METHODIST HILL	FRANKLIN	FOREST ROAD - METHODIST HILL	39.960722 -77.475528	
420550002	UPPER STRASBURG	FRANKLIN	9716 UPPER STRASBURG RD	40.059828 -77.710608	

Altoona MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420130801	ALTOONA	BLAIR	2ND AVE & 7TH ST	40.535639 -78.370361	

Northcentral Region

Includes Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga and Union Counties

Williamsport MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420810100	MONTOURSVILLE	LYCOMING	899 CHERRY STREET	41.250194 -76.913444	

State College MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420270100	STATE COLLEGE	CENTRE	PENN STATE UNIVERSITY - ARBORETUM SITE	40.811167 -77.877222	

Northcentral Region - Non-MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420150011	TOWANDA	BRADFORD	Rt. 414 & MAIN ST	41.705390 -76.512876	
420334000	MOSHANNON	CLEARFIELD	LOCATED NEAR S.B. ELLIOTT STATE PARK	41.117500 -78.526194	
421174000	TIOGA COUNTY	TIOGA	TIOGA	41.645583 -76.937972	
421190001	LEWISBURG	UNION	701 MOORE AVE	40.955200 -76.881900	

Southwest Region

Includes Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington and Westmoreland Counties

Johnstown MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420210011	JOHNSTOWN	CAMBRIA	MILLER AUTO SHOP 1 MESSENGER ST	40.309944 -78.915444	Johnstown AB

Southwest Region - Non-MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420590002	HOLBROOK	GREENE	4.8 KM SE OF HOLBROOK	39.816028 -80.284806	
420630004	STRONGSTOWN	INDIANA	PA. DEPT. OF TRANSPORTATION - RT.403	40.563300 -78.919970	
420630005	SHELOCTA	INDIANA	182 SOUTH RIDGE RD	40.652511 -79.292769	

Pittsburgh MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420050001	KITTANNING	ARMSTRONG	GLADE DR. & NOLTE RD. KITTANNING	40.814000 -79.564694	
420070002	HOOKSTOWN	BEAVER	ROUTE 168 & TOMLINSON ROAD	40.563056 -80.504444	Lower Beaver Valley AB
420070005	BRIGHTON TWP	BEAVER	1015 SEBRING ROAD	40.685472 -80.360500	Lower Beaver Valley AB
420070006	POTTER TOWNSHIP	BEAVER	206 MOWRY RD	40.638936 -80.365653	Lower Beaver Valley AB
420070007	BEAVER VALLEY	BEAVER	760 BEAVER VALLEY MALL	40.673656 -80.317731	Lower Beaver Valley AB
420070014	BEAVER FALLS	BEAVER	EIGHTH STREET AND RIVER ALLEY	40.747806 -80.315750	Lower Beaver Valley AB
420070505	VANPORT	BEAVER	TAMAQUI DR	40.684861 -80.322917	Lower Beaver Valley AB
421250005	CHARLEROI	WASHINGTON	CHARLER01 WASTE TREATMENT PLANT	40.146583 -79.902222	Monongahela Valley AB
421250200	WASHINGTON	WASHINGTON	MCCARRELL AND FAYETTE STS	40.170639 -80.261722	
421255001	FLORENCE	WASHINGTON	HILLMAN STATE PARK - KINGS CREEK ROAD	40.445472 -80.421222	
421255200	HOUSTON	WASHINGTON	220 MEDDINGS RD	40.268963 -80.243995	
421290006	MURRYSVILLE	WESTMORELAND	OLD WILLIAM PENN HWY & SARDIS RD	40.429028 -79.697278	
421290008	GREENSBURG	WESTMORELAND	DONOHUE ROAD - PENN DOT MAINT DIST BLDG	40.304389 -79.506056	
421290009	CONEMAUGH	WESTMORELAND	SUGAR RUN - RT 711	40.392920 -79.024460	

Northwest Region

Includes Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, Mckean, Mercer, Venango and Warren Counties

Pittsburgh MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420190020	SLIPPERY ROCK	BUTLER	1 MORROW WAY	41.063056 -80.030833	

Youngstown-Warren-Boardman MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420850100	FARRELL	MERCER	PA518 (NEW CASTLE ROAD) & PA418	41.214056 -80.483472	

Northwest Region - Non-MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420730011	ELLWOOD CITY	LAWRENCE	CLYDE STREET	40.860031 -80.279092	Upper Beaver Valley AB
420730015	NEW CASTLE	LAWRENCE	S CROTON AVE & JEFFERSON ST.	40.996056 -80.346528	Upper Beaver Valley AB
421230004	WARREN OVERLOOK	WARREN	OVERLOOK SITE - NEAR STONE HILL ROAD	41.843722 -79.172889	
421230005	WARREN EAST	WARREN	2044 PENNSYLVANIA AVE EAST	41.825708 -79.119952	

Erie MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420490003	ERIE	ERIE	10TH AND MARNE STREETS	42.141972 -80.038694	Erie AB
420490004	PRESQUE ISLE	ERIE	EAST FISHER DR.	42.162000 -80.113300	Erie AB

Table A-2. DEP Ambient Air Monitoring Sites and Parameters Monitored by Region.

Southeast Region

Includes Bucks, Chester, Delaware, Montgomery and Philadelphia Counties

Philadelphia-Camden-Wilmington MSA															
AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4	
420170012	BRISTOL	X	X	X	X	X									
420290100	NEW GARDEN	X				X	X								
420450002	CHESTER	X	X	X		X		X	X			X	X		
420450003	SWARTHMORE											X	X		
420450004	RIDLEY PARK								X						
420450109	MARCUS HOOK											X	X		
420910005	COLLEGEVILLE												X		
420910013	NORRISTOWN	X	X			X									
420910016	EVANSBURG UNITED METHODIST												X		

Northeast Region

Includes Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne and Wyoming Counties

Allentown-Bethlehem-Easton MSA															
AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4	
420250214	PALMERTON								X						
420770004	ALLENTOWN	X						X							
420950025	FREEMANSBURG	X		X	X	X	X						X		
420950027	LEHIGH VALLEY					X									
420951000	NAZARETH							X							
420958000	EASTON	X	X												

East Stroudsburg MSA															
AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4	
420890002	SWIFTWATER	X				X									

Scranton-Wilkes-Barre-Hazleton MSA															
AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4	
420690101	PECKVILLE	X													
420692006	SCRANTON	X		X	X	X	X								
420790036	DURYEA								X						
420791100	NANTICOKE	X													
420791101	WILKES BARRE	X	X					X							
421310001	MEHOOPANY												X		

Northeast Region - Non-MSA															
AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4	

Pollutants

- | | | |
|-----------------------|--|--|
| O3: Ozone | PM2.5: Particulate matter <2.5 micrometers | Car: Carbonyls |
| SO2: Sulfur dioxide | Spec: Pm2.5 speciation | Hg: Mercury |
| NO2: Nitrogen dioxide | PM10: Particulate matter <10 micrometers | Metals: Total suspended particulates and selected metals |
| CO: Carbon monoxide | Pb: Lead | VOC: Volatile organic compounds |

420130801	ALTOONA	X	X			X		X								
-----------	---------	---	---	--	--	---	--	---	--	--	--	--	--	--	--	--

Northcentral Region

Includes Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga and Union Counties

Williamsport MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420810100	MONTOURSVILLE	X						X						

State College MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420270100	STATE COLLEGE	X	X	X		X	X							

Northcentral Region - Non-MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420150011	TOWANDA	X		X										
420334000	MOSHANNON	X												
421174000	TIOGA COUNTY	X		X										
421190001	LEWISBURG									X		X	X	

Southwest Region

Includes Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington and Westmoreland Counties

Johnstown MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420210011	JOHNSTOWN	X	X	X	X	X	X	X						

Southwest Region - Non-MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420590002	HOLBROOK	X	X											
420630004	STRONGSTOWN	X	X											
420630005	SHELOCTA								X					

Pittsburgh MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420050001	KITTANNING	X				X								
420070002	HOOKSTOWN	X	X											
420070005	BRIGHTON TWP	X	X											
420070006	POTTER TOWNSHIP								X					
420070007	BEAVER VALLEY								X			X		
420070014	BEAVER FALLS	X		X		X		X					X	
420070505	VANPORT								X					
421250005	CHARLEROI	X	X	X	X	X		X					X	
421250200	WASHINGTON	X				X								
421255001	FLORENCE	X	X			X	X							

Pollutants

O3: Ozone

SO2: Sulfur dioxide

NO2: Nitrogen dioxide

CO: Carbon monoxide

PM2.5: Particulate matter <2.5 micrometers

Spec: Pm2.5 speciation

PM10: Particulate matter <10 micrometers

Pb: Lead

Car: Carbonyls

Hg: Mercury

Metals: Total suspended particulates and selected metals

VOC: Volatile organic compounds

421255200	HOUSTON	X		X	X	X					X				X	
421290006	MURRYSVILLE	X														
421290008	GREENSBURG	X				X	X								X	
421290009	CONEMAUGH										X					

Northwest Region

Includes Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, Mckean, Mercer, Venango and Warren Counties

Pittsburgh MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420190020	SLIPPERY ROCK											X	X	

Youngstown-Warren-Boardman MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420850100	FARRELL	X				X								

Northwest Region - Non-MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420730011	ELLWOOD CITY								X					
420730015	NEW CASTLE	X	X		X			X						
421230004	WARREN OVERLOOK		X											
421230005	WARREN EAST		X											

Erie MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC	CH4/nCH4
420490003	ERIE	X	X	X	X	X	X	X						
420490004	PRESQUE ISLE											X	X	

Pollutants

O3: Ozone

SO2: Sulfur dioxide

NO2: Nitrogen dioxide

CO: Carbon monoxide

PM2.5: Particulate matter <2.5 micrometers

Spec: Pm2.5 speciation

PM10: Particulate matter <10 micrometers

Pb: Lead

Car: Carbonyls

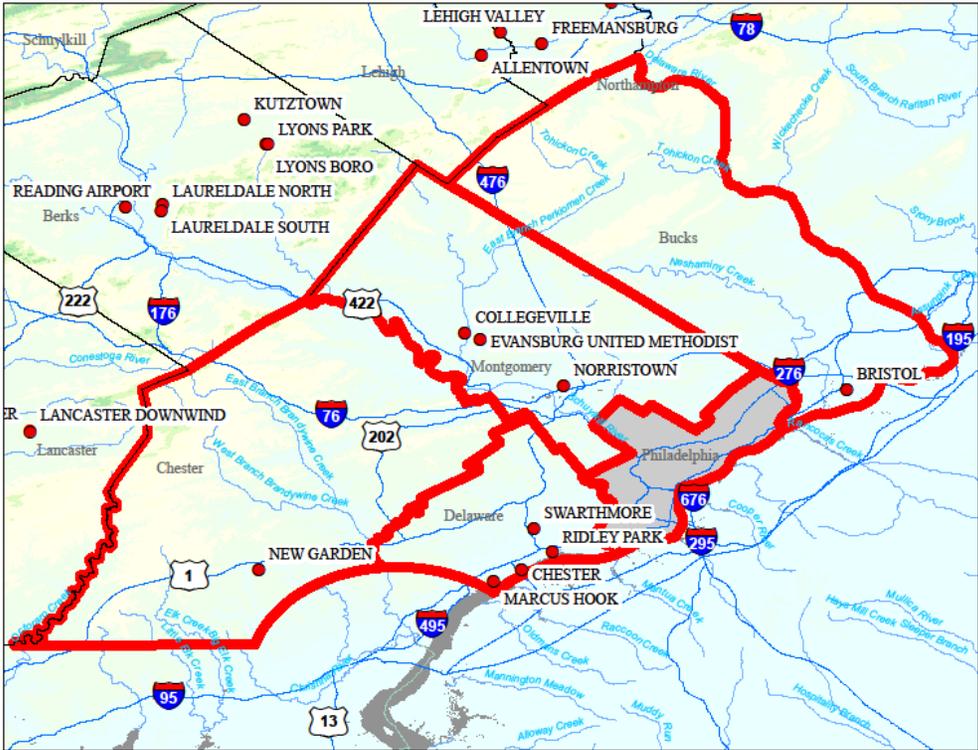
Hg: Mercury

Metals: Total suspended particulates and selected metals

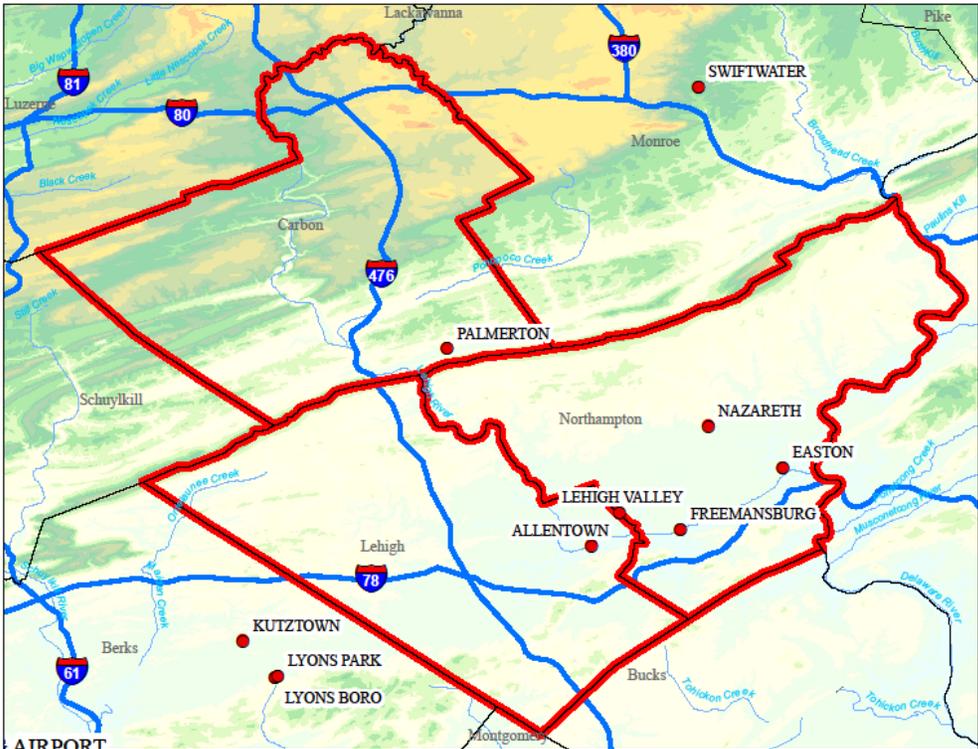
VOC: Volatile organic compounds

Figure A-1. DEP Ambient Air Monitoring Site Location Maps, by MSA Region.

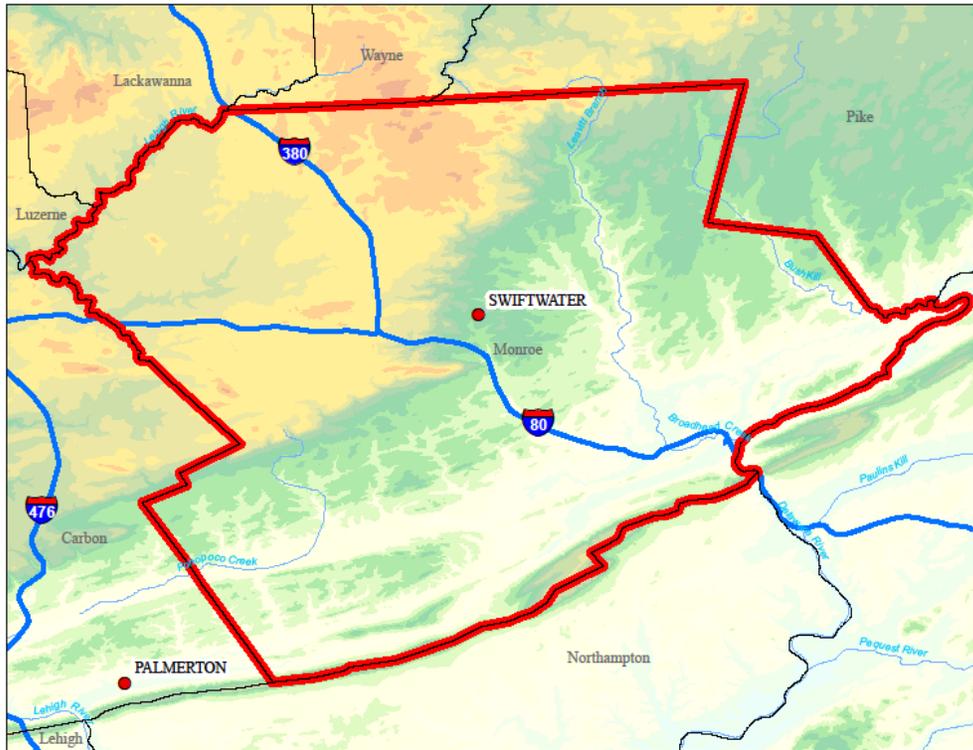
Philadelphia-Camden-Wilmington MSA



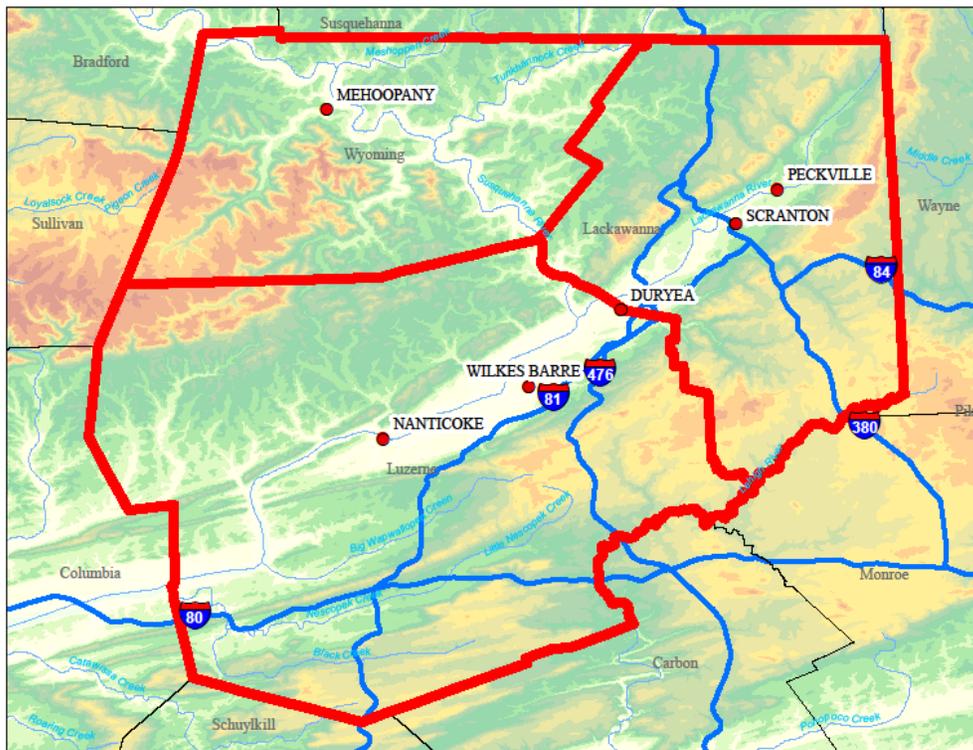
Allentown-Bethlehem-Easton MSA



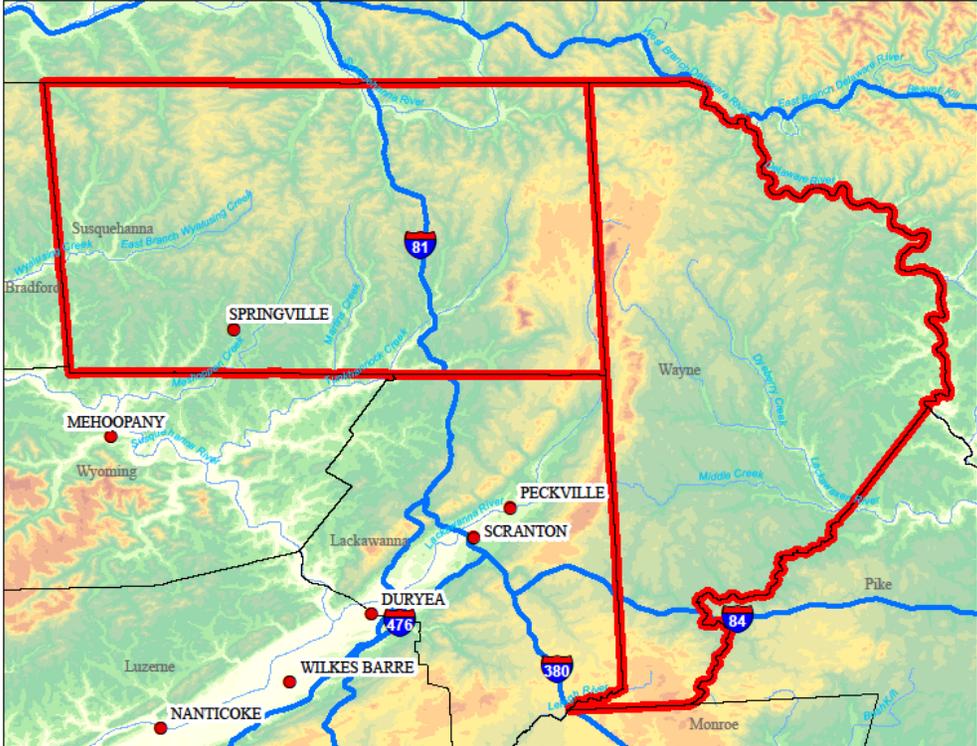
East Stroudsburg MSA



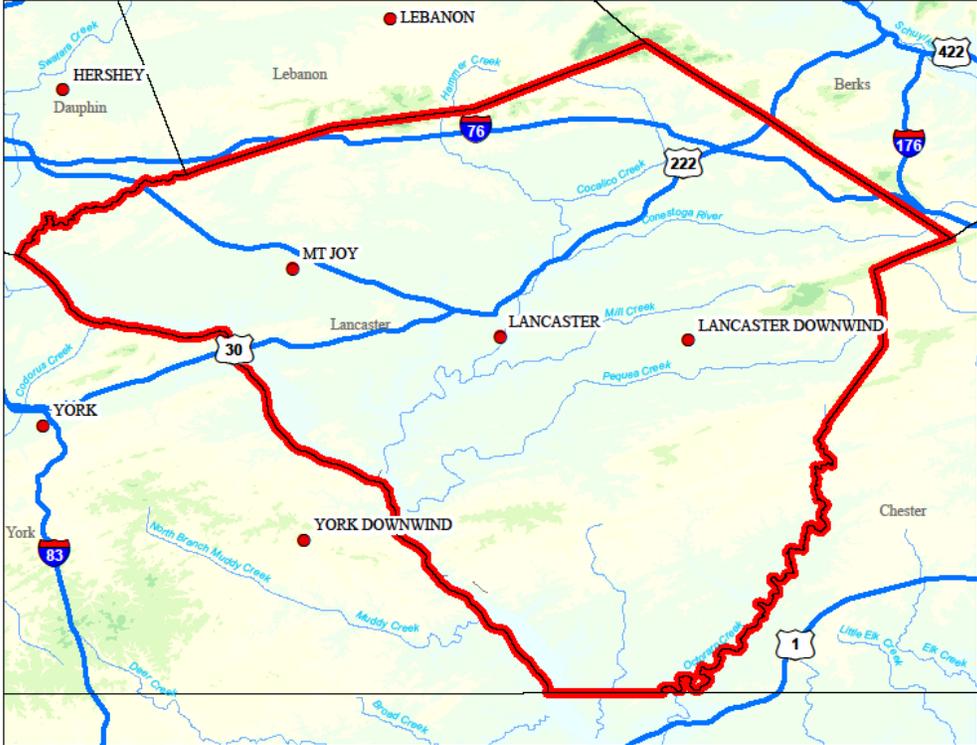
Scranton-Wilkes-Barre-Hazleton MSA



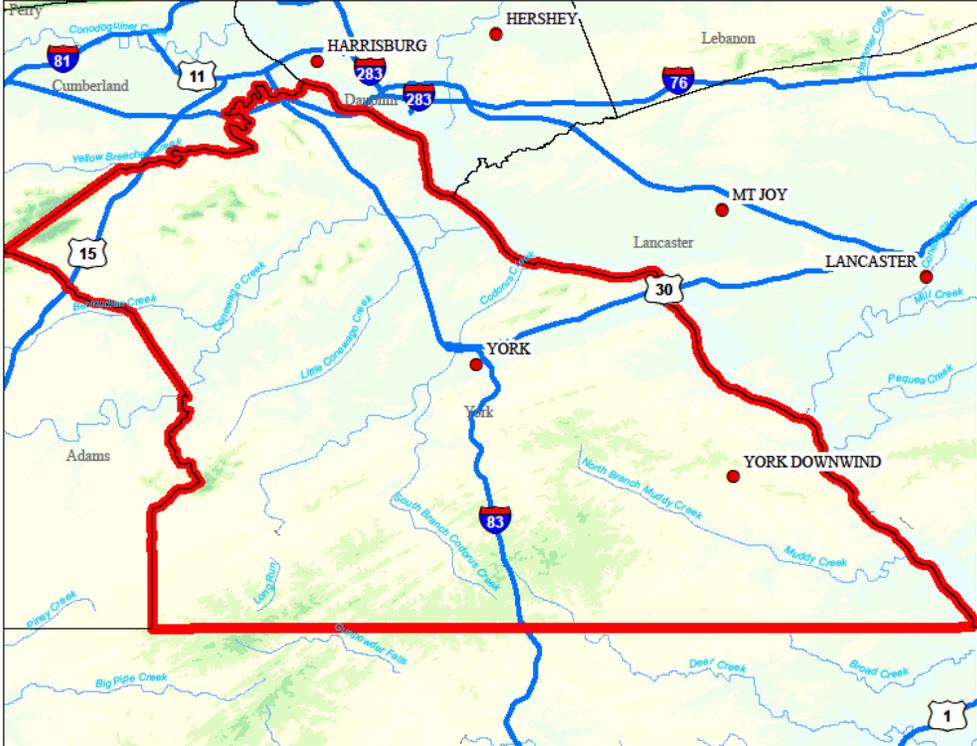
Northeast Region - Non-MSA



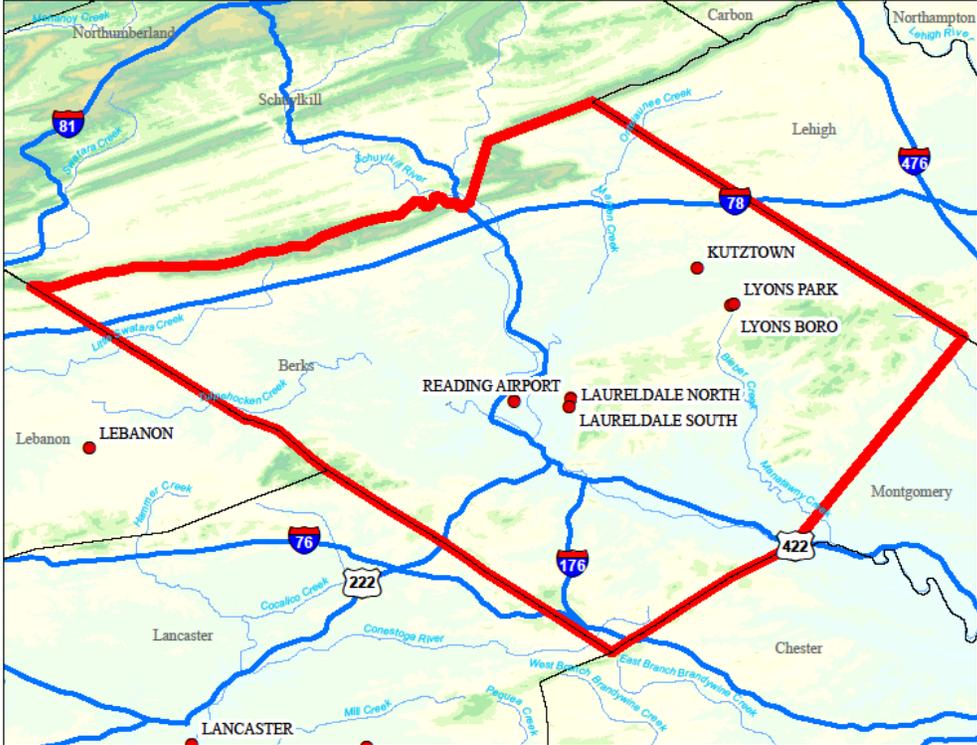
Lancaster MSA



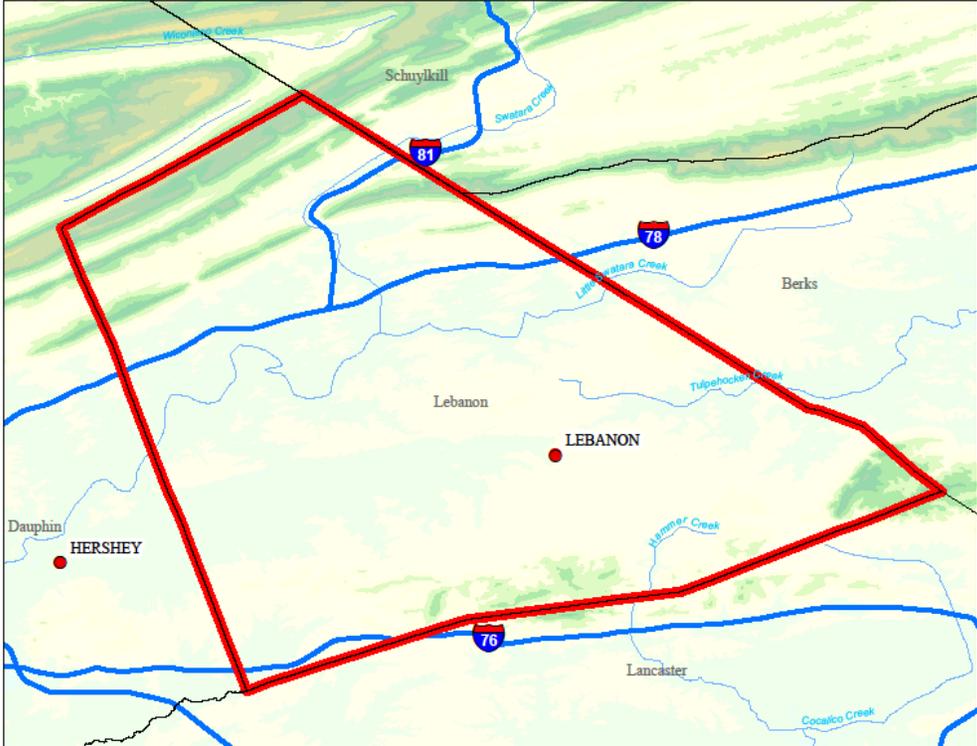
York-Hanover MSA



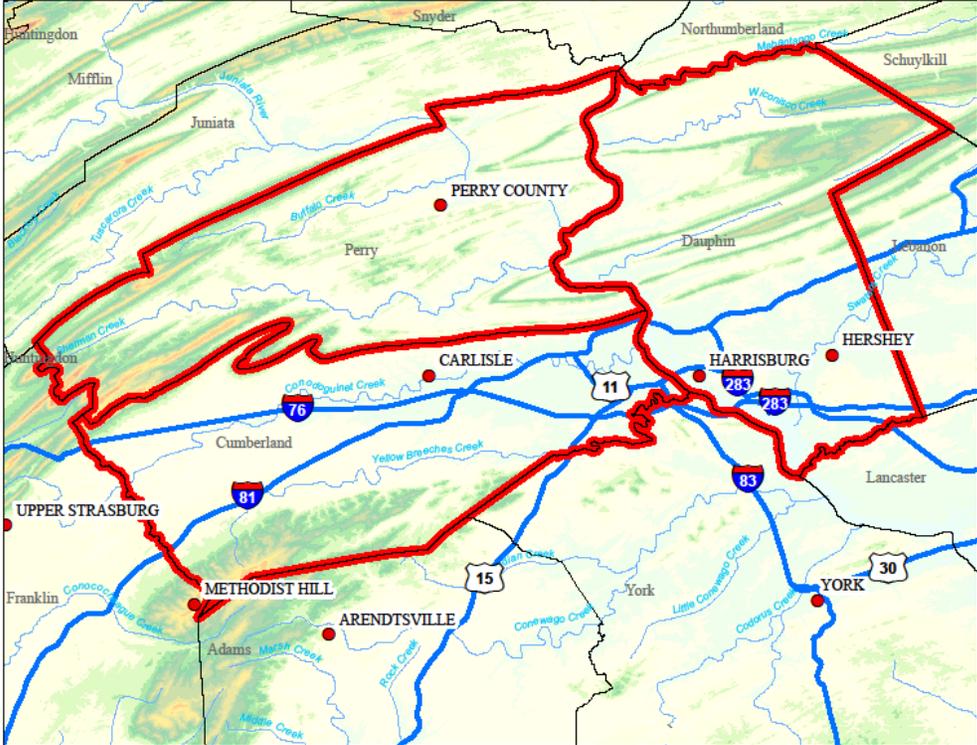
Reading MSA



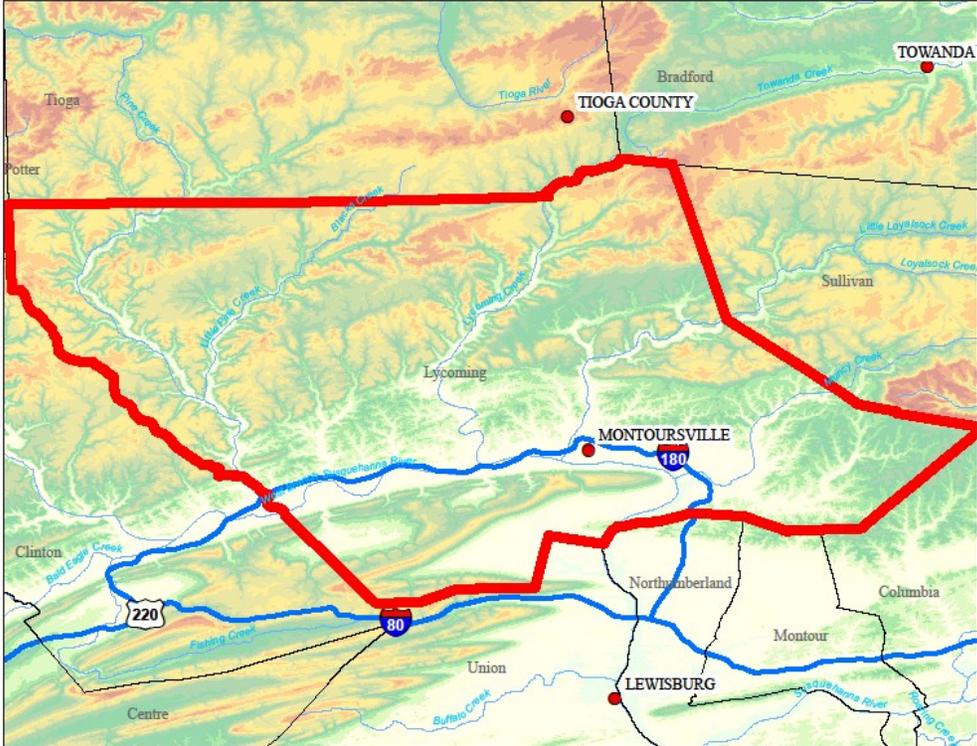
Lebanon MSA



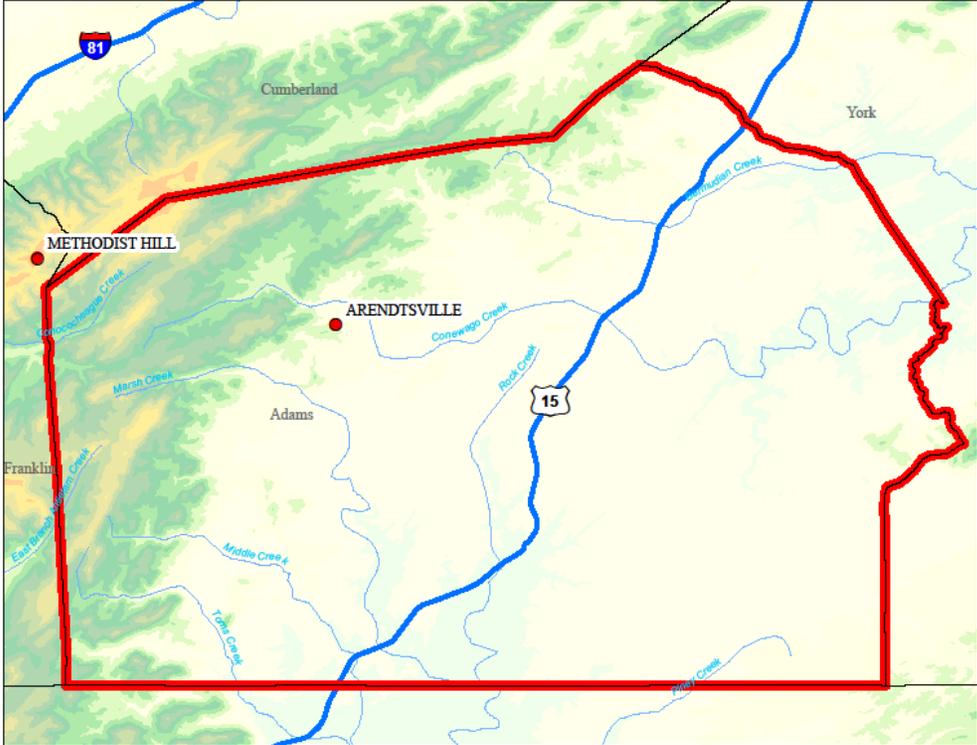
Harrisburg-Carlisle MSA



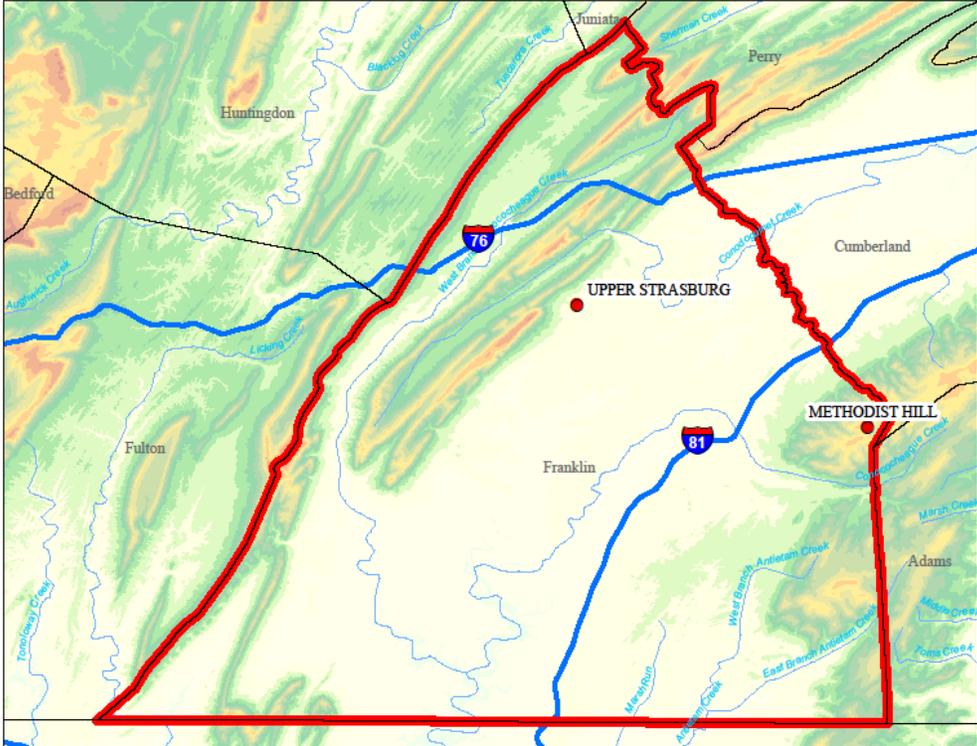
Williamsport MSA



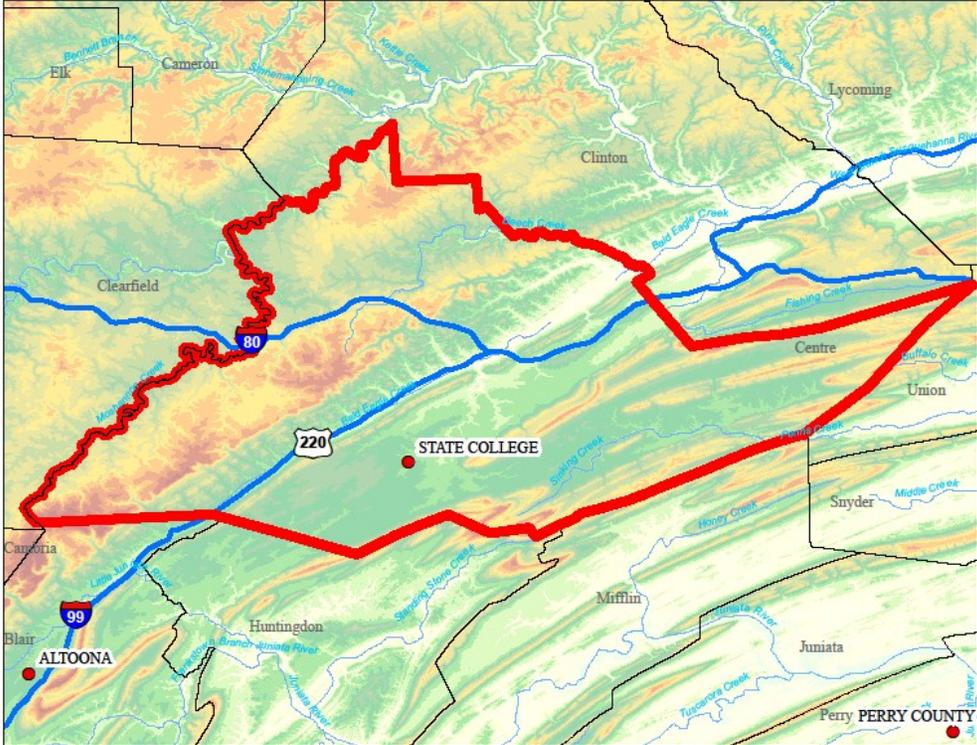
Gettysburg MSA



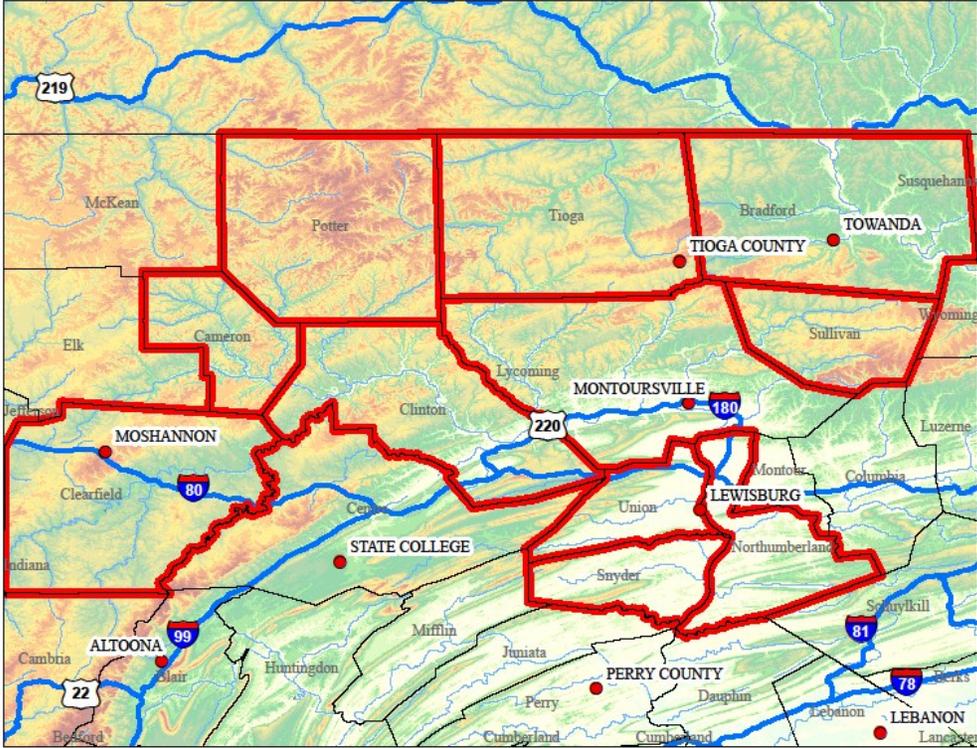
Chambersburg-Waynesboro MSA



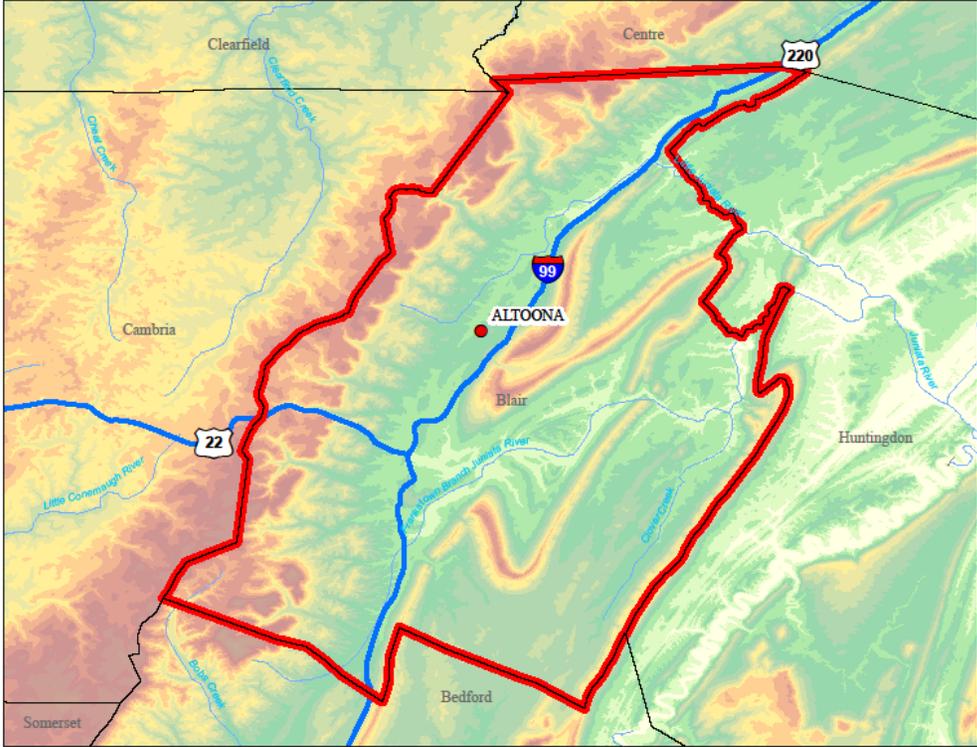
State College MSA



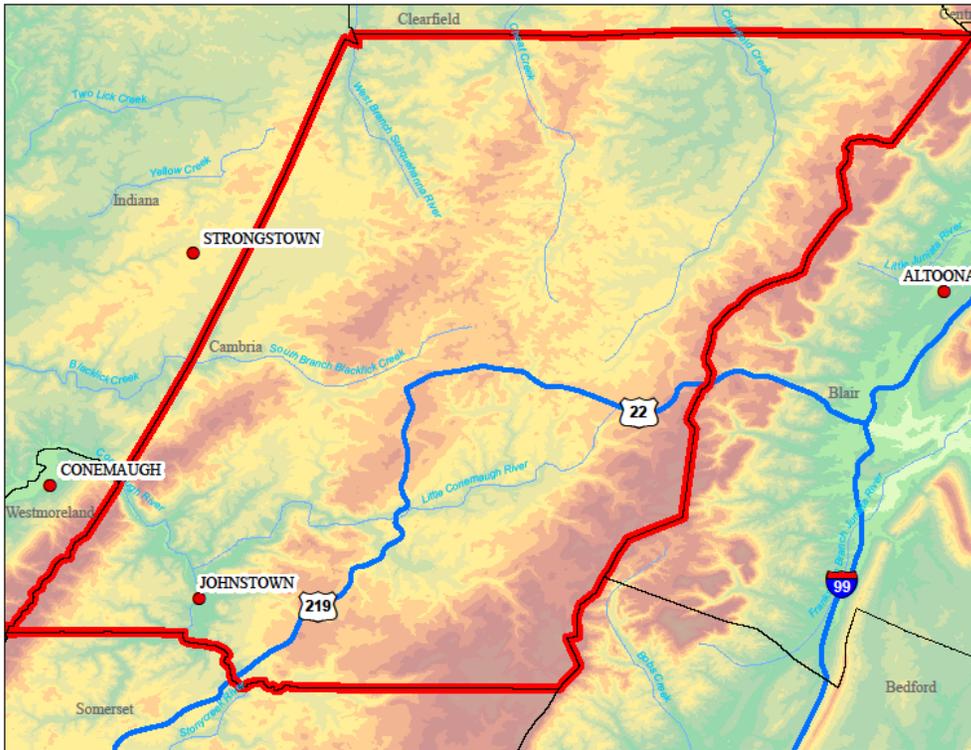
Northcentral Region - Non-MSA



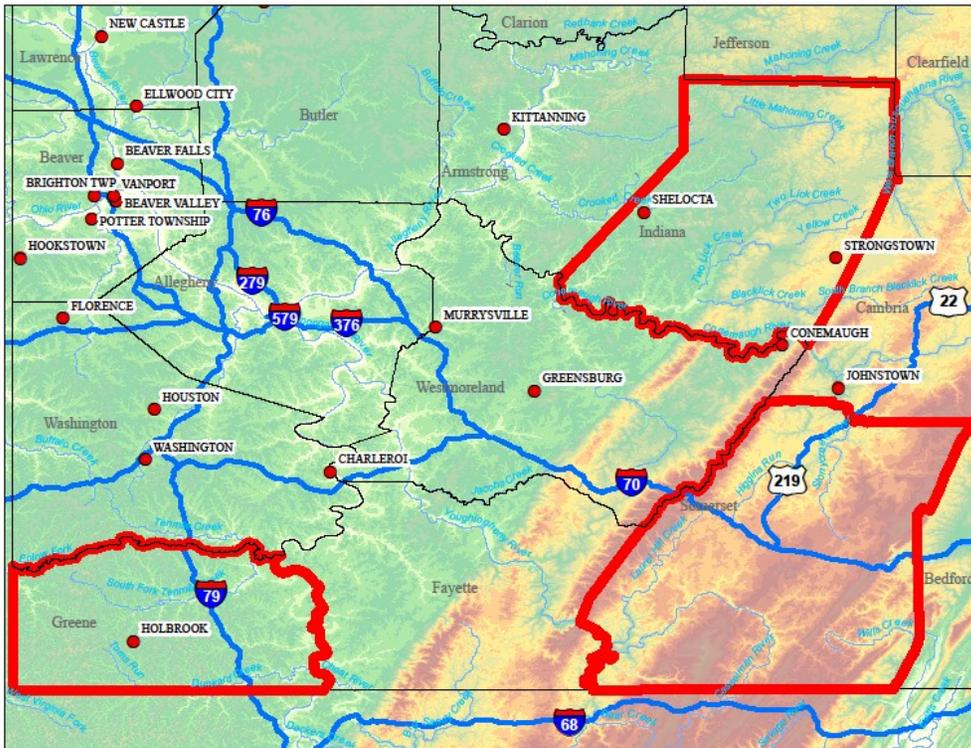
Altoona MSA



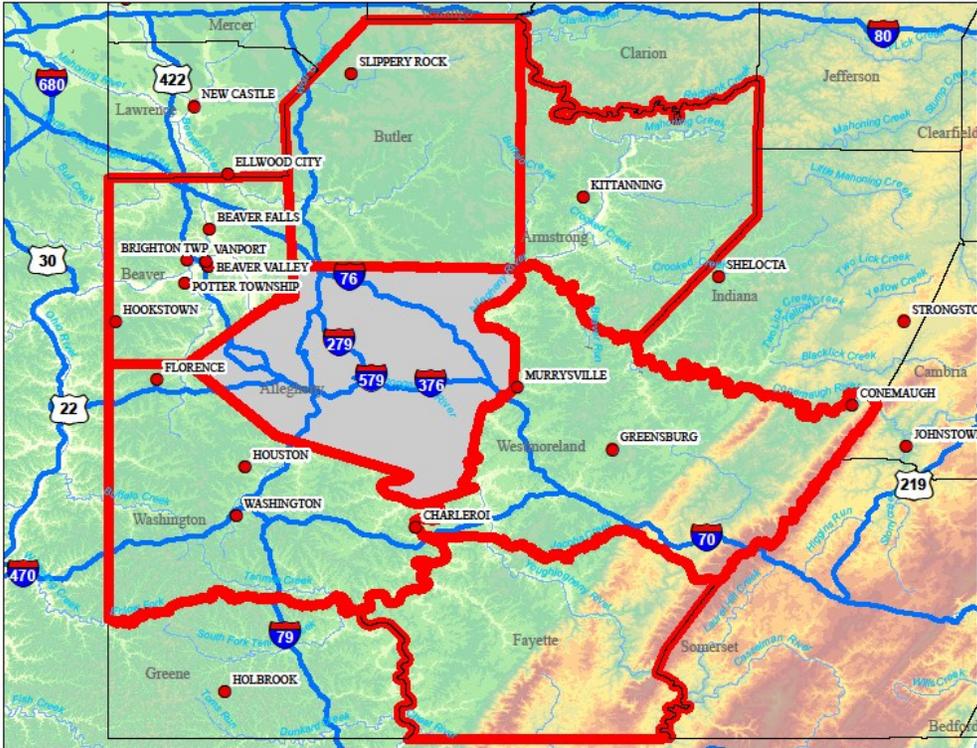
Johnstown MSA



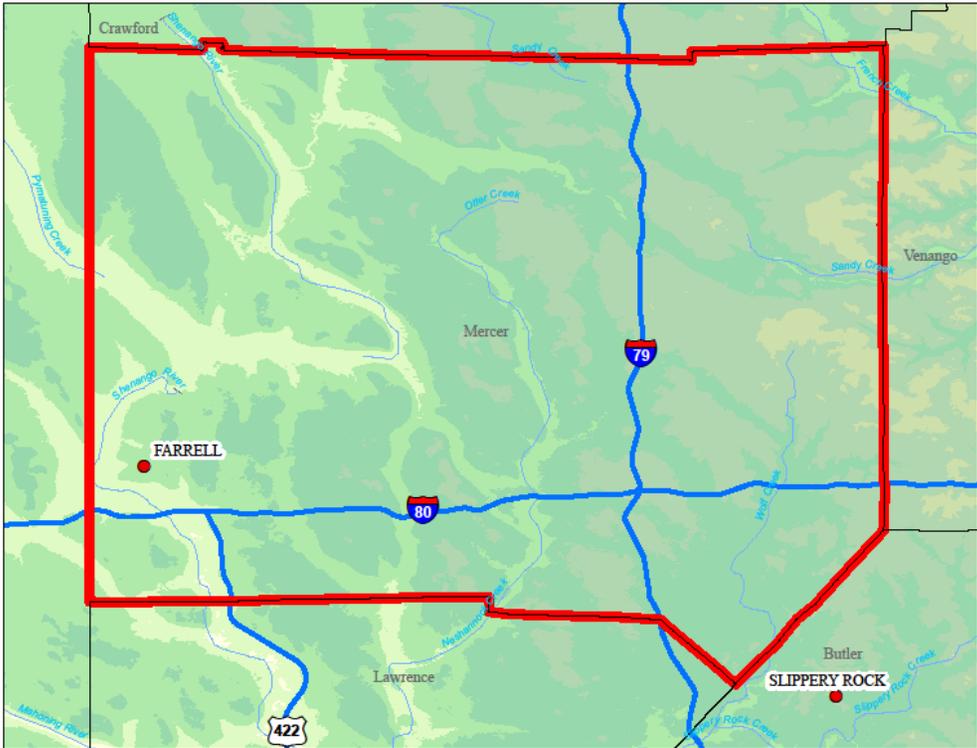
Southwest Region - Non-MSA



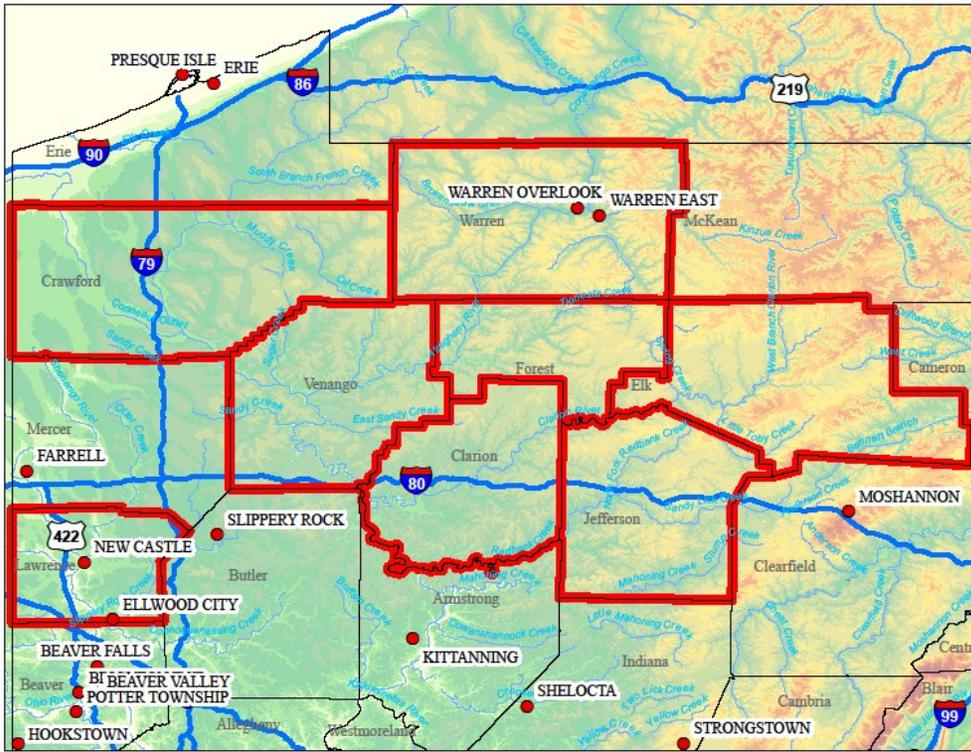
Pittsburgh MSA



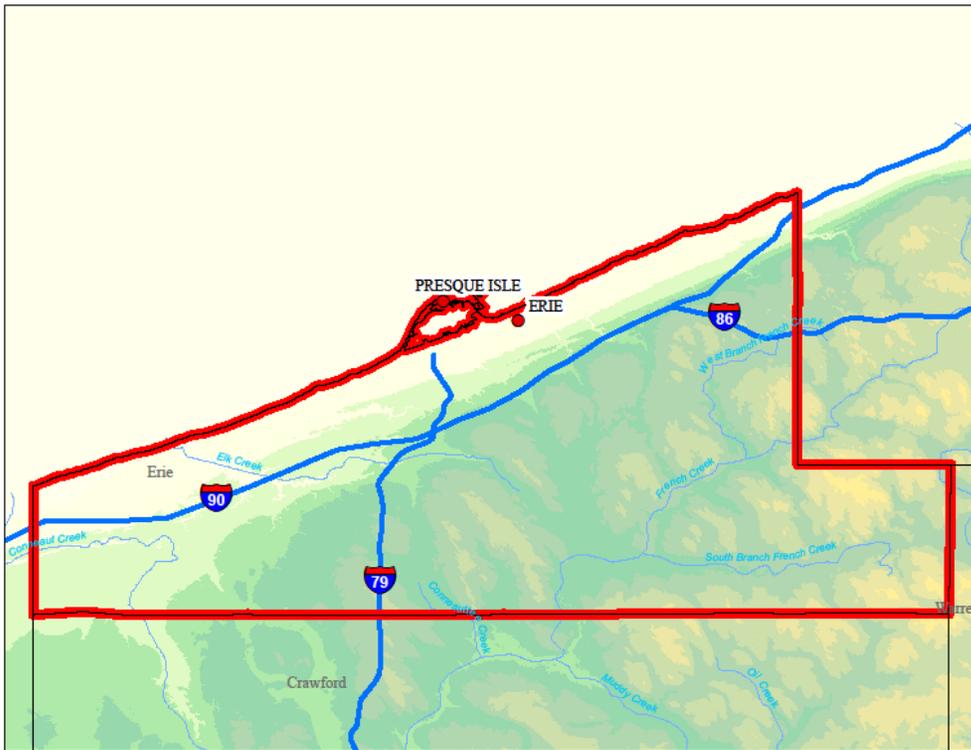
Youngstown-Warren-Boardman MSA



Northwest Region - Non-MSA



Erie MSA



Appendix B — Pennsylvania Monitoring Network Site Details

Description of Appendix B

Appendix B provides a detailed description of the existing monitoring network sites. This appendix includes information related to the location of the site, monitoring parameters at the site, and details about the monitors themselves in order to meet the requirements of § 58.10 (a) and (b).

The first block, the Site Information Block, contains information identifying the site by both address and latitude and longitude. This block also contains the Air Quality System (AQS) site identification and information regarding inclusion of the monitoring site in any Metropolitan Statistical Area (MSA).

Following the Site Information Block, there is a series of one or more Sensor Information Block(s) containing information for each monitor at the site. Each sensor block contains the following information:

- Sensor Type – The name of the pollutant measured by the sampler.
- Sensor Network Designation – The name of the designated network
 - NCore – National Core multipollutant Monitoring Station
 - PAMS – Photochemical Assessment Monitoring Station
 - SLAMS – State or Local Ambient Monitoring Station
 - STN – PM_{2.5} Speciation Trends Network
 - SPM – Special Purpose Monitor
- Sensor Purpose Description – The purpose of the sensor
 - Population Exposure, such as the Air Quality Index
 - Regulatory compliance with Federal or State regulation
 - Research/Scientific Monitoring
 - Specific location characterization
- Sample Frequency – Specifies how often a sample is taken
 - Continuous - operates 24/7; applies predominately to gaseous analyzers, although some particulate samplers (TEOM/FDMS and BAMs) operate continuously.
 - Daily – a discrete sample is taken every day; applies to manual method particulate samplers.
 - Every Third Day - Manual method particulate samplers that run every third day.
 - Every Sixth Day – Manual method particulate samplers that run every sixth day.
- Part 58, Appendix A QA Assessment – A “YES” indicates the sensor is maintained in accordance with the Quality Assurance (QA) requirements specified in Part 58, Appendix A.
- Part 58, Appendix C Monitoring Classification – Each ambient air monitor is classified using the EPA “List of Designated Reference and Equivalent Methods” (see EPA Transfer Technology Network web page – link below).

- Reference or Federal Reference Method (FRM) – a method of sampling that is specified in CFR Part 50.
- Equivalent or Federal Equivalent Method (FEM) – a method that is designated as equivalent to the reference method, in accordance with 40 CFR Part 53.
- Automated – after sampling, the analysis results are available immediately.
- Manual – after sampling, a separate analysis at a laboratory is necessary.

In Appendix B, the previously mentioned descriptions are combined into the following groupings:

- Automated Reference Method,
 - Manual Reference Method,
 - Automated Equivalent Method,
 - Manual Equivalent Method, or
 - NONE – appears where there is no reference or equivalent method.
- Part 58, Appendix C Monitoring Method – Each ambient air monitor is classified by a specific “method number.” These numbers can be found in the EPA “List of Designated Reference and Equivalent Methods” (see EPA Transfer Technology Network Web page at <http://www.epa.gov/ttn/amtic/files/ambient/criteria/reference-equivalent-methods-list.pdf>).
 - Monitoring Method Description – Each individual ambient air monitor type has a specific method of pollutant detection. Common examples are:
 - Ozone monitors – Ultraviolet (UV) Absorption
 - SO₂ – UV Fluorescence
 - CO - Non-dispersive Infrared (IR)
 - NO₂ or NO_x – Chemiluminescence
 - Lead-Inductively Coupled Argon Plasma–Optical Emissions Spectrometry
 - PM_{2.5}, PM₁₀ – Gravimetric (or gravimetric by TEOM (Tapered Element Oscillating Microbalance), or BAM (Beta Attenuation Mass)
 - PAMS – Auto GC (Gas Chromatograph), Dual FID (Flame Ionization Detector)
 - Part 58, Appendix D Design Criteria – Appendix D requires a certain number of monitoring samplers per geographic area. A “YES” indicates that the number of monitors in that particular area meets or exceeds the requirement of 40 CFR Part 58 Appendix D.
 - 40 CFR Part 58 Appendix D Scale – The specific “spatial scales of representation” describes the physical dimensions of the air parcel around the monitoring station throughout which actual pollutant concentrations are reasonably similar.
 - Microscale - Areas ranging from several meters to about 100 meters,
 - Middle scale - Areas ranging from 100 meters to 0.5 kilometers,
 - Neighborhood - 0.5 to 4.0 kilometers, and uniform land use,
 - Urban scale - 4 to 50 kilometers, and
 - Regional - ten to hundreds of kilometers.
 - Part 58, Appendix D Objective – Describes the purpose/objective for monitoring at a site.
 - Extreme downwind
 - General/Background concentration

- Highest concentration
 - Maximum ozone concentration
 - Population exposure
 - Regional transport
 - Source oriented
- Part 58, Appendix E Siting Criteria – Describes certain criteria applicable to ambient air quality sampling probes and monitoring paths, such as distances from trees, obstructions, traffic lanes, etc. A “**YES**” indicates that the sensor at the given site meets or exceeds the requirements of 40 CFR Part 58 Appendix E.
 - Start Date – Displays the sampling start date
 - Comments – The database contains a comments section for each monitor. Appropriate comments, as necessary, are found in this area.

Pennsylvania Monitoring Network Description

SITE NAME: ALLENTOWN	AQS SITE ID: 420770004
COUNTY: LEHIGH	LATITUDE: 40.611944445
MUNICIPALITY: CITY OF ALLENTOWN	LONGITUDE: -75.432611111
MSA: Allentown-Bethlehem-Easton MSA	ADDRESS: STATE HOSPITAL REAR 1600 HANOVER AVE

Sensor Type: Ozone	Appendix C Monitoring Method: EQOA-0992-087
Sensor Network Designation: SLAMS	Monitoring Method Description: UV Absorption
Sensor Purpose Designation: Regulatory Compliance	Appendix D Design Criteria*: Yes
Sample Frequency: Cont.	Appendix D Scale: Neighborhood
Appendix A QA Assessment*: Yes	Appendix D Objectives: Population Exposure
Appendix C Monitoring Classification: Automated Equivalent Method	Appendix E Siting Criteria*: Yes
Start Date 1/1/1984 Comments:	

Sensor Type: Particulate Matter PM10	Appendix C Monitoring Method: EQPM-1090-079
Sensor Network Designation: SLAMS	Monitoring Method Description: TEOM Gravimetric
Sensor Purpose Designation: Regulatory Compliance	Appendix D Design Criteria*: Yes
Sample Frequency: Cont.	Appendix D Scale: Neighborhood
Appendix A QA Assessment*: Yes	Appendix D Objectives: Population Exposure
Appendix C Monitoring Classification: Automated Equivalent Method	Appendix E Siting Criteria*: Yes
Start Date 5/16/1996 Comments:	

SITE NAME: ALTOONA	AQS SITE ID: 420130801
COUNTY: BLAIR	LATITUDE: 40.535638889
MUNICIPALITY: LOGAN TWP	LONGITUDE: -78.370361111
MSA: Altoona MSA	ADDRESS: 2ND AVE & 7TH ST

Sensor Type: Ozone	Appendix C Monitoring Method: EQOA-0992-087
Sensor Network Designation: SLAMS	Monitoring Method Description: UV Absorption
Sensor Purpose Designation: Regulatory Compliance	Appendix D Design Criteria*: Yes
Sample Frequency: Cont.	Appendix D Scale: Urban Scale
Appendix A QA Assessment*: Yes	Appendix D Objectives: Population Exposure
Appendix C Monitoring Classification: Automated Equivalent Method	Appendix E Siting Criteria*: Yes
Start Date 5/1/1978 Comments:	

Sensor Type: Particulate Matter PM10	Appendix C Monitoring Method: EQPM-1090-079
Sensor Network Designation: SLAMS	Monitoring Method Description: TEOM Gravimetric
Sensor Purpose Designation: Regulatory Compliance	Appendix D Design Criteria*: Yes
Sample Frequency: Cont.	Appendix D Scale: Urban Scale
Appendix A QA Assessment*: Yes	Appendix D Objectives: Population Exposure
Appendix C Monitoring Classification: Automated Equivalent Method	Appendix E Siting Criteria*: Yes
Start Date 5/17/1995 Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 6/1/2010 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Sulfur Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 5/1/1978 **Comments:**

Appendix C Monitoring Method: EQSA-0495-100
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

SITE NAME:	ARENDSVILLE	AQS SITE ID	420010001
COUNTY:	ADAMS	LATITUDE:	39.923305556
MUNICIPALITY:	FRANKLIN TWP	LONGITUDE:	-77.308166667
MSA:	Gettysburg MSA	ADDRESS:	NARSTO SITE - ARENDSVILLE

Sensor Type: Carbon Monoxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Specific Location Characterization
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 6/24/1997 **Comments:**

Appendix C Monitoring Method: RFCA-1093-093
Monitoring Method Description: Non-dispersive Infrared
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: General/Background
Appendix E Siting Criteria*: Yes

Sensor Type: Carbonyls
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 6/2/1997 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: DNPH - Coated Cartridges (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Specific Location Characterization
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 6/24/1997 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: General/Background
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: General/Background
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/1/2002 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: General/Background
Appendix E Siting Criteria*: Yes

Sensor Type: Volatile Organic Compound
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 6/2/1997 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: Canister (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

SITE NAME:	BEAVER FALLS	AQS SITE ID	420070014
COUNTY:	BEAVER	LATITUDE:	40.747805556
MUNICIPALITY:	CITY OF BEAVER FALLS	LONGITUDE:	-80.31575
MSA:	Pittsburgh MSA	ADDRESS:	EIGHTH STREET AND RIVER ALLEY

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.epa.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 9/20/1995 **Comments:**

Appendix C Monitoring Method: EQPM-1090-079
Monitoring Method Description: TEOM Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 12/1/1999 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/16/2004 **Comments:**

Appendix C Monitoring Method: EQPM-0609-181
Monitoring Method Description: FDMS Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Volatile Organic Compound
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 1/2/2010 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: Canister (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

SITE NAME:	BEAVER VALLEY	AQS SITE ID	420070007
COUNTY:	BEAVER	LATITUDE:	40.673656
MUNICIPALITY:	CENTER TWP	LONGITUDE:	-80.317731
MSA:	Pittsburgh MSA	ADDRESS:	760 BEAVER VALLEY MALL

Sensor Type: Lead (TSP-based)
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Equivalent Method
Start Date 1/1/2010 **Comments:**

Appendix C Monitoring Method: EQL-0710-192
Monitoring Method Description: ICP-MS
Appendix D Design Criteria*: Yes
Appendix D Scale: Middle Scale
Appendix D Objectives: Source Oriented
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

<i>Sensor Type:</i>	Metals/TSP	<i>Appendix C Monitoring Method:</i>	
<i>Sensor Network Designation:</i>	Other	<i>Monitoring Method Description:</i>	High Volume Sampler with Quartz Filter (24 Hour)
<i>Sensor Purpose Designation:</i>	Air Toxics	<i>Appendix D Design Criteria*:</i>	No
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	
<i>Appendix A QA Assessment*:</i>	No	<i>Appendix D Objectives:</i>	
<i>Appendix C Monitoring Classification:</i>		<i>Appendix E Siting Criteria*:</i>	No
<i>Start Date</i>	2/20/2011	<i>Comments:</i>	

<i>SITE NAME:</i>	BRIGHTON TWP	<i>AQS SITE ID</i>	420070005
<i>COUNTY:</i>	BEAVER	<i>LATITUDE:</i>	40.685472222
<i>MUNICIPALITY:</i>	BRIGHTON TWP	<i>LONGITUDE:</i>	-80.3605
<i>MSA:</i>	Pittsburgh MSA	<i>ADDRESS:</i>	1015 SEBRING ROAD

<i>Sensor Type:</i>	Ozone	<i>Appendix C Monitoring Method:</i>	EQOA-0992-087
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Absorption
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Neighborhood
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Population Exposure
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	4/20/1994	<i>Comments:</i>	

<i>Sensor Type:</i>	Sulfur Dioxide	<i>Appendix C Monitoring Method:</i>	EQSA-0495-100
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Fluorescence
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Neighborhood
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Population Exposure
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	4/20/1994	<i>Comments:</i>	

<i>SITE NAME:</i>	BRISTOL	<i>AQS SITE ID</i>	420170012
<i>COUNTY:</i>	BUCKS	<i>LATITUDE:</i>	40.107388889
<i>MUNICIPALITY:</i>	BRISTOL TWP	<i>LONGITUDE:</i>	-74.882472222
<i>MSA:</i>	Philadelphia-Camden-Wilmington MSA	<i>ADDRESS:</i>	ROCKVIEW DRIVE

<i>Sensor Type:</i>	Carbon Monoxide	<i>Appendix C Monitoring Method:</i>	RFCA-1093-093
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	Non-dispersive Infrared
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Neighborhood
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Population Exposure
<i>Appendix C Monitoring Classification:</i>	Automated Reference Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	3/1/1975	<i>Comments:</i>	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 1/1/1999 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 6/1/2010 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Sulfur Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: EQSA-0495-100
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

SITE NAME:	CARLISLE	AQS SITE ID	420410101
COUNTY:	CUMBERLAND	LATITUDE:	40.246611111
MUNICIPALITY:	NORTH MIDDLETON TWP	LONGITUDE:	-77.183722222
MSA:	Harrisburg-Carlisle MSA	ADDRESS:	IMPERIAL COURT

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 3/29/2001 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

SITE NAME:	CHARLEROI	AQS SITE ID	421250005
COUNTY:	WASHINGTON	LATITUDE:	40.146583333
MUNICIPALITY:	CHARLEROI TWP	LONGITUDE:	-79.902222222
MSA:	Pittsburgh MSA	ADDRESS:	CHARLER01 WASTE TREATMENT PLANT

Sensor Type: Carbon Monoxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1982 **Comments:**

Appendix C Monitoring Method: RFCA-1093-093
Monitoring Method Description: Non-dispersive Infrared
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 6/21/1995 **Comments:**

Appendix C Monitoring Method: RFPS-1287-063
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Middle Scale
Appendix D Objectives: Source Oriented
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 4/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Sulfur Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: EQSA-0495-100
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Volatile Organic Compound
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 5/31/2009 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: Canister (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

SITE NAME: CHESTER	AQS SITE ID 420450002
COUNTY: DELAWARE	LATITUDE: 39.835194445
MUNICIPALITY: CITY OF CHESTER	LONGITUDE: -75.372111111
MSA: Philadelphia-Camden-Wilmington MSA	ADDRESS: FRONT ST & NORRIS ST

Sensor Type: Lead (TSP-based)
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Equivalent Method
Start Date 2/1/1994 **Comments:**

Appendix C Monitoring Method: EQL-0710-192
Monitoring Method Description: ICP-MS
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Metals/TSP	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	High Volume Sampler with Quartz Filter (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	1/10/1995	Comments:	
Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-099
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemiluminescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1974	Comments:	
Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1974	Comments:	
Sensor Type:	Particulate Matter PM10	Appendix C Monitoring Method:	EQPM-1090-079
Sensor Network Designation:	SLAMS	Monitoring Method Description:	TEOM Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	3/3/1995	Comments:	
Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0308-170
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Beta Attenuation
Sensor Purpose Designation:	Population Exposure	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	4/1/2009	Comments:	
Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	4/1/1974	Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Volatile Organic Compound	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	Canister (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	1/10/1995	Comments:	

SITE NAME:	COLLEGEVILLE	AQS SITE ID	420910005
COUNTY:	MONTGOMERY	LATITUDE:	40.1925
MUNICIPALITY:	COLLEGEVILLE BORO	LONGITUDE:	-75.4575
MSA:	Philadelphia-Camden-Wilmington MSA	ADDRESS:	URSINUS COLLEGE

Sensor Type:	Volatile Organic Compound	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	Canister (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	5/18/2007	Comments:	

SITE NAME:	CONEMAUGH	AQS SITE ID	421290009
COUNTY:	WESTMORELAND	LATITUDE:	40.39292
MUNICIPALITY:	ST.CLAIR TWP	LONGITUDE:	-79.02446
MSA:	Pittsburgh MSA	ADDRESS:	SUGAR RUN - RT 711

Sensor Type:	Lead (TSP-based)	Appendix C Monitoring Method:	EQL-0710-192
Sensor Network Designation:	SLAMS	Monitoring Method Description:	ICP-MS
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Middle Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Source Oriented
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/2010	Comments:	

SITE NAME:	DURYEA	AQS SITE ID	420790036
COUNTY:	LUZERNE	LATITUDE:	41.348869
MUNICIPALITY:	DURYEA BORO	LONGITUDE:	-75.747322
MSA:	Scranton-Wilkes-Barre-Hazleton MSA	ADDRESS:	401 YORK AVE

Sensor Type:	Lead (TSP-based)	Appendix C Monitoring Method:	EQL-0710-192
Sensor Network Designation:	SLAMS	Monitoring Method Description:	ICP-MS
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Middle Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Source Oriented
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/2010	Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

SITE NAME:	EASTON	AQS SITE ID	420958000
COUNTY:	NORTHAMPTON	LATITUDE:	40.692305556
MUNICIPALITY:	WILSON BORO	LONGITUDE:	-75.237111111
MSA:	Allentown-Bethlehem-Easton MSA	ADDRESS1:	17TH AND SPRING GARDEN STREETS

Sensor Type:	Hydrogen Sulfide	Appendix C Monitoring Method:	NONE
Sensor Network Designation:	SPM	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1986	Comments:	

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Max Ozone Concentration
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	10/20/1999	Comments:	

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	10/20/1999	Comments:	

SITE NAME:	ELLWOOD CITY	AQS SITE ID	420730011
COUNTY:	LAWRENCE	LATITUDE:	40.860031
MUNICIPALITY:	ELLWOOD CITY BORO	LONGITUDE:	-80.279092
MSA:	Northwest Region - Non-MSA	ADDRESS1:	CLYDE STREET

Sensor Type:	Lead (TSP-based)	Appendix C Monitoring Method:	EQL-0710-192
Sensor Network Designation:	SLAMS	Monitoring Method Description:	ICP-MS
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Middle Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Source Oriented
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/2010	Comments:	

SITE NAME:	ERIE	AQS SITE ID	420490003
COUNTY:	ERIE	LATITUDE:	42.141972222
MUNICIPALITY:	CITY OF ERIE	LONGITUDE:	-80.038694444
MSA:	Erie MSA	ADDRESS1:	10TH AND MARNE STREETS

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Carbon Monoxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 11/1/2004 **Comments:**

Appendix C Monitoring Method: RFCA-1093-093
Monitoring Method Description: Non-dispersive Infrared
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 5/18/1988 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 5/18/1988 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 8/10/1995 **Comments:**

Appendix C Monitoring Method: EQPM-1090-079
Monitoring Method Description: TEOM Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/1/2002 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	5/18/1988	Comments:	

SITE NAME:	EVANSBURG UNITED METHODIST	AQS SITE ID	420910016
COUNTY:	MONTGOMERY	LATITUDE:	40.183056
MUNICIPALITY:	LOWER PROVIDENCE TWP	LONGITUDE:	-75.434167
MSA:	Philadelphia-Camden-Wilmington MSA	ADDRESS:	3871 GERMANTOWN PIKE

Sensor Type:	Volatile Organic Compound	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	Canister (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	2/18/2009	Comments:	

SITE NAME:	FARRELL	AQS SITE ID	420850100
COUNTY:	MERCER	LATITUDE:	41.214055556
MUNICIPALITY:	CITY OF FARRELL	LONGITUDE:	-80.483472222
MSA:	Youngstown-Warren-Boardman MSA	ADDRESS:	PA518 (NEW CASTLE ROAD) & PA418

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Highest Concentration
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	9/1/1980	Comments:	

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	RFPS-0498-118
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Daily	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Highest Concentration
Appendix C Monitoring Classification:	Manual Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	2/1/2000	Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 11/3/2010 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Highest Concentration
Appendix E Siting Criteria*: Yes

SITE NAME:	FLORENCE	AQS SITE ID	421255001
COUNTY:	WASHINGTON	LATITUDE:	40.445472222
MUNICIPALITY:	HANOVER TWP	LONGITUDE:	-80.421222222
MSA:	Pittsburgh MSA	ADDRESS1:	HILLMAN STATE PARK - KINGS CREEK ROAD

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Specific Location Characterization
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 6/8/1995 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Regional Scale
Appendix D Objectives: Regional Transport
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 6/11/2012 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Regional Scale
Appendix D Objectives: Regional Transport
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Regional Scale
Appendix D Objectives: Regional Transport
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/1/2002 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Regional Scale
Appendix D Objectives: Regional Transport
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Sulfur Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Specific Location Characterization
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1982 **Comments:**

Appendix C Monitoring Method: EQSA-0495-100
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Regional Scale
Appendix D Objectives: Regional Transport
Appendix E Siting Criteria*: Yes

SITE NAME:	FREEMANSBURG	AQS SITE ID	420950025
COUNTY:	NORTHAMPTON	LATITUDE:	40.628472222
MUNICIPALITY:	FREEMANSBURG BORO	LONGITUDE:	-75.341583333
MSA:	Allentown-Bethlehem-Easton MSA	ADDRESS1:	WASHINGTON & CAMBRIA STS. FREEMANSBURG

Sensor Type: Carbon Monoxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 8/20/1997 **Comments:**

Appendix C Monitoring Method: RFCA-1093-093
Monitoring Method Description: Non-dispersive Infrared
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 8/20/1997 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 8/20/1997 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 2/27/2012 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/1/2002 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Volatile Organic Compound
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 1/8/2010 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: Canister (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

SITE NAME:	GREENSBURG	AQS SITE ID	421290008
COUNTY:	WESTMORELAND	LATITUDE:	40.304388889
MUNICIPALITY:	HEMPFIELD TWP	LONGITUDE:	-79.506055556
MSA:	Pittsburgh MSA	ADDRESS:	DONOHUE ROAD - PENN DOT MAINT DIST BLDG

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 10/1/1997 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 9/5/2012 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/1/2002 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Volatile Organic Compound
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 1/2/2010 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: Canister (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

SITE NAME:	HARRISBURG	AQS SITE ID	420430401
COUNTY:	DAUPHIN	LATITUDE:	40.246992
MUNICIPALITY:	SWATARA TWP	LONGITUDE:	-76.846988
MSA:	Harrisburg-Carlisle MSA	ADDRESS:	651 Gibson Blvd

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 4/1/2013 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 4/1/2013 **Comments:**

Appendix C Monitoring Method: RFPS-1287-063
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 4/1/2013 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 4/1/2013 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 4/1/2013 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

SITE NAME:	HERSHEY	AQS SITE ID	420431100
COUNTY:	DAUPHIN	LATITUDE:	40.272416667
MUNICIPALITY:	DERRY TWP	LONGITUDE:	-76.681416667
MSA:	Harrisburg-Carlisle MSA	ADDRESS:	SIPE AVE & MAE STREET

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 8/1/1981 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Max Ozone Concentration
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/19/2012 **Comments:**

Appendix C Monitoring Method: EQPM-1090-079
Monitoring Method Description: TEOM Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

SITE NAME:	HOLBROOK	AQS SITE ID	420590002
COUNTY:	GREENE	LATITUDE:	39.81602778
MUNICIPALITY:	CENTER TWP	LONGITUDE:	-80.284805556
MSA:	Southwest Region - Non-MSA	ADDRESS1:	4.8 KM SE OF HOLBROOK

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Regional Transport
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1997	Comments:	

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Regional Transport
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1997	Comments:	

SITE NAME:	HOOKSTOWN	AQS SITE ID	420070002
COUNTY:	BEAVER	LATITUDE:	40.563055556
MUNICIPALITY:	GREENE TWP	LONGITUDE:	-80.504444445
MSA:	Pittsburgh MSA	ADDRESS1:	ROUTE 168 & TOMLINSON ROAD

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Regional Transport
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	6/8/1995	Comments:	

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Regional Transport
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1983	Comments:	

SITE NAME:	HOUSTON	AQS SITE ID	421255200
COUNTY:	WASHINGTON	LATITUDE:	40.268963
MUNICIPALITY:	CHARTIERS TWP	LONGITUDE:	-80.243995
MSA:	Pittsburgh MSA	ADDRESS1:	220 MEDDINGS RD

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Carbon Monoxide
Sensor Network Designation: SPM
Sensor Purpose Designation:
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 7/23/2012 **Comments:**

Appendix C Monitoring Method: RFCA-1093-093
Monitoring Method Description: Non-dispersive Infrared
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Source Oriented
Appendix E Siting Criteria*: Yes

Sensor Type: Carbonyls
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 7/23/2012 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: DNPH - Coated Cartridges (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

Sensor Type: Hydrogen Sulfide
Sensor Network Designation: SPM
Sensor Purpose Designation:
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Method
Start Date 7/23/2012 **Comments:**

Appendix C Monitoring Method: NONE
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Source Oriented
Appendix E Siting Criteria*: Yes

Sensor Type: Methane/nonMethane
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency:
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 7/23/2012 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: SYNSPEC GC ALPHA 114
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SPM
Sensor Purpose Designation:
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 7/23/2012 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Source Oriented
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SPM
Sensor Purpose Designation:
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/23/2012 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Source Oriented
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SPM
Sensor Purpose Designation:
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 7/23/2012 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Source Oriented
Appendix E Siting Criteria*: Yes

Sensor Type: Volatile Organic Compound
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 7/23/2012 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: Canister (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

SITE NAME:	JOHNSTOWN	AQS SITE ID	420210011
COUNTY:	CAMBRIA	LATITUDE:	40.309944445
MUNICIPALITY:	CITY OF JOHNSTOWN	LONGITUDE:	-78.915444445
MSA:	Johnstown MSA	ADDRESS:	MILLER AUTO SHOP 1 MESSENGER ST

Sensor Type: Carbon Monoxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1978 **Comments:**

Appendix C Monitoring Method: RFCA-1093-093
Monitoring Method Description: Non-dispersive Infrared
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 4/18/1996 **Comments:**

Appendix C Monitoring Method: EQPM-1090-079
Monitoring Method Description: TEOM Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 4/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/26/2009 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Sulfur Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: EQSA-0495-100
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

SITE NAME: KITTANNING	AQS SITE ID 420050001
COUNTY: ARMSTRONG	LATITUDE: 40.814
MUNICIPALITY: EAST FRANKLIN TWP	LONGITUDE: -79.564694445
MSA: Pittsburgh MSA	ADDRESS: GLADE DR. & NOLTE RD. KITTANNING

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 8/14/1997 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Extreme Downwind
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0308-170
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Beta Attenuation
Sensor Purpose Designation:	Population Exposure	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Extreme Downwind
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	7/1/2009	Comments:	

SITE NAME:	KUTZTOWN	AQS SITE ID	420110006
COUNTY:	BERKS	LATITUDE:	40.51408
MUNICIPALITY:	MAXATAWNY TWP	LONGITUDE:	-75.78972
MSA:	Reading MSA	ADDRESS:	KUTZTOWN UNIVERSITY CAMPUS

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Extreme Downwind
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	9/27/2007	Comments:	

SITE NAME:	LANCASTER	AQS SITE ID	420710007
COUNTY:	LANCASTER	LATITUDE:	40.046861111
MUNICIPALITY:	CITY OF LANCASTER	LONGITUDE:	-76.283416667
MSA:	Lancaster MSA	ADDRESS:	ABRAHAM LINCOLN JR HIGH GROFFTOWN RD

Sensor Type:	Carbonyls	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	DNPH - Coated Cartridges (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	5/24/1999	Comments:	

Sensor Type:	Mercury	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	Tekran Vapor Analyzer
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	Cont.	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	5/24/1999	Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Metals/TSP	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	High Volume Sampler with Quartz Filter (24 Hour)
Sensor Purpose Designation:	Air Toxicos	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	5/24/1999	Comments:	
Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-099
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemiluminescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1974	Comments:	
Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1974	Comments:	
Sensor Type:	Particulate Matter PM10	Appendix C Monitoring Method:	EQPM-1090-079
Sensor Network Designation:	SLAMS	Monitoring Method Description:	TEOM Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	3/22/1995	Comments:	
Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0609-181
Sensor Network Designation:	SLAMS	Monitoring Method Description:	FDMS Gravimetric
Sensor Purpose Designation:	Population Exposure	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	11/1/2003	Comments:	
Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	RFPS-0498-118
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Daily	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Manual Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1999	Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/1/2002 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Volatile Organic Compound
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 5/24/1999 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: Canister (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

SITE NAME:	LANCASTER DOWNWIND	AQS SITE ID	420710012
COUNTY:	LANCASTER	LATITUDE:	40.043833
MUNICIPALITY:	LEACOCK TWP	LONGITUDE:	-76.1124
MSA:	Lancaster MSA	ADDRESS:	3445 W. NEWPORT ROAD

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 4/1/2008 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Extreme Downwind
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/2014 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: PENDING
Appendix D Objectives: PENDING
Appendix E Siting Criteria*: Yes

SITE NAME:	LAURELDALE NORTH	AQS SITE ID	420110020
COUNTY:	BERKS	LATITUDE:	40.385981
MUNICIPALITY:	MUHLENBERG TWP	LONGITUDE:	-75.912856
MSA:	Reading MSA	ADDRESS:	3139 KUTZTOWN ROAD

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Lead (TSP-based)	Appendix C Monitoring Method:	EQL-0710-192
Sensor Network Designation:	SLAMS	Monitoring Method Description:	ICP-MS
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Middle Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Source Oriented
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/2010	Comments:	

SITE NAME:	LAURELDALE SOUTH	AQS SITE ID	420111717
COUNTY:	BERKS	LATITUDE:	40.377305556
MUNICIPALITY:	MUHLENBERG TWP	LONGITUDE:	-75.914583333
MSA:	Reading MSA	ADDRESS:	SPRING VALLEY ROAD

Sensor Type:	Lead (TSP-based)	Appendix C Monitoring Method:	EQL-0710-192
Sensor Network Designation:	SLAMS	Monitoring Method Description:	ICP-MS
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1976	Comments:	

SITE NAME:	LEBANON	AQS SITE ID	420750100
COUNTY:	LEBANON	LATITUDE:	40.337328
MUNICIPALITY:	SOUTH LEBANON TWP	LONGITUDE:	-76.383447
MSA:	Lebanon MSA	ADDRESS:	1275 BIRCH RD

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	2/25/2011	Comments:	

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0308-170
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Beta Attenuation
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	2/25/2011	Comments:	

SITE NAME:	LEHIGH VALLEY	AQS SITE ID	420950027
COUNTY:	NORTHAMPTON	LATITUDE:	40.645864
MUNICIPALITY:	HANOVER TWP	LONGITUDE:	-75.404356
MSA:	Allentown-Bethlehem-Easton MSA	ADDRESS:	2604 Schoenersville Road

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

<i>Sensor Type:</i>	Particulate Matter PM2.5	<i>Appendix C Monitoring Method:</i>	RFPS-0498-118
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	Gravimetric
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Daily	<i>Appendix D Scale:</i>	Neighborhood
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Population Exposure
<i>Appendix C Monitoring Classification:</i>	Manual Reference Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	1/1/2010	<i>Comments:</i>	

<i>SITE NAME:</i>	LEWISBURG	<i>AQS SITE ID</i>	421190001
<i>COUNTY:</i>	UNION	<i>LATITUDE:</i>	40.9552
<i>MUNICIPALITY:</i>	EAST BUFFALO TWP	<i>LONGITUDE:</i>	-76.8819
<i>MSA:</i>	Northcentral Region - Non-MSA	<i>ADDRESS:</i>	701 MOORE AVE

<i>Sensor Type:</i>	Carbonyls	<i>Appendix C Monitoring Method:</i>	
<i>Sensor Network Designation:</i>	Other	<i>Monitoring Method Description:</i>	DNPH - Coated Cartridges (24 Hour)
<i>Sensor Purpose Designation:</i>	Air Toxics	<i>Appendix D Design Criteria*:</i>	No
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	
<i>Appendix A QA Assessment*:</i>	No	<i>Appendix D Objectives:</i>	
<i>Appendix C Monitoring Classification:</i>		<i>Appendix E Siting Criteria*:</i>	No
<i>Start Date</i>	8/1/2003	<i>Comments:</i>	

<i>Sensor Type:</i>	Metals/TSP	<i>Appendix C Monitoring Method:</i>	
<i>Sensor Network Designation:</i>	Other	<i>Monitoring Method Description:</i>	High Volume Sampler with Quartz Filter (24 Hour)
<i>Sensor Purpose Designation:</i>	Air Toxics	<i>Appendix D Design Criteria*:</i>	No
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	
<i>Appendix A QA Assessment*:</i>	No	<i>Appendix D Objectives:</i>	
<i>Appendix C Monitoring Classification:</i>		<i>Appendix E Siting Criteria*:</i>	No
<i>Start Date</i>	8/1/2003	<i>Comments:</i>	

<i>Sensor Type:</i>	Volatile Organic Compound	<i>Appendix C Monitoring Method:</i>	
<i>Sensor Network Designation:</i>	Other	<i>Monitoring Method Description:</i>	Canister (24 Hour)
<i>Sensor Purpose Designation:</i>	Air Toxics	<i>Appendix D Design Criteria*:</i>	No
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	
<i>Appendix A QA Assessment*:</i>	No	<i>Appendix D Objectives:</i>	
<i>Appendix C Monitoring Classification:</i>		<i>Appendix E Siting Criteria*:</i>	No
<i>Start Date</i>	8/1/2003	<i>Comments:</i>	

<i>SITE NAME:</i>	LYONS BORO	<i>AQS SITE ID</i>	420110021
<i>COUNTY:</i>	BERKS	<i>LATITUDE:</i>	40.477075
<i>MUNICIPALITY:</i>	LYONS BORO	<i>LONGITUDE:</i>	-75.756919
<i>MSA:</i>	Reading MSA	<i>ADDRESS:</i>	KEMP ST.

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

<i>Sensor Type:</i>	Lead (TSP-based)	<i>Appendix C Monitoring Method:</i>	EQL-0710-192
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	ICP-MS
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	Middle Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Source Oriented
<i>Appendix C Monitoring Classification:</i>	Manual Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	1/1/2010	<i>Comments:</i>	

<i>SITE NAME:</i>	LYONS PARK	<i>AQS SITE ID</i>	420110022
<i>COUNTY:</i>	BERKS	<i>LATITUDE:</i>	40.478319
<i>MUNICIPALITY:</i>	LYONS BORO	<i>LONGITUDE:</i>	-75.753947
<i>MSA:</i>	Reading MSA	<i>ADDRESS:</i>	PARK AVE.

<i>Sensor Type:</i>	Lead (TSP-based)	<i>Appendix C Monitoring Method:</i>	EQL-0710-192
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	ICP-MS
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	Middle Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Source Oriented
<i>Appendix C Monitoring Classification:</i>	Manual Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	1/1/2010	<i>Comments:</i>	

<i>SITE NAME:</i>	MARCUS HOOK	<i>AQS SITE ID</i>	420450109
<i>COUNTY:</i>	DELAWARE	<i>LATITUDE:</i>	39.8178
<i>MUNICIPALITY:</i>	MARCUS HOOK BORO	<i>LONGITUDE:</i>	-75.4142
<i>MSA:</i>	Philadelphia-Camden-Wilmington MSA	<i>ADDRESS:</i>	EAST 8TH AVE & CHURCH ST.

<i>Sensor Type:</i>	Metals/TSP	<i>Appendix C Monitoring Method:</i>	
<i>Sensor Network Designation:</i>	Other	<i>Monitoring Method Description:</i>	High Volume Sampler with Quartz Filter (24 Hour)
<i>Sensor Purpose Designation:</i>	Air Toxics	<i>Appendix D Design Criteria*:</i>	No
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	
<i>Appendix A QA Assessment*:</i>	No	<i>Appendix D Objectives:</i>	
<i>Appendix C Monitoring Classification:</i>		<i>Appendix E Siting Criteria*:</i>	No
<i>Start Date</i>	4/2/1995	<i>Comments:</i>	

<i>Sensor Type:</i>	Volatile Organic Compound	<i>Appendix C Monitoring Method:</i>	
<i>Sensor Network Designation:</i>	Other	<i>Monitoring Method Description:</i>	Canister (24 Hour)
<i>Sensor Purpose Designation:</i>	Air Toxics	<i>Appendix D Design Criteria*:</i>	No
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	
<i>Appendix A QA Assessment*:</i>	No	<i>Appendix D Objectives:</i>	
<i>Appendix C Monitoring Classification:</i>		<i>Appendix E Siting Criteria*:</i>	No
<i>Start Date</i>	4/2/1995	<i>Comments:</i>	

<i>SITE NAME:</i>	MEHOOPANY	<i>AQS SITE ID</i>	421310001
<i>COUNTY:</i>	WYOMING	<i>LATITUDE:</i>	41.56583611
<i>MUNICIPALITY:</i>	MEHOOPANY TWP	<i>LONGITUDE:</i>	-76.06434722
<i>MSA:</i>	Scranton-Wilkes-Barre-Hazleton MSA	<i>ADDRESS:</i>	SCHOOLHOUSE RD & PEARL RD

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Volatile Organic Compound	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	Canister (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	3/16/2014	Comments:	

SITE NAME:	METHODIST HILL	AQS SITE ID	420550001
COUNTY:	FRANKLIN	LATITUDE:	39.960722222
MUNICIPALITY:	SOUTHAMPTON TWP	LONGITUDE:	-77.475527778
MSA:	Chambersburg-Waynesboro MSA	ADDRESS:	FOREST ROAD - METHODIST HILL

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Regional Transport
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	6/26/1996	Comments:	

SITE NAME:	MONTOURSVILLE	AQS SITE ID	420810100
COUNTY:	LYCOMING	LATITUDE:	41.250194445
MUNICIPALITY:	MONTOURSVILLE BORO	LONGITUDE:	-76.913444445
MSA:	Williamsport MSA	ADDRESS:	899 CHERRY STREET

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Max Ozone Concentration
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	11/20/2001	Comments:	

Sensor Type:	Particulate Matter PM10	Appendix C Monitoring Method:	RFPS-1287-063
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Manual Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	12/3/2001	Comments:	

SITE NAME:	MOSHANNON	AQS SITE ID	420334000
COUNTY:	CLEARFIELD	LATITUDE:	41.1175
MUNICIPALITY:	PINE TWP	LONGITUDE:	-78.526194445
MSA:	Northcentral Region - Non-MSA	ADDRESS:	LOCATED NEAR S.B. ELLIOTT STATE PARK

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

<i>Sensor Type:</i>	Ozone	<i>Appendix C Monitoring Method:</i>	EQOA-0992-087
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Absorption
<i>Sensor Purpose Designation:</i>	Specific Location Characterization	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Regional Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	General/Background
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	4/1/1996	<i>Comments:</i>	

<i>SITE NAME:</i>	MT JOY	<i>AQS SITE ID</i>	420710009
<i>COUNTY:</i>	LANCASTER	<i>LATITUDE:</i>	40.108944
<i>MUNICIPALITY:</i>	RAPHO TWP	<i>LONGITUDE:</i>	-76.472235
<i>MSA:</i>	Lancaster MSA	<i>ADDRESS:</i>	1088 EAST MAIN STREET

<i>Sensor Type:</i>	Lead (TSP-based)	<i>Appendix C Monitoring Method:</i>	EQL-0710-192
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	ICP-MS
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	Middle Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Source Oriented
<i>Appendix C Monitoring Classification:</i>	Manual Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	1/1/2012	<i>Comments:</i>	

<i>SITE NAME:</i>	MURRYSVILLE	<i>AQS SITE ID</i>	421290006
<i>COUNTY:</i>	WESTMORELAND	<i>LATITUDE:</i>	40.429027778
<i>MUNICIPALITY:</i>	MURRYSVILLE BORO	<i>LONGITUDE:</i>	-79.697277778
<i>MSA:</i>	Pittsburgh MSA	<i>ADDRESS:</i>	OLD WILLIAM PENN HWY & SARDIS RD

<i>Sensor Type:</i>	Ozone	<i>Appendix C Monitoring Method:</i>	EQOA-0992-087
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Absorption
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Urban Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Max Ozone Concentration
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	8/1/1989	<i>Comments:</i>	

<i>SITE NAME:</i>	NANTICOKE	<i>AQS SITE ID</i>	420791100
<i>COUNTY:</i>	LUZERNE	<i>LATITUDE:</i>	41.209194445
<i>MUNICIPALITY:</i>	CITY OF NANTICOKE	<i>LONGITUDE:</i>	-76.003527778
<i>MSA:</i>	Scranton-Wilkes-Barre-Hazleton MSA	<i>ADDRESS:</i>	255 LOWER BROADWAY(NEXT TO LEON&EDDY'S)

<i>Sensor Type:</i>	Ozone	<i>Appendix C Monitoring Method:</i>	EQOA-0992-087
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Absorption
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Urban Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	General/Background
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	1/1/1982	<i>Comments:</i>	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

SITE NAME:	NAZARETH	AQS SITE ID	420951000
COUNTY:	NORTHAMPTON	LATITUDE:	40.734731
MUNICIPALITY:	NAZARETH BORO	LONGITUDE:	-75.313175
MSA:	Allentown-Bethlehem-Easton MSA	ADDRESS1:	SOUTH GREEN & DELAWARE

Sensor Type:	Particulate Matter PM10	Appendix C Monitoring Method:	EQPM-1090-079
Sensor Network Designation:	SLAMS	Monitoring Method Description:	TEOM Gravimetric
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Source Oriented
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	8/1/2000	Comments:	

SITE NAME:	NEW CASTLE	AQS SITE ID	420730015
COUNTY:	LAWRENCE	LATITUDE:	40.996055556
MUNICIPALITY:	CITY OF NEW CASTLE	LONGITUDE:	-80.346527778
MSA:	Northwest Region - Non-MSA	ADDRESS1:	S CROTON AVE & JEFFERSON ST.

Sensor Type:	Carbon Monoxide	Appendix C Monitoring Method:	RFCA-1093-093
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Non-dispersive Infrared
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1978	Comments:	

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1974	Comments:	

Sensor Type:	Particulate Matter PM10	Appendix C Monitoring Method:	EQPM-1090-079
Sensor Network Designation:	SLAMS	Monitoring Method Description:	TEOM Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	10/18/1995	Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Sulfur Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: EQSA-0495-100
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

SITE NAME:	NEW GARDEN	AQS SITE ID	420290100
COUNTY:	CHESTER	LATITUDE:	39.834583333
MUNICIPALITY:	NEW GARDEN TWP	LONGITUDE:	-75.768055556
MSA:	Philadelphia-Camden-Wilmington MSA	ADDRESS1:	NEW GARDEN AIRPORT - TOUGHKENAMON

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 6/29/2000 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Regional Scale
Appendix D Objectives: Regional Transport
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 8/31/2012 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Regional Scale
Appendix D Objectives: Regional Transport
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Regional Scale
Appendix D Objectives: Regional Transport
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/1/2002 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Regional Scale
Appendix D Objectives: Regional Transport
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

SITE NAME:	NORRISTOWN	AQS SITE ID	420910013
COUNTY:	MONTGOMERY	LATITUDE:	40.113277778
MUNICIPALITY:	PLYMOUTH TWP	LONGITUDE:	-75.308694445
MSA:	Philadelphia-Camden-Wilmington MSA	ADDRESS1:	STATE ARMORY - 1046 BELVOIR RD

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1974	Comments:	

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	RFPS-0498-118
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Daily	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Manual Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	2/14/1999	Comments:	

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0609-181
Sensor Network Designation:	SLAMS	Monitoring Method Description:	FDMS Gravimetric
Sensor Purpose Designation:	Population Exposure	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	10/30/2003	Comments:	

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/1974	Comments:	

SITE NAME:	PALMERTON	AQS SITE ID	420250214
COUNTY:	CARBON	LATITUDE:	40.814204
MUNICIPALITY:	LOWER TOWAMENSING TWP	LONGITUDE:	-75.580448
MSA:	Allentown-Bethlehem-Easton MSA	ADDRESS1:	620 LITTLE GAP RD

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

<i>Sensor Type:</i>	Lead (TSP-based)	<i>Appendix C Monitoring Method:</i>	EQL-0710-192
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	ICP-MS
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	Middle Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Source Oriented
<i>Appendix C Monitoring Classification:</i>	Manual Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	5/9/2012	<i>Comments:</i>	

<i>SITE NAME:</i>	PECKVILLE	<i>AQS SITE ID</i>	420690101
<i>COUNTY:</i>	LACKAWANNA	<i>LATITUDE:</i>	41.479083333
<i>MUNICIPALITY:</i>	BLAKELY BORO	<i>LONGITUDE:</i>	-75.578194445
<i>MSA:</i>	Scranton-Wilkes-Barre-Hazleton MSA	<i>ADDRESS:</i>	WILSON FIRE CO. ERIE & PLEASANT

<i>Sensor Type:</i>	Ozone	<i>Appendix C Monitoring Method:</i>	EQOA-0992-087
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Absorption
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Urban Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Max Ozone Concentration
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	4/1/1991	<i>Comments:</i>	

<i>SITE NAME:</i>	PERRY COUNTY	<i>AQS SITE ID</i>	420990301
<i>COUNTY:</i>	PERRY	<i>LATITUDE:</i>	40.46
<i>MUNICIPALITY:</i>	JUNIATA TWP	<i>LONGITUDE:</i>	-77.1687497
<i>MSA:</i>	Harrisburg-Carlisle MSA	<i>ADDRESS:</i>	720 GILL HILL ROAD, LITTLE BUFFALO STATE PARK

<i>Sensor Type:</i>	Nitrogen Dioxide	<i>Appendix C Monitoring Method:</i>	RFNA-1194-099
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	Chemiluminescence
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Regional Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	General/Background
<i>Appendix C Monitoring Classification:</i>	Automated Reference Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	5/25/1982	<i>Comments:</i>	

<i>Sensor Type:</i>	Ozone	<i>Appendix C Monitoring Method:</i>	EQOA-0992-087
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Absorption
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Regional Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	General/Background
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	1/1/1980	<i>Comments:</i>	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

<i>Sensor Type:</i>	Sulfur Dioxide	<i>Appendix C Monitoring Method:</i>	EQSA-0495-100
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Fluorescence
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Regional Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	General/Background
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	1/2/1980	<i>Comments:</i>	

<i>SITE NAME:</i>	POTTER TOWNSHIP	<i>AQS SITE ID</i>	420070006
<i>COUNTY:</i>	BEAVER	<i>LATITUDE:</i>	40.638936
<i>MUNICIPALITY:</i>	POTTER TWP	<i>LONGITUDE:</i>	-80.365653
<i>MSA:</i>	Pittsburgh MSA	<i>ADDRESS:</i>	206 MOWRY RD

<i>Sensor Type:</i>	Lead (TSP-based)	<i>Appendix C Monitoring Method:</i>	EQL-0710-192
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	ICP-MS
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	Middle Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Source Oriented
<i>Appendix C Monitoring Classification:</i>	Manual Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	1/1/2010	<i>Comments:</i>	

<i>SITE NAME:</i>	PRESQUE ISLE	<i>AQS SITE ID</i>	420490004
<i>COUNTY:</i>	ERIE	<i>LATITUDE:</i>	42.162
<i>MUNICIPALITY:</i>	MILLCREEK TWP	<i>LONGITUDE:</i>	-80.1133
<i>MSA:</i>	Erie MSA	<i>ADDRESS:</i>	EAST FISHER DR.

<i>Sensor Type:</i>	Metals/TSP	<i>Appendix C Monitoring Method:</i>	
<i>Sensor Network Designation:</i>	Other	<i>Monitoring Method Description:</i>	High Volume Sampler with Quartz Filter (24 Hour)
<i>Sensor Purpose Designation:</i>	Air Toxics	<i>Appendix D Design Criteria*:</i>	No
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	
<i>Appendix A QA Assessment*:</i>	No	<i>Appendix D Objectives:</i>	
<i>Appendix C Monitoring Classification:</i>		<i>Appendix E Siting Criteria*:</i>	No
<i>Start Date</i>	6/8/2000	<i>Comments:</i>	

<i>Sensor Type:</i>	Volatile Organic Compound	<i>Appendix C Monitoring Method:</i>	
<i>Sensor Network Designation:</i>	Other	<i>Monitoring Method Description:</i>	Canister (24 Hour)
<i>Sensor Purpose Designation:</i>	Air Toxics	<i>Appendix D Design Criteria*:</i>	No
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	
<i>Appendix A QA Assessment*:</i>	No	<i>Appendix D Objectives:</i>	
<i>Appendix C Monitoring Classification:</i>		<i>Appendix E Siting Criteria*:</i>	No
<i>Start Date</i>	6/8/2000	<i>Comments:</i>	

<i>SITE NAME:</i>	READING AIRPORT	<i>AQS SITE ID</i>	420110011
<i>COUNTY:</i>	BERKS	<i>LATITUDE:</i>	40.38335
<i>MUNICIPALITY:</i>	BERN TWP	<i>LONGITUDE:</i>	-75.9686
<i>MSA:</i>	Reading MSA	<i>ADDRESS:</i>	1059 ARNOLD ROAD

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Carbon Monoxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 7/1/2007 **Comments:**

Appendix C Monitoring Method: RFCA-1093-093
Monitoring Method Description: Non-dispersive Infrared
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Metals/TSP
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 6/17/2007 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: High Volume Sampler with Quartz Filter (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 7/1/2007 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2007 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2007 **Comments:**

Appendix C Monitoring Method: EQPM-1090-079
Monitoring Method Description: TEOM Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2007 **Comments:**

Appendix C Monitoring Method: EQPM-0609-181
Monitoring Method Description: FDMS Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 7/1/2007 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 7/1/2007 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Sulfur Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2007 **Comments:**

Appendix C Monitoring Method: EQSA-0495-100
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Volatile Organic Compound
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 6/17/2007 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: Canister (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

SITE NAME: RIDLEY PARK	AQS SITE ID 420450004
COUNTY: DELAWARE	LATITUDE: 39.862928
MUNICIPALITY: EDDYSTONE BORO	LONGITUDE: -75.325689
MSA: Philadelphia-Camden-Wilmington MSA	ADDRESS: INDUSTRIAL HIGHWAY (RT291)

Sensor Type: Lead (TSP-based)
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Equivalent Method
Start Date 1/1/2010 **Comments:**

Appendix C Monitoring Method: EQL-0710-192
Monitoring Method Description: ICP-MS
Appendix D Design Criteria*: Yes
Appendix D Scale: Middle Scale
Appendix D Objectives: Source Oriented
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

SITE NAME:	SCRANTON	AQS SITE ID	420692006
COUNTY:	LACKAWANNA	LATITUDE:	41.442861111
MUNICIPALITY:	CITY OF SCRANTON	LONGITUDE:	-75.623
MSA:	Scranton-Wilkes-Barre-Hazleton MSA	ADDRESS1:	GEORGE ST TROOP AND CITY OF SCRANTON

Sensor Type: Carbon Monoxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1978 **Comments:**

Appendix C Monitoring Method: RFCA-1093-093
Monitoring Method Description: Non-dispersive Infrared
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/14/1974 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/1/2009 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/1/2002 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

SITE NAME:	SHELOCTA	AQS SITE ID	420630005
COUNTY:	INDIANA	LATITUDE:	40.652511
MUNICIPALITY:	ARMSTRONG TWP	LONGITUDE:	-79.292769
MSA:	Southwest Region - Non-MSA	ADDRESS1:	182 SOUTH RIDGE RD

Sensor Type:	Lead (TSP-based)	Appendix C Monitoring Method:	EQL-0710-192
Sensor Network Designation:	SLAMS	Monitoring Method Description:	ICP-MS
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Middle Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Source Oriented
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/2010	Comments:	

SITE NAME:	SLIPPERY ROCK	AQS SITE ID	420190020
COUNTY:	BUTLER	LATITUDE:	41.063056
MUNICIPALITY:	SLIPPERY ROCK TWP	LONGITUDE:	-80.030833
MSA:	Pittsburgh MSA	ADDRESS1:	1 MORROW WAY

Sensor Type:	Metals/TSP	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	High Volume Sampler with Quartz Filter (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	8/29/2009	Comments:	

Sensor Type:	Volatile Organic Compound	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	Canister (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	8/29/2009	Comments:	

SITE NAME:	SPRINGVILLE	AQS SITE ID	421150001
COUNTY:	SUSQUEHANNA	LATITUDE:	41.6972
MUNICIPALITY:	SPRINGVILLE TWP	LONGITUDE:	-75.9145
MSA:	Northeast Region - Non-MSA	ADDRESS1:	TWP PROPERTY SR3004

Sensor Type:	Volatile Organic Compound	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	Canister (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	2/27/2013	Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

SITE NAME:	STATE COLLEGE	AQS SITE ID	420270100
COUNTY:	CENTRE	LATITUDE:	40.811166667
MUNICIPALITY:	COLLEGE TWP	LONGITUDE:	-77.877222222
MSA:	State College MSA	ADDRESS1:	PENN STATE UNIVERSITY - ARBORETUM SITE

Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-099
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemiluminescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	3/8/2002	Comments:	

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	4/1/2000	Comments:	

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0308-170
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Beta Attenuation
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	9/1/2010	Comments:	

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	RFPS-0498-118
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Daily	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Manual Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	2/1/2000	Comments:	

Sensor Type:	PM2.5 Speciation	Appendix C Monitoring Method:	None
Sensor Network Designation:	STN	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Research/Scientific Monitoring	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Speciation	Appendix E Siting Criteria*:	Yes
Start Date	1/1/2002	Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

<i>Sensor Type:</i>	Sulfur Dioxide	<i>Appendix C Monitoring Method:</i>	EQSA-0495-100
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Fluorescence
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Neighborhood
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Population Exposure
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	3/8/2002	<i>Comments:</i>	

<i>SITE NAME:</i>	STRONGSTOWN	<i>AQS SITE ID</i>	420630004
<i>COUNTY:</i>	INDIANA	<i>LATITUDE:</i>	40.5633
<i>MUNICIPALITY:</i>	PINE TWP	<i>LONGITUDE:</i>	-78.91997
<i>MSA:</i>	Southwest Region - Non-MSA	<i>ADDRESS:</i>	PA. DEPT. OF TRANSPORTATION - RT.403

<i>Sensor Type:</i>	Ozone	<i>Appendix C Monitoring Method:</i>	EQOA-0992-087
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Absorption
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Regional Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Population Exposure
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	11/1/2004	<i>Comments:</i>	

<i>Sensor Type:</i>	Sulfur Dioxide	<i>Appendix C Monitoring Method:</i>	EQSA-0495-100
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Fluorescence
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Regional Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Population Exposure
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	11/1/2004	<i>Comments:</i>	

<i>SITE NAME:</i>	SWARTHMORE	<i>AQS SITE ID</i>	420450003
<i>COUNTY:</i>	DELAWARE	<i>LATITUDE:</i>	39.8969
<i>MUNICIPALITY:</i>	SWARTHMORE BORO	<i>LONGITUDE:</i>	-75.3539
<i>MSA:</i>	Philadelphia-Camden-Wilmington MSA	<i>ADDRESS:</i>	500 COLLEGE AVE.

<i>Sensor Type:</i>	Metals/TSP	<i>Appendix C Monitoring Method:</i>	
<i>Sensor Network Designation:</i>	Other	<i>Monitoring Method Description:</i>	High Volume Sampler with Quartz Filter (24 Hour)
<i>Sensor Purpose Designation:</i>	Air Toxics	<i>Appendix D Design Criteria*:</i>	No
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	
<i>Appendix A QA Assessment*:</i>	No	<i>Appendix D Objectives:</i>	
<i>Appendix C Monitoring Classification:</i>		<i>Appendix E Siting Criteria*:</i>	No
<i>Start Date</i>	1/22/1997	<i>Comments:</i>	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Volatile Organic Compound	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	Canister (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	1 in 6	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No
Start Date	1/22/1997	Comments:	

SITE NAME:	SWIFTWATER	AQS SITE ID	420890002
COUNTY:	MONROE	LATITUDE:	41.08306
MUNICIPALITY:	POCONO TWP	LONGITUDE:	-75.32328
MSA:	East Stroudsburg MSA	ADDRESS:	DEP/DCNR Pocono District Office

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	4/1/2006	Comments:	

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0308-170
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Beta Attenuation
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	6/1/2010	Comments:	

SITE NAME:	TIOGA COUNTY	AQS SITE ID	421174000
COUNTY:	TIOGA	LATITUDE:	41.645583333
MUNICIPALITY:	UNION TWP	LONGITUDE:	-76.937972222
MSA:	Northcentral Region - Non-MSA	ADDRESS:	TIOGA

Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-099
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemiluminescence
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	General/Background
Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	5/9/2012	Comments:	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	General/Background
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	6/1/1999	Comments:	

SITE NAME:	TOWANDA	AQS SITE ID	420150011
COUNTY:	BRADFORD	LATITUDE:	41.70539
MUNICIPALITY:	MONROE TWP	LONGITUDE:	-76.512876
MSA:	Northcentral Region - Non-MSA	ADDRESS:	Rt. 414 & MAIN ST

Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-099
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemiluminescence
Sensor Purpose Designation:		Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	
Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes
Start Date	3/1/2013	Comments:	

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:		Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date		Comments:	

SITE NAME:	UPPER STRASBURG	AQS SITE ID	420550002
COUNTY:	FRANKLIN	LATITUDE:	40.059828
MUNICIPALITY:	LETTERKENNY TWP	LONGITUDE:	-77.710608
MSA:	Chambersburg-Waynesboro MSA	ADDRESS:	9716 UPPER STRASBURG RD

Sensor Type:	Lead (TSP-based)	Appendix C Monitoring Method:	EQL-0710-192
Sensor Network Designation:	SLAMS	Monitoring Method Description:	ICP-MS
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Middle Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Source Oriented
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/2010	Comments:	

SITE NAME:	VANPORT	AQS SITE ID	420070505
COUNTY:	BEAVER	LATITUDE:	40.684861111
MUNICIPALITY:	VANPORT TWP	LONGITUDE:	-80.322916667
MSA:	Pittsburgh MSA	ADDRESS:	TAMAQUI DR

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type:	Lead (TSP-based)	Appendix C Monitoring Method:	EQL-0710-192
Sensor Network Designation:	SLAMS	Monitoring Method Description:	ICP-MS
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	1 in 6	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	3/1/1971	Comments:	

SITE NAME:	WARREN EAST	AQS SITE ID	421230005
COUNTY:	WARREN	LATITUDE:	41.825708
MUNICIPALITY:	CITY OF WARREN	LONGITUDE:	-79.119952
MSA:	Northwest Region - Non-MSA	ADDRESS1:	2044 PENNSYLVANIA AVE EAST

Sensor Type:	Hydrogen Sulfide	Appendix C Monitoring Method:	NONE
Sensor Network Designation:	SPM	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Source Oriented
Appendix C Monitoring Classification:	Automated Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/2012	Comments:	

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Highest Concentration
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	1/1/2012	Comments:	

SITE NAME:	WARREN OVERLOOK	AQS SITE ID	421230004
COUNTY:	WARREN	LATITUDE:	41.843722222
MUNICIPALITY:	CONEWANGO TWP	LONGITUDE:	-79.172888889
MSA:	Northwest Region - Non-MSA	ADDRESS1:	OVERLOOK SITE - NEAR STONE HILL ROAD

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Cont.	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Highest Concentration
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes
Start Date	11/25/1996	Comments:	

SITE NAME:	WASHINGTON	AQS SITE ID	421250200
COUNTY:	WASHINGTON	LATITUDE:	40.170638889
MUNICIPALITY:	CITY OF WASHINGTON	LONGITUDE:	-80.261722222
MSA:	Pittsburgh MSA	ADDRESS1:	MCCARRELL AND FAYETTE STS

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1984 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 1/1/1999 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 11/10/2010 **Comments:**

Appendix C Monitoring Method: EQPM-0308-170
Monitoring Method Description: Beta Attenuation
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

SITE NAME: WILKES BARRE	AQS SITE ID 420791101
COUNTY: LUZERNE	LATITUDE: 41.265972222
MUNICIPALITY: CITY OF WILKES BARRE	LONGITUDE: -75.846361111
MSA: Scranton-Wilkes-Barre-Hazleton MSA	ADDRESS: CHILWICK & WASHINGTON STS

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 5/28/1982 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 10/20/1994 **Comments:**

Appendix C Monitoring Method: EQPM-1090-079
Monitoring Method Description: TEOM Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Sulfur Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 5/28/1982 **Comments:**

Appendix C Monitoring Method: EQSA-0495-100
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Neighborhood
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

SITE NAME:	YORK	AQS SITE ID	421330008
COUNTY:	YORK	LATITUDE:	39.965527778
MUNICIPALITY:	SPRING GARDEN TWP	LONGITUDE:	-76.699583333
MSA:	York-Hanover MSA	ADDRESS:	HILL ST.

Sensor Type: Carbon Monoxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1982 **Comments:**

Appendix C Monitoring Method: RFCA-1093-093
Monitoring Method Description: Non-dispersive Infrared
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Nitrogen Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: RFNA-1194-099
Monitoring Method Description: Chemiluminescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 1/1/1974 **Comments:**

Appendix C Monitoring Method: EQOA-0992-087
Monitoring Method Description: UV Absorption
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 7/17/1996 **Comments:**

Appendix C Monitoring Method: EQPM-1090-079
Monitoring Method Description: TEOM Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Population Exposure
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 8/19/2004 **Comments:**

Appendix C Monitoring Method: EQPM-0609-181
Monitoring Method Description: FDMS Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Particulate Matter PM2.5
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Daily
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Manual Reference Method
Start Date 1/1/1999 **Comments:**

Appendix C Monitoring Method: RFPS-0498-118
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: PM2.5 Speciation
Sensor Network Designation: STN
Sensor Purpose Designation: Research/Scientific Monitoring
Sample Frequency: 1 in 6
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Speciation
Start Date 1/1/2002 **Comments:**

Appendix C Monitoring Method: None
Monitoring Method Description: Gravimetric
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Sulfur Dioxide
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Cont.
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Equivalent Method
Start Date 4/1/1974 **Comments:**

Appendix C Monitoring Method: EQSA-0495-100
Monitoring Method Description: UV Fluorescence
Appendix D Design Criteria*: Yes
Appendix D Scale: Urban Scale
Appendix D Objectives: Population Exposure
Appendix E Siting Criteria*: Yes

Sensor Type: Volatile Organic Compound
Sensor Network Designation: Other
Sensor Purpose Designation: Air Toxics
Sample Frequency: 1 in 6
Appendix A QA Assessment*: No
Appendix C Monitoring Classification:
Start Date 1/15/2011 **Comments:**

Appendix C Monitoring Method:
Monitoring Method Description: Canister (24 Hour)
Appendix D Design Criteria*: No
Appendix D Scale:
Appendix D Objectives:
Appendix E Siting Criteria*: No

SITE NAME:	YORK DOWNWIND	AQS SITE ID	421330011
COUNTY:	YORK	LATITUDE:	39.860972
MUNICIPALITY:	CHANCEFORD TWP	LONGITUDE:	-76.462055
MSA:	York-Hanover MSA	ADDRESS:	2632 DELTA ROAD

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

<i>Sensor Type:</i>	Ozone	<i>Appendix C Monitoring Method:</i>	EQOA-0992-087
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	UV Absorption
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	Cont.	<i>Appendix D Scale:</i>	Urban Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Extreme Downwind
<i>Appendix C Monitoring Classification:</i>	Automated Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date</i>	4/22/2008	<i>Comments:</i>	

*The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at <http://www.gpo.gov/fdsys/search/home.action>

Appendix C — PA DEP Ambient Air Monitoring Methods

Ambient Air Monitoring Equipment and Methodology

EPA mandates specific methods of sampling and analysis for all pollutants regulated by national ambient air quality standards (NAAQS). These regulations are published in the Code of Federal Regulations, and are adhered to by the PA DEP. EPA generally approves one analysis method for each pollutant known as the Federal Reference Method (FRM). If a different method can be shown to provide adequate analysis, it may be submitted and approved by the EPA as a Federal Equivalent Method (FEM) or Automated Equivalent Method (AEM) and used in place of the FRM. PA DEP uses only FRM or FEM methods for all NAAQS-regulated pollutant monitoring. EPA-approved methods include both continuous and discrete methods.

Continuous methods are automated methods that analyze continuous samples of ambient air for the specified pollutant *in situ*. The output of these specialized air monitoring instruments are hourly pollutant concentrations, which are electronically transmitted to and stored in a data logging device (datalogger). The data is transferred from the datalogger to central operations via PA DEP’s telecommunication network, where real-time measurements can be accessed.

Discrete methods are “manual” methods that require physical removal of a sample (usually a filter through which ambient air has been passed) from its collection site. For this reason, the pollutant concentrations obtained are for a defined or “discrete” period of time; air is not sampled continuously by the instrument.

Table C-1 provides details on the methods and instrumentation utilized by the Department’s Air Quality Monitoring Division for all criteria and toxic pollutant monitoring.

Table C-1. Ambient Air Monitoring Equipment and Methods

PARAMETER	MANUFACTURER/INSTRUMENT/MODEL	EPA METHOD DESIGNATION
Continuous Gaseous Sampling		
OZONE	Teledyne Advanced Pollution Instrumentation Model 400 Photometric Ozone Analyzer http://www.teledyne-api.com/products/400e.asp	Automated Equivalent Method: EQOA-0992-087 57 FR 44565, 9/28/92 63 FR 31992, 6/11/98 67 FR 57811, 9/12/02
SO ₂	Teledyne Advanced Pollution Instrumentation Model 100A UV Fluorescence SO ₂ Analyzer http://www.teledyne-api.com/products/100e.asp	Automated Equivalent Method: EQSA-0495-100 60 FR 17061, 4/4/95
NO/NO ₂ /NO _x	Teledyne Advanced Pollution Instrumentation Model 200A Chemiluminescence Nitrogen Oxides Analyzer for Ambient Concentrations http://www.teledyne-api.com/products/200e.asp	Automated Reference Method: RFNA-1194-099 59 FR 61892, 12/2/94
CO	Teledyne Advanced Pollution Instrumentation Model 300 CO Gas Filter Correlation Analyzer http://www.teledyne-api.com/products/300e.asp	Automated Reference Method: RFCA-1093-093 58 FR 58166, 10/29/93
Particulate Sampling		
LEAD	Tisch TE-5170 VFC+ http://tisch-env.com/products/9-High-Volume-TSP-Total-Suspended-Particulate-Samplers/61-TE-5170/default.asp Inductively Coupled Plasma - Mass Spectrometry	Manual Equivalent Method EQL-0710-192 75 FR 45627, 8/3/10

PARAMETER	MANUFACTURER/INSTRUMENT/MODEL	EPA METHOD DESIGNATION
PM_{2.5}		
<i>Discrete</i>	R&P Partisol-Plus Model 2025 Sequential Air Sampler w/WINS and R&P Partisol-Plus Model 2025 Sequential Air Sampler w/VSCC http://www.thermoscientific.com/wps/portal/ts/products/detail?navigationId=L10405&categoryId=89579&productId=11960559.htm	Manual Reference Method: RFPS-0498-118 63 FR 18911, 4/16/98 67 FR 15567, 4/2/02 (EQPM-0202-145 redesignated as manual reference method 12/18/06)
<i>Continuous</i>	Met One Instruments Beta-Attenuation Mass (BAM) Model 1020 http://www.metone.com/documents/BAM-1020_6-08.pdf	Automated Equivalent Method EQPM-0308-170 73 FR 13224, 3/12/08 73 FR 22362, 4/25/08
	R&P TEOM Series 8500a Filter Dynamics Measurement System (FDMS) and TEOM Series 1400ab http://www.thermoscientific.com/wps/portal/ts/products/detail?productId=11960562&groupType=PRODUCT&searchType=0	Automated Equivalent Method EQPM-0609-181 74 FR 28697, 6/17/2009
PM_{2.5} SPECIATION	Met One Instruments SASS PM _{2.5} Ambient Chemical Speciation Air Sampler http://www.metone.com/documents/SASS0301Particulate.pdf URG Corporation 3000N Sequential Particulate Speciation System http://www.urgcorp.com/index.php/systems/manual-sampling-systems/urg-3000n-carbon-sampler	None
PM₁₀		
<i>Discrete</i>	Thermo GMW PM ₁₀ High-Volume Air Sampler - Volumetric http://www.thermo.com/com/cda/product/detail/1.1055.23297.00.html	Manual Reference Method: RFPS-1287-063 52 FR 45684, 12/01/87 53FR 1062, 1/15/88
<i>Continuous</i>	Rupprecht & Patashnick (R&P) Tapered Element Oscillating Microbalance (TEOM) Series 1400 Ambient Particulate Monitor http://www.thermoscientific.com/wps/portal/ts/products/detail?navigationId=L10405&categoryId=89579&productId=11960558	Automated Equivalent Method: EQPM-1090-079 55 FR 43406, 10/29/90
LEAD	Tisch TE-5170 VFC+ http://tisch-env.com/products/9-High-Volume-TSP-Total-Suspended-Particulate-Samplers/61-TE-5170/default.asp Inductively Coupled Plasma - Mass Spectrometry	Manual Equivalent Method EQL-0710-192 75 FR 45627, 8/3/10
Toxic Sampling		
VOC	ATEC Model 2200-12 ATEC Model 2200-102 http://www.atec-online.com/canister.htm Entech CS1200ES4 http://www.entechnst.com/media/pdfs/cs1200e_cat.pdf	EPA Compendium Method TO-15
Carbonyl	Xontech Model 925 Automated Carbonyl Sampler ATEC Model 2200-102 http://www.atec-online.com/products.htm	EPA Compendium Method TO-11A
MERCURY	Tekran Mercury Vapor Analyzer Model 2537A Cold Vapor Atomic Fluorescence Spectrometer (CVAFS) http://www.tekran.com/products/ambient-air/tekran-model-2537-cvafs-automated-mercury-analyzer/	EPA Compendium Method IO-5
TSP/Metals	Thermo GMW TSP High-Volume Air Sampler - Volumetric Flow Controlled http://www.thermoscientific.com/ecom/servlet/productsdetail_11152_L11350_89579_11960634_-1 Inductively Coupled Plasma - Mass Spectrometry (Metals)	Manual Reference Method Method Code 802 47 FR 54912, 12/6/82 48 FR 17355 4/22/83 EPA Compendium Method IO-3.5