

Pennsylvania Department of Environmental Protection Ambient Air Monitoring Network Plan - 2009

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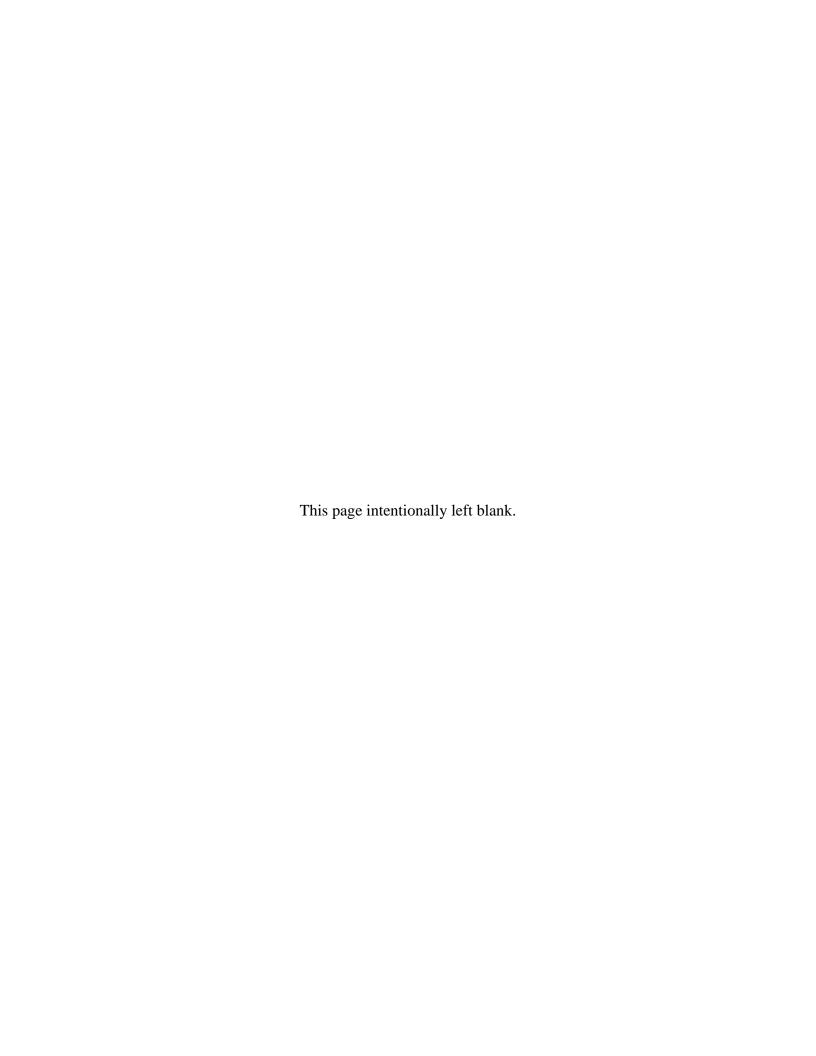


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Introduction

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

Seven pollutants currently have NAAQS: ozone (O_3) , carbon monoxide (CO), sulfur dioxide (SO_2) , nitrogen dioxide (NO_2) , particulate matter less than 10 microns (PM_{10}) , particulate matter less than 2.5 microns $(PM_{2.5})$ and lead (Pb). These are commonly called the "criteria" pollutants. When air quality does not meet the NAAQS, the area is said to be in "nonattainment" with the NAAQS. Table 1 below lists all of the NAAQS for the criteria pollutants.

Table 1. National Ambient Air Quality Standards (NAAQS)

	Primary (Health Rel	ated)	Secondary (Welf	are Related)		
Pollutant	Type of Average	Standard Level Concentration	Type of Average	Standard Level Concentration		
Carbon Monoxide	8-hour Running (not to be exceeded more than once per year)	9 ppm	No Secondary Standard			
	1-hour (not to be exceeded more than once per year)	35 ppm	No Secondary	Standard		
Lead	Maximum Quarterly Average	1.5 μg/m ³	Same as Primar	y Standard		
Nitrogen Dioxide	Annual Arithmetic Mean	0.053 ppm	Same as Primary Standard			
Ozone	Fourth-Highest Daily Maximum 8-hour Running Mean (based on 3- year average)	0.075 ppm	Same as Primar	y Standard		
PM_{10}	24-hour (not to be exceeded more than once per year)	150 μg/m ³	Same as Primar	y Standard		
PM _{2.5}	Annual Arithmetic Mean (based on 3- year average)	15 μg/m ³	Same as Primar	y Standard		
PM _{2.5}	24-hour (based on 3 year average of 98th percentile)	35 μg/m ³	Same as Primar	y Standard		
Sulfur Dioxide	Annual Arithmetic Mean	0.03 ppm	3-hour (block average) (Not to be exceeded more than once per year)	0.50 ppm		
	24-hour (daily mean) (not to be exceeded more than once per year)	0.14 ppm				

Requirements for Monitoring Network Descriptions

On October 17, 2006, EPA promulgated revisions to the Ambient Air Monitoring regulations (71FR61236), "The purpose of the amendments is to enhance ambient air quality monitoring to better serve current and future air quality". Included in the revisions were final regulations concerning state and local agency ambient air monitoring networks. In addition, EPA Region III provided guidance in what was to be submitted with the first round of a Network Description. For the first round, Region III requested information described in 40 CFR section 58.10 (a).

Section 58.10 (a) requires for each existing and proposed monitoring site:

- (1) A statement of purpose for each monitor
- (2) Evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of 40 CFR Part 58, where applicable
- (3) Proposals for any State and Local Air Monitoring station (SLAMS) network modifications

The Pennsylvania Department of Environmental Protection (PA DEP), Bureau of Air Quality has gone beyond this minimum requested information and has also provided a substantial portion of the information requested in section 58.10 (b). Section 58.10 (b) requires:

- (1) The Air Quality System (AQS) site identification number.
- (2) The location, including street address and geographical coordinates.
- (3) The sampling and analysis method(s) for each measured parameter.
- (4) The operating schedules for each monitor.
- (5) Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
- (6) The monitoring objective and spatial scale of representativeness for each monitor.
- (7) 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 section 58.30.
- (8) The Metropolitan Statistical Area (MSA), Core Based Statistical Area (CBSA), Combined Statistical Area (CSA) or other area represented by the monitor.

Commonwealth of Pennsylvania Air Monitoring Network

Program History

The Pennsylvania Air Pollution Control Act (APCA), enacted originally on January 8, 1960, established the framework for air pollution control activities in Pennsylvania. As a result of the passage of the federal Clean Air Act in 1970, states developed state implementation plans (SIPs), which described how they proposed to meet the NAAQS mandated under this Act. When formed in 1971, PA DEP implemented air pollution programs that, with a great deal of success, have since 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 implementation of PM2.5 monitoring in 1997. Currently, the PA DEP has an extensive monitoring program that not only monitors for the criteria pollutants, but also for air toxics and volatile organic compounds (VOC's).

Description of Local Networks

Allegheny County Health Department

The Allegheny County Health Department's air monitoring section in operates a network of 19 monitoring stations across Allegheny county to collect and assess air quality data on concentrations of particulates, sulfur dioxide, ozone, carbon monoxide, nitrogen oxides, ozone, as well as lead. In addition, air toxics and VOC's are also monitored.

Philadelphia Air Management Services

The main mission of the Philadelphia Health Department's Air Management Services local air pollution control program is to monitor the city's ambient air for pollutants, which are compared to Federal standards. The City of Philadelphia is served by a network of ten (10) air monitoring sites located throughout the City that measure the criteria pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), and lead. Five of the sites also measure toxics, such as benzene, acetaldehyde, and formaldehyde.

This report does not provide detailed descriptions of the monitoring networks operated by the two county agencies. 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. Full address information on these agencies is located on page 19.

Appendix A Description

The Pennsylvania Air Monitoring Network consists of the sites and monitors listed in Appendix A as of January 1, 2008. This appendix details site information, pollutants monitored at each site and detailed maps of sampling sites these maps are broken down by air basin sites and non-air basin sites.

Also detailed are the manufacturers, models and analysis methods used in the monitoring network. This network is maintained and operated by the Pennsylvania Department of Environmental Protection, Bureau of Air Quality, Division of Air Quality Monitoring.

Appendix B Description

Appendix B provides a detailed Network Description as it existed on January 1, 2008. It presents 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 40 CFR Section 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 information regarding inclusion of the monitoring site in any metropolitan statistical area.

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. (There are currently no NCore sites planned for PA DEP; Allegheny County Health Department and Philadelphia air Management Services are being funded for one NCore station, each)
 - o PAMS Photochemical Assessment Monitoring Station
 - o SLAMS State or Local Ambient Monitoring Station
 - o STN PM_{2.5} Speciation Trends Network
 - o SPM Special Purpose Monitor
- Sensor Purpose Description—The purpose of the sensor:
 - o Population Exposure, such as the Air Quality Index
 - o Regulatory compliance with Federal or State regulation
 - o Research/Scientific Monitoring
 - o Specific location characterization
- Sample Frequency Specifies how often a sample is taken.
 - o Continuous operates 24/7; applies predominately to gaseous analyzers, although some particulate samplers (TEOM/FDMS and BAMs) operate continuously.
 - o Daily a discrete sample is taken every day; applies to manual method particulate samplers.
 - o Every Third Day Manual method particulate samplers that run every third day.
 - o Every Sixth Day Manual method particulate samplers that run every sixth day.

- 40 CFR section 58 Appendix A QA Assessment A "YES" indicates the sensor is maintained in accordance with the Quality Assurance (QA) requirements specified in 40 CFR Part 58 Appendix A.
- 40 CFR section 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)
 - o Reference or Federal Reference Method (FRM) a method of sampling that is specified in CFR Part 50.
 - o Equivalent or Federal Equivalent Method (FEM) a method that is designated as equivalent to the reference method, in accordance with 40 CFR Part 53.
 - o Automated after sampling, the analysis results are available immediately.
 - o Manual after sampling, a separate analysis at a laboratory is necessary.

In Appendix B, the above descriptors are combined into the following groupings.

- o Automated Reference Method,
- o Manual Reference Method.
- o Automated Equivalent Method,
- o Manual Equivalent Method, or
- o NONE appears where there is no reference or equivalent method.
- 40 CFR section 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/relist030607.pdf).
- Monitoring Method Description Each individual ambient air monitor type has a specific method of pollutant detection. Common examples are:
 - o Ozone monitors Ultraviolet (UV) Absorption
 - o SO₂- UV Fluorescence
 - o CO Non-dispersive Infrared (IR)
 - o NO₂ or NOx Chemiluminescence
 - o PM_{2.5}, PM₁₀ Gravimetric (or gravimetric by TEOM (tapered element micro balance)), or Beta attenuation
 - o PAMS Auto GC (Gas Chromatograph), Dual FID (flame ionization detector)
- 40 CFR section 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 section 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.
 - o Microscale Areas ranging from several meters to about 100 meters,
 - o Middle scale Areas ranging from 100 meters to 0.5 kilometers.
 - o Neighborhood 0.5 to 4.0 kilometers, and uniform land use,
 - o Urban scale 4 to 50 kilometers, and
 - o Regional ten to hundreds of kilometers.

- 40 CFR section 58 Appendix D Objective Describes the purpose/objective for monitoring at a site.
 - o Extreme downwind
 - o General/Background concentration
 - o Highest concentration
 - o Maximum ozone concentration
 - o Population exposure
 - o Regional transport
 - o Source oriented
- 40 CFR section 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.
- Comments The database contains a comments section for each monitor. Appropriate comments, as necessary, are found in this area.

Site Activity within the Next 18 Months

To provide a better understanding of Volatile Organic Compounds (VOC) air toxics across the Commonwealth, PA DEP is proposing to add fourteen air toxic monitors to the ambient air monitoring network. The plan will have VOC monitoring at half of the proposed sites in 2009 and the other half will be done in 2010. When this initial characterization is done, a more defined monitoring plan will be proposed for 2011.

It should be noted that the PA DEP nitrogen dioxide (NO_2) monitor also records oxides of nitrogen (NO_x) concentrations. Therefore, where it is proposed that the NO_2 monitor be discontinued, this will result in a loss of NO_x data also.

No changes to the routine surveillance ambient monitoring network for ozone, $PM_{2.5}$, or lead are being considered for 2009. $PM_{2.5}$ sampling at the Carlisle West (Macaluso residence – Walnut Street) site should end in September 2008 to complete the special study that was being conducted by the Department.

The following ambient air monitoring sites show the potential for addition or deletion from the Department's ambient air monitoring network starting January 1, 2009:

Bristol, Bucks County: The continuous PM₁₀ monitor for the years 2005-2007 has recorded maximum 24-hour averages of 58, 56, and 52 micrograms per cubic meter (ug/m³) which are less than 80% of the PM₁₀ NAAQS in the Philadelphia metropolitan area. Since the Philadelphia 5-county area can be considered a low concentration area, the minimum number of required monitors based on population ranges from 2 to 4. With Philadelphia Air Management Services (AMS) operating three (3) monitors and the PA DEP monitor at Chester (Delaware County) continuing operation, PA DEP intends to

discontinue the Bristol PM_{10} monitor starting in 2009. Based on the 3-year design value for the 24-hour NAAQS from data obtained in 2008, the sampling frequency of the Bristol $PM_{2.5}$ sampler may need to be increased to everyday from the 1 in 3 sampling currently due to requirements in 40 CFR Part 58.12(d).

Chester, Delaware County: With the $PM_{2.5}$ monitor showing attainment for the 3-year annual mean NAAQS at 14.9 ug/m³ for the years 2005-2007, it is planned that the $PM_{2.5}$ speciation monitor be relocated to Johnstown (Cambria County) where the $PM_{2.5}$ is not showing attainment. The purpose of the $PM_{2.5}$ speciation monitor is to provide information on what factors are causing an area to not attain the standard. With Chester indicating attainment and Philadelphia AMS operating two speciation monitors the information obtained by relocating the monitor to Johnstown would be more useful in characterizing the particulate matter in that region.

Norristown, Montgomery County: The continuous PM_{10} monitor for the years 2005-2007 has recorded maximum 24-hour averages of 60, 57, and 48 ug/m³ which are less than 80% of the PM_{10} NAAQS in the Philadelphia metropolitan area. Since the Philadelphia 5-county area can be considered a low concentration area, the minimum number of required monitors based on population ranges from 2 to 4. With Philadelphia Air Management Services (AMS) operating three (3) monitors and the DEP monitor at Chester (Delaware County) continuing operation, PA DEP intends to discontinue the PM_{10} monitor starting in 2009.

With the requirement for the minimum number of monitors in an area removed for sulfur dioxide, nitrogen dioxide and carbon monoxide based on changes to Appendix D of 40 CFR 58, PA DEP intends to discontinue the carbon monoxide (CO) and nitrogen dioxide (NO₂) monitors from the Norristown site in 2009. The nitrogen dioxide annual means for the years 2005 to 2007 are 0.016, 0.014, and 0.014 parts per million (ppm) respectively, this represents levels that are substantially below the annual NAAQS standard of 0.053 ppm. With carbon monoxide 8-hour averages reading 1.3, 1.5, 1.1 ppm, these also represent concentrations less than 80% of the NAAQS. Carbon monoxide monitoring will remain at Bristol and nitrogen dioxide monitoring will remain at Chester.

PA DEP plans on installing and operating a VOC air toxics sampler at the Norristown site in 2010 for at least one year.

<u>New Garden (Toughkenamon)</u>, Chester County: As explained above, PA DEP plans on installing and operating a VOC air toxics sampler at the New Garden site in 2009 for at least one year.

<u>Allentown</u>, Lehigh County: With sulfur dioxide (SO₂) annual means of 0.008, 0.006, and 0.005 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. PA DEP intends to discontinue the Allentown SO₂ monitor in 2009. There are no minimum monitoring requirements for SO₂ and the pollutant will continue to be monitored in Easton providing coverage for the area.

The nitrogen dioxide annual means for the years 2005 to 2007 are 0.014, 0.012, and 0.012 parts per million (ppm) respectively, this represents levels that are substantial below the annual NAAQS standard of 0.053 ppm. PA DEP will discontinue the Allentown NO₂ monitor 2009. There are no minimum monitoring requirements for NO₂ and the pollutant will continue to be monitored in Freemansburg providing coverage for the area.

PA DEP plans on installing and operating a VOC air toxics sampler at the Allentown site in 2009 for at least one year.

<u>Freemansburg</u>, Northampton County: The continuous PM_{10} monitor for the years 2005-2007 has recorded maximum 24-hour averages of 62, 54, and 55 ug/m³ which are less than 80% of the PM_{10} NAAQS. Since the Allentown-Bethlehem-Easton MSA can be considered a low concentration area, the minimum number of required monitors based on population ranges from 1 to 2. With PA DEP monitors at Allentown (Lehigh County) and Nazareth (Northampton County) continuing operation, PA DEP intends to discontinue the Freemansburg PM_{10} monitor in 2009.

With sulfur dioxide (SO_2) annual means of 0.007, 0.005, and 0.004 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. PA DEP will discontinue the Freemansburg SO_2 monitor in 2009. There are no minimum monitoring requirements for SO_2 and the pollutant will continue to be monitored in Easton providing coverage for the area.

PA DEP plans on installing and operating a VOC air toxics sampler at the Freemansburg site in 2010 for at least one year.

Scranton, Lackawanna County: The continuous PM₁₀ monitor for the years 2005-2007 has recorded maximum 24-hour averages of 62, 57, and 53 ug/m³ which are less than 80% of the PM₁₀ NAAQS. Since the Scranton-Wilkes Barre MSA can be considered a low concentration area, the minimum number of required monitors based on population ranges from 1 to 2. With a PA DEP monitor at Wilkes-Barre (Luzerne County) continuing operation, PA DEP intends to discontinue the Scranton PM₁₀ monitor starting in 2009.

With sulfur dioxide (SO₂) annual means of 0.005, 0.004, and 0.005 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. PA DEP will discontinue the Scranton SO₂ monitor in 2009. There are no minimum monitoring requirements for SO₂ and the pollutant will continue to be monitored in Wilkes-Barre providing coverage for the area.

PA DEP plans on installing and operating a VOC air toxics sampler at the Scranton site in 2010 for at least one year. PA DEP plans on installing and operating a continuous Met One BAM (FEM) $PM_{2.5}$ monitor which will be colocated with the FRM monitor and provide support for the Air Quality Index (AQI) in this MSA.

<u>Wilkes-Barre</u>, Luzerne County: PA DEP intends to discontinue the carbon monoxide (CO) and nitrogen dioxide (NO₂) monitors from the Wilkes-Barre site in 2009. The nitrogen dioxide annual means for the years 2005 to 2007 are 0.013, 0.011, and 0.011 parts per million (ppm) respectively, this represents levels that are substantially below the annual NAAQS standard of 0.053 ppm. With carbon monoxide 8-hour averages reading 1.9, 1.6, 1.7 ppm, these also represent concentrations less than 80% of the NAAQS. Carbon monoxide monitoring and nitrogen dioxide monitoring will remain at Scranton providing coverage for the area. There are no minimum monitoring requirements for CO or NO₂.

PA DEP plans on installing and operating a VOC air toxics sampler at the Wilkes-Barre site in 2009 for at least one year.

<u>Reading (Airport)</u>, Berks County: PA DEP intends to discontinue the hydrogen sulfide (H₂S) monitor from the Reading Airport site in 2009. This monitor was originally installed due to odor complaints when the site was located at 234 Morgantown Road.

Reading (Central), Berks County: The manual filter-based method (sampling every six days) PM₁₀ monitor for the years 2005-2007 has recorded maximum 24-hour averages of 85, 51, and 45 ug/m³ which are less than 80% of the PM₁₀ NAAQS. Since the Reading MSA can be considered a low concentration area, the minimum number of required monitors based on population ranges from 1 to 2. With a continuous PA DEP monitor at the Reading (Airport) site continuing operation, PA DEP intends to discontinue monitoring at the Reading (Central) PM₁₀ site in 2009.

<u>Harrisburg</u>, Dauphin County: With sulfur dioxide (SO₂) annual means of 0.005, 0.005, and 0.005 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. PA DEP intends to discontinue the Harrisburg SO₂ monitor in 2009. There are no minimum monitoring requirements for SO₂ and the pollutant will continue to be monitored in York providing coverage for the south-central region.

PA DEP plans on installing and operating a VOC air toxics sampler at the Harrisburg site in 2010 for at least one year.

<u>Carlisle</u>, Cumberland County: PA DEP plans on installing and operating a continuous Met One BAM (FEM) PM_{2.5} monitor at the Imperial Court design value site which will be colocated with the FRM monitor and provide additional support for the Air Quality Index (AQI) in this Harrisburg-Carlisle-Lebanon MSA.

<u>Lancaster</u>, Lancaster County: With sulfur dioxide (SO₂) annual means of 0.006, 0.005, and 0.005 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. PA DEP intends to discontinue the Lancaster SO₂ monitor in 2009. There are no minimum monitoring requirements for SO₂ and the pollutant will continue to be monitored in York providing coverage for the south-central region.

With Lancaster carbon monoxide (CO) 8-hour averages reading 1.6, 1.5, 1.4 ppm, these represent concentrations less than 80% of the NAAQS. PA DEP will discontinue the Lancaster CO monitor in 2009. Carbon monoxide monitoring will remain at Harrisburg and York to provide coverage for the south-central region. There are no minimum monitoring requirements for CO.

<u>York</u>, York County: PA DEP plans on installing and operating a VOC air toxics sampler at the York site in 2009 for at least one year.

Altoona, Blair County: PA DEP intends to discontinue the carbon monoxide (CO) and nitrogen dioxide (NO₂) monitors from the Altoona site in 2009. The nitrogen dioxide annual means for the years 2005 to 2007 are 0.013, 0.012, and 0.011 parts per million (ppm) respectively, this represents levels that are substantially below the annual NAAQS standard of 0.053 ppm. With carbon monoxide 8-hour averages reading 1.2, 1.0, 1.0 ppm, these also represent concentrations less than 80% of the NAAQS. Carbon monoxide monitoring and nitrogen dioxide monitoring will remain at Johnstown providing coverage for the area. There are no minimum monitoring requirements for CO.

PA DEP plans on installing and operating a VOC air toxics sampler at the Altoona site in 2010 for at least one year.

Montoursville, Lycoming County: With sulfur dioxide (SO₂) annual means of 0.005, 0.005, and 0.003 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. PA DEP intends to discontinue the Montoursville SO₂ monitor in 2009. There are no minimum monitoring requirements for SO₂ and the pollutant will continue to be monitored in State College providing coverage for the area.

PA DEP plans on installing and operating a VOC air toxics sampler at the Montoursville site in 2009 for at least one year.

<u>Johnstown</u>, Cambria County: As explained earlier, PA DEP plans on relocating the PM_{2.5} speciation monitor from Chester (Delaware County) to Johnstown in 2009.

PA DEP plans on installing and operating a VOC air toxics sampler at the Johnstown site in 2009 for at least one year.

Beaver Falls, Beaver County: With sulfur dioxide (SO₂) annual means of 0.007, 0.007, and 0.008 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. PA DEP intends to discontinue monitoring at the Beaver Falls SO₂ site in 2009. There are no minimum monitoring requirements for SO₂ and the pollutant will continue to be monitored at higher concentration sites in Hookstown and Brighton Township providing coverage for the region.

With Beaver Falls carbon monoxide (CO) 8-hour averages reading 1.5, 1.6, 1.5 ppm, these represent concentrations less than 80% of the NAAQS. PA DEP intends to discontinue monitoring at the Beaver Falls CO site in 2009. There are no minimum monitoring requirements for CO.

PA DEP plans on installing and operating a VOC air toxics sampler at the Beaver Falls site in 2010 for at least one year.

<u>Charleroi</u>, Washington County: The continuous PM_{10} monitor will be replaced with a manual monitor that is being relocated from the Monessen site. The manual PM_{10} monitor sampling frequency will remain the same at once every six days.

PA DEP plans on installing and operating a VOC air toxics sampler at the Charleroi site in 2009 for at least one year.

<u>Florence</u>, Washington County: The continuous PM_{10} monitor for the years 2005-2007 has recorded maximum 24-hour averages of 54, 52, and 53 ug/m³ which are less than 80% of the PM_{10} NAAQS. With a DEP monitor at Charleroi (Washington County) continuing operation, PA DEP intends to discontinue monitoring at the Florence PM_{10} site in 2009.

The nitrogen dioxide annual means for the years 2005 to 2007 are 0.007, 0.005, and 0.006 parts per million (ppm) respectively, this represents levels that are substantial below the annual NAAQS standard of 0.053 ppm. PA DEP is proposing that the Florence NO₂ monitor be discontinued in 2009.

There are no minimum monitoring requirements for NO₂ and the pollutant will continue to be monitored in Charleroi providing coverage for the area.

Washington, Washington County: With sulfur dioxide (SO_2) annual means of 0.009, 0.009, and 0.008 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. PA DEP is proposing that the Washington SO_2 monitor be discontinued in 2009. There are no minimum monitoring requirements for SO_2 and the pollutant will continue to be monitored at Charleroi providing coverage for the region.

The nitrogen dioxide annual means for the years 2005 to 2007 are 0.014, 0.012, and 0.013 parts per million (ppm) respectively, this represents levels that are substantial below the annual NAAQS standard of 0.053 ppm. PA DEP intends to discontinue monitoring at the Washington NO₂ site in 2009. There are no minimum monitoring requirements for NO₂ and the pollutant will continue to be monitored in Charleroi providing coverage for the area.

Monessen, Westmoreland County: The manual filter-based method (sampling every six days) PM₁₀ monitor for the years 2005-2007 has recorded maximum 24-hour averages of 73, 50, and 61 ug/m³ which are less than 80% of the PM₁₀ NAAQS. Since the Monongahela Valley air basin can be considered a low concentration area, PA DEP intends to relocate the Monessen PM₁₀ monitor to Charleroi (Washington County) starting in 2009 to maintain coverage within the air basin.

<u>Greensburg</u>, Westmoreland County: The continuous PM_{10} monitor for the years 2005-2007 has recorded maximum 24-hour averages of 74, 57, and 62 ug/m³ which are less than 80% of the PM_{10} NAAQS. Since Greensburg is not within an MSA there is no minimum number of required monitors based on population. PA DEP intends to discontinue the Greensburg PM_{10} monitor in 2009.

With sulfur dioxide (SO_2) annual means of 0.009, 0.009, and 0.008 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. PA DEP intends to discontinue the Greensburg SO_2 monitor in 2009. There are no minimum monitoring requirements for SO_2 and the pollutant will continue to be monitored in Charleroi and Florence providing coverage for the region.

With Greensburg carbon monoxide (CO) 8-hour averages reading 0.9, 1.1, 1.0 ppm, these represent concentrations less than 80% of the NAAQS. PA DEP intends to discontinue the Greensburg CO monitor in 2009. The monitor at the Charleroi site will provide coverage for the region. There are no minimum monitoring requirements for CO.

The Greensburg nitrogen dioxide annual means for the years 2005 to 2007 are 0.013, 0.011, and 0.011 parts per million (ppm) respectively, This represents levels that are substantial below the annual NAAQS standard of 0.053 ppm. PA DEP intends to discontinue the Greensburg NO₂ monitor in 2009. There are no minimum monitoring requirements for NO₂ and the pollutant will continue to be monitored in Charleroi providing coverage for the region.

PA DEP plans on installing and operating a VOC air toxics sampler at the Greensburg site in 2010 for at least one year.

Strongstown, Indiana County: The nitrogen dioxide annual means for the years 2005 to 2007 are 0.006, 0.006, and 0.006 parts per million (ppm) respectively, this represents levels that are substantial below

the annual NAAQS standard of 0.053 ppm. PA DEP intends to discontinue the Strongstown NO₂ monitor in 2009. There are no minimum monitoring requirements for NO₂.

Holbrook, Greene County: With Holbrook carbon monoxide (CO) 8-hour averages reading 0.7, 1.6, 0.7 ppm, these represent concentrations less than 80% of the NAAQS. PA DEP plans to terminate the Holbrook CO monitor in 2009. The monitor at the Charleroi site will provide coverage for the region. There are no minimum monitoring requirements for CO.

New Castle, Lawrence County: The nitrogen dioxide annual means for the years 2005 to 2007 are 0.017, 0.016, and 0.015 parts per million (ppm) respectively, this represents levels that are substantial below the annual NAAQS standard of 0.053 ppm. The New Castle NO₂ monitor will be discontinued in 2009. There are no minimum monitoring requirements for NO₂.

<u>Farrell</u>, Mercer County: With sulfur dioxide (SO_2) annual means of 0.005, 0.005, and 0.005 ppm from 2005 to 2007, the recorded data is substantially below the annual NAAQS of 0.030 ppm. The Farrell SO_2 monitor will be discontinued in 2009. There are no minimum monitoring requirements for SO_2 and the pollutant will continue to be monitored in New Castle and Erie providing coverage for the region.

<u>Warren</u>, Warren County: PA DEP has been operating two sulfur dioxide monitors in the area since 1996 based on the potential for an exceedance of the SO₂ NAAQS. The sites were determined at that time based on modeling projections, with the site located at the Warren High School in the area with the highest projected concentrations. No exceedances of the NAAQS have been observed at either site, with the Warren Overlook site recording higher concentrations. PA DEP is therefore considering relocating or terminating the Warren High School site within the next year.

General Description of Criteria Pollutants

Ozone (O₃)

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

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.

Sulfur Dioxide (SO₂)

Sulfur dioxide is a gaseous pollutant that is emitted primarily by industrial furnaces or power plants burning coal or oil containing sulfur. At high concentrations, breathing can be impaired. Damage to vegetation can also result.

Sulfur dioxide is measured with a fluorescence analyzer. Air is drawn through a sample cell where it is then subjected to high intensity ultraviolet light. This causes in 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.

Carbon Monoxide (CO)

Carbon monoxide is a poisonous gas that, when introduced into the bloodstream, inhibits the delivery of oxygen to body tissue. The health risk is greatest for individuals with cardiovascular disease.

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.

Lead (Pb)

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

The amount of lead in ambient air is measured by laboratory analysis of TSP filters by Inductively Coupled Argon Plasma-Optical Emission 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 odorous haze that causes eye and sinus irritation, blocks natural sunlight and reduces visibility.

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 NO 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 NO concentration. Total nitrogen oxides (NOx) are measured by passing the air through a converter where any NO₂ in the air is reduced to NO 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 NO and NOx. Nitrogen dioxide (NO₂) is measured indirectly by a subtraction of the NOx and NO₂ concentrations.

Fine Particulate Matter (PM_{2.5})

Fine particulate matter with a diameter of 2.5 microns or less is created primarily from industrial processes and fuel combustion. These particles are breathed deeply into the lungs. Exposure to particle pollution is linked to a variety of significant health problems ranging from aggravated asthma to premature death in people with heart and lung disease.

PM_{2.5} is sampled by drawing air through a specially designed inlet that excludes particles larger than 2.5 microns in diameter. The particles are collected on a TeflonTM Microfiber filter that is weighed to determine the particulate mass. The normal sampling schedule varies, as determined by the regulations: some sites sample every day, others sample every 3rd day. In addition, PA DEP has 12 monitors (TEOM/FDMS and BAM) that record PM_{2.5} data continuously. PA DEP is in the process of contracting with Met One to replace the current BAM continuous monitors with the Federal Equivalent Method (FEM) version.

Particulate Matter (PM₁₀)

Particulate matter with a mean diameter of 10 microns or less and is emitted from transportation and industrial sources. Exposure to particle pollution is linked to a variety of significant health problems ranging from aggravated asthma to premature death in people with heart and lung disease.

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.

Acronyms

APCA Air Pollution Control Act

AQS Air Quality System

BAM Beta Attenuation Monitor
CBSA Core based statistical area
CSA Combined Statistical Area

CO Carbon Monoxide

PA DEP Pennsylvania Department of Environmental Protection

EPA U. S. Environmental Protection Agency

FEM Federal Equivalent Method FID Flame Ionization Detector FRM Federal Reference Method

GC Gas Chromatograph
IR Infrared (radiation)
H₂S Hydrogen Sulfide

MSA Metropolitan Statistical Area

NAAQS National Ambient Air Quality Standards

NCore National Core multipollutant monitoring stations

nm nanometers

NO The gaseous pollutant Nitrogen Oxide NO₂ The gaseous pollutant Nitrogen Dioxide

NOx Oxides of Nitrogen

O₃ The gaseous pollutant Ozone

PAMS Photochemical Assessment Monitoring Station

Pb Lead

PM_{2.5} Particulate matter with an aerodynamic diameter less then or equal to a nominal

2.5 micrometers

PM₁₀ Particulate matter with an aerodynamic diameter less then or equal to a nominal

10 micrometers

QA Quality Assurance

SLAMS State or Local Air Monitoring Stations SO₂ The gaseous pollutant Sulfur Dioxide

SPM Special Purpose Monitor

STN PM_{2.5} Speciation Trends Network TSP Total Suspended Particulate

TTN* EPA's Technology Transfer Network
TEOM Tapered Element Oscillating Microbalance

UV Ultraviolet

VOC's Volatile Organic Compounds

^{*} http://www.epa.gov/ttn/amtic/

Air Pollution Control Agencies in Pennsylvania

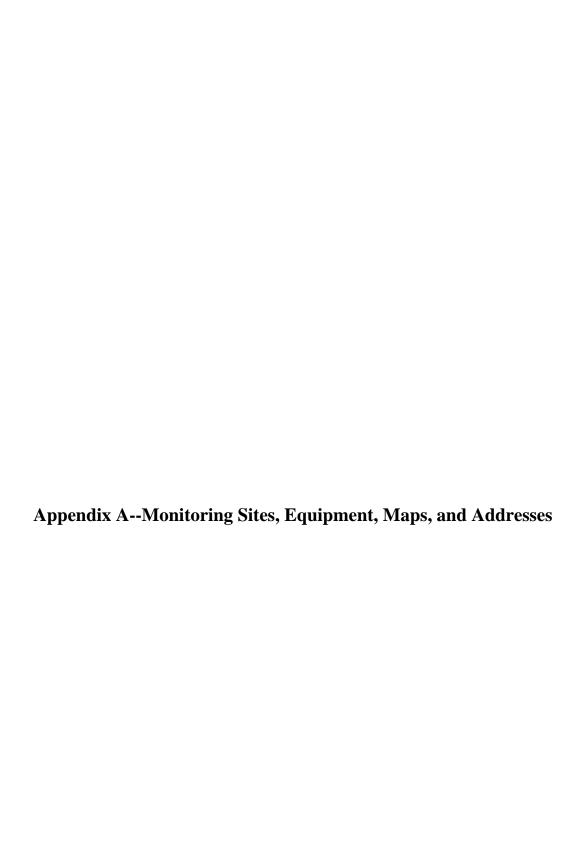
Allegheny County Health Department 39th Street and Penn Avenue Pittsburgh, PA 15201 (412) 578-8104

> City of Philadelphia Department of Public Health Air Management Services 321 University Avenue Philadelphia, PA 19104 (215) 685-7584

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

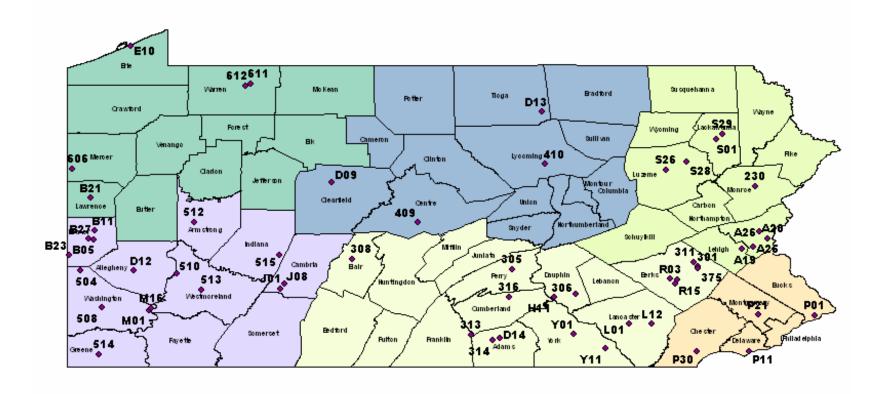
Related environmental information is available electronically via the Internet.

Access the DEP website at http://www.depweb.state.pa.us/ (DEP Keyword: Air, Air Pollution, Air Quality, Clean Air).



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Figure A1. Commonwealth of Pennsylvania Air Monitoring Site Map - 2008



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Table A1. Ambient Air Monitoring Equipment for Particulate Sampling

PARAMETER	MANUFACTURER/INSTRUMENT/MODEL	EPA DESIGNATION
PM ₁₀		
Discrete	Thermo GMW PM ₁₀ High-Volume Air Sampler - Volumetric http://www.thermo.com/com/cda/product/detail/1,1055,23297,00.ht ml	Manual Reference Method: RFPS-1287-063 52 FR 45684, 12/01/87 53FR 1062, 1/15/88
Continuous	Rupprecht & Patashnick (R&P) Tapered Element Oscillating Microbalance (TEOM) Series 1400 Ambient Particulate Monitor http://www.rpco.com/products/ambprod/amb1400/index.htm	Automated Equivalent Method: EQPM-1090-079 55 FR 43406, 10/29/90
PM _{2.5}		
Discrete	R&P Partisol-Plus Model 2025 Sequential Air Sampler http://www.rpco.com/products/ambprod/amb2025/index.htm	Manual Reference Method: RFPS-0498-118 63 FR 18911, 4/16/98
Continuous	R&P TEOM Series 8500a Filter Dynamics Measurement System (FDMS) and TEOM Series 1400ab http://www.rpco.com/products/ambprod/amb8500/index.htm	
	Met One Instruments Beta-Attenuation Mass (BAM) Model 1020 http://www.metone.com/documents/BAM1020Particulate.pdf	
PM _{2.5} Speciation	Met One Instruments SASS PM _{2.5} Ambient Chemical Speciation Air Sampler http://www.metone.com/documents/SASS0301Particulate.pdf	
TSP	Thermo GMW TSP High Volume Air Sampler – Mass Flow http://www.thermo.com/com/cda/product/detail/1,1055,23329,00.ht ml and	Manual Reference Method 40 CFR Part 50, Appendix B 47 FR 54912, 12/6/82
	Thermo GMW TSP High Volume Air Sampler – Volumetric http://www.thermo.com/com/cda/product/detail/1,1055,23328,00.ht	48 FR 17355, 4/22/83
Pb	Laboratory analysis of TSP filters by Inductively Coupled Argon Plasma-Optical Emission Spectrometry	Manual Equivalent Method EQL-0592-086 57 FR 20823, 5/15/92
SO ₄ , NO ₃	Laboratory analysis of TSP filters by Ion Chromatography	EPA Method 300.0

Table A2. Ambient Air Monitoring Equipment for Continuous Gaseous Sampling

PARAMETER	MANUFACTURER/INSTRUMENT/MODEL	EPA DESIGNATION
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-0990-077 55 FR 38149, 9/17/90
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-0691-082 56 FR 27014, 6/12/91
O ₃	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
СО	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

Table A3-1. Southeast Region Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
P01	BRISTOL	42-017-0012	BUCKS	Roosevelt Junior High School Rockview Lane	40.107222 -74.882222
P11	CHESTER	42-045-0002	DELAWARE	Front & Norris Streets	39.835556 -75.3725
P21	NORRISTOWN	42-091-0013	MONTGOMERY	State Armory 1046 Belvoir Road	40.112222 -75.309167
P30	NEW GARDEN (TOUGHKENAMON)	42-029-0100	CHESTER	1235 Newark Road New Garden Airport	39.834461 -75.768242

Table A3-2. Parameters Monitored by Site – Southeast Region Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
P01	BRISTOL	X	X						X	X	X	X
P11	CHESTER	X	X	X	X		X		X	X	X	
P21	NORRISTOWN	X	X						X	X	X	X
P30	NEW GARDEN (TOUGHKENAMON)		X	X							X	

 $Southeast\ Region.\ Bucks,\ Chester,\ Delaware,\ Montgomery,\ and\ Philadelphia\ Counties.$

Figure A2. Map of the Southeast Region Air Basin Sites

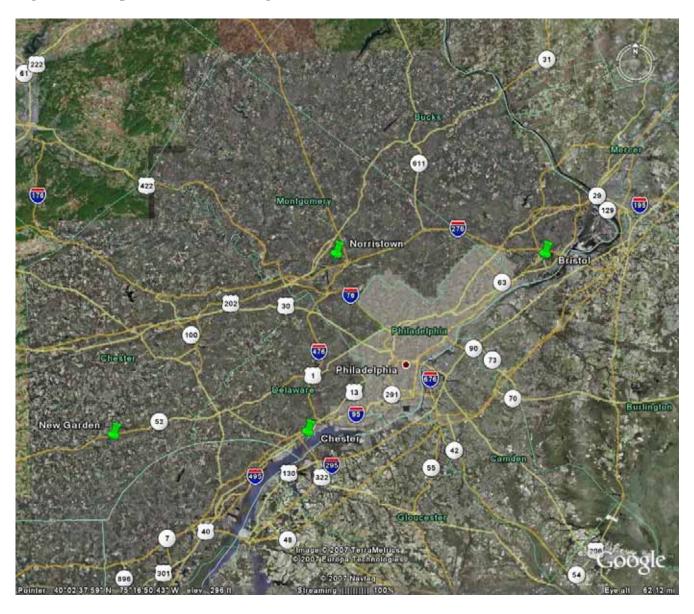


Table A4-1. Allentown - Bethlehem - Easton Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
A19	ALLENTOWN	42-077-0004	LEHIGH	Allentown State Hospital Rear 1600 Hanover Avenue	40.611944 -75.4325
A20	EASTON	42-095-8000	NORTHAMPTON	17 th & Spring Garden Streets	40.692224 -75.237156
A25	FREEMANSBURG	42-095-0025	NORTHAMPTON	Washington & Cambria Streets	40.628056 -75.341111
A26	NAZARETH	42-095-1000	NORTHAMPTON	South Green & Delaware	40.734449 -75.312389

Table A4-2. Parameters Monitored by Site – Allentown - Bethlehem - Easton Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
A19	ALLENTOWN	X							X	X	X	
A20	EASTON								X		X	
A25	FREEMANSBURG	X	X	Х					X	X	X	X
A26	NAZARETH	X										

Northeast Region. Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, and Wyoming Counties.

Figure A3. Map of the Allentown - Bethlehem - Easton Air Basin Sites

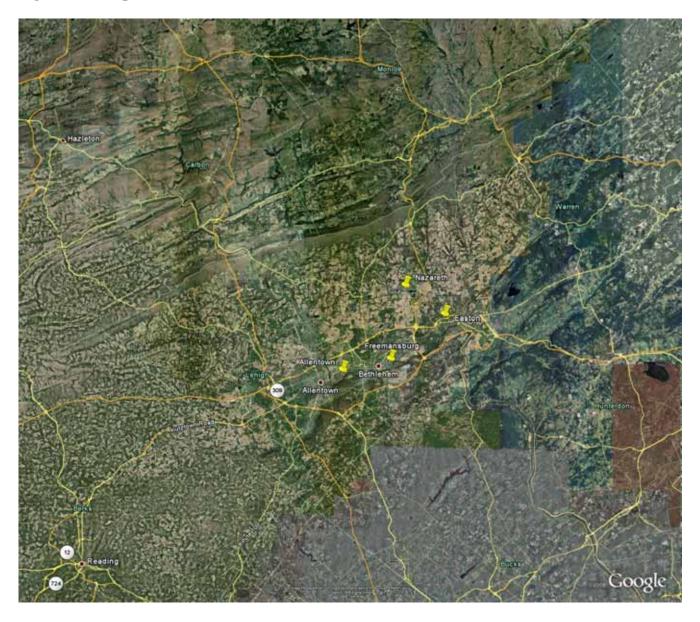


Table A5-1. Scranton - Wilkes-Barre Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
S01	SCRANTON	42-069-2006	LACKAWANNA	Behind Penn State Campus George Street	41.442778 -75.623056
S26	NANTICOKE	42-079-1100	LUZERNE	255 Lower Broadway	41.209167 -76.003333
S28	WILKES-BARRE	42-079-1101	LUZERNE	Chilwick & Washington Streets	41.265556 -75.846389
S29	PECKVILLE	42-069-0101	LACKAWANNA	Pleasant Avenue & Erie Street Wilson Fire Company No. 1	41.479116 -75.578186

Table A5-2. Parameters Monitored by Site – Scranton – Wilkes-Barre Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
S01	SCRANTON	X	X	X					X	X	X	X
S29	PECKVILLE										X	
S26	NANTICOKE										X	
S28	WILKES-BARRE	X							X	X	X	X

Northeast Region. Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, and Wyoming Counties.

Figure A4. Map of the Scranton - Wilkes-Barre Air Basin Sites



Table A6-1. Northeast Region Non-Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
230	SWIFTWATER/ POCONO	42-089-0002	MONROE	Pocono State Forestry Office Near Rt. 611 & Brookdale Road	41.083060 -75.323280

Table A6-2. Parameters Monitored by Site – Northeast Region Non-Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
230	SWIFTWATER/ POCONO										X	

Northeast Region. Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, and Wyoming Counties.

Figure A5. Map of Northeast Region Non-Air Basin Sites



Table A7-1. Reading Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
R03	READING AIRPORT	42-011-0011	BERKS	Reading Airport 1059 Arnold Road	40.383350 -75.968600
R10	LAURELDALE	42-011-1717	BERKS	Muhlenberg Township Authority Spring Valley Road Substation	40.377222 -75.914444
R15	READING PM10	42-011-0015	BERKS	Northwest Junior High School North Front and West Spring Streets	40.350833 -75.935278

Table A7-2. Parameters Monitored by Site – Reading Air Basin

PA SITE CODE	SITE NAME	PM-10	PM-2.5	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
R03	READING AIRPORT	X	X	X					X	X	X	X
R10	LAURELDALE				X	X	X	X				
R15	READING PM10	X										

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

Figure A6. Map of the Reading Air Basin Sites



Table A8-1. Lancaster Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
L01	LANCASTER	42-071-0007	LANCASTER	Lincoln Junior High School	40.046667 -76.283333
L12	LANCASTER DOWNWIND	42-071-0012	LANCASTER	3545 W. Newport Road	40.043833 -76.1124

Table A8-2. Parameters Monitored by Site – Lancaster Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
L01	LANCASTER	X	X	X					X	X	X	X
L12	LANCASTER DOWNWIND										X	

Figure A7. Map of the Lancaster Air Basin Sites

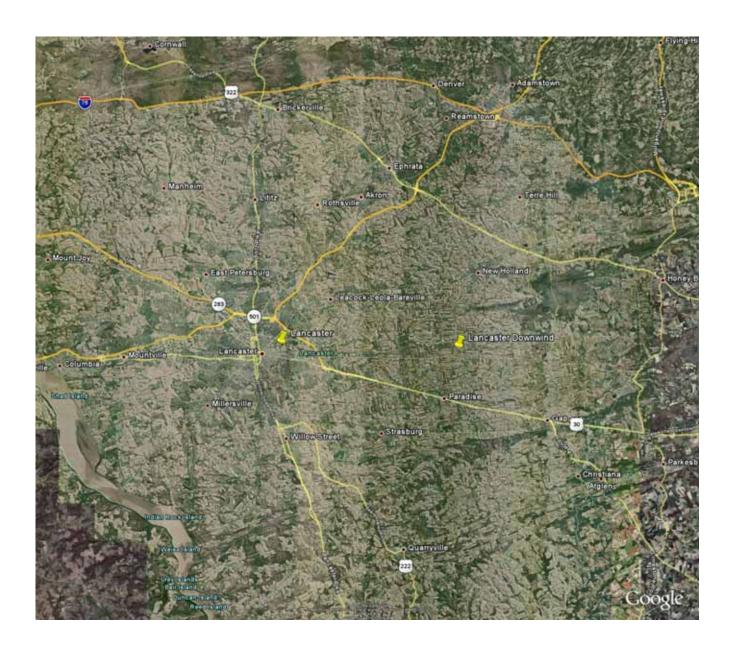


Table A9-1. Harrisburg Air Basin Site Location

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
H11	HARRISBURG	42-043-0401	DAUPHIN	1833 UPS Drive	40.2450 -76.844722

Table A9-2. Parameters Monitored by Site – Harrisburg Air Basin

PA SITE CODE	SITE NAME	PM_{10}	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
H11	HARRISBURG	X	X	X					X	X	X	X

Figure A8. Map of the Harrisburg Air Basin Site

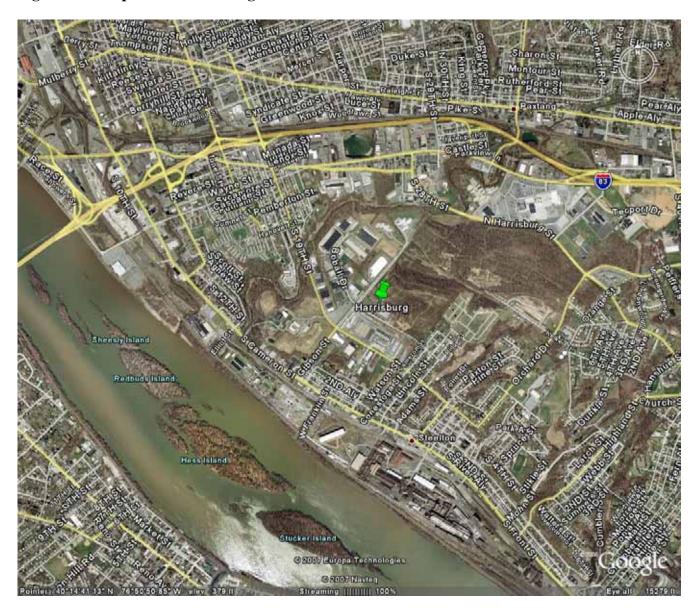


Table A10-1. York Air Basin Site Location

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
Y01	YORK	42-133-0008	YORK	Davis Junior High School Hill Street	39.965278 -76.699444
Y11	YORK DOWNWIND	42-133-0011	YORK	2650 Delta Road – Brogue	39.860970 -76.462055

Table A10-2. Parameters Monitored by Site – York Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
Y01	YORK	X	X	X					X	X	X	X
Y11	YORK DOWNWIND										X	

Figure A9. Map of the York Air Basin Site



Table A11-1. Southcentral Region Non-Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	DUNTY STREET ADDRESS	
301	LYONS EAST	42-011-0717	BERKS	Near State & Kemp Streets	40.476667 -75.759167
305	PERRY COUNTY	42-099-0301	PERRY	Little Buffalo State Park – Route 34	40.456944 -77.165556
306	HERSHEY	42-043-1100	DAUPHIN	Hershey Foods Technical Center Sipe Avenue & Mae Street	40.272222 -76.681389
308	ALTOONA	42-013-0801	BLAIR	Ward Trucking Corporation Second Avenue & Seventh Street	40.535278 -78.370833
311	KUTZTOWN	42-011-0006	BERKS	Kutztown University	40.514080 -75.789721
313	METHODIST HILL	42-055-0001	FRANKLIN	Forest Road and Ridge Road (High Elevation Site)	39.961111 -77.475556
314	ARENDTSVILLE	42-001-0001	ADAMS	Penn State Research Orchard (NARSTO Site)	39.920020 -77.309680
D14	BIGLERVILLE	42-001-0002	ADAMS	University Drive Penn State Research Orchard	39.930 -77.250
316	CARLISLE	42-041-0101	CUMBERLAND	Imperial Court	40.246528 -77.186750
317	CARLISLE WEST	Special Study	CUMBERLAND	Walnut Street	40.193889 -77.212222
375	LYONS SOUTH	42-011-0005	BERKS	Heffner & Dryville Roads	40.466300 -75.758900

Table A11-2. Parameters Monitored by Site – Southcentral Region Non-Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
301	LYONS EAST				X		X					
311	KUTZTOWN										X	
375	LYONS SOUTH				X		X					
305	PERRY COUNTY								X	X	X	
316	CARLISLE		X									
317	CARLISLE WEST		X									
306	HERSHEY										X	
313	METHODIST HILL										X	
314	ARENDTSVILLE		X	X						X	Narsto	X
D14	BIGLERVILLE										X	
308	ALTOONA	X							X	X	X	X

Figure A10. Map of the Southcentral Region Non-Air Basin Sites

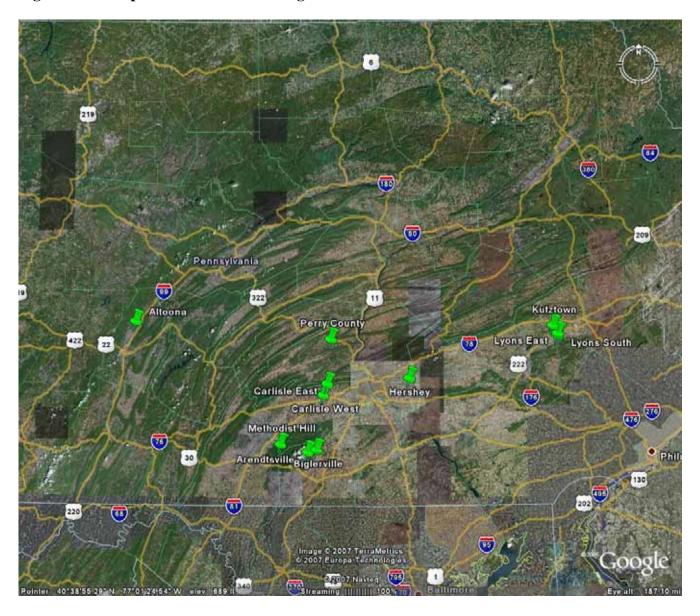


Table A12-1. Northcentral Region Non-Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
410	MONTOURSVILLE	42-081-0100	LYCOMING	899 Cherry Street Rear Parking Lot of PA State Police	41.25080 -76.92380
409	STATE COLLEGE	42-027-0100	CENTRE	Pennsylvania State University West of Big Hollow Road State College	40.811389 -77.877028
D09	MOSHANNON	42-033-4000	CLEARFIELD	Moshannon State Forest Elliott State Park North of Cessna	41.11750 -78.526194
D13	TIOGA COUNTY	42-117-4000	TIOGA	North of Gleason	41.644722 -76.939167

Table A12-2. Parameters Monitored by Site – Northcentral Region Non-Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
410	MONTOURSVILLE	X							X		X	
409	STATE COLLEGE		X	X					X	X	X	
D09	MOSHANNON										X	
D13	TIOGA COUNTY										X	

Northcentral Region. Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Synder, Sullivan, Tioga, and Union Counties.

Figure A11. Map of the Northcentral Region Non-Air Basin Sites

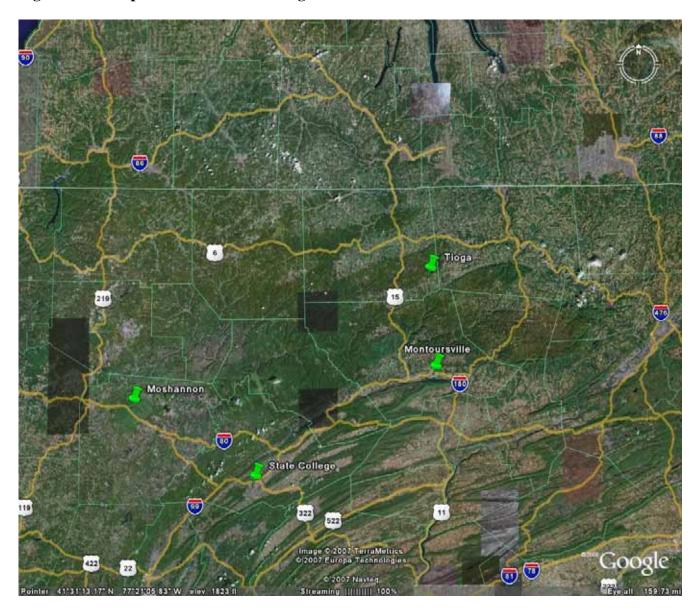


Table A13-1. Johnstown Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
J01	JOHNSTOWN	42-021-0011	CAMBRIA	Miller Auto Body Crafts Shop One Messenger Street	40.309722 -78.91500
J08	EAST CONEMAUGH	42-021-0808	CAMBRIA	Recreation Field Citron Alley & First Street	40.348056 -78.882778

Table A13-2. Parameters Monitored by Site – Johnstown Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
J01	JOHNSTOWN	X	X						X	X	X	X
J08	EAST CONEMAUGH				X	X	X	X				

Figure A12. Map of the Johnstown Air Basin Sites

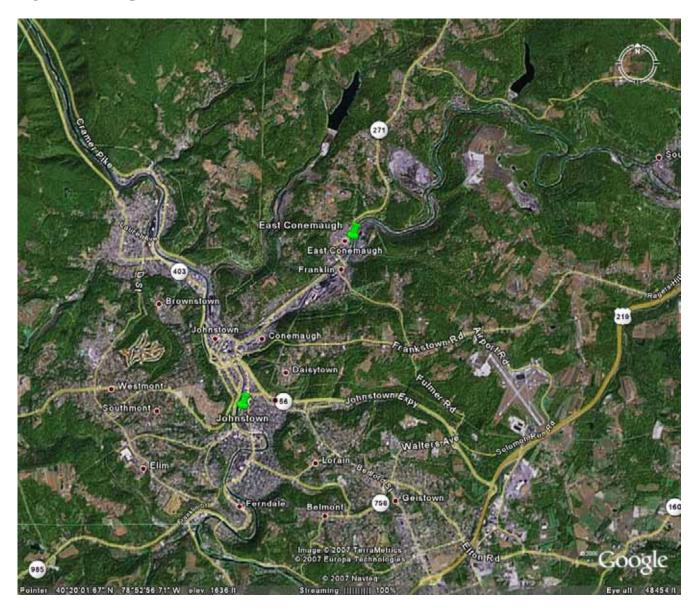


Table A14-1. Monongahela Valley Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
M01	CHARLEROI	42-125-0005	WASHINGTON	Borough Waste Treatment Plant Front Street	40.146667 -79.902222
M16	MONESSEN	42-129-0007	WESTMORELAND	Monessen Community Center 435 Donner Avenue	40.161777 -79.884666

Table A14-2. Parameters Monitored by Site – Monongahela Valley Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
M01	CHARLEROI	X	X						X	X	X	X
M16	MONESSEN	X			X	X	X	X				

Figure A13. Map of the Monongahela Valley Air Basin Sites

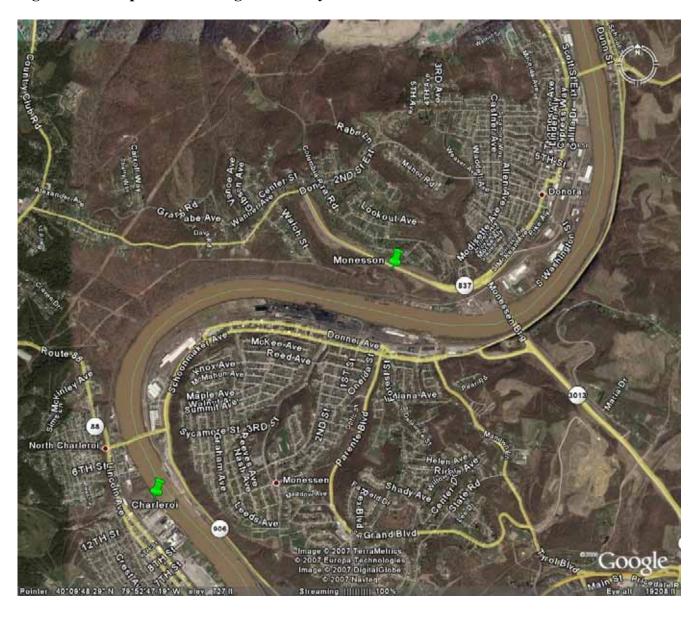


Table A15-1. Lower Beaver Valley Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
B05	VANPORT	42-007-0505	BEAVER	Vanport Water Works Tamaqui Drive	40.685019 -80.324775
B11	BEAVER FALLS	42-007-0014	BEAVER	Eighth Street & River Alley	40.747796 -80.316442
B23	HOOKSTOWN	42-007-0002	BEAVER	FAA Microwave Relay Tower Route 168 & Tomlinson Road	40.562520 -80.503948
B27	BRIGHTON TOWNSHIP	42-007-0005	BEAVER	1015 Sebring Road	40.684722 -80.359722

Table A15-2. Parameters Monitored by Site – Lower Beaver Valley Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
B05	VANPORT				X		X					
B11	BEAVER FALLS	X	X						X	X	X	X
B23	HOOKSTOWN								X		X	
B27	BRIGHTON TOWNSHIP								X		X	

Figure A14. Map of the Lower Beaver Valley Air Basin Sites

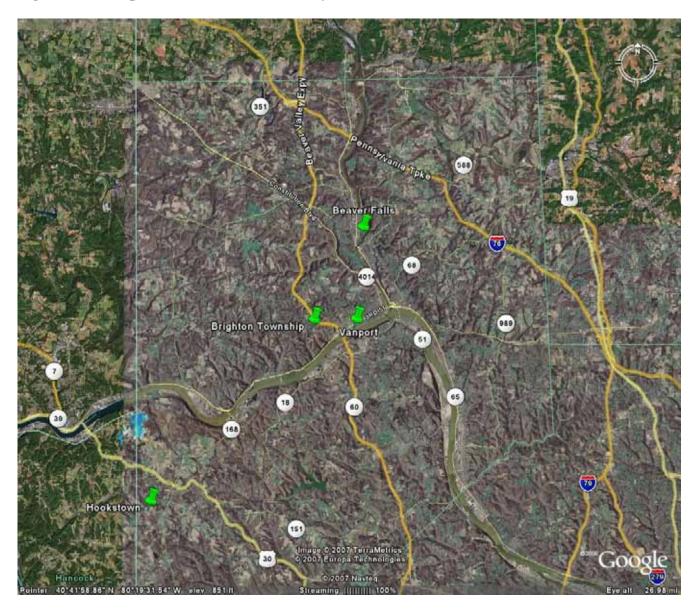


Table A16-1. Allegheny County Air Basin Site Location

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
D12	PITTSBURGH	42-003-0010	ALLEGHENY	Carnegie Science Center 1 Allegheny Road	40.445577 -80.016155

Table A16-2. Parameters Monitored by Site – Allegheny County Air Basin

PA SITE CODE	SITE NAME	PM_{10}	PM _{2.5}	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXID E	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
D12	PITTSBURGH							X	X	X	Х

Figure A15. Map of the Allegheny County Air Basin Site

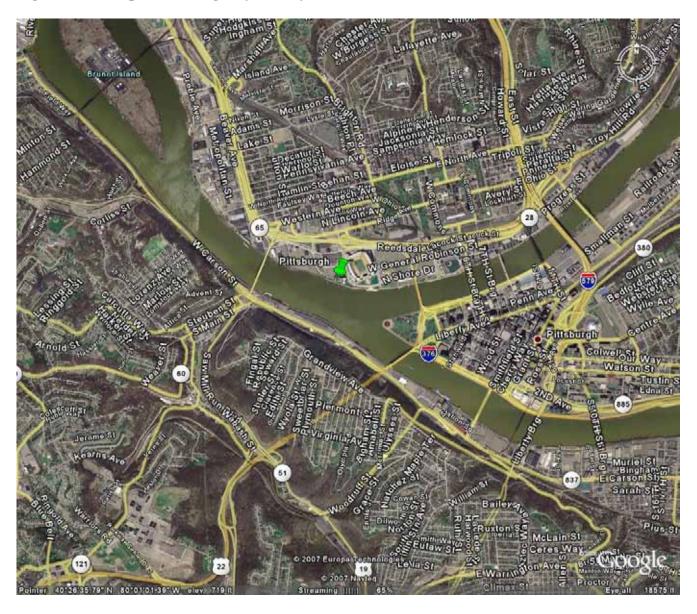
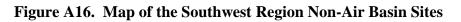


Table A17-1. Southwest Region Non-Air Basin Site Locations

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
504	FLORENCE	42-125-5001	WASHINGTON	Hillman State Park Kings Creek Road	40.445278 -80.420833
508	WASHINGTON	42-125-0200	WASHINGTON	McCarrell & Fayette Streets	40.170556 -80.261389
510	MURRYSVILLE	42-129-0006	WESTMORELAND	Murrysville Volunteer Fire Co. Old William Penn Hwy & Sardis Ave.	40.428076 -79.692811
512	KITTANNING	42-005-0001	ARMSTRONG	Glade Drive & Nolte Road PA State Police Barracks	40.814183 -79.564750
513	GREENSBURG	42-129-0008	WESTMORELAND	Donohue Road PA Dept. of Transportation Bldg.	40.304694 -79.505667
514	HOLBROOK	42-059-0002	GREENE	Field 5 km southeast of Holbrook	39.816222 -80.284917
515	STRONGSTOWN	42-063-0004	INDIANA	Rte. 403 PA Dept. of Transportation Bldg.	40.563330 -78.919972

Table A17-2. Parameters Monitored by Site – Southwest Region Non-Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
504	FLORENCE	X	X	X					X	X	X	
508	WASHINGTON		X						X	X	X	
510	MURRYSVILLE									X	X	
512	KITTANNING		X								X	
513	GREENSBURG	X	X	X					X	X	X	X
514	HOLBROOK								X		X	X
515	STRONGSTOWN								X	X	X	



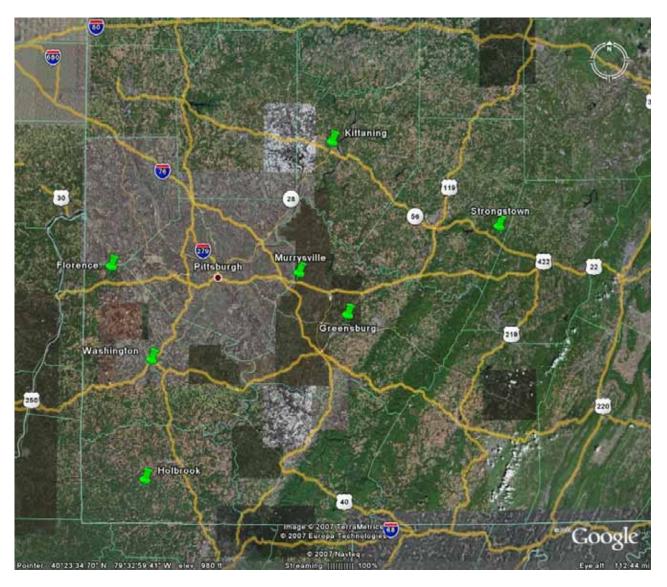


Table A18-1. Upper Beaver Valley Air Basin Site Location

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
B21	NEW CASTLE	42-073-0015	LAWRENCE	Croton Avenue & Jefferson Street	40.995848 -80.346442

Table A18-2. Parameters Monitored by Site – Upper Beaver Valley Air Basin

PA SITE CODE	SITE NAME	PM\ ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXID E	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
B21	NEW CASTLE	X							X	X	X	X

Figure A17. Map of the Upper Beaver Valley Air Basin Sites

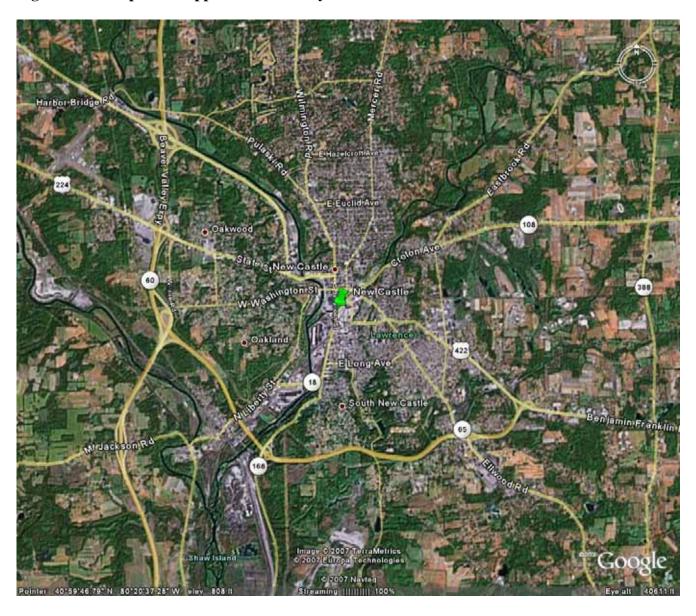


Table A19-1. Erie Air Basin Site Location

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
E10	ERIE	42-049-0003	ERIE	East 10th & Marne Streets	42.141750 -80.038611

Table A19-2. Parameters Monitored by Site – Erie Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXID E	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
E10	ERIE	X	X	X					X	X	X	

Northwest Region. Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, and Warren Counties.

Figure A18. Map of the Erie Air Basin Site

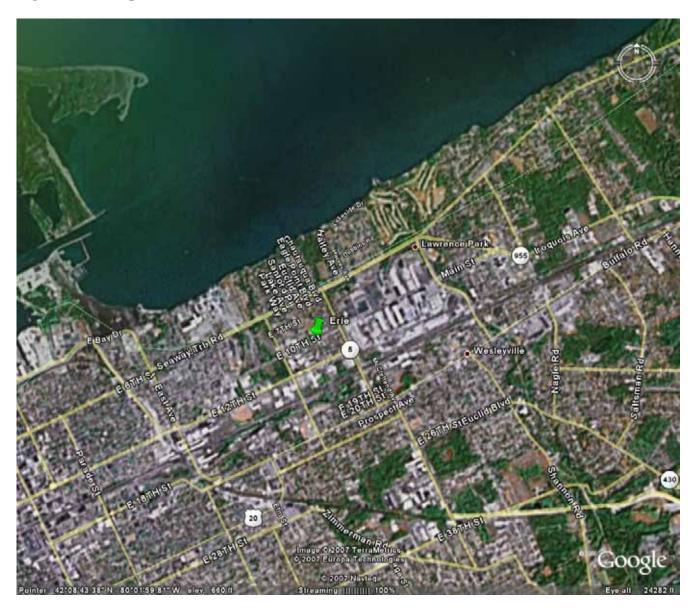


Table A20-1. Northwest Region Non-Air Basin Sites

PA SITE CODE	SITE NAME	EPA-AIRS SITE CODE	COUNTY	STREET ADDRESS	LATITUDE LONGITUDE
606	FARRELL	42-085-0100	MERCER	Farrell High School Field New Castle Road & Mercer Avenue	41.215014 -80.484779
611	WARREN	42-123-0003	WARREN	School District Building 345 East 5th Avenue	41.857222 -79.137500
612	WARREN (OVERLOOK)	42-123-0004	WARREN	Overlook Site near Stone Hill Road	41.844722 -79.169722

Table A20-2. Parameters Monitored by Site – Northwest Region Non-Air Basin

PA SITE CODE	SITE NAME	PM ₁₀	PM _{2.5}	PM _{2.5} SPEC	TSP	SULFATES	LEAD	NITRATES	SULFUR DIOXIDE	NITROGEN DIOXIDE	OZONE	CARBON MONOXIDE
606	FARRELL		X						X		X	
611	WARREN								X			
612	WARREN (OVERLOOK)								X			

Northwest Region. Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, and Warren Counties.

Figure A19. Map of Northwest Region Non-Air Basin Sites



Table A21. Air Toxics Monitoring Sites and Parameters Measured in Pennsylvania

SITE NAME	COUNTY	EPA-AIRS SITE CODE	LATITUDE LONGITUDE	VOCs	Carbonyl	TSP/Metals	Mercury
CHESTER	DELAWARE	42-045-0002	39.8356 -75.3728	X		X	
MARCUS HOOK	DELAWARE	42-045-0109	39.8178 -75.4142	X		Х	
SWARTHMORE	DELAWARE		39.8969 -75.3539	X		Х	
ARENDTSVILLE	ADAMS	42-001-0001	39.9236 -77.3081	X	X		
LANCASTER	LANCASTER	42-071-0007	40.0469 -76.2833	X	X	Х	Х
READING	BERKS	42-011-0011	40.3835 -75.9686	X		Х	
LEWISBURG	UNION		40.9552 -76.8819	X	X	Х	
ERIE	ERIE		42.1620 -80.1133	X		X	

Figure A20. Map of Air Toxics Sites in Pennsylvania



Appendix B — **Site Monitoring Descriptions**

Appendix B

Pennsylvania Monitoring Network Plan



Sensor Type: Nitrogen Dioxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Reference Method

Appendix C Monitoring Method: RFNA-1194-099

Monitoring Method Description: Chemiluminescence

Appendix D Design Criteria*: Yes

Appendix D Scale:

Appendix D Objectives:

Appendix E Siting Criteria*:

Yes

Neighborhood

Population Exposure

Comments:

Sensor Type:	Ozone			
Sensor Network Designation:	SLAMS			
Sensor Purpose Designation:	Regulatory	Complia	nce	
Sample Frequency:	Continuous	5		
Appendix A QA Assessment*:	Yes			
Appendix C Monitoring Classification:	Automated	l Equivale	ent Method	

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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Particulate Matter PM10 Appendix C Monitoring Method: EQPM-1090-079 Sensor Network Designation: **SLAMS** Monitoring Method Description: **TEOM Gravimetric** Regulatory Compliance Sensor Purpose Designation: Appendix D Design Criteria*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **TEOM Automated Equivalent** Appendix E Siting Criteria*:

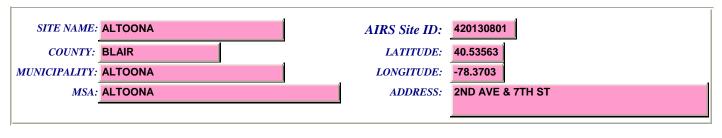
Yes

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 Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: **Carbon Monoxide** Appendix C Monitoring Method: RFCA-1093-093 SPM Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Specific Location Characterization Sensor Purpose Designation: Appendix D Design Criteria*: Continuous Sample Frequency: Urban Scale Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

Sensor Network Designation: SLAMS Monitoring Method Description: Chemiluminescence Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Sample Frequency: Continuous 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	Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-099
Appendix D Design Criteria*: Yes Sample Frequency: Appendix A QA Assessment*: Appendix A QA Assessment*: Appendix D Design Criteria*: Yes	Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemiluminescence
Appendix A QA Assessment*: Yes Appendix D Objectives: Appendix D Objectives: Population Exposure	Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Appendix D Objectives: Population Exposure	Sample Frequency:	Continuous	Appendix D Scale:	Urban Scale
Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*: Yes	Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
	Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes

Comments:

Sensor Type:	Ozone		Appendix C Monitoring Method:	EQOA-0992-087		
Sensor Network Designation:			Monitoring Method Description:	UV Absorption	n	
Sensor Purpose Designation:	Regulatory Compliand	ce	Appendix D Design Criteria*:	Yes		
Sample Frequency:	Continuous		Appendix D Scale:	Urban Scale		
Appendix A QA Assessment*:	Yes		TPF			
			Appendix D Objectives:	Population Ex	cposure	
Appendix C Monitoring Classification:	Automated Equivalent	t Method	Appendix E Siting Criteria*:	Yes		

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Particulate Matter PM10 Appendix C Monitoring Method: EQPM-1090-079 Sensor Network Designation: **SLAMS** Monitoring Method Description: **TEOM Gravimetric** Regulatory Compliance Sensor Purpose Designation: Appendix D Design Criteria*: Sample Frequency: Continuous Appendix D Scale: **Urban Scale** Appendix A QA Assessment*: Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*:

Yes

TEOM Automated Equivalent

Comments:

Appendix C Monitoring Classification:

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 Continuous Sample Frequency: Urban Scale Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Carbon Monoxide Appendix C Monitoring Method: RFCA-1093-093 SPM Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Specific Location Characterization Sensor Purpose Designation: Appendix D Design Criteria*: Continuous Sample Frequency: **Urban Scale** Appendix D Scale: Appendix A QA Assessment*: General/Background Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method: RFNA-1194-099
Sensor Network Designation:	SPM	Monitoring Method Description: Chemiluminescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*: Yes
Sample Frequency:	Continuous	Appendix D Scale: Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives: General/Background
Appendix C Monitoring Classification: Automated Reference Method		Appendix E Siting Criteria*: Yes

Comments:

Sensor Type:	PAMS	Appendix C Monitoring Method:	None		
Sensor Network Designation:	PAMS	Monitoring Method Description:	PE 8700;Auto	GC;Subambient-dual	I FID
Sensor Purpose Designation:	Regulatory Complian	Ce Appendix D Design Criteria*:	Yes		
Sample Frequency:	Continuous	Appendix D Scale:	Urban Scale		
Appendix A QA Assessment*:	Yes	•		ground	
Appendix C Monitoring Classification:	GC_FID	Appendix E Siting Criteria*:	Yes		

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type:	Particulate Matter I	M2.5 Appendix (C Monitoring Method:	None	
Sensor Network Designation:	SLAMS	Monitoring	g Method Description:	Gravimetric	
Sensor Purpose Designation:	Population Exposure	Appendi	ix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Urban Scale	
Appendix A QA Assessment*:	Yes	A_{i}	77	General/Back	ground
Appendix C Monitoring Classification:	TEOM	Append	dix E Siting Criteria*:	Yes	

Comments:

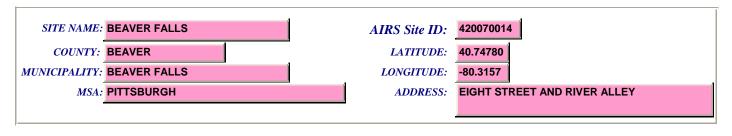
Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	RFPS-0498-118
Sensor Network Designation:		Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Daily	Appendix D Scale:	Urban Scale
Appendix A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

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:	Every 6th day		Appendix D Scale:	Urban Scale	
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	General/Back	ground
Appendix C Monitoring Classification:	Speciation		Appendix E Siting Criteria*:	Yes	

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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

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
		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

Comments:

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:		Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appenuix D Scare.	Orban Scale
ipperate it girlissessment :		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Particulate Matter PM10 Appendix C Monitoring Method: EQPM-1090-079 Sensor Network Designation: **SLAMS** Monitoring Method Description: **TEOM Gravimetric** Regulatory Compliance Sensor Purpose Designation: Appendix D Design Criteria*: Sample Frequency: Continuous Appendix D Scale: **Urban Scale** Appendix A QA Assessment*: Appendix D Objectives: Population Exposure

Yes

Appendix C Monitoring Classification: TEOM Automated Equivalent Appendix E Siting Criteria*:

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: Sensor Network Designation: **SLAMS** Monitoring Method Description: Gravimetric Sensor Purpose Designation: Population Exposure Appendix D Design Criteria*: Yes Continuous Sample Frequency: Urban Scale Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: FDMS Appendix E Siting Criteria*:

Comments:

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0202-145
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Every 3rd day	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type:
Sensor Network Designation:
Sensor Purpose Designation:
Regulatory Compliance

Sample Frequency:
Continuous

Appendix A QA Assessment*:

Appendix C Monitoring Classification:
Automated Equivalent Method

Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

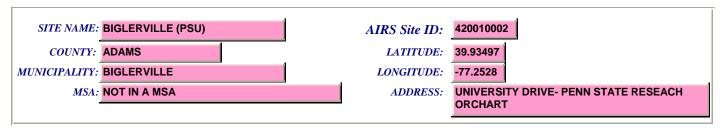
Appendix D Scale: Urban Scale

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type:

Sensor Network Designation:
Sensor Purpose Designation:
Sample Frequency:
Continuous
Appendix A QA Assessment*:

Appendix C Monitoring Classification:

Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

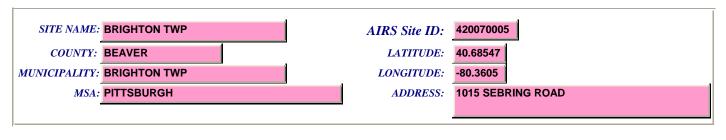
Appendix D Scale: Regional Scale

Appendix D Objectives: General/Background

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



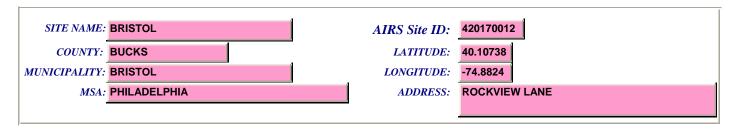
Sensor Type: Ozone Appendix C Monitoring Method: EQOA-0992-087 **SLAMS** Sensor Network Designation: **UV** Absorption Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix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

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:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	3
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Carbon Monoxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Reference Method

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

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:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	3
Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes
		•	

Comments:

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:		Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	TT	3
~		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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: Continuous

Appendix A QA Assessment*: Yes

Neighborhood

Appendix D Objectives: Population Exposure

Appendix C Monitoring Classification: TEOM Automated Equivalent Appendix E Siting Criteria*: Yes

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: Every 3rd day

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

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: Continuous Appendix D Scale: Neighborhood

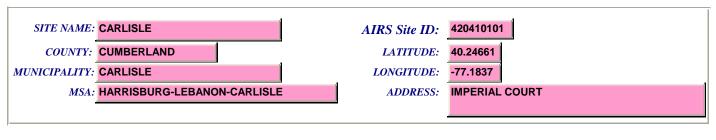
Appendix A QA Assessment*: Yes

Appendix D Objectives: Population Exposure

Appendix C Monitoring Classification: Automated Equivalent Method Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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 Equivalent Method

Appendix C Monitoring Method: EQPM-0202-145

Monitoring Method Description: Gravimetric

Appendix D Design Criteria*: Yes

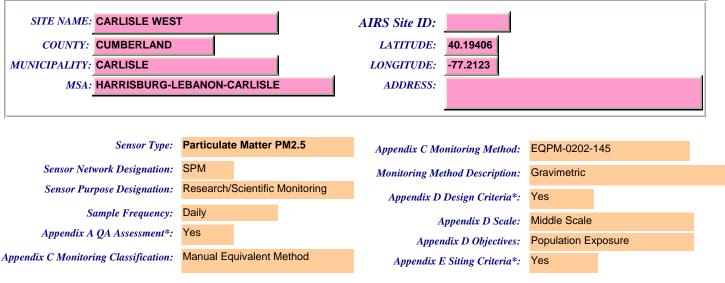
Appendix D Scale: Urban Scale

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

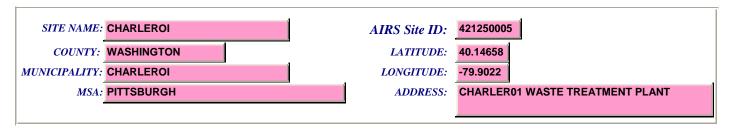
Comments:

^{*}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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Comments: Sampling will be continued until Sep, 2008.

^{*}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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: **Carbon Monoxide** Appendix C Monitoring Method: RFCA-1093-093 **SLAMS** Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

Sensor Type:	Nitrogen Dioxide		Appendix C Monitoring Method:	RFNA-1194-0	099
Sensor Network Designation:	SPM		Monitoring Method Description:	Chemilumines	scence
Sensor Purpose Designation:	Specific Location Ch	naracterization	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	1
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	J	
Appendix C Monitoring Classification:	Automated Reference	ce Method	Appendix E Siting Criteria*:	Yes	

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:	Continuous	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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **TEOM Automated Equivalent**

Appendix E Siting Criteria*:

Yes

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: EQPM-0202-145 **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Regulatory Compliance Yes Appendix D Design Criteria*: Every 3rd day Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Manual Equivalent Method Appendix C Monitoring Classification: Appendix E Siting Criteria*:

Comments:

Particulate Matter PM2.5 Sensor Type: Appendix C Monitoring Method: None Sensor Network Designation: **SLAMS Beta Attenuation** Monitoring Method Description: Sensor Purpose Designation: Population Exposure Appendix D Design Criteria*: Yes Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Yes Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: BAM Appendix E Siting Criteria*: Yes

Comments:

http://www.gpoaccess.gov/cfr/index.html

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^{*}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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Sulfur Dioxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

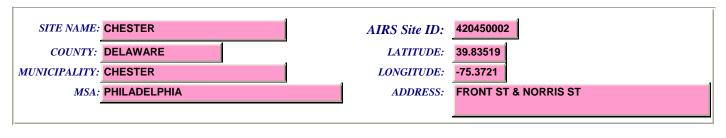
Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Lead Appendix C Monitoring Method: EQL-0592-086 SPM Sensor Network Designation: **Monitoring Method Description:** Gravimetric Sensor Purpose Designation: Specific Location Characterization Appendix D Design Criteria*: Yes Sample Frequency: Every 6th day Urban Scale Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Manual Equivalent Method Appendix E Siting Criteria*:

Comments:

Sensor Network Designation: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*: Yes Chemiluminescence Yes Appendix D Design Criteria*: Population Exposure Appendix E Siting Criteria*: Yes	Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-099
Appendix D Design Criteria*: Yes Sample Frequency: Appendix A QA Assessment*: Appendix A QA Assessment*: Appendix D Objectives: Appendix D Objectives: Appendix D Objectives: Appendix D Objectives:	Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemiluminescence
Appendix A QA Assessment*: Yes Appendix D Objectives: Appendix D Objectives: Population Exposure	Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Appendix D Objectives: Population Exposure	Sample Frequency:	Continuous	Appendix D Scale:	Urban Scale
Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*: Yes	Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
	Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes

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:	Continuous	Appendix D Scale:	Urban Scale
Appendix A OA Assessment*:	Yes	**	
~		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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: Continuous Appendix D Scale: Urban Scale

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification:

Appendix C Monitoring Classification:

TEOM Automated Equivalent

Appendix E Siting Criteria*:

Yes

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: **SLAMS** Sensor Network Designation: Monitoring Method Description: **Beta Attenuation** Sensor Purpose Designation: Population Exposure Yes Appendix D Design Criteria*: Sample Frequency: Continuous **Urban Scale** Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure

Appendix C Monitoring Classification: BAM Appendix E Siting Criteria*:

Comments:

Particulate Matter PM2.5 Sensor Type: Appendix C Monitoring Method: RFPS-0498-118 **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Sample Frequency: Every 3rd day Appendix D Scale: **Urban Scale** Appendix A QA Assessment*: Yes Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Manual Reference Method Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

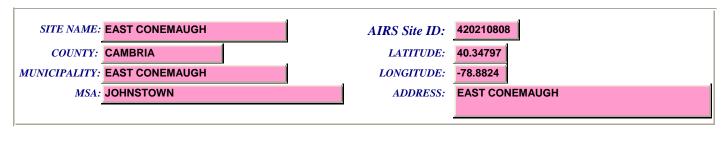
Sensor Type: PM2.5 Speciation Appendix C Monitoring Method: None Sensor Network Designation: STN Monitoring Method Description: Gravimetric Sensor Purpose Designation: Research/Scientific Monitoring Appendix D Design Criteria*: Sample Frequency: Every 6th day Appendix D Scale: **Urban Scale** Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: Speciation Appendix E Siting Criteria*: Yes

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 Continuous Sample Frequency: Urban Scale Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Lead

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Every 6th day

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Manual Equivalent Method

Appendix C Monitoring Method: EQL-0592-086

Monitoring Method Description: Gravimetric

Appendix D Design Criteria*: Yes

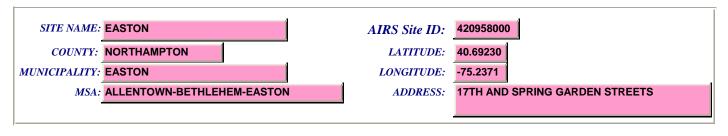
Appendix D Scale: Neighborhood

Appendix D Objectives: Source Oriented

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Hydrogen Sulfide

Sensor Network Designation: SPM

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Method

Appendix C Monitoring Method:

Monitoring Method Description:

UV Fluorescence

Appendix D Design Criteria*:

Appendix D Scale:

Appendix D Objectives:

Appendix E Siting Criteria*:

Yes

Comments:

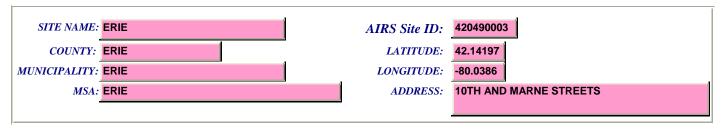
Sensor Type: Ozone Appendix C Monitoring Method: EQOA-0992-087 Sensor Network Designation: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Sample Frequency: Appendix D Scale: Urban Scale
Sensor Purpose Designation: Sample Frequency: Continuous Monatoring Method Description: Appendix D Design Criteria*: Yes Urban Scale
Sample Frequency: Continuous Appendix D Design Criteria*: Yes Appendix D Scale: Urban Scale
Appendix D Scale: Urban Scale
Appendix A QA Assessment*: Yes Appendix D Objectives: Max Ozone Concentration
Annual in C. Maniferine Classifications Automated Equipplent Mathad
Appendix C Monitoring Classification: Automated Equivalent Method Appendix E Siting Criteria*: Yes

Comments:

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:		Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Carbon Monoxide Appendix C Monitoring Method: RFCA-1093-093 **SLAMS** Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

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:	Continuous	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

Comments:

Sensor Type:	Ozone		Appendix C Monitoring Method:	EQOA-0992-0	087	
Sensor Network Designation:			Monitoring Method Description:	UV Absorption	n	
Sensor Purpose Designation:	Regulatory Complian	nce	Appendix D Design Criteria*:	Yes		
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	1	
Appendix A QA Assessment*:	Yes		11	J		
			Appendix D Objectives:	Population Ex	cposure	
Appendix C Monitoring Classification:	Automated Equivaler	nt Method	Appendix E Siting Criteria*:	Yes		

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: TEOM Automated Equivalent Appendix E Siting Criteria*:

Comments:

Sensor Network Designation: Sensor Purpose Designation: Sample Frequency: Appendix A QA Assessment*: Appendix A QA Assessment*: Appendix C Monitoring Method Description: Appendix D Design Criteria*: Appendix D Scale: Appendix D Objectives: Appendix D Objectives: Appendix C Monitoring Classification: Manual Equivalent Method Appendix F Siting Criteria*: Yes	Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0202-145
Appendix D Design Criteria*: Yes Sample Frequency: Daily Appendix A QA Assessment*: Yes Appendix D Scale: Appendix D Objectives: Population Exposure	Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Appendix D Scale: Neighborhood Appendix D Objectives: Population Exposure	Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Appendix D Objectives: Population Exposure	Sample Frequency:	Daily	Appendix D Scale:	Neighborhood
Appendix C Monitoring Classification: Manual Equivalent Method Appendix F Siting Criteria*: Yes	Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Ippenum E Buing Cruciu.	Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes

Comments:

Sensor Type:	PM2.5 Speciation		Appendix C Monitoring Method:	None	
Sensor Network Designation:	STN		Monitoring Method Description:	Gravimetric	
Sensor Purpose Designation:	Research/Scientific N	Monitoring	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Every 6th day		Appendix D Scale:	Neighborhood	j
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	Speciation		Appendix E Siting Criteria*:	Yes	

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Sulfur Dioxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

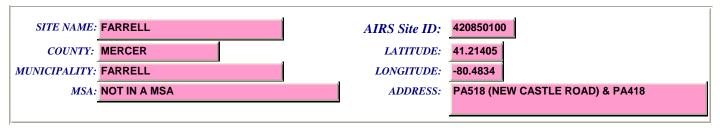
Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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

Comments:

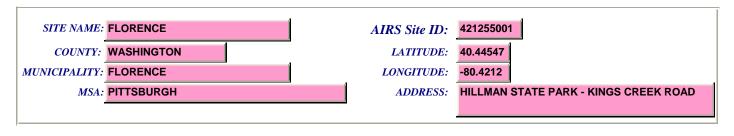
Sensor Type:	Particulate Matter Pl	M2.5 Appendix C Monitoring Method	EQPM-0202-145
Sensor Network Designation:	SLAMS	Monitoring Method Description	Gravimetric Gravimetric
Sensor Purpose Designation:	Regulatory Compliand	Appendix D Design Criteria ^s	Yes Yes
Sample Frequency:	Daily	Appendix D Scale	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives	
Appendix C Monitoring Classification:	Manual Equivalent Me	ethod Appendix E Siting Criteria	Yes

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:	Continuous	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	**	
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Nitrogen Dioxide Appendix C Monitoring Method: RFNA-1194-099 SPM Sensor Network Designation: Chemiluminescence **Monitoring Method Description:** Sensor Purpose Designation: Specific Location Characterization Appendix D Design Criteria*: Continuous Sample Frequency: Regional Scale Appendix D Scale: Appendix A QA Assessment*: Regional Transport Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SPM	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	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

Comments:

Particulate Matter PM10	Appendix C Monitoring Method:	RFPS-1287-063
SPM	Monitoring Method Description:	Gravimetric
Regulatory Compliance	Appendix D Design Criteria*:	Yes
Every 6th day	Appendix D Scale:	Regional Scale
Yes	**	· ·
Manual Reference Method	Appendix E Siting Criteria*:	Yes
	SPM Regulatory Compliance Every 6th day Yes	SPM Monitoring Method Description: Regulatory Compliance Appendix D Design Criteria*: Every 6th day Yes Appendix D Objectives:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Particulate Matter PM2.5 Appendix C Monitoring Method: EQPM-0202-145 Sensor Network Designation: **SLAMS** Monitoring Method Description: Gravimetric Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Sample Frequency: Daily Appendix D Scale: Regional Scale Appendix A QA Assessment*: Yes Appendix D Objectives: Regional Transport Appendix C Monitoring Classification: Manual Equivalent Method Appendix E Siting Criteria*:

Comments:

Sensor Network Designation: STN Monitoring Method Description: Gravimetric Sensor Purpose Designation: Research/Scientific Monitoring Appendix D Design Criteria*: Yes	
Sensor Purpose Designation: Research/Scientific Monitoring Appendix D Design Criteria*: Yes	
Sample Frequency: Every 6th day Appendix D Scale: Regional Scale	le
Appendix A QA Assessment*: Yes Appendix D Objectives: Regional Trans	nsport
Appendix C Monitoring Classification: Speciation Appendix E Siting Criteria*: Yes	

Comments:

Sensor Type:	Sulfur Dioxide		Appendix C Monitoring Method:	EQSA-0495-1	00
Sensor Network Designation:	SPM		Monitoring Method Description:	UV Fluoresce	nce
Sensor Purpose Designation:	Specific Location Ch	naracterization	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Regional Sca	le
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Regional Tran	nsport
Appendix C Monitoring Classification:	Automated Equivale	ent Method	Appendix E Siting Criteria*:	Yes	

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

SITE NAME: FREEMANSBURG

COUNTY: NORTHAMPTON

LATITUDE: 40.62847

LONGITUDE: -75.3415

MSA: ALLENTOWN-BETHLEHEM-EASTON

Sensor Type: Carbon Monoxide Appendix C Monitoring Method: RFCA-1093-093 **SLAMS** Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

Sensor Type:	Nitrogen Dioxide		Appendix C Monitoring Method:	RFNA-1194-0	099
Sensor Network Designation:	SPM		Monitoring Method Description:	Chemilumine	scence
Sensor Purpose Designation:	Population Exposure		Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	d
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	Automated Reference N	Method	Appendix E Siting Criteria*:	Yes	

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:	Continuous	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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: TEOM Automated Equivalent Appendix E Siting Criteria*:

Comments:

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0202-145
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 Equivalent Method	Appendix E Siting Criteria*:	Yes

Comments:

Sensor Type:	Particulate Matter PN	Appendix C Monitoring Method:	None
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Population Exposure	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	ŭ
Appendix C Monitoring Classification:	TEOM	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

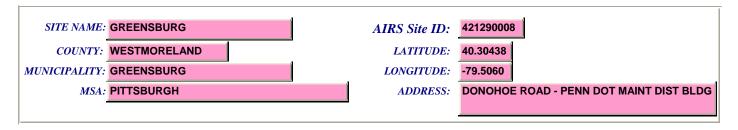
Sensor Type: PM2.5 Speciation Appendix C Monitoring Method: None Sensor Network Designation: STN Monitoring Method Description: Gravimetric Sensor Purpose Designation: Research/Scientific Monitoring Appendix D Design Criteria*: Sample Frequency: Every 6th day Appendix D Scale: Neighborhood Appendix A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

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 Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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

Comments:

Sensor Network Designation: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Appendix D Scale: Appendix D Scale: Appendix D Objectives: Appendix D Objectives: Appendix D Objectives: Appendix D Scale: Yes	Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-099
Appendix D Design Criteria*: Yes Sample Frequency: Continuous Appendix D Scale: Urban Scale Yes Appendix D Objectives: Population Exposure	Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemiluminescence
Appendix A QA Assessment*: Yes Appendix D Objectives: Appendix D Objectives: Population Exposure	Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Appendix A QA Assessment*: Yes Appendix D Objectives: Population Exposure	Sample Frequency:	Continuous	Appendix D Scale:	Urban Scale
Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*: Yes	Appendix A QA Assessment*:	Yes	**	
	Appendix C Monitoring Classification:	Automated Reference Metho	Appendix E Siting Criteria*:	Yes

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:	Continuous	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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: **Urban Scale** Appendix A QA Assessment*: Population Exposure Appendix D Objectives:

Appendix E Siting Criteria*:

Yes

Appendix C Monitoring Classification: TEOM Automated Equivalent

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: EQPM-0202-145 **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Regulatory Compliance Yes Appendix D Design Criteria*: Every 3rd day Sample Frequency: **Urban Scale** Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Manual Equivalent Method Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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: Every 6th day Appendix D Scale: **Urban Scale** Appendix A QA Assessment*: Yes Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Speciation Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type:
Sensor Network Designation:
Sensor Purpose Designation:
Regulatory Compliance

Sample Frequency:
Continuous

Appendix A QA Assessment*:

Appendix C Monitoring Classification:
Automated Equivalent Method

Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

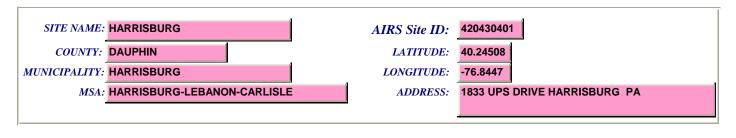
Appendix D Scale: Urban Scale

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Carbon Monoxide Appen
Sensor Network Designation: SLAMS Monit
Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous
Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Reference Method

Appendix C Monitoring Method: RFCA-1093-093

Monitoring Method Description: Non-dispersive Infrared

Appendix D Design Criteria*: Yes

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

Sensor Network Designation: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Sample Frequency: Continuous Appendix A QA Assessment*: Appendix C Monitoring Classification: Automated Reference Method Monitoring Method Description: Appendix D Design Criteria*: Appendix D Scale: Appendix D Objectives: Population Exposure Appendix E Siting Criteria*: Yes	Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-099
Appendix D Design Criteria*: Yes Sample Frequency: Continuous Appendix A QA Assessment*: Yes Appendix D Design Criteria*: Yes Appendix D Scale: Neighborhood Appendix D Objectives: Population Exposure	Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemiluminescence
Appendix A QA Assessment*: Appendix A QA Assessment*: Appendix D Objectives: Appendix D Objectives: Appendix D Objectives:	Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Appendix A QA Assessment*: Yes Appendix D Objectives: Population Exposure	Sample Frequency:	Continuous	Annendix D Scale:	Neighborhood
Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*: Yes	Appendix A QA Assessment*:	Yes	11	3
	Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	Yes

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:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appenuix D Scure.	rteignberneed
iippeiliiii ii girrissessiiieii i		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: TEOM Automated Equivalent Appendix E Siting Criteria*:

Comments:

Sensor Type:	Particulate Matter	PM2.5	Appendix C Monitoring Method:	RFPS-0498-1	18
Sensor Network Designation:	SLAMS		Monitoring Method Description:	Gravimetric	
Sensor Purpose Designation:	Regulatory Complia	ance	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Daily		Appendix D Scale:	Neighborhood	I
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	Manual Reference	Method	Appendix E Siting Criteria*:	Yes	

Comments:

Sensor Type:	Particulate Matter PM	2.5 Appendix C Monitoring Method:	None
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Beta Attenuation
Sensor Purpose Designation:	Population Exposure	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	ŭ
Appendix C Monitoring Classification:	BAM	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Every 6th day Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: Speciation Appendix E Siting Criteria*: Yes

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 Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

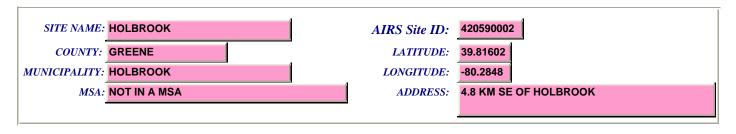
Appendix D Scale: Urban Scale

Appendix D Objectives: Max Ozone Concentration

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: **Carbon Monoxide** Appendix C Monitoring Method: RFCA-1093-093 SPM Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Specific Location Characterization Sensor Purpose Designation: Appendix D Design Criteria*: Continuous Sample Frequency: Regional Scale Appendix D Scale: Appendix A QA Assessment*: Regional Transport Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

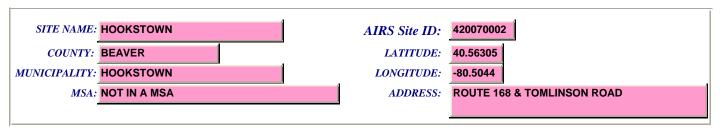
Sensor Type:	Ozone		Appendix C Monitoring Method:	EQOA-0992-0	087
Sensor Network Designation:	SPM		Monitoring Method Description:	UV Absorptio	n
Sensor Purpose Designation:	Regulatory Complia	ance	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Regional Sca	le
Appendix A QA Assessment*:	Yes		11	J	
Appendix C Monitoring Classification:	Automated Equival	ent Method	Appendix E Siting Criteria*:	Yes	

Comments:

Sensor Type:	Sulfur Dioxide		Appendix C Monitoring Method:	EQSA-0495-100	
Sensor Network Designation:			Monitoring Method Description:	UV Fluoresce	nce
Sensor Purpose Designation:	Specific Location Cha	aracterization	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Regional Sca	ام
Appendix A OA Assessment*:	Yes	Appendix D Scale.			
ippenam ii gii iissessmeni .	. 55		Appendix D Objectives:	Regional Transport	
Appendix C Monitoring Classification:	Automated Equivalen	nt Method	Appendix E Siting Criteria*:	Yes	

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



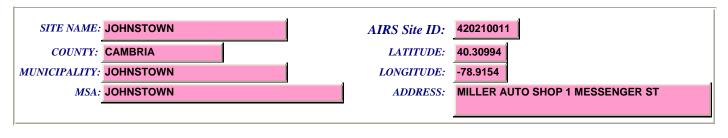
Sensor Type: **Ozone** Appendix C Monitoring Method: EQOA-0992-087 SPM Sensor Network Designation: **UV** Absorption Monitoring Method Description: Sensor Purpose Designation: Specific Location Characterization Appendix D Design Criteria*: Yes Continuous Sample Frequency: Regional Scale Appendix D Scale: Appendix A QA Assessment*: Regional Transport Appendix D Objectives: **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

Comments:

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100	
Sensor Network Designation:	SPM	Monitoring Method Description:	UV Fluorescence	
Sensor Purpose Designation:	Specific Location Characterization	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous	Appendix D Scale:	Regional Scale	
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	· ·	
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes	

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: **Carbon Monoxide** Appendix C Monitoring Method: RFCA-1093-093 **SLAMS** Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

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:	Continuous	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

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:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Me	hod Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*:

Yes

Appendix C Monitoring Classification: TEOM Automated Equivalent

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: **SLAMS** Sensor Network Designation: Monitoring Method Description: Beta Attenuation Sensor Purpose Designation: Population Exposure Yes Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: BAM Appendix E Siting Criteria*:

Comments:

Particulate Matter PM2.5 Sensor Type: Appendix C Monitoring Method: RFPS-0498-118 **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Sample Frequency: Every 3rd day Appendix D Scale: Neighborhood Appendix A QA Assessment*: Yes Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Manual Reference Method Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Sulfur Dioxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

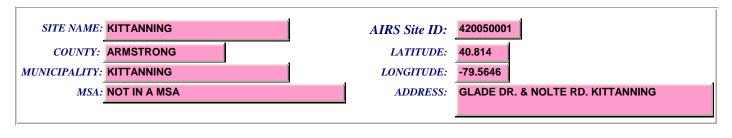
Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



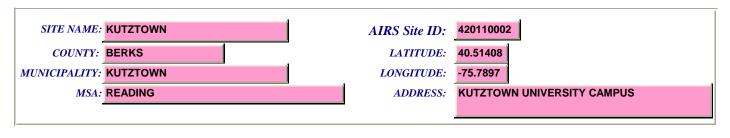
Sensor Type: Ozone Appendix C Monitoring Method: EQOA-0992-087 **SLAMS** Sensor Network Designation: **UV** Absorption Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Continuous Sample Frequency: **Urban Scale** Appendix D Scale: Appendix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

Comments:

Sensor Type:	Particulate Matter I	PM2.5	Appendix C Monitoring Method:	None	
Sensor Network Designation:	SLAMS		Monitoring Method Description:	Gravimetric	
Sensor Purpose Designation:	Population Exposure	e	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Urban Scale	
Appendix A QA Assessment*:	Yes		11		
			Appendix D Objectives:	Extreme Down	nwind
Appendix C Monitoring Classification:	TEOM		Appendix E Siting Criteria*:	Yes	

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

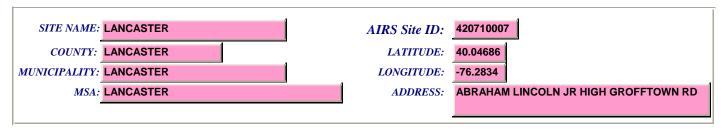
Appendix D Scale: Urban Scale

Appendix D Objectives: Extreme Downwind

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: **Carbon Monoxide** Appendix C Monitoring Method: RFCA-1093-093 **SLAMS** Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

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:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	3
Appendix C Monitoring Classification:	Automated Reference Method	Appendix E Siting Criteria*:	<u>'</u>

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:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appenuix D Scure.	rteignberneed
iippeiliiii ii girrissessiiieii i		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure

Yes

Appendix C Monitoring Classification: TEOM Automated Equivalent Appendix E Siting Criteria*:

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Population Exposure Yes Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **FDMS** Appendix E Siting Criteria*:

Comments:

Particulate Matter PM2.5 Sensor Type: Appendix C Monitoring Method: RFPS-0498-118 **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Sample Frequency: Every 3rd day Appendix D Scale: Neighborhood Appendix A QA Assessment*: Yes Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Manual Reference Method Appendix E Siting Criteria*: Yes

Comments:

http://www.gpoaccess.gov/cfr/index.html

Wednesday, June 25, 2008

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^{*}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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

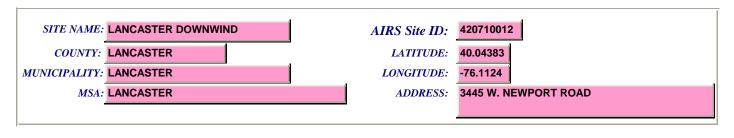
Sensor Type: PM2.5 Speciation Appendix C Monitoring Method: None Sensor Network Designation: STN Monitoring Method Description: Gravimetric Sensor Purpose Designation: Research/Scientific Monitoring Appendix D Design Criteria*: Sample Frequency: Every 6th day Appendix D Scale: Neighborhood Appendix A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

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 Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

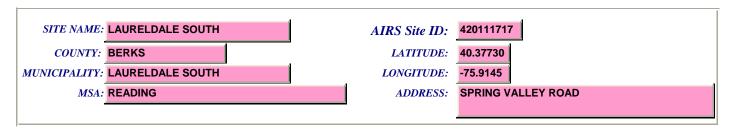
Appendix D Scale: Urban Scale

Appendix D Objectives: Extreme Downwind

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Lead

Sensor Network Designation: SPM

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Every 6th day

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Manual Equivalent Method

Appendix C Monitoring Method: EQL-0592-086

Monitoring Method Description: Gravimetric

Appendix D Design Criteria*: Yes

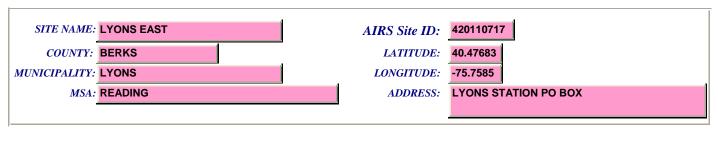
Appendix D Scale: Middle Scale

Appendix D Objectives: Source Oriented

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Lead

Sensor Network Designation: SPM

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Every 6th day

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Manual Equivalent Method

Appendix C Monitoring Method: EQL-0592-086

Monitoring Method Description: Gravimetric

Appendix D Design Criteria*: Yes

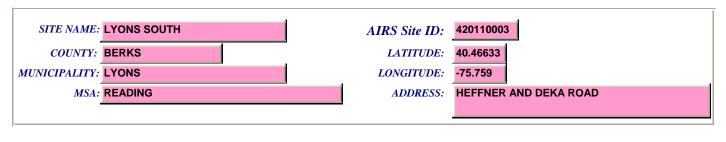
Appendix D Scale: Middle Scale

Appendix D Objectives: Source Oriented

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Lead

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Every 6th day

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Manual Equivalent Method

Appendix C Monitoring Method: EQL-0592-086

Monitoring Method Description: Gravimetric

Appendix D Design Criteria*: Yes

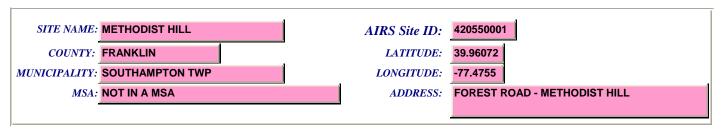
Appendix D Scale: Middle Scale

Appendix D Objectives: Source Oriented

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Ozone

Sensor Network Designation: SPM
Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous
Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

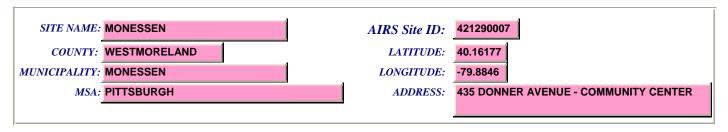
Appendix D Scale: Regional Scale

Appendix D Objectives: Regional Transport

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



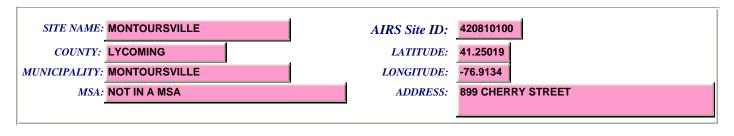
Sensor Type: Lead Appendix C Monitoring Method: EQL-0592-086 **SPM** Sensor Network Designation: **Monitoring Method Description:** Gravimetric Sensor Purpose Designation: Specific Location Characterization Appendix D Design Criteria*: Yes Sample Frequency: Every 6th day Middle Scale Appendix D Scale: Appendix A QA Assessment*: Source Oriented Appendix D Objectives: Appendix C Monitoring Classification: Manual Equivalent Method Appendix E Siting Criteria*:

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:	Every 6th day	Appendix D Scale:	Middle Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	
Appendix C Monitoring Classification:	Manual Reference Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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

Comments:

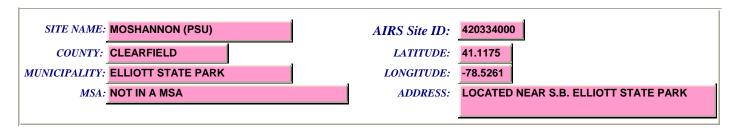
Sensor Type:	Particulate Matter	PM10	Appendix C Monitoring Method:	RFPS-1287-0	63
Sensor Network Designation:	SLAMS		Monitoring Method Description:	Gravimetric	
Sensor Purpose Designation:	Regulatory Compli	ance	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Every 6th day		Appendix D Scale:	Urban Scale	
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	Manual Reference	Method	Appendix E Siting Criteria*:	Yes	

Comments:

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:		Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Urhan Scale
Appendix A QA Assessment*:	Yes		
2		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type:
Sensor Network Designation:
Sensor Purpose Designation:
Sample Frequency:
Appendix A QA Assessment*:

Appendix C Monitoring Classification:

Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

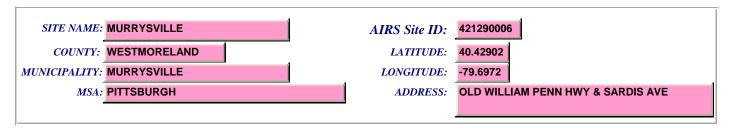
Appendix D Scale: Regional Scale

Appendix D Objectives: General/Background

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

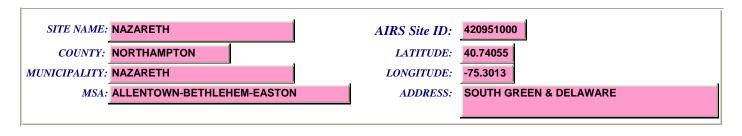
Appendix D Scale: Urban Scale

Appendix D Objectives: General/Background

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Particulate Matter PM10

Sensor Network Designation: SPM

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: TEOM Automated Equivalent

Appendix C Monitoring Method: EQPM-1090-079

Monitoring Method Description: TEOM Gravimetric

Appendix D Design Criteria*: Yes

Appendix D Scale: Neighborhood

Appendix D Objectives: Source Oriented

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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

Comments:

Sensor Type:	Nitrogen Dioxide		Appendix C Monitoring Method:	RFNA-1194-0	099
Sensor Network Designation:	SLAMS		Monitoring Method Description:	Chemilumines	scence
Sensor Purpose Designation:	Regulatory Compliand	ce	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Urban Scale	
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	Automated Reference	e Method	Appendix E Siting Criteria*:	Yes	

Comments:

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:		Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appenuix D Scare.	Orban Scale
ipperate it girlissessment :		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

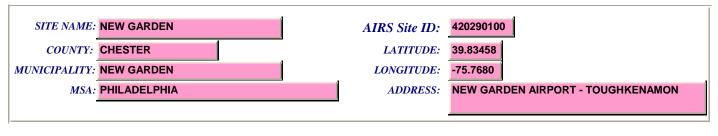
Sensor Type: Particulate Matter PM10 Appendix C Monitoring Method: EQPM-1090-079 Sensor Network Designation: **SLAMS** Monitoring Method Description: **TEOM Gravimetric** Regulatory Compliance Sensor Purpose Designation: Appendix D Design Criteria*: Sample Frequency: Continuous Appendix D Scale: **Urban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

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 Continuous Sample Frequency: Urban Scale Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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

Comments:

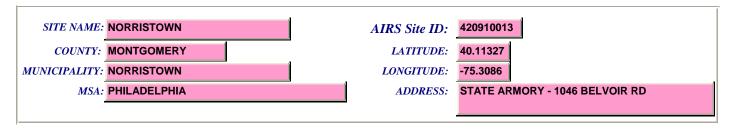
Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0202-145
Sensor Network Designation:	SPM	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Every 3rd day	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Regional Transport
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes

Comments:

Sensor Type:	PM2.5 Speciation		Appendix C Monitoring Method:	None	
Sensor Network Designation:			Monitoring Method Description:	Gravimetric	
Sensor Purpose Designation:	Research/Scientific	Monitoring	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Every 6th day		Appendix D Scale:	Regional Sca	le
Appendix A QA Assessment*:	Yes		11	J	
2			Appendix D Objectives:	Regional Tran	nsport
Appendix C Monitoring Classification:	Speciation		Appendix E Siting Criteria*:	Yes	

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Carbon Monoxide Appendix C Monitoring Method: RFCA-1093-093 **SLAMS** Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

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:	Continuous	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

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:	Continuous	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

Comments:

http://www.gpoaccess.gov/cfr/index.html

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^{*}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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*:

Yes

TEOM Automated Equivalent

Comments:

Appendix C Monitoring Classification:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Population Exposure Yes Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **FDMS** Appendix E Siting Criteria*:

Comments:

Particulate Matter PM2.5 Sensor Type: Appendix C Monitoring Method: RFPS-0498-118 **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Sample Frequency: Every 3rd day Appendix D Scale: Neighborhood Appendix A QA Assessment*: Yes Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Manual Reference Method Appendix E Siting Criteria*: Yes

Comments:

http://www.gpoaccess.gov/cfr/index.html

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^{*}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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Sulfur Dioxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Continuous
Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

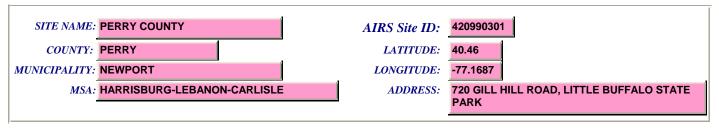
Appendix D Scale: Urban Scale

Appendix D Objectives: Max Ozone Concentration

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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*: Continuous Sample Frequency: Regional Scale Appendix D Scale: Appendix A QA Assessment*: General/Background Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

	_		ı		
Sensor Type:	Ozone		Appendix C Monitoring Method:	EQOA-0992-0	087
Sensor Network Designation:	SLAMS		Monitoring Method Description:	UV Absorption	n
Sensor Purpose Designation:	Regulatory Comp	liance	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Regional Scal	le
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	J	
Appendix C Monitoring Classification:	Automated Equiv	alent Method	Appendix E Siting Criteria*:	Yes	

Comments:

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-1	00
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluoresce	nce
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous	Appendix D Scale:	Regional Scal	le
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	General/Back	ground
Appendix C Monitoring Classification:	Automated Equivalent Me	Appendix E Siting Criteria*:	Yes	

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: **Carbon Monoxide** Appendix C Monitoring Method: RFCA-1093-093 SPM Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Population Exposure Sensor Purpose Designation: Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: **Automated Reference Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

Comments:

Sensor Type:	Nitrogen Dioxide		Appendix C Monitoring Method:	RFNA-1194-0	099
Sensor Network Designation:	SPM		Monitoring Method Description:	Chemilumine	scence
Sensor Purpose Designation:	Population Exposur	re	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	d
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	cposure
Appendix C Monitoring Classification:	Automated Referen	nce Method	Appendix E Siting Criteria*:	Yes	

Comments:

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SPM	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Population Exposure	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	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

Comments:

http://www.gpoaccess.gov/cfr/index.html

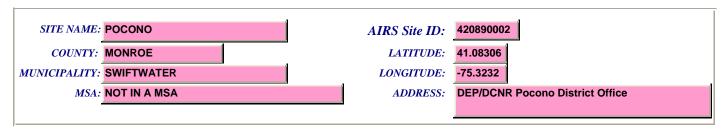
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^{*}The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Sulfur Dioxide Appendix C Monitoring Method: EQSA-0495-100 Sensor Network Designation: **SPM** Monitoring Method Description: **UV Fluorescence** Sensor Purpose Designation: Population Exposure Appendix D Design Criteria*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **Automated Equivalent Method** Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type:

Sensor Network Designation:
Sensor Purpose Designation:
Regulatory Compliance

Sample Frequency:
Continuous

Appendix A QA Assessment*:

Appendix C Monitoring Classification:
Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

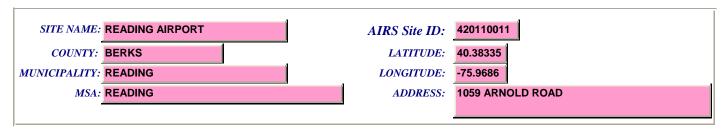
Appendix D Scale: Urban Scale

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Carbon Monoxide Appendix C Monitoring Method: RFCA-1093-093 **SLAMS** Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

Sensor Type:	Nitrogen Dioxide		Appendix C Monitoring Method:	RFNA-1194-0	099
Sensor Network Designation:	SLAMS		Monitoring Method Description:	Chemilumines	scence
Sensor Purpose Designation:	Regulatory Complian	nce	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	d
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	Automated Reference	ce Method	Appendix E Siting Criteria*:	Yes	

Comments:

Sensor Type:	Ozone		Appendix C Monitoring Method:	EQOA-0992-0	087	
Sensor Network Designation:			Monitoring Method Description:	UV Absorption	n	
Sensor Purpose Designation:	Regulatory Complian	nce	Appendix D Design Criteria*:	Yes		
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	1	
Appendix A QA Assessment*:	Yes		11	J		
			Appendix D Objectives:	Population Ex	cposure	
Appendix C Monitoring Classification:	Automated Equivaler	nt Method	Appendix E Siting Criteria*:	Yes		

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*:

Yes

Appendix C Monitoring Classification: TEOM Automated Equivalent

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Population Exposure Yes Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **FDMS** Appendix E Siting Criteria*:

Comments:

Particulate Matter PM2.5 Sensor Type: Appendix C Monitoring Method: RFPS-0498-118 **SLAMS** Sensor Network Designation: Monitoring Method Description: Gravimetric Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Sample Frequency: Every 3rd day Appendix D Scale: Neighborhood Appendix A QA Assessment*: Yes Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Manual Reference Method Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

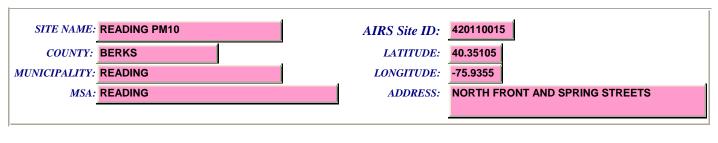
Sensor Type: PM2.5 Speciation Appendix C Monitoring Method: None Sensor Network Designation: STN Monitoring Method Description: Gravimetric Sensor Purpose Designation: Research/Scientific Monitoring Appendix D Design Criteria*: Sample Frequency: Every 6th day Appendix D Scale: Neighborhood Appendix A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

Comments:

Sensor Type: **Sulfur Dioxide** Appendix C Monitoring Method: EQSA-0495-100 Sensor Network Designation: **SLAMS** Monitoring Method Description: **UV Fluorescence** Sensor Purpose Designation: Population Exposure Appendix D Design Criteria*: Yes Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Particulate Matter PM10

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Every 6th day

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Manual Reference Method

Appendix C Monitoring Method:

Monitoring Method Description:

Appendix D Design Criteria*:

Appendix D Scale:

Appendix D Objectives:

Appendix D Objectives:

Appendix E Siting Criteria*:

Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Carbon Monoxide Appendix C Monitoring Method: RFCA-1093-093 **SLAMS** Sensor Network Designation: Non-dispersive Infrared Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

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:	Continuous	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

Comments:

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:		Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appendix D State.	Neighberheed
ippoint i girissessmen :		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: TEOM Automated Equivalent Appendix E Siting Criteria*:

Comments:

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0202-145
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 Equivalent Method	Appendix E Siting Criteria*:	Yes

Comments:

Sensor Type:	PM2.5 Speciation		Appendix C Monitoring Method:	None	
Sensor Network Designation:	STN		Monitoring Method Description:	Gravimetric	
Sensor Purpose Designation:	Research/Scientific Mor	nitoring	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Every 6th day		Appendix D Scale:	Neighborhood	ı
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	
Appendix C Monitoring Classification:	Speciation		Appendix E Siting Criteria*:	Yes	posure

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

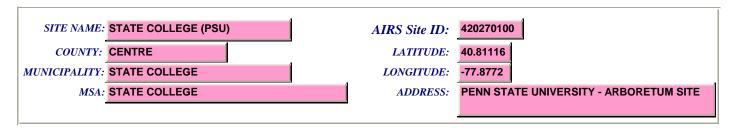
Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Nitrogen Dioxide Appendix C Monitoring Method: RFNA-1194-099 SPM Sensor Network Designation: Chemiluminescence **Monitoring Method Description:** Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SPM	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	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
		l e e e e e e e e e e e e e e e e e e e	

Comments:

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0202-145
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:	ŭ
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

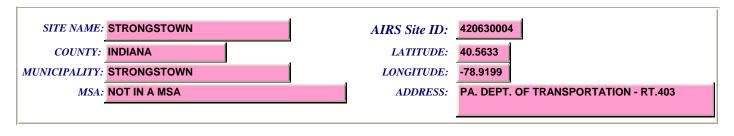
Sensor Type: PM2.5 Speciation Appendix C Monitoring Method: None Sensor Network Designation: STN Monitoring Method Description: Gravimetric Sensor Purpose Designation: Research/Scientific Monitoring Appendix D Design Criteria*: Sample Frequency: Every 6th day Appendix D Scale: Neighborhood Appendix A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

Comments:

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SPM	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Nitrogen Dioxide Appendix C Monitoring Method: RFNA-1194-099 **SLAMS** Sensor Network Designation: Chemiluminescence Monitoring Method Description: Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*: Yes Continuous Sample Frequency: Regional Scale Appendix D Scale: Appendix A QA Assessment*: Population Exposure Appendix D Objectives: Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

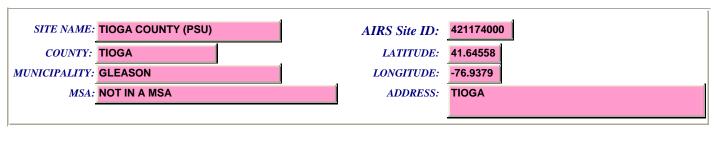
Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

Comments:

Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:		Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Regional Scale
Appendix A QA Assessment*:	Yes	TT	
2		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



EQOA-0992-087

UV Absorption

Regional Scale

General/Background

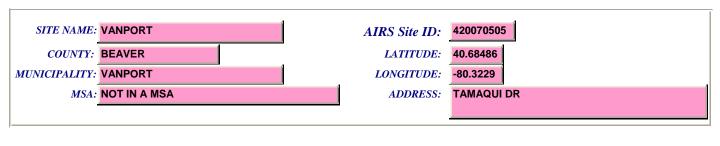
Yes

Appendix D Scale:

Sensor Type: **Ozone** Appendix C Monitoring Method: **SPM** Sensor Network Designation: Monitoring Method Description: Specific Location Characterization Sensor Purpose Designation: Appendix D Design Criteria*: Continuous Sample Frequency: Appendix A QA Assessment*: Appendix D Objectives: **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type:

Sensor Network Designation:

Sensor Purpose Designation:

Sample Frequency:

Appendix A QA Assessment*:

Sensor Purpose Designation:

Every 6th day

Yes

Appendix C Monitoring Classification:

Manual Equivalent Method

Appendix C Monitoring Method: EQL-0592-086

Monitoring Method Description: Gravimetric

Appendix D Design Criteria*: Yes

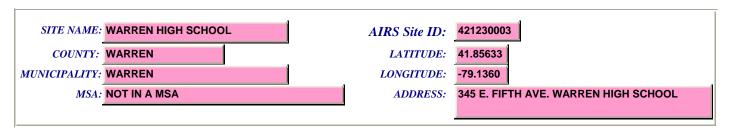
Appendix D Scale: Neighborhood

Appendix D Objectives: Source Oriented

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

Appendix D Scale: Neighborhood

Appendix D Objectives: Highest Concentration

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

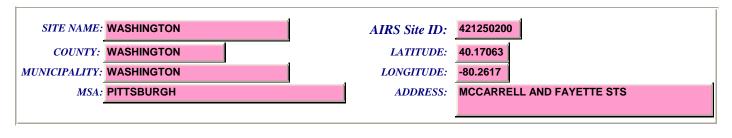
Appendix D Scale: Neighborhood

Appendix D Objectives: Highest Concentration

Appendix E Siting Criteria*: Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



RFNA-1194-099

Neighborhood

Chemiluminescence

Population Exposure

Sensor Type: Nitrogen Dioxide Appendix C Monitoring Method:

Sensor Network Designation: SLAMS Monitoring Method Description:

Sensor Purpose Designation: Regulatory Compliance Appendix D Design Criteria*:

Sample Frequency: Continuous Appendix D Scale:

Appendix A QA Assessment*: Yes Appendix D Objectives:

Appendix C Monitoring Classification: Automated Reference Method Appendix E Siting Criteria*:

Comments:

Sensor Type:	Ozone		Appendix C Monitoring Method:	EQOA-0992-0	087
Sensor Network Designation:	SLAMS		Monitoring Method Description:	UV Absorption	n
Sensor Purpose Designation:	Regulatory Compliano	ce	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	d
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	J	
Appendix C Monitoring Classification:	Automated Equivalent	t Method	Appendix E Siting Criteria*:	Yes	

Comments:

Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0202-145
		Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Every 3rd day	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	11	3
2		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Manual Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



Sensor Type: Carbon Monoxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Reference Method

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

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:	Continuous	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

Comments:

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:		Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	Appenuix D Scute.	3
Topperson of grant and the second of the sec		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Particulate Matter PM10 Appendix C Monitoring Method: EQPM-1090-079 Sensor Network Designation: **SLAMS** Monitoring Method Description: **TEOM Gravimetric** Regulatory Compliance Sensor Purpose Designation: Appendix D Design Criteria*: Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*:

Yes

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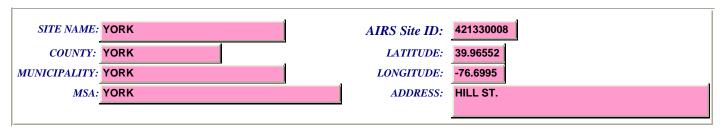
Appendix C Monitoring Classification: TEOM Automated Equivalent

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 Continuous Sample Frequency: Neighborhood Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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

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
		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

Comments:

Ozone	Appendix C Monitoring Method:	EQOA-0992-087
SLAMS	Monitoring Method Description:	UV Absorption
Regulatory Compliance	Appendix D Design Criteria*:	Yes
Continuous	Annendir D Scale	Urban Scale
Yes	11	
	11 3	Population Exposure
Automated Equivalent Metho	Appendix E Siting Criteria*:	Yes
	SLAMS Regulatory Compliance Continuous Yes	SLAMS Monitoring Method Description: Regulatory Compliance Appendix D Design Criteria*: Continuous Appendix D Scale:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

Sensor Type: Particulate Matter PM10

Appendix C Monitoring Method: EQPM-1090-079

Sensor Network Designation: SLAMS

Monitoring Method Description: TEOM Gravimetric

Appendix D Design Criteria*: Yes

Appendix D Scale: Urban Scale

Appendix A QA Assessment*: Population Exposure

Appendix E Siting Criteria*:

Comments:

Appendix C Monitoring Classification: TEOM Automated Equivalent

Sensor Type:	Particulate Matter F	Appendix C Monitoring Method:	None
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Population Exposure	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	FDMS	Appendix E Siting Criteria*:	Yes

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:	Every 3rd day	Appendix D Scale:	Urban Scale
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	
Appendix C Monitoring Classification:	Manual Reference Method	Appendix E Siting Criteria*:	Yes

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

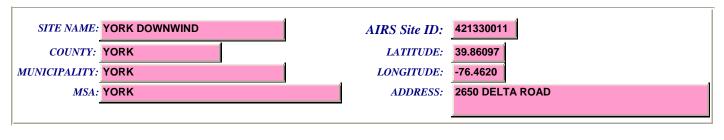
Sensor Type: PM2.5 Speciation Appendix C Monitoring Method: None Sensor Network Designation: STN Monitoring Method Description: Gravimetric Sensor Purpose Designation: Research/Scientific Monitoring Appendix D Design Criteria*: Sample Frequency: Every 6th day Appendix D Scale: **Urban Scale** Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: Speciation Appendix E Siting Criteria*: Yes

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 Continuous Sample Frequency: Urban Scale Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Population Exposure **Automated Equivalent Method** Appendix C Monitoring Classification: Appendix E Siting Criteria*:

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at



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

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 it sites to meet all requirements of Appendix E. Detailed Appendix A, D and E requirements appear at

